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

In the Matter of:

2008 Rulemaking on Appliance Efficiency Regulations
Implementation of California Code of Regulations, Title 20, Section 1601 through Section 1608

Docket No. 07-AAER-3

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

THURSDAY, MAY 15, 2008
9:00 A.M.

Reported by:
Ramona Cota
Contract Number: 150-07-001

PETERS SHORTHAND REPORTING CORPORATION
3336 BRADSHAW ROAD, SUITE 240, SACRAMENTO, CA 95827 / (916)362-2345
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
Tutt, my advisor; and to Commissioner's
Rosenfeld's left is John Wilson, his advisor.

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

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

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

Commissioner Rosenfeld, any opening
comments?

ASSOCIATE MEMBER ROSENFIELD: No.
PRESIDING MEMBER PFANNENSTIEL: Well
with that let me turn it over to staff to get
going. Melinda.

MS. MERRITT: Okay. Good morning
everyone. I am Melinda Merritt with the Appliance Efficiency Program. Before we start I have a few housekeeping items I need to go over with you so I am going to read my script here.

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

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

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

I would like to note that all comments that we have received to date have been posted on our website and we will be posting the slide packs and any comments that we receive today in the presentation. And any additional comments we
receive following this workshop will also be posted on our website.

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

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

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

In its April 2 Scoping Order the Efficiency Committee established the scope of Phase I of this proceeding and the Committee's Workshop Order for this workshop divided Phase I into three parts. This workshop is concerned with topics identified for consideration in Parts A and B.
At this point I would like to emphasize that we are in the pre-rulemaking stage of this proceeding, with the intent to identify and discuss all proposals for new standards and amendments to the existing regulations that will contribute to the realization of energy savings for California to increase appliance efficiency.

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

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

I guess at this point I would also like to express my appreciation for PG&E and their consultants, for all of the excellent work and the long hours that they have already devoted to this
project. And to all the participants that staff
has been working with for the congenial quality of
the interactions that we have experienced so far
and we truly hope that that continues as we move
through the proceeding.

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

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

And then the Draft Regulations: Part B -
Draft Amendments to the Appliance Efficiency
Regulations. This is a voluminous document that
you may or may not have downloaded. But it
provides the non-substantive changes. Those are changes without regulatory effect for both Parts A and B.

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

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

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

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

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

ASSOCIATE MEMBER ROSENFIELD: That's all
right.

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

ASSOCIATE MEMBER ROSENFIELD: Thank you.

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

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

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

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

MR. STRAIGHT: Commissioners, we're not able to pick up her voice over the mic at the
PRESIDING MEMBER PFANNENSTIEL: Betty, please speak right into the mic, close to it.

MS. CHRISMAN: Can you hear me now?

PRESIDING MEMBER PFANNENSTIEL: Yes.

ASSOCIATE MEMBER ROSENFELD: Yes.

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

ASSOCIATE MEMBER ROSENFELD: No.

MS. CHRISMAN: Okay.

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

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

EISA specifically excluded products designed and marketed exclusively for medical, scientific or research purposes. We did not include this exclusion because our definition for refrigerators and freezers specifies that they are designed for the storage of food, beverages or ice. However, we can consider including the
federal exclusion to provide specific clarity
included in EISA.

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

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

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

The appliances that have an end-date
incorporated include walk-in coolers and freezers,
commercial refrigerators and freezers, commercial
ice-makers, extra-large, unitary air conditioners,
unit heaters and power supplies. Commercial spray
valves have had the flow rate standard moved to
the federal standards in 1605.1 and the
cleanability standard remains in 1605.3.
The changes with regulatory effect are shown in the draft regulations, highlighted in red, either struck out or underlined. And these are for Part B topics that are not found in the federal regulations. These include battery chargers, metal halide luminaires, residential pool pumps and portable electric spas, all of which will be addressed later in the workshop.

We have also incorporated changes to data collection requirements in Table V due to changes both with and without regulatory effect. Some of these include, but they are not limited to: adding a pull-down commercial refrigerator type for federal standards that take effect in 2010, providing additional clarification for cooling capacity of water dispensers, adding a field to specify whether a central air conditioner is a vertical, single package model, since federal standards take effect in 2010, expanding the small air conditioner and heat pump space constraint field to reflect different types of these appliances, whether they are space-constrained or through the wall or small ductile velocity, incorporating requirements for federal design standards for ceiling fans, adding data collection
for ceiling fan light kits and dehumidifiers,
amending the power venting or automatic flue
damper reporting requirements to apply to all duct
furnaces and unit heaters, not just natural gas
models, as our regulations had. Adding a field to
small, hot water boilers for determining if the
model is equipped with automatic means for
adjusting water temperature.

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

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

That's the end of this section.

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

MS. CHRISMAN: Residential pool pumps,
the clarification, and portable electric spas, the
We received a proposal from Pacific Gas and Electric Company recommending clarification of the residential pool pump standards and of the test method for portable electric spas. This proposal was narrowed to specifically address certain deficiencies and PG&E will submit a revised template later this month.

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

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

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

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

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

The program is supported by all the investor-owned utilities so not just PG&E is present here today. There are representatives
from the Southern California Edison Company, the
San Diego Gas and Electric Company and the
Southern California Gas Company.

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

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

So we believe that our recommendations
are objective, correct and fully merited. However, in our process we solicit input from everyone and there are other stakeholders in the room today who are certainly going to present opposing views or opposite views. So ultimately it is up to you the Commissioners to decide what, in fact, is going to be turned into rules and that will largely determine whether or not we can meet the State of California goals.

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

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

MR. RAINER: Thank you, Gary. My name
is Leo Rainer, I am with Davis Energy Group, I am here on behalf of PG&E and I would like to thank the Commission for allowing us to provide our input to the proposed amendments. I am going to talk about both the clarification of --

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

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

ASSOCIATE MEMBER ROSENFELD: You're too tall.

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

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

So spas. Spas were first covered in the 2005 standard. We are talking about portable electric spas. These are portable devices that are either 120 or 240 volt. They are called portable because they can be moved, not because they typically are moved, but they are not a
permanently installed hot tub or in-ground spa.

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

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

All the recommendations were incorporated in the standards and became effective January 1, 2006. Since then some manufacturers have expressed concern that they have had difficulty meeting the standard with some of their spas, specifically smaller spas, and there has been some question as to the accuracy or repeatability of the test method.
PG&E has been in discussions with the Association of Pool and Spa Professionals and also spa manufacturers. They had a number of meetings discussing how best to address this. Currently the APSP has been developing an ANSI test method based on the CEC test method. There is ongoing testing being done at Cal Poly San Luis Obispo where they have built a test facility and have a number of spas that they are going to test to determine how well they can recreate the test method.

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

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

The red boxes are the test, the spas tested in development of the standard, and the
green circles are a sample that the APSP submitted
to us of 40 spas, some of which met the standard
and some of which did not. And just to give you
an idea of the breadth of both volume and standby
power that you see in current spas.

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

Spa volume is a critical value. The
standard level is based on the spa volume.
However, there is no standard industry definition
of spa volume. It is listed on -- the
manufacturer always lists the spa volume but how
that is determined is up to the manufacturer. It
is typically rounded to a nice number. You know,
300, 200 gallons. And the troubling problem is there are incentives to overstate this volume, both from a marketing perspective, a larger spa is better, and also from a regulatory perspective a larger spa has a larger budget.

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

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

One option that we have come up with, which is probably as close as you can get to the actual is to get the maximum fill volume and then subtract 10.6 times the rated capacity. The rated capacity is the number of people. Ten-point-six is gallons, that's half of the volume of a person. So if you assume half of the person is in the spa and half is out then there's 10.6 gallons for each person. So you assume all those people are in
there and when they're in hopefully the water
doesn't spill over so that's probably about where
you would want to fill the spa.

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

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

Secondly is more of just a reporting
manner. In the current test method it is required
that the average humidity during the test be
reported. That was put in there originally
because relative humidity can have a large effect
on energy use of pools and spas. However, the
test is done with a cover on for the entire time
and the relative humidity has a very minor effect
and it is an added burden to the test method
because you don't need a relative humidity for
anything else. So we are proposing that that be
eliminated from the requirement.

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

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

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

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

MR. RAINER: Swimming pools. Similarly,
pool pumps --
the back there, sir?

MR. GEREMIA:  I was just going to --

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

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

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

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

MR. RAINER:  So pool pumps. Similarly, pool pump motors were first covered -- Pool pumps and pool pump motors were first covered in the 2005 standards. PG&E provided a case report that
recommended testing and listing of the pool pump efficiency and flows at various system curves. The elimination of low-efficiency motors, specifically split phase and capacitor start induction run motors, and the requiring that new pool pumps use two-speed motors for pool pumps of greater than one horsepower.

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

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

So some of the issues that have come up with pool pumps. Currently the scope of the standards includes only residential pool pumps.
Motors are not explicitly mentioned in the scope.

It is the interpretation of the CEC currently that the standards do not cover replacement pool pump motors. This means that if a consumer has a pool pump, which is a pump/motor combination, if the motor fails they can buy a single-speed motor to replace that. The intent of the standards was that all new motors would be two-speed.

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

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

Let me explain a little bit about the pool curves. This is a head and flow curve the
axis on the bottom is the flow rate in gallons per minute and the vertical axis is the head or pressure drop in feet of water and the yellow, red and light blue lines that you see are what we call a system curve for different pools.

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

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

Responses to draft amendments. Again we agree with all the proposed amendments the Commission has -- especially the inclusion of
replacement pool pump motors. Not including
replacement pool pump motors would forgo a
majority of the energy savings that were
attributed to pool pump standards and were part of
the 2005 standards.

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

We estimate the cost of installing a
two-speed motor in an existing pool pump to be
$400. That includes about $200 of incremental
cost for the pool pump itself, another $160 for a
two-speed controller, which is required for a two-
speed pool pump, and added labor for installing
that controller. Even with that $400 cost you
still have a $400 net customer present value and
almost a two benefit to cost ratio. And that is
in an existing pool. In new construction it is
even better because you really don't have any cost
for the controller or the labor.

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

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

The two-speed pool pump allows you to
still have the high speed when needed for other
pool operations. Also you can see there's
significant demand savings. Over 800 watts of
demand if this pool pump is operated on peak.
Finally to kind of cover the suggested next steps for both pools and spas. We would like to settle on a standard spa volume definition. We would like to work with APSP and Cal Poly to resolve any testing issues on the test method. We want to ensure that replacement pool pump motors are included in the scope of the standards as now proposed.

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

So I can take any questions on pools.

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

Leo's presentation and estimates here, by our view, are quite conservative. The California DEER estimate, Database of Energy Efficient Resources, shows the two-speed savings to be 1400 kilowatt hours a year, which is substantially more than the very conservative
estimate that we have made here. So on to questions.

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

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

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

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

ASSOCIATE MEMBER ROSENFELD: Yes.

MR. STORM: Okay, thank you. My name is William Storm. I am the owner of Storm's Pool Care and Repair in Sacramento, California. I am a licensed contractor. I have been in the swimming pool service business since 1962 and I completed one of the first college accredited pool technician courses in the United States. In talking with my colleagues, it is the only accredited pool technician course and it was done with Sacramento City College.
I have been installing and promoting two-speed pumps since 1990 with success. My failure rate I would say is zero because I have not had call-backs on them.

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

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

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

The program for upgrading pool systems should really be given -- should really give people in the pool cleaning service business a boost to become a certified technician and a reason to become a licensed contractor in the
state of California. Do you have any questions for me?

PRESIDING MEMBER PFANNENSTIEL: None, thank you, sir.

MR. STORM: Thank you.

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

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

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

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

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

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

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

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

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

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

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

MR. GARDNER: This has been discussed at
our board level, which is ten regions being represented by ten members of the Independent Pool and Spa Service Association. And it is the consensus that this is where we stand.

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

MR. GARDNER: No it is not.

MR. FERNSTROM: Thank you.

PRESIDING MEMBER PFANNENSTIEL:

Commissioner Rosenfeld, did you have a question?

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

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

MS. HUGUELEY: Hello, my name is Celia Hugueley. My sister and I have operated Oasis Pool Service in Nevada County for 20 years. We are licensed C-61 D-35 swimming pool service and repair contractors and hold many technical certifications in our field. I also attended the class at City College that Mr. Storm referred to. I assume that PG&E is pushing the inclusion of replacement motors in this
clarification because the current and past rebate
programs have not yielded the desired results with
respect to the installation of two- and variable-
speed pumps. A more thorough examination should
be made as to why even with a tireless
demonstration program by PG&E the pool industry
has not been moved to enthusiastically embrace
these retrofits.

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

It is, however, an impossible task to
standardize existing field conditions to conform
to one solution. To mandate that single solution
will backfire in the many ways outlined in my
written comments and those of others. To achieve
the desired increase in electrical efficiency our
industry needs to retain the flexibility to make
informed choices as to the most efficient way to
upgrade our clients' systems.

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

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

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

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

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

PRESIDING MEMBER PFANNENSTIEL: Thank
you.

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

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

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

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

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

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

PRESIDING MEMBER PFANNENSTIEL: Thank you.

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

MR. BARNES: I think we had no less than six or seven meetings, of which we appreciate you participating, over the course of two years. It was ultimately after a lot of wordsmithing and
consternation a unanimous position of the APSP-Ten Writing Committee. That then went to the APSP Technical Committee and became the official policy of the APSP. So it is a very formal process that we go through.

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

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

MR. FERNSTROM: The APSP versus IPSSA.

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

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

MR. FERNSTROM: The question is about who each organization in the industry really
represent and how they divide. My answer would be, they are different organizations within the pool and spa industry to which manufacturers, builders and contractors have affiliated.

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

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

And the other aspect, I think the big difference between the two organizations, is the APSP is American National Standards Institute-accredited to create standards. So we have standards for portable spas and pools. The full gamut of ANSI-approved standards. So there is
that very technical side and then there's the
trade association side of promoting the industry.

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

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

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

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

MR. GEREMIA: Hi, I'm Mike Geremia. I
am the president of Geremia Pools and Geremia Pool
Service. We have been building swimming pools in
the Sacramento region for over 60 years.
I am also the secretary and founder, or one of the founders, of the Foundation for Pool and Spa Industry Education, FPSIE for short. It's a local trade school designed to educate all members of our industry.

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

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

Two-speed pumps are effective in saving energy, however, they don't fit all pools' needs. Low speed may not skim properly for that particular pool. There are still induction-style motors. And we have seen in the industry shorter lifetimes for that type of motor as opposed to the...
single-speed. Or of course the new variable speeds we don't really have a long enough track record, they have only been on the market for a couple of years.

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

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

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

Licensing. Only about ten to twenty percent of the service industry carries the proper kind of license to pull a permit to do the work that is necessary in many of these upgrades. The current law requires that any contract over $500 requires a license to do the work. Replacement
motors often fall just underneath that threshold. And those small pool service companies rely on that income in order to be able to maintain their profitability. I am concerned about the enforceability of a regulation such as this and I think the reality is that many consumers will find a way to get around the need to install a variable speed motor by finding somebody else to do it, and thus take a customer away from somebody who is trying to follow the spirit of the regulation. Our industry was just introduced to these products in the last couple of years. I think we need to let the marketing campaigns of PG&E and SMUD and all the utilities, plus the marketing campaigns of us within the industry, take hold. We are just really getting out there with these products. We have now developed a program that is available on-line as well as in our classroom at FPSIE to train people to do an audit and properly present the savings to a consumer. I think the utilities as well as the Energy Commission would be investing very well in our industry by supporting that goal.
I feel this requirement is jumping the gun and would prefer to see something like this down the road if those campaigns fail. Our industry is just going to come up, is starting to come up to speed, we have a little ways to go.

Thank you.

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

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

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

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

SPEAKER FROM THE AUDIENCE: Speak up, please.

MS. MERRITT: This is Melinda Merritt with the Energy Commission. Assuming that proposed amendments would be adopted in December
of this year that would put the earliest effective
date for regulations January of 2010. That would
be the earliest. We have not posited any precise
effective dates for these measures at this time.

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

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

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

So we are only talking about the
electric motor only replacement portion of this.
And we originally thought that was required but
through an oversight in the scope it turned out that the CEC's attorney's opinion was that that could not be regulated since it was left out of the scope.

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

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

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

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

MR. FERNSTROM: The issue in my mind,
however, isn't the absolute savings, it is the savings versus the cost. And we have put on the record very objective statements of what we think the cost-effectiveness of this measure is.

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

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

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

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

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

In my experience when I took the course in 1987 after being introduced to the water flow dynamics of the system, the next day I went out
with a customer, just changed the impeller for $25
and that customer started saving $30 a month with
just an impeller change.

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

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

ASSOCIATE MEMBER ROSENFIELD: Okay.

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

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

So it is the education that we need to
find out -- To come to my educational level and my
learning we need to find a marketing that is going
to make this program successful. The economics
are just empirically presented to be real. There
is no guess about it, there is no pie in the sky.
What you are seeing in empirical analysis is real.

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

        MR. STORM:  Thank you.

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

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

        Energy Commission received a proposal
information template from PG&E on January 30,
2008. The proposal recommended that the Energy
Commission adopt Ecos Energy Efficient Battery
Charger Test Procedure. The proposed test
procedure was developed by Ecos Consulting over a
four year process and was funded by California
Energy Commission's Public Interest Energy Research PIER program and PG&E.

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

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

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

The US DOE and Natural Resources Canada participated in April 8's meeting. The US DOE provided an updated federal activities and
schedule for its battery charger test method rulemaking.


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

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

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

PRESIDING MEMBER PFANNENSTIEL:

Anything?

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

MR. SINGH: It is Version 1.2. Thank
PRESIDING MEMBER PFANNENSTIEL: Thank you. Any questions, Gary? Any comments here?

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

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

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

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

I just wanted to add for the record that the Association of Home Appliance Manufacturers have actively participated in bringing forth comments related to battery charger test procedures and have comments for us today, I think, to present their views about how the test procedure perhaps could be refined to address issues that they see. There has been a little bit of confusion back and forth about the proper filing of all of that, some of which the staff apologizes for. And we welcome those comments and welcome the dialogue with AHAM.
PRESIDING MEMBER PFANNENSTIEL: Were we going to have Ecos make a presentation now on the procedures or was that not going to happen now?

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

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

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

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

My comments today will be fairly short. I think Harinder gave us a fair amount of the history. This test procedure has been developed over a period of four years or more and has gone through many revisions.
The changes that have resulted in Versions 1.1 and Versions 1.2 over the past six months or so have really been very small changes. They are clarifications just to make sure that there aren't ambiguities or loopholes but they haven't been significant changes.

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

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

The changes that have been incorporated in that since Version 1.1 is some clarity in the definition of an external power supply as it is used in the battery chargers. Many battery charger systems also have external power supplies and we wanted to be sure there is clarity in that
the external power supplies that are used, it actually makes very little difference in how a battery charger system is tested, whether the power supply is external or not. So this is, again, just really a minor clarification. It doesn't affect how the products get tested.

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

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

There has also been concern from industry at a number of times that batteries are being developed which include protective circuitry that avoid doing harm to the batteries and industry has wanted to be sure that that protective circuitry is not defeated during the process of testing. So we have included provisions that specifically provide that the testing lab would follow manufacturers'
recommendations for including protective circuitry in all the battery tests.

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

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

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

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

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

The second suggestion we would make is that the definition of a battery charger system as it is currently in 1602 Subsection U defined a battery charger system rather narrowly and
included perhaps 15 or so qualifications.

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

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

The final piece would be our recommended action for the Commission today and that is to formally adopt the test procedure and provide the 45 day language and the other steps that are necessary for the regulatory rulemaking. This procedure has been vetted over four years of back and forth between industry. It has been tested in the lab on probably close now to 300 products and
so the variations between products and the problems that have been encountered have all been incorporated into it, making it a reliable procedure for testing energy consumption in all the operating modes and on a very wide range of products.

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

As Harinder mentioned, the meeting that is being held in two weeks, I believe it is May 28, is specifically addressed to these large chargers, the chargers that are more than two kilowatts. To address the possibility of testing and including those in standards. The meeting on
the 28th would not affect what is being proposed
for chargers under two kilowatts. This would only
be addressing the large chargers, forklifts,
airport baggage tugs and so on.

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

And we believe those products may
require somewhat more energy than we are proposing
for the other standards because they are not just
charging batteries but providing that continuous
illumination. So there are certain products such
as that that because of the requirements of the
product, may require an energy allowance or a
power allowance to perform those alternate
functions. So we are particularly interested in
concerns from manufacturers and other interested
parties on those products that have special, legal
or regulatory requirements that may need more
power than simply charging their batteries.

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

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

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

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

DR. BENDT: Yes, we envision that they
may well. A lot of products that have a second
function, that function can be turned off. But
for cordless phones, the phone does need to be continuously monitoring the phone line in order to detect an incoming call. Many of the phones also have an integral answering machine and that answering machine also requires some power to maintain its date and maintain its memory.

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

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

MR. HAYNES: Thank you. One just clarification. The cordless telephone, of course, awaits an incoming call but it also has to be powered on in case someone wants to make a call from the portable unit. It has to be powered on
for that purpose as well. So I just wanted to bring that to you. Thank you very much.

   DR. BENDT: Thank you.

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

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

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

   ADVISOR TUTT: Again in the case of cordless phones and you are looking at the charging system, there is a power allowance for the cordless phone itself that needs to be on but
the actual charger in standby mode may not reflect
that power that the cordless phone is needing. Do
you see what I am saying?

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

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

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

ADVISOR TUTT: Thank you.

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

MR. STRAIGHT: Allow me to find out.

MR. ALBERT: A question for Paul Bendt.

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

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

If the large battery chargers, and by large I mean more than two kilowatts, that would depend on the outcomes from this meeting on the 28th and further discussions to determine if there is consensus on how to proceed forward with
incorporating those into the standards. I would still envision that those would be included in this same, new section but that would be subject to the outcome of the meetings that are addressing those products. Did that answer your question?

MR. ALBERT: Yes it does, thank you.

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

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

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

ADVISOR TUTT: Thank you, Gary. I just wanted to clarify that -- I believe that we're talking about a battery charger test procedure
today and we've talked a little bit about what may 
or may not be included in the standards. But with 
this proceeding we are sort of limiting ourselves 
to a test procedure and how that applies to these 
different battery charging systems.

PRESIDING MEMBER PFANNENSTIEL: Yes, go 
ahead.

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

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

MR. KLEIN: Dave Klein from JVC.
Dr. Bendt, with this standard that you all have created. Who owns that standard? You all are obviously -- Mr. Singh said that you all were funded by PIER funds and you mentioned that as well. Who actually owns the copyright to this standard and how are we going to be basing regulations at the state level on a privately copyrighted document, which I believe you all -- Ecos Consulting owns the copyright for this particular standard.

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

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

MR. KLEIN: Right, right, right. But in terms of modification. The industry has made several suggestions and have suggested revisions. It certainly impacts the procedure of addressing
those concerns and questions and possible clarifications on you all's part.

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

MR. KLEIN: Thanks, Gary.

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

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

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

I think this could become a very lengthy discussion and occupy much of the Commission's time for months to come. So I just wanted to urge some caution in distinguishing between di minimis
functional adders and meaningfully large ones. I can imagine us going round and round in this room in the future about the necessary power use of indicator lights and the necessary power use of other things that get measured in hundredths or tenths of a watt.

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

PRESIDING MEMBER PFANNENSTIEL: Thank you, got that.

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

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

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

Yes, go ahead.

MR. MORRIS: Wayne Morris with the Association of Home Appliance Manufacturers. I
think we had some slides that we had submitted that we would like to run through real quick.

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

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

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

Our manufacturers have made significant improvements and upgrades to the products as they were originally under the domain of the external power supply requirements. Now we will shift over and have to be regulated under battery chargers as well. It has been our interest in all of this to make sure that the test procedure is fair and
accurate and represents the way that we can best achieve the energy savings for the citizens.

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

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

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

The recent posting of the CEC staff for
proposed regulations which bring the regulation
into alignment with the Energy Independence and
Security Act of 2007, the adding of definition
testing at 115 volts, exclusion of the power
supply regulation. These are all very helpful and
I think that they go a long way toward making sure
that what we are dealing with is centered down to
just the type of battery chargers and that we are
testing them appropriately.

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

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

We want to measure the important
characteristics that occur in these particular
chargers and recognize them the way that they are
actually used by the consumer. And we also don't
think that we need to presume what the standards
will be when you are dealing with a test
procedure. We can deal with standards later. We
understand that. We hope that we can be part of
that discussion as well in the setting of the
standards. But right now we think that the test
procedure needs to be as open as possible.

Currently Version 1.2 still has some very narrow
language in it that deals with the confines of how
you approach formulas and other kinds of
We have been making several suggestions since the very beginning, they are not really any different. We have asked for the elimination in the mention of EPS and Dr. Bendt mentioned that the latest version, Version 1.2, has done that.

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

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

The issue of associated batteries has been dealt with.

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

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

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

The power factor. The test procedure very recently has included this issue of power.
factor with an intent, we believe, to set very
strict limits on this issue of power factor.

Power factor is a ratio of watts to the volt
amperes of apparent power and reflects a higher
current than the power rating would actually
predict. Ecos' contention seems to be that the
low power factor causes extensive power losses in
distribution wiring. Losses due to the effect of
additional current and resistance in the wiring.

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

We proposed in answer to that that we
believe that the largest of the battery chargers,
those greater than 700 volt amperes, will probably
have some effect on the power factor situation.
For those losses, energy losses for those battery
collectors less than 700 volt amperes, the energy
loss is insignificant.

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

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

Regulation of power factor in battery
chargers is probably a very bad idea for the small
chargers. Many of the highly efficient power
conversion technologies and very poor power
factor. For instance, compact fluorescent lights
and switch-mode power supplies. As we presented
to you, I think in this same room about four years
ago, that this was a danger of really impacting
and suggesting all use of switch-mode power
supplies because of the impact that it has on power factor. Nevertheless that has gone forward and now we need to sort of catch up with that.

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

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

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

That's all I've got. In closing I would
I like to say that I think we appreciate that Version 1.2 has made a step forward. I know Paul said they were very small steps but actually I think they are very important steps that have been made in Version 1.2. We believe that there is still some tightening that can be done to this Version 1.2. We have submitted a document which has a track change type of format to show you exactly where we think some very small changes can occur.

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

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

I think the inclusion of these would improve the overall test procedure. It will help
us as we go forward to the data collection. It
will also help us as we go forward in rulemaking.

Thank you for your time.

PRESIDING MEMBER PFANNENSTIEL: Thank

you, Mr. Morris, good suggestions. We will
certainly look at your written material as well.

Gary.

MR. FERNSTROM: Gary Fernstrom, PG&E.

Just one quick observation and a comment. We
absolutely did include appliances of the type that
Wayne was talking about in our testing and
consideration in the development of the standard.

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

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

DR. BENDT: Yes. This is Paul Bendt
again with Ecos. There were a number of
statements that Wayne has made that I would like
to address.

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

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

PRESIDING MEMBER PFANNENSTIEL: And that
information is on our record?
DR. BENDT: That information is on the record.

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

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

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

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

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

MR. MORRIS: I think if I --

ASSOCIATE MEMBER ROSENFELD: I don't see
the issue here except maybe a mis-spoken word by you.

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

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

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

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

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

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

The power factor is certainly an important issue. I believe the power factor is one that needs to be addressed even for products that are considerably smaller. The energy losses
that are -- The energy that is lost in the
distribution network is an important part of the
energy loss. We will be submitting in the case
report that regulation of that will result in very
cost-effective energy savings.

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

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

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

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

The technologies that are available for
improving the efficiency of those chargers and the
cost for doing them are also very comparable so we
don't believe that that distinction is important
at the level of the test procedure. It may or may
not be relevant at the development of standards.
But it is certainly not relevant to the test procedure and we would oppose inclusion of definitions of that nature at this time. Again, that gives a quick response, a more detailed response has been submitted in writing.

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

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

The pattern of approach is always similar, which is that the funnel is rather wide when you begin a test procedure. It is the early stage of scientific inquiry. You need to measure to find out how important things are. And so it is not uncommon that the final scope of a standard does narrow what is addressed, which metrics become the basis of standards and which products are covered. But it has also been increasingly common for industry participants in these forums
to try to narrow the scope of a test procedure
early on because it forecloses any possible
regulation of something that hasn't been measured.

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

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

And the reason I bring it to your
attention is A, that it was funded by this body,
but B, that one of its coauthors is John Koomy,
someone who is well-known to all of you and a
former graduate student of Commissioner
Rosenfeld's, and he took some pains in trying to
estimate this effect and it was surprisingly
large.
Because you are typically used to measuring the energy at the device itself, not through all the wire that the power flows from the meter to the device. So I2, our losses are substantial there. We can resubmit it to the record as well as update it as we measure battery chargers. So I won't take you further into the arcane nature of power factor. Just to plead that we do in fact be allowed to measure it and to tell you what we find and how much energy it might save us. Thanks.

PRESIDING MEMBER PFANNENSTIEL: Thank you, Chris. On the phone? Are there commentors on the phone?

MR. STRAIGHT: Not that I am aware of.

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

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

ASSOCIATE MEMBER ROSENFELD: We can't hear you.

PRESIDING MEMBER PFANNENSTIEL: You need to speak into the mic if you're going to --
MR. HANSEN: My name is Dain Hansen with NEMA and John Green is going to be speaking on behalf of our emergency lighting section.

PRESIDING MEMBER PFANNENSTIEL: Thank you.

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

The document mentions that both the EPA and DOE have taken measures to enact battery charging systems, but neither of these have pertained to emergency lighting equipment to this
point. Key stakeholders involved in the preliminary discussions have focused on convenience electronic manufacturers and there has been very little input from the emergency lighting industry, if any. And we feel we have been placed in a category that we really don't belong, in this case.

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

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

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

ASSOCIATE MEMBER ROSENFELD: Yes.

MR. GREEN: Okay, thank you.

The purpose of continuously trickle charging the batteries or having the chargers active all the time is to preserve life safety equipment to maintain the charge on the battery at a level which will ensure operation for a minimum of 90 minutes, per the requirements of UL 924 as mandated by NFPA 70 and the National Electric Code, NFPA 101.
Life safety products' readiness is dependant upon the stated charge of the battery. In knowing this it has been industry practice to engage charging systems at two different levels. One is a high rated charge that is used to recharge a battery after an event has happened, a power outage or whatever. Following that there is a flow charge of about 20 to 30 milliamps to the battery which keeps the products on a maximum capacity and readiness in the event it is required to operate in another power outage situation.

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

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

Regarding the draft amendment for 2008,
the Appliance Efficiency Regulation Part B. Point one is the definition for products categorized in product category one have remained consistent from previous releases of the Appliance Efficiency Regulations. And that is, quote, emergency lighting, which is illuminated exit signs, as read from page two of the document. At no other time in this document has emergency lighting stood for anything other than exit signs. On page 58, item ten, is the introduction or proposed inclusion of emergency lighting charging systems, which also piggybacks uninterruptable power supplies.

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

Third, on page 88, item one, the appliance efficiency regulation is proposing to strike all printed language as to performance
criteria and referencing 10 CFR Section 431.204(b)
of 2008, which is the language from the Energy
Policy Act regarding the requirements for exit
signs.

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

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

Point four. On page 129 item one, this
again illustrates the removal of the exit sign
performance requirements and in place submits the
language, the input power of an internally
illuminated exit sign manufactured on or after
January 1, 2006 shall not exceed five watts per face.

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

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

Therefore NEMA Emergency Lighting Section recommends that life safety lighting equipment be exempt from battery charging requirements. There are new charging technologies that are being developed with other battery chemistries that will inherently address the energy savings the CEC is targeting. Until the time these become proven and can be made commercial the risk to public safety is not justified by the unproven energy savings being promoted by these regulations on emergency lighting equipment.
Thank you. Are there any questions?

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

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

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

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

ASSOCIATE MEMBER ROSENFIELD: But nobody suggested that you wouldn't be able to.

MR. GREEN: Correct.

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

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

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

MR. PENNINGTON: Question?

PRESIDING MEMBER PFANNENSTIEL: Yes, Bill.

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

ASSOCIATE MEMBER ROSENFIELD: Bill, I don't think your mic is on either.
MR. PENNINGTON: I'm not talking into
the mic is the problem.

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

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

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

MR. GREEN: Thank you.

PRESIDING MEMBER PFANNENSTIEL: Gary.

MR. FERNSTROM: Gary Fernstrom, PG&E.

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

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

PRESIDING MEMBER PFANNENSTIEL: Thank you.
MS. MERRITT: This is Melinda Merritt with the Energy Commission staff. And John, your comments appear to be mixing I guess concerns around the battery charger test method with I think some of the clarifications that we have tried to introduce into the current regulations with respect to updating and revising the standards for currency with federal law.

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

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

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

The first point that you said related to page two. That is, the scope and not the definitions. It is just intended for clarity. My
question related to the specific definitions. Is your question related to page 58 was in the battery charger section. We also include a definition on page 44 in 1602(l), I believe, that is a definition for illuminated exit sign and you did not question that. So we would also like to know at a later date if you have a concern for that definition as well.

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

MR. GREEN: Okay, maybe we misunderstood some of the intent there. I think that's part of the issues we had. We haven't had a lot of discussions about this yet. So we just want to be sure we become involved. And thank you for the clarifications on that, that's very helpful.
MS. MERRITT: We are very encouraged and grateful that you were checking our work (laughter).

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

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

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

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

On page 12 Section F, access to the
battery for discharge tests. The first sentence there, I was just talking to Paul about this. I think he is in violent agreement that we could add a phrase there to protect the technician. It says the technician may need to disassemble the end-use product. And I would like to add, comma, but not the battery itself, comma. So just to keep everyone as safe as possible.

Thank you for your time.

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

MR. JOHNSON: Good morning Commissioners and staff.

PRESIDING MEMBER PFANNENSTIEL: Good morning.

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

CEA filed comments on behalf of its members on this test procedure on April 18. Our members in general are concerned about a situation where we could have double jeopardy. As you know we focused for a long time and invested a lot of resources and energy into external power supplies. In amending the initial regulation in this state, harmonizing the activities of other states and
then ultimately at the end of last year achieving
a national energy efficiency standard for external
power supplies.

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

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

The third point I wanted to make has to
do with the development of the test procedure
itself. This is just the type of activity which
lends itself to the industry standard setting
process. You have heard references to ANSI
accreditation a couple of times this morning. And in fact it is ANSI accredited standards
development organizations that do play a very
effective role in developing test procedures
through a broad stakeholder process in a
relatively short amount of time.

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

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

So again, I wanted to emphasize our
concern about double jeopardy. Emphasize that
this is the kind of activity which really should
be in a standards development organization. And
finally offer CEA support in that regard. Thank
you.

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

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

PRESIDING MEMBER PFANNENSTIEL: Thank
you.

MR. ALBERT: And PTI. Thank you.

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

While this is not necessarily a bad
thing to do it is a departure from many of the
other products that are covered in the appliance
energy efficiency standards. I want to make sure that the Commission realizes that this is embarking on, you know, fairly new ground. Although I believe Gary mentioned at one point there's at least another standard out there that looks at similar sorts of things.

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

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

The question of invoking the European standard that Paul brought up. That standard specifically is not for energy efficiency, it is for harmonic currents. The concern there is the fact that certain kinds of harmonic combinations
cancel out in power distribution systems causing overloading of the system.

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

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

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

So if there is any doubt at this point
because we are moving forward towards regulation
we should probably leave that element out and make
that a subject of some other ongoing research.
Thank you so much.

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

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

MR. ALBERT: I am.

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

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

But based upon PG&E's sample on this it
was clear that there was consideration given on
some very strict limits, we thought, to what the
power factors would have to be for battery charging systems. So that was, I think, a considerable departure from what we thought its purpose was. We thought it was just a question of data gathering and there was really no, no intent that that would become something to be regulated.

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

DR. BENDT: This is Dr. Bendt again. My response to Larry and to the Commission is that I believe the result of gathering data is that it demonstrates that power factor is important. and that there is energy savings available and cost-effective energy by regulating it. That while battery chargers might be the first appliance that the CEC would apply these regulations to I believe it should be applied to a lot of other appliances. Perhaps TVs, microwave ovens and on and on and on. That power factor is important for many products. But we have to start somewhere. And if
battery chargers is the first one that comes up
that we really understand it then maybe that's the
first one. But over the next ten years I would
hope to see that applied to a wide range of other
products that have poor power factors.

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

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

So the first step, even though the power
factor is poorer, the fact that the total energy
being drawn through that house wiring is lower,
does improve it. And we are looking perhaps there
is an additional step that says, and if we can
also improve the power factor without harming the
efficiency of the product then there can be
additional savings beyond that.

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

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

DR. BENDT: I think that's involved in
the more detailed analysis and I am happy to
continue the discussion to make sure that we are
doing that analysis in a way that meets a consensus of approval that we are doing it correctly. And I look forward to continuing that with you. I don't think we need the Commissioner's time for that but I would look forward to continuing that.

MR. ALBERT: Sure.

DR. BENDT: Thank you.

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

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

DR. BENDT: The answer to that is yes.

We have been looking at what design changes would
be required. Some of the switch-mode power
supplies have very poor power factors. And
getting them up to what I would consider a
moderate power factor is actually quite simple and
those changes are certainly cost effective.

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

And we would certainly in this envision,
as all the other agencies are, that there would be
a threshold below which, current threshold or a
power threshold below which power factor is not a
significant issue. And that there would be a very
large number of products that would not have power
factor addressed because the power consumption is
low enough that the current draw is not
significant.
PRESIDING MEMBER PFANNENSTIEL: Any further discussion on this item?

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

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

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

Then the last thing I want to explain is the concept. In Table D they talk about end of life for the battery chemistries. And for lithium ion they quote 2.5. And that's true. But in our...
phone systems what we do is we operate from 4.2 to 3.0 volts, we don't go all the way down to 2.5. And that's for reasons you would hurt other electronics in the phone if you were at that level. So I don't think you need to or you should actually test all the way down to 2.5, that's not how we are using the battery in our systems and we never have.

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

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

(Whereupon, the lunch recess was taken.)

--oOo--
AFTERNOON SESSION

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

MS. MERRITT: Yes, just a few.

PRESIDING MEMBER PFANNENSTIEL: Thank you.

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

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

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

If you would like to make oral comments this afternoon please fill out a blue card.
identifying yourself and your affiliation. We will collect those and get them up to the dais.

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

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

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

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

And these regulations combined with other programs shall reduce average indoor
residential lighting energy by 50 percent relative to 2007 levels and reduce average indoor commercial lighting and outdoor lighting by 25 percent -- energy for lighting by 25 percent and more relative to the 2007 levels. These are very ambitious goals. They are going to require not only a lot of work, new standards, which is the subject of this meeting today, but the thoughtful planning and invention of a lot of other activities and programs that are going to bring about these levels of energy lighting reduction.

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

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

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

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

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

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

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

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

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

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

PRESIDING MEMBER PFANNENSTIEL: Any questions? Yes, Pam.

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

I have one question and if the answer is yes then I have a comment. In the staff
recommendation on page four there are shown two tables, one is called K-8, one is called K-9. K-8 is Tier I, K-9 is Tier II. The question is, does staff intend to place both tables into this round of Title 20 regulations?

MS. MERRITT: The answer is yes.

MS. HORNER: Then I have a comment. This is a friendly comment. What we would like to point out is two things. In Table K-9 what is --

First I would like you to take a look at its title. It is called Standards for State Regulated General Service Incandescent Lamps. We would simply like to remind the Commission and the consultants here that a careful examination of EISA shows you that the standards for Tier II are for general service lamps.

And it sounds like it is the same thing but it is not. Incandescent lamps are considered a subset of this larger category. And what the federal law has done is it has further defined general service lamps to include not only these types but also compact fluorescent lamps, no base noted, LEDs, no base noted, and the dreaded category called other, whatever people determine will be general service in the future.
While it may not be probable it is possible that each of these types of technologies that are listed as general service lamps may indeed find their way in future federal regulations to have each their own set of LPW standards. That's possible. The other point that is related to this --

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

MS. HORNER: LPW standard.

ASSOCIATE MEMBER ROSENFELD: Lighting per watts.

MS. HORNER: Yes.

ASSOCIATE MEMBER ROSENFELD: Lumens per watt standard.

MS. HORNER: The second point, which is related, is that in Table K-9 minimum lamp efficacy is shown at 45 lumens per watt and that was taken from the backstop requirement. So there in effect -- We would just caution that as you write this, as you place numbers in boxes, that it is worded in such a way that it captures the federal intent. The backstop requirement as a reminder said, if the government doesn't set a standard then it shall revert to this. And it
looks as if this has been already chosen as the
default so we would caution you on that. So those
are our comments.

PRESIDING MEMBER PFANNENSTIEL: Thank
you.

MS. HORNER: You're welcome.

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

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

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

This is a visual indicating the lumens
per watt requirements the Commission has in place
now compared to the light output level of the
What you can see is a red line with a series of saw teeths in it. And essentially lamps that fall above the red line would be legal to sell in California under the standards. These large number of faint colored diamonds in the background are all products that were in the data set prior to the standards. And then we have highlighted some of the new products that have come into the market in California as a result of adoption of the standards.

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

The other noteworthy products on the page really are these four product introductions from Philips under the Halogen brand, which are remarkably more energy efficient than the other incandescents that have been introduced so far and
are really worthy of commendation as the kind of
technologies that standards help to bring to
market and hope to bring to market.

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

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

Here are some 38 watts lamps, 57s from
major manufacturer and the private label brand for
the store. The same for the 71s and the same for
the 95. So I think the good news is that there is
evidence of compliance with the standards that the
wattages are five percent lower as required by the
standards. However, most of the new bulbs reduce
light output by eight to ten percent so they are
actually less efficient than the old bulbs that
they replace.

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

MR. FERNSTROM:  Chris, this is Gary.

MR. CALWELL:  Yes.

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

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

Then just one more mystery shopper photo
here. This was taken recently at a national
retailer. Just indicating that the most prominent
and fastest selling shelf space in the store is
these end cap displays. And the middle row or
shelf in the lighting section now increasingly
being devoted to the modified spectrum products,
which are the least efficient ones offered. So
against that backdrop we are anticipating
additional regulation and voluntary initiatives.

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

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

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

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

And as we said in January testimony so I won't reiterate here, PG&E did recommend six specific strategies for dramatically increasing residential lighting efficiency in California.

And if there is any one message maybe from my talk today is I don't want people to leave this discussion feeling like the one year and two year accelerations of the federal standards get us anywhere close to the targets required by AB 1109. It is going to require much, much more than this.

This is, in effect, sort of the simplest and easiest and most obvious first step. But we had highlighted back in January, and hope to bring to further discussion, better enforcement of existing standards, adopting a broad range of
Title 20 and 24 measures that are not preempted by EISA, profound expansion of consumer education. And then employing financial incentives on the positive side, which utilities have done effectively in the state for years, but also the notion of employing financial incentives on the negative side to say to consumers that some products should be discouraged from purchase because they are much less efficient than average. So just a little bit of market research recent history. The general purpose incandescent lamp sales in the US based on the data we have seen likely peaked back in the late 1990s. They leveled out briefly and they have begun a steady decline since. So we have been in declining annual sales of general service incandescent lamps for perhaps nine or ten years. The NEMA data that were submitted to DOE as part of their standard proceeding showed US sales of all incandescent A-lamps at about 1.6 billion units in 2001 and around 1.4 billion units in 2005. And some of the market data we have seen show that the decline has become even more rapid since then. Not coincidentally the CFL sales have
been rising sharply during the same time. And the
import data we have, which I will show you in a
moment, indicates about 29 percent of all the
screw base lamps sold in the United States in 2007
were CFLs in the general service category.

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

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

This is an updated version of a visual I
showed at the Commission in January. These are
data from the US trade on-line database and they
show monthly imports of CFLs to the United States
on screw based products. Since virtually all screw based CFLs are now manufactured outside of the United States imports are good proxy for sales.

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

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

Now we are entering the realm of projections where there are not a lot of data to
go on so you just have to make some educated estimates. We looked at the demographic factors, economic growth, population growth, declining household size, a series of other issues, and think that the number of California sockets, all other things being equal, is probably going to grow about 30 percent between the base year of the Huffman Bill and the requirement year of 2018. Even with that growth we would expect there are going to be 20 percent fewer screw based lamps sold in 2018 than are being sold now, maybe even more, because of this longer and longer lamp lifetime issue.

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

Okay. In summary what we found in this case analysis with a number of simplifying assumptions is that the Tier I standards option
that Harinder mentioned before would result in
about a 64 megawatt reduction in peak demand and
about just under 1,000 gigawatt hours of savings
for that one year acceleration of Tier I.

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

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

So I am not going to walk you through
all the fine print numbers here. These are the
same lumen bins that Harinder showed you before.
But just to remind you, the federal wattage
requirements, 29, 43, 53 and 72 watts for both
standard lamps and modified spectrum lamps but
with different lumen bins. All the lumen bins are
shifted downward in the modified spectrum area.
So even though modified spectrum are definitely
What sort of technologies will be used to comply with Tier I? Well the lamps I highlighted before, the Philips Halogen are the first incandescents we have in retail stores today that do that. So we have just cut one open here to show you what is going on. You have a very small incandescent filament here inside of a halogen-filled sphere with an infrared reflective coating on it to bounce the heat back on the filament.

What would we save by going to Tier I a year early? So what you see here are average wattage reductions ranging from 9 watts to about 28 watts per lamp. And a series of assumptions about how long the lamps are going to last, what is going to happen to sales and so forth, leading to the savings totals I mentioned before. Because the federal standards would take effect on their own a year later, even if the lamps live longer than a year you can't claim more savings than the period they would last until the federal standards take effect.
What about Tier II? Well now we are talking about dropping average power levels quite a bit more. So now down into the 12 to 45 watt range for standard lamps and probably a little lower. This is where it gets tricky because as Pam mentioned before, we don't know how DOE might choose to implement this. But if they just applied a flat 45 lumens per watt across the board and you picked the mid-range of each of these lumen bins then these are the kind of wattages you might see for each.

So what savings might you get from adopting the standards two years early for Tier II? You see here estimates of 17 to 27 watts and 20 to 38 watts depending on the lamp type.

Remember that under the wattage cap system the modified spectrum lamps remained quite inefficient after Tier I. So therefore taking them to 45 lumens per watt gets you more savings per lamp in Tier II.

I want to conclude with this slide. The recommendations are straightforward. We urge the Commission to adopt the Tier I requirements a year early so it's a rolling set of dates starting in 2011 instead of 2012 and finishing in 2013 instead.
of 2014. And then to adopt the Tier II
requirements with an effectance date of 1/1/2018,
which would secure up to a year's worth of early
savings to assist with the compliance deadline.

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

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

PRESIDING MEMBER PFANNENSTIEL: I have a
question, Chris. Back to the shelf space that you
showed with the CFLs and the modified spectrum
lamps and the fact that the modified spectrums are
getting a lot more shelf space. Is it correct
that consumers don't really understand the
difference in a 57 watt as opposed to a 60 watt
when they look much the same in terms of what they
are getting for efficiency? Is what's going on
there consumers are just stuck in the 60 watt
mold?

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

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

PRESIDING MEMBER PFANNENSTIEL: Well,
but I am not even sure I am looking to have them untangled.

MR. CALWELL: Okay.

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

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

MR. CALWELL: Yes.

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

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

PRESIDING MEMBER PFANNENSTIEL: But was
the information -- Was the money spent on CFLs promoting through rebates or was it on some kind of advertising campaign in terms of the value?

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

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

PRESIDING MEMBER PFANNENSTIEL: Thanks. Joe.

MR. HOWLEY: Yes, Joe Howley from GE. I would just like to make a couple of comments. To help smooth the transition we purposefully kept the packaging of the 57 watt lamps exactly the same as the 60 watts that they have been buying for the last, you know, five years or so. So if somebody was looking for that I think we haven't had a lot of confusion or questions about it.
I think consumers who are used to buying that yellow package for many years, they buy incandescent lamps probably every couple of months. They saw the package, they saw the wattage was down a little bit but they didn't seem to have any problem identifying it.

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

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

PRESIDING MEMBER PFANNENSTIEL: Thank you. I remain somewhat unconvinced about how much information the general consumer has. I think ultimately all of our work is going to require
that they have a different level of understanding
of how lumens work relative to wattage than they
have now.

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

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

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

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

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

There is a very careful but meaningful distinction between saying that absolute sales of modified spectrum products are dropping and saying that modified spectrum sales are changing as a percentage of the incandescents that are sold. All incandescent lamps are dropping but the evidence in the stores suggest that modified spectrum represent a larger and larger fraction of
what is being sold. If not, the retailers are
devoting a heck of a lot of space to promoting and
calling attention to products they can't persuade
anyone to buy.

PRESIDING MEMBER PFANNENSTIEL: Okay,
Pam.

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

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

PRESIDING MEMBER PFANNENSTIEL: How
timely.

MS. HORNER: So if we put that,
specifically include the incandescent on there I
think that would be in our best interest. I
thought you should know. Thank you.
MR. COOK: Keith Cook from Philips Lighting. I just wanted to add another comment and that is, putting lumens on a package, no matter what the font size, is not going to solve the problem. People do not relate to lumens. But what you will find, for instance, on that Halogen energy saver is the equivalency. So we will say like 45 watts is equal to 60 watts. People still think in wattage. So somehow we have got to address your concern, you're absolutely right. We are trying to do that on the packaging in very obvious ways. But just lumens is not going to be the answer.

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

I don't mean to monopolize this. Are
there further questions or issues on the general services lighting? If not we are going to move off of this.

ADVISOR TUTT: I just have one.

PRESIDING MEMBER PFANNENSTIEL: Tim.

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

MR. CALWELL: It's a great question. The reason I put the quantitative data for the CFL sales here is to say, absolutely. I could show you photos I have gotten in retail stores, some in the US, some in Canada, where the total linear feet of shelf space devoted to CFLs is now as great or greater than the linear feet of shelf space devoted to screw base incandescents. And in
the 20 years that Gary and I have worked on this subject we would not have envisioned that ever happening. I mean, that is a remarkable change.

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

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

ASSOCIATE MEMBER ROSEN Feld: Chris, maybe I wasn't listening but did you explain why there was this pretty significant drop in the last
half a year?

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

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

I think you all may remember. I shared back in January some data from e-source that showed that half of all US households were CFL users, approximately, and that half were not persuaded yet. So instead of thinking about there
being an average of three bulbs per household what
you have really got are half the households with
six and half the households with none.

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

MR. FERNSTROM: So this is Gary --

MR. CALWELL: Does that help,
Commissioner?

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

So the California utilities and the
California Lighting Technology Center are doing
some work on the lines of trying to bring a
universal replacement-type product into the
market.
MR. HOWLEY: Joe Howley from GE. As a manufacturer, rather than all this speculation, which none of it has actually hit the mark yet but it is interesting to hear. (Laughter)

ASSOCIATE MEMBER ROSENFIELD: So tell us the answer.

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

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

MR. FERNSTROM: And overstock.

MR. HOWLEY: Oh, increased inventory.

You need a higher inventory level. All manufacturers need a higher inventory level to support much higher sales. So we just need to
bring in more inventory to support a higher level of sales through all levels of distribution. And what you see there really is an inventory built to support the new, much higher level of sales. It is not a reflection of sales of CFLs going down from the consumer.

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

MR. HOWLEY: Right.

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

MR. HOWLEY: Right. But the --

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

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

ASSOCIATE MEMBER ROSENFELD: So you say...
the shipments tend to be more volatile than the actual sales.

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

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

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

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

Let's move to portable lighting fixtures. Gary.

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

The Efficiency Committee received two
proposals for measures for portable luminaires. The first one came from PG&E and their team with ACEEE; the second one came from the American Lighting Association.

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

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

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

So to summarize the PG&E proposal. They basically have two options for portable luminaires. One is a maximum wattage determined
by a power limiter installed in the portable
luminaire of 35 watts for screw based lamps and
for 40 watts for non-screw based, low-voltage
halogen. Or the other option would be to design
only for Energy Star high efficacy lamps.

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

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

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

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

The ALA proposal. Basically on new
single- and multiple-socket luminaires would require that the luminaire be rated for no more than 150 watts and be controlled with an integral dimmer and marked for use with an incandescent or dimmable compact fluorescent. And it does exempt all other lamp socket configurations.

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

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

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

The ALA proposal also had some very interesting ideas that are outside of the scope of Title 20. They recommend a portable luminaire conversion for existing portable luminaires, GU-24 adapters and rebates for trade-in or conversions. And staff believes that these ideas have merit to further discuss as a separate effort outside of this rulemaking.
In the ALA proposal, by limiting only to medium screw base, it only addresses a subset of all of the luminaires that are available and creates a loophole and maybe even an incentive to start bringing to the consumers portable lamps that have other configurations.

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

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

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

Also we know that there is a percentage of Californians that are already screwing in screw base fluorescent lamps into portable luminaires and they will no longer be able to do so. So we have a concern, staff has a concern that this may
actually increase energy consumption or may increase compact fluorescent lamp failures.

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

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

So staff has considered all of these proposals and the recommendations and the comments and became aware of a few other issues. The RLW residential appliance saturation study has pointed out that there are 58 million portable luminaires in homes in California and that is projected to
go, I believe, to about 75 million by 2020. Also
the average wattage of these sockets is 67 watts.

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

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

So the staff proposal has three options.
One, there is going to be a maximum wattage per
Table N-3, which I am going to go over in a
minute. Or equipped only with GU-24 line voltage sockets. Or shall be high efficacy as defined by Table N-4.

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

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

Here is staff's proposed table. So staff has broken out portable floor luminaires from portable table luminaires. Staff recommends that for portable floor luminaires the maximum wattage shall be 35 watts for one socket, 58 watts for two sockets, and an additional 23 watts per each additional socket up to a maximum of 150 watts. With an exception for low voltage halogen lamps, which starts with a higher 40 watts and then 63 watts.
For all other portable luminaires, which include table that are other than low voltage, staff recommends that one socket is a 35 watt allowance, two sockets is still within that 35 watt allowance, with an additional 16 watts her each additional socket up to 150 watts. And all other portable luminaires used in low voltage start out with 40 watts.

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

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

Now I want to point out the socket in the bottom right of this slide is a photo that I took. I was at LIGHTFAIR a couple of years ago and a socket manufacturer was proudly displaying this. This is a way to change a GU-24 to a medium
base socket. And this is the kind of product that
we will need in order for the GU-24 option to work
in California. And that is all I have in my
presentation.

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

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

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

MR. FLAMM: I had to I had to check with
this issue with ICF Consulting to try to get my
arms around that very issue. And as far as they
were aware there was no distinction between
residential and commercial luminaires that they
were aware of. So if you are aware of some kind
of designation I think that is something we can
discuss further.

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

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

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

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

MR. O'BOYLE: Okay, all right, great.

Okay, thank you very much.

PRESIDING MEMBER PFANNENSTIEL: Thanks.

Other questions of Gary?

MR. COOK: Keith Cook from Philips

Lighting. One quick question and that is, do you
also plan on working on standards for your GU-24
proposal? Because my concern is you can outlaw it
in California. But unless you have got a national
standard that outlaws it for using incandescent
then you're going to find people still developing
it and then you're back to the Internet problem
again with no way to keep it from flowing into
California.

MR. FLAMM: Yes, I understand that. All
we can regulate is for California right now. And
I believe because there is no -- there are no
products that I am aware of other than that
adaptor that I saw, I believe that we can
contribute to the dialogue. There are national
efforts going on with CEE, and I believe ALA is
working. There are national efforts to make sure
that the GU-24 remains only high efficacy, even though there are no standards prohibiting it from becoming low efficacy.

MR. COOK: Okay, thank you.

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

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

ASSOCIATE MEMBER ROSENFELD: Thank you.

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

I am Dennis Swanson, representing the American Lighting Association. I am the past chairperson of the American Lighting Association's Board of Governors. I am the founder of Lamps Plus. Lamps Plus is the largest specialty lighting company in California, actually in the United States. We are headquartered in Chatsworth, California. And we are also the
largest Internet lighting retailer.

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

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

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

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

We believe that new technologies will be instrumental in lessening energy demands in spite
of population growth.

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

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

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

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

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

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

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

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

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

Another thing to kind of get our arms
around is the size of the portable market. When I
first went in business we were 100 percent table
lamps, now it is a small part of our business.

When Mr. Upton and I grew up on a farm we had two
lamps in our living room. Well today you go in
the same room you've got six recessed lights, a
plasma TV and maybe one or two portable lights. Portable lights are a shrinking part of the lighting solution in people's homes.

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

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

We fear the results will be nearly
identical to the CFL mandate or the ban of the incandescent light bulb.

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

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

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

There are also issues with component failures. We have seen devices like this put out by the millions. We actually put them on torchieres, limiting switches, for torchieres
overheating, and there is a failure rate. It costs a lot and it causes a lot of consumers issues. And that has to be added back into the cost of the product.

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

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

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

And I am not sure if -- You know, they like them in general area lighting but I am not sure when it gets to task lighting and they are focusing on a piece of paper and the color rendition is not the same and the bulbs have a flicker rate -- they're having headaches. You know, what can I tell you. I don't know why but
it was frequently mentioned in the survey. The US EPA website alludes to the dangers of CFLs. Interestingly enough two nights ago a new report by NBC News documents increasing problems of headaches associated with increased CFL use. Dr. Larry Newman of the Headache Institute, Roosevelt Hospital in New York, said he, himself gets headaches from CFLs.

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

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

Infringement on personal freedoms was a primary concern to the respondents in our survey.
There will be consumer aggravation and resistance to the PG&E proposal and we are certain it will result in illegal consumer activities which are beyond enforcement capabilities. Again, that's removal of devices, importing of banned products, purchasing on the Internet, et cetera.

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

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

I will read this quickly. This is a survey we sent to 40,000 California consumers. "In an effort to save energy statewide there is a proposed regulation before the California Energy Commission mandating that
all table lamps, desk lamps and
floor lamps in California be sold
with a 35 watt limiting socket.

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

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

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

So I would highly recommend you read
this and I would highly recommend that other
organizations do a similar type of survey.

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

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

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

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

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

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

"CFLs are not even safe to dispose of.

"Decisions on how and where to save energy should be left to the individual consumer, as everyone
has different needs."
And the one I like the best because they
are obviously smarter than me, they are using
bigger words than I use:
"This would be an egregious
invasion of personal choice and
freedom and would begin a slippery
slope to allow the state government
to begin making mandates in our
personal lives. Last time I
checked I was a resident of the
United States, a free nation."

There were a lot of comments like that.

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

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

And significant sales would shift to the
Internet or be purchased outside the state.

We want an energy solution. We want an energy solution that works. And we believe a good energy solution achieves the intent of AB 1109, is simple for the consumer to understand, would not decimate consumer choice, encourages lawful purchases, would not create a consumer backlash -- because I think that is going to go against everything we are trying to do here.

It would avoid sparking further public concern over a de facto mandate of CFL use and mercury contamination as well as clean-up and disposal issues. And it would avoid frustration over inability to dim CFLs. And again, will not force California retailers and manufacturers out of business, which would cost several thousand jobs and would cost the state hundreds of millions of dollars in economic activity.

Portable lighting has unique characteristics. It is very different than any other part of the lighting business. I just want to take a minute and go over what some of those unique characteristics are.

It is a highly fragmented business.

There are a minimum of 15,000 styles on the
Internet. And the reason I say that, at Lamps Plus alone we have 5,000 styles, we're adding 500 a month. We have two competitors that have 5,000 styles and are pretty mutually exclusive. So to say there's 15,000 styles is a very small number and there's probably at least 30,000 viable products.

You have to remember, most portables use the same bulbs. Consumers focus on the lighting task, design and aesthetic appeal. How often do you walk into somebody's house and you say, my gosh, I have seen that lamp before. They buy lamps like they are buying a piece of art, they want to make a unique design statement in their house. It creates a tremendously fragmented business.

Now, we used to have the largest portable lighting manufacturing company in California. Like almost all decorative lighting in the United States we had to move that business to China. Almost all decorative lighting, including European decorative lighting, is manufactured in China. And by the way, these sources are facing major financial difficulties and are going bankrupt. There's a recent article
in Business Week about a factory we happen to do
business with. I was there two weeks ago and I
had never seen the industry in such bad shape.

And also in today's economy the
decorative lighting industry in the United States
is in a major recession.

Another sort of trend in portable
lighting is households are increasingly being
illuminated by hardwired fixtures and not
portables. Homes currently have close to 45
sockets dedicated to fixtures and only 5 for
portables. Portable lighting experts see that
trend continuing into the future. The portable
lighting business is a declining business.

And this poses a problem since portables
are more efficient at lighting a room as opposed
to the proliferation of recessed lighting.

I have a graph here which I won't take
the time to explain but it just shows in our
business the percentage of portable lighting has
gone from about 25 percent to 20 percent. When I
first started in business it was 100 percent.

Now one of the most important things I
can try to explain to you and to get you to
understand. There is a phenomena that is being
driven by the Internet. A man named Chris Anderson wrote a book called the Long Tail. And when you go to any major marketing conventions this book is a bible. It explains how the Internet has changed the distribution of all consumer products. And again, the notable examples are the movie and music industries.

And this is a result of the Internet's ability to allow a near limitless choice to the consumer. As a result, the consumers are demanding, and are receiving, an almost exponential growth of selection in certain consumer goods categories. And I will tell you, portable lighting is one of them.

Here is a Long Tail distribution curve. Now there is an old rule in retail, it's called the 80/20 Rule, where 20 percent of the SKUs do 80 percent of the business. I don't think it is really any different in the lighting business.

Up here at the head of the Long Tail distribution curve we have 20 percent of 15,000 SKUs, that's 3,000. Down here we have the Long Tail, which is 80 percent of the SKUs, which is at least 12,000 styles and going rapidly. The Internet is building and driving this Long Tail
and it is happening daily.

Now assuming that there are 3.7 million portable lighting units or so in California. This is without limiting switches and this is today, and that is according to the PG&E proposal. If you took 15,000 and divide it into 3.7 million you have on average only 246 units sold per style in California out of 35 to 40 million people. That's not a lot of units.

However, the most popular 20 percent of the units comprise 80 percent of the sales. I won't go through the math but the bottom line is 80 percent of the portable unit sales are represented by 3,000 styles.

So if you take 2,960,000 and divide it by 3,000 you get approximately 987 or 1,000 SKUs on average being sold in California at the head of the Long Tail distribution curve. And that is where 80 percent of the sockets are.

Now we are going to look at the end of the Long Tail. The bottom 80 percent of the styles represent 20 percent of the portable lighting styles. Now let's do the math. It translates to about 62 units per style are sold at the bottom of the Long Tail.
So the Long Tail on the average, on the yellow part, you're getting around 67-70 SKUs per year being sold in California. So the overall average is around 247. If you take the Long Tail distribution curve, the top 20 percent are doing about 1,000 on the average, the bottom are doing about 67 pieces.

Now what is the economic reality. Portable lighting manufactured in China requires minimum manufacturing runs. I wish I still had my factory in Chatsworth, we can't manufacture anymore. Everybody manufactures their product in China. Assuming a four times product turn a year, 1,000 units, that's 250 times units an order. They will just make 250 units an order. They like to make full containers, that's 500 to 1,000 units per container. But you can get them down to making 250 units.

So what's feasible is the head of the Long Tail distribution curve, those lamps could be made for California only. At the bottom of the curve, economic feasibility dictates that the bottom 80 percent of the styles could not be specially manufactured for California because our production runs would be 62 units. In a four
times turn it would be less than 16 per order. So what you have is there is an economic feasibility of building California-only products at the head of the curve. At the bottom 80 percent there is not a chance to build those products.

Now interestingly enough, the PG&E proposal would destroy the Long Tail. There's not enough of them being sold in California to make a California-only solution. And believe me, I understand this business, I talk to manufacturers, it cannot happen. They will not make 16 pieces for California. It just will not happen. When it gets to 250 units for California-only they will do that.

The PG&E proposal destroys the Long Tail and the limiting device will probably take half the sales out of the head of the tail. So what do you end up with for sale in California? You know, you are not gaining any energy savings if you don't sell the product and I think that needs to be studied. We have studied it but I welcome anyone else to study that.

Now here is what the ALA proposes. We propose to use GU-24 sockets, and they should be limited to energy efficient light sources only, on
the top selling 20 percent of the styles. This represents 80 percent of the sockets.

And we estimate that installing a GU-24 socket, or any other pin-based solution to the top 20 percent will result in energy savings of 75 percent. That's 65 to 80 percent of the new portable units sold in the state of California. If you do the math you get energy savings of 49 to 60 percent.

Even though we are saying the head of the curve is 80 percent let's say we only get 65 percent. You take 65 percent times a 75 percent energy savings, you still get 49 percent.

In addition, all portable manufacturers in the ALA, including my own business, we are working on developing cutting edge CFL technology that play to the strength of this light source.

And these designs are also being developed in the Long Tail, and will be generating additional savings as the country converts to more energy efficient sources.

So we propose, let's do what's possible. Convert the head of the Long Tail distribution curve where there's sufficient quantities for a California-only solution. Make those portables
have 75 percent energy savings.

And in the Long Tail let's let business
go out there and do what they can do and develop
the products that they can develop that are also
energy efficient.

And here's another kind of important
point. What is happening today, innovation is all
being tried out on the Internet. It is being
tried out in the Long Tail distribution curve. I
was in China two weeks ago. We deal with all the
manufacturers, they are also making for Europe.
Well now for the first time we can go and buy
European products and bring them into our market
and test them.

Now when the market was smaller, when
you only had a store-based solution, you could
never test those solutions. Well today we're
trying to learn from all the European solutions.
Let's face it, they have been ahead of us for a
long time. So we and other ALA members are bring
in those European solutions, testing it out in the
Long Tail. And if they work, and a lot of them
will work, they'll move to the head of the curve.

Now the PG&E proposal will essentially
destroy that testing ground and I think that would
be to the detriment of the business.

So let's repeat the ALA proposal. The proposal necessitates a minimum of 1,000 units per item sold per year to California customers.

As I have tried to demonstrate, any number less than 1,000 units creates an economic barrier to consumers by pricing the unit manufacturing costs beyond the average consumer's affordability. The production runs for a California-only product are not possible.

We believe this energy solution achieves the intent of AB 1109; is simple for the consumer to understand; does not decimate the consumers' choice; encourages lawful practices among the consumers; does not create a consumer backlash against freedom of choice and all the other issues of headaches, eyestrain, disposal, et cetera; it avoids sparking further public concern over a de facto mandate of CFL use and the mercury contamination and clean-up and disposal issues; and also avoids consumer frustration over the inability to dim CFLs.

Our solution will not cost the state hundreds of millions of dollars in lost economic activity and thousands of lost jobs. And it will
save energy in the range of 49 to 60 percent.

Now what we have talked about is new portables. It is an extraordinarily small part of the market. We need to address the existing base of both portables and fixtures. And the American Lighting Association would like to take our knowledge of consumers and work with the California Energy Commission and work on programs to convert the existing base -- the existing lamps in people's homes. And unless we do that, addressing three percent in my lifetime will not make any difference.

And we think there's a lot of other programs including a rebate program to provide incentives for lighting fixture conversions and lamp conversions.

But the bottom line is if we really want to attack and solve the lighting energy problem in California we have to really look at Title 24, which is a very good program. The problem is it is only addressing new houses. I believe in your own documents I read twice -- the statement was made, until you address the fixture base of existing homes there really cannot be -- a lot of progress cannot be made.
We believe instead of addressing just new homes, when homes are resold they should be brought to Title 24 just like they should have an energy efficient toilet, et cetera, et cetera.

And we believe this can be done by tax credits or other government or electric company-funded incentive programs.

And I would also say that existing homes should have the right to become Title 24 and receive other financial incentives. It's a bigger issue, I realize that. It may not be in the confines of this room a solution that we can address. But until we do that we really won't make a dent.

But I have absolutely no question. We take Title 24, we make it available to resales, make it available to any home and provide incentives either in reduced electrical rates or other incentives to make that happen.

That's the end of my presentation.

PRESIDING MEMBER PFANNENSTIEL: Thank you, Mr. Swanson. Excellent. I especially liked the plug at the end for some time of sale energy improvement in existing homes. We're working on that ourselves. We wish that we could do that.
from this room but unfortunately we can't.

Questions for Mr. Swanson.

ASSOCIATE MEMBER ROSENFIELD: I have a question.

ADVISOR TUTT: I have a question.

ASSOCIATE MEMBER ROSENFIELD:

Mr. Swanson, your proposal was to have GU-24 sockets in the head of your distribution.

MR. SWANSON: Right.

ASSOCIATE MEMBER ROSENFIELD: What lamps would be eligible to go into those sockets?

MR. SWANSON: Only energy high efficacy lamps. I mean, we totally agree that that socket needs to be dedicated to fluorescent or LEDs or any other high efficacy solutions.

ASSOCIATE MEMBER ROSENFIELD: That's a little bit inconsistent with your complaints that they cause headaches and they are unacceptable. In fact I would say -- First I will admit that your questionnaire was scary. That is, the answers were scary. So there is an opinion out there. But it wouldn't solve most of the people's objection, which is, the government is taking away my freedom.

MR. SWANSON: Well you know what, the
thing is they'll have a choice.

ASSOCIATE MEMBER ROSEN Feld: And the
world shouldn't be warming.

MR. SWANSON: Well, they have a choice.
And I think if you read all the comments, having a
choice is extremely important to the consumers.
See, the PG&E proposal, essentially you have no
choice, you only have a CFL solution.

ASSOCIATE MEMBER ROSEN Feld: I'm sorry,
maybe I am not understanding you. I thought that
new fixture, new portables according to your
proposal, would have a GU kind of socket.

PRESIDING MEMBER PFANNENSTIEL: Just the
popular ones.

MR. SWANSON: Only the ones, only ones
produced, sold in California of 1,000 units or
more. And that's 20 percent of the styles but 80
percent of the volume. And I am saying 80 percent
of the SKUs, which only do 20 percent of the
volume, because they can't economically be made
anyway, would not have the GU socket.

I'm saying, let's do it where we can do
it and we can do it on the higher volume units.
And then if the customers don't want those they
have a choice of the other 80 percent of the
styles.

ASSOCIATE MEMBER ROSENFELD: Okay, I'll understand your point. I'll make one comment and that is, you say elderly people need more light and I know for sure that's true. On the other hand, I solved that problem both at the office and at home by having -- the Berkeley lamp is a 50 watt, which is equivalent to a 200 watt incandescent, one going up and one going down. Fluorescents do solve that problem wonderfully.

MR. SWANSON: Personally I think there's more study that needs to be done on using fluorescents for task lighting. I was surprised at the number of people who complain. They use them for general lighting, they have problems with task lighting.

ASSOCIATE MEMBER ROSENFELD: I at least don't.

PRESIDING MEMBER PFANNENSTIEL: Tim, you had a question.

ADVISOR TUTT: Yes I do. Mr. Swanson, first I want to thank you for coming here and providing comments to us today and for your support of 1109 and the important goals we have in California. It is clear you are thinking
seriously about what you might do in your industry
to try to help us with the goals of 1109.

My question -- Before I get to my
question I would like to point out that it would
seem like the PG&E proposal would prohibit the
Berkeley lamp.

ASSOCIATE MEMBER ROSENFELD: That's a
point I forgot to make. (Laughter)

MR. SWANSON: You could go on the
Internet, I guess, I don't know. Just kidding.
(Laughter)

ADVISOR TUTT: The question I had was,
how do we determine, how do you determine, what is
a lamp that would be required to put in a GU-24
socket and what isn't, when you don't know
necessarily how popular it is and popularity would
change from year to year. I think that to adopt a
standard like that we would need to understand
where this lamp falls, otherwise we don't know
whether it's compliant or not.

MR. SWANSON: That's a very good
question. And I will tell you, major retailers,
when they buy a product they project out and they
know pretty much what their unit sales are going
to be. And a high volume of product goes through
major retailers. And I guarantee you, they would not want to be found violating a California law selling energy efficient lamps.

As a matter of fact, I think anybody selling lamps in high volume would use it as a selling point. These are Energy Star or Energy Star equivalent lamps, highly efficient lamps. But still always allowing the consumer to have the choice to buy something that is not a CFL solution.

ADVISOR TUTT: Follow that line a little bit further. If a manufacturer thought that their product, this one SKU might fall in the top 20 percent, then presumably they would manufacture it with these GU-24 sockets.

MR. SWANSON: Right. I tell you, a lot of this product is proprietary by companies with many, many outlets. They know what the projections are. They know how many they're going to sell. It is not that hard.

ADVISOR TUTT: I guess the last question is, given the consumer choice that will remain in the market in your proposal, what would stop some of the products that aren't currently in the top 20 percent from being chosen more by consumers and
then moving into that top 20 percent? And again
we have to understand either when that happened or
how that happened in order to understand when the
lamps were compliant or out of compliance.

MR. SWANSON: If you are selling a lot
of any consumer good you have pretty sophisticated
means of projecting these sales. I mean
personally I really don't see it as an issue.

PRESIDING MEMBER PFANNENSTIEL: Thank
you. Other questions? Gary.

MR. FERNSTROM: Gary Fernstrom, PG&E. I
have a couple of comments and some questions.

PG&E has modified its proposal to be
consistent with the staff proposal. So I believe
what you are reacting to here was the original
version and not the current version of PG&E's
proposal to deal with this.

A comment about self-interest. It's
appealing to think that the majority of the
market, which would be products being sold in
volumes of 1,000 each or more, would have GU-24
dedicated bases. But it would also seem to me
that that would shift a lot of purchases away from
those products, given the result of your research,
toward the real specialty lamps. And that would
enormously be in the self-interest of specialty
lamp makers and vendors and not in the self-
interest of the larger, mass merchandisers of
these products. So I wonder how fair that would
be in terms of equity in the market.

MR. SWANSON: Is that a question?

MR. FERNSTROM: That's the question. I
wonder how fair that would be in terms of equity
in the market.

MR. SWANSON: Well, you know, I could
say, how fair is it to put a limiting switch on
every lamp in the state. The bottom line is
people would still have a choice. You do whatever
is economically feasible. If you can make, if you
can possibly make -- What I am saying is if you
can possibly make a product in minimum production
runs, let's put GU-24 sockets on them. That's
all.

MR. FERNSTROM: Okay.

MR. SWANSON: And I'll tell you, it will
drag along. When people get more used to these.
And I personally think we should include the bulb
with it. The more people get used to that
solution, the ones that can use that solution, the
more apt the solution is apt to move into
specialty lighting.

And I will tell you, I have patents on products using CFLs, I love CFLs. We can talk outside this meeting. There are a lot of great solutions and we are working them into specialty products. But there's a lot of cases where the bulbs need to have more advances.

And I will tell you, especially products where people want to control their light. And right now with three-way sockets, with touch dimmers, et cetera, et cetera. They want that additional feature on a specialty product and they can't get them with CFLs. If the CFL product gets there, fine, let's put CFLs into everything.

MR. FERNSTROM: Okay. So we'll have time to make some more comments later. In the interest of time I just have one last one. And that is, you allege that the prevalence of portable lighting fixtures is declining in homes. I don't know, that may be the case nationally. But work done for the California Energy Commission by the California Lighting Technology Center shows quite the opposite. It was in fact presented in a residential lighting workshop the CEC had last year. New homes are being built with fewer and
fewer permanently installed fixtures and the
prevalence of plug-in lighting fixtures is
increasing in the state.

MR. SWANSON: Well we have probably the
highest market penetration and the largest market
segment and we don't see it. I mean, these are,
they are honest areas to disagree.

DR. SIMINOVITCH: We are also seeing --
PRESIDING MEMBER PFANNENSTIEL: Michael,

ADVISOR TUTT: Michael, you have to come
to the mic.

DR. SIMINOVITCH: I just want to add --
Michael Siminovitch from the California Lighting
Technology Center. And I certainly appreciate
many of your comments and want to thank you for
additional insights.

ASSOCIATE MEMBER ROSENFIELD: Michael,
closer to the mic.

DR. SIMINOVITCH: I wanted to also add
that we have done a serious of studies inside in
some non-residential environments where we have
seen a fairly significant increase in portable
lighting fixtures in office environments and in
dormitory applications where we didn't see them
before. Plug loads are a major growth load in California inside offices and that's horrible lighting.

MR. SWANSON: Can I comment on that?

DR. SIMINOVITCH: Sure.

MR. SWANSON: We just expanded our offices and everything is, you know, the latest code. And you know what happened? I would say over half the people put an incandescent desk lamp on their desk because they cannot read by the current standard, the current codes.

DR. SIMINOVITCH: To add to that, we're seeing a lot in public housing environments and in educational facilities there is a pressure to reduce the amount of hard wired fixtures in these for first cost issues for construction. So what that leaves is a lot of duplexes around the walls. And the way people satisfy their illumination requirements is through portable lighting.

So we see growth in portable lighting in the state as a major opportunity for efficiency. And I think your comments are good and I think we need, you know, it's an important step forward of where we need to be and how to do that.

And, you know, I wanted to add one more
thing. I think a lot of your ideas and
suggestions really warrant additional thinking in
terms of how we would implement this. But high
efficiency lighting doesn't necessarily mean low
quality lighting. It can mean very high quality
lighting. It can mean added value to the
consumer. So yes, there's problems with new
technologies but there's no reason today
technically, technically, why we cannot use high
efficiency light sources to provide all of our
illumination requirements.

And I think there's some very good
precedence in Title 24 which says, use high
efficiency, and where you need to have an
incandescent use it at a certain percentage. I
think there's room for this kind of approach in
the standard. I think it just needs some
compromise.

MR. SWANSON: I don't disagree with you.

I have a patent on a torchiere, a fluorescent
torchiere. It puts out twice the light and uses
half the energy. I wish I could sell more of
them, it's a fantastic product.

DR. SIMINOVITCH: Great.

MR. SWANSON: So I don't disagree with
you.

DR. SIMINOVITCH: Well you're selling a million more fluorescent torchieres this year than were ever sold before.

MR. SWANSON: They are a great product but they are indirect lighting.

PRESIDING MEMBER PFANNENSTIEL: Thanks. Bill, did you have a question?

MR. PENNINGTON: A comment. Maybe there's a question in here somewhere.

Almost all standard setting processes, either in the US or elsewhere, either in government or in the private sector, target physical characteristics that can be identified and that you can discriminate among those physical characteristics and apply reasonable standards based on those physical characteristics. And it is very rare, I think, that you approach a problem like standardization through a market-based kind of idea.

It requires, to go through a market-based approach, some sort of fleet monitoring. You know, you have to track products in and out of the top 20 percent that you're shooting for. You have to have information that almost universally
is unavailable to government to do that kind of monitoring. It becomes a very complex thing to track.

It seems like you are heading off away from a tried and true approach to standardization and moving into an area that is almost untried and you have to develop a new technique.

PRESIDING MEMBER PFANNENSTIEL: Well, I think that that's probably not a reason not to consider it. I think untried ideas are probably what we're looking for in some instances. There may be reasons that we can't do this, but right now I think the fact that it's not been tried before isn't one of them.

MR. PENNINGTON: All I'm saying is that you're potentially getting into a very complex --

PRESIDING MEMBER PFANNENSTIEL: I understand that. No, I do understand that. Gary, did you have a --

MR. FERNSTROM: One last very quick comment. I'll bet if we did a word count of your presentation we would find the most popular words to be PG&E and limited. And with regard to limiting, I would just like to point out that yes, PG&E has proposed limiting the power to portable
lighting fixtures but not the light output. So, you know, it is not the intent to limit the utility of these products at all.

I think with the great imagination and design resources of the portable lighting industry more efficacious sources can be utilized to create a high level of customer satisfaction, creating an opportunity for the industry rather than a limitation.

PRESIDING MEMBER PFANNENSTIEL:
Commissioner Rosenfeld, do you have a question here?

ASSOCIATE MEMBER ROSENFELD: I just wanted to make two little points. You keep talking about the California market. And I admit this whole thing is tricky. But just by coincidence I was talking yesterday to Howard Geller who represents the Southwest Energy Efficiency Project. And he told me that Arizona intends to adopt whatever we come up with in toto with the same effective date. And there are going to be a lot of other states. We may be a trend setter but we are not an island. So that affects a little bit of your economics.

MR. SWANSON: One comment on that. When
you look at the Long Tail distribution curve it is
built by the size of the total market. The total
market is the whole United States plus the
Internet. So when you reduce that dramatically
that selection goes away. Because the total
market built that market. So you have to
understand what happens to the selection.

And again, it goes against what is
happening in the marketplace with the Internet and
multi-channel marketing. And now that Long Tail
distribution curve is driving the selection of the
consumer.

ASSOCIATE MEMBER ROSENFELD: Okay.

PRESIDING MEMBER PFANNENSTIEL:

Dr. Bendt.

DR. BENDT: Yes, Paul Bendt with Ecos.

And my comment was actually very similar to the
one that Art just put forward. That one doesn't
have to say that only 16 of a particular product
will be sold in California so it can't be
manufactured. Even if one makes a product,
whether it's limited by having a GU-24 socket or
limited by having a power limiter. And both of
those, in a sense, accomplish the same thing. But
it can be sold in places other than California.
Even if it was manufactured to meet the California standards it can still be sold elsewhere.

And as energy efficiency becomes a concern elsewhere we'll expect to see standards like this in other places encouraging those sales and increasing the volume to the point that it is cost-effective to be able to produce those products.

MR. SWANSON: Can I answer that comment?

DR. BENDT: Sure.

MR. SWANSON: If we took all our products on the Internet and put limiting switches on them to the PG&E proposal we would sell in the rest of the United States, zero. Who would pay more money for the same product that's limited?

ASSOCIATE MEMBER ROSENFIELD: I assert people from Arizona would. (Laughter)

MR. SWANSON: Well, they are good people. You know, if it was a national solution I'd say, great. A California-only solution in the portable lighting business has severe problems.

PRESIDING MEMBER PFANNENSTIEL: Tim, did you have a question? Then we're going to move off of this onto the next.

ADVISOR TUTT: Yes, I did. Mr. Swanson,
your survey and your presentation today referred
often to PG&E's original 35 watt limiter proposal.
As PG&E has said today, it has now moved to
endorse the staff proposal, which is significantly
different. I'm just hoping in your written
comments or your today you might provide comment
on this new version, the staff proposal and any
further direction we may go in that regard.

MR. SWANSON: Well I did comment on the
150 watt floor lamp idea. The problem with that
is it doesn't save any energy.

ADVISOR TUTT: Yes, but I'm speaking
more of the additional wattage allowances per
socket. The difference between floor and table
lamps or other portable lamps that are in the
staff proposal that PG&E has endorsed today.

MR. SWANSON: Well we can go back and
certainly do that, yes.

PRESIDING MEMBER PFANNENSTIEL: Thank
you. I think the next speaker is Ted Pope in this
general area. We are going to stay on the whole
question of portable lighting fixtures so there
will be more discussion but why don't we get onto
Ted's discussion.

MR. POPE: Thank you, Commissioner. Ted
Pope with Energy Solutions on behalf of PG&E.

Just lots of information in that presentation, I couldn't capture all of it. I did note a comment of a likely price of $5 per power limiter. Our team has actually constructed one. We've talked to manufacturers of products involving chips that would handle the management of power down to whatever limit is set and we are finding a price that is probably under one-tenth of that. So I don't think there is a substantive, incremental cost associated with that power limiter.

Number two, I think there may be some confusion or I heard it wrong but PG&E did not propose a 150 watt limit. We were down to 35 in our original proposal. And I don't think that there is necessarily any conflict between the controls and the power limiting. That can all be done in a single chip from our research and I think Dr. Bendt can answer more questions if you have any on that. But I think some of those concerns maybe are not well-founded in view of the products that could come out to supply this market.

I guess I have one observation and again I may be getting the data wrong. But that Long...
Tail I think was estimating 67 products per style out in the long tail for the California market.

If we are ten percent of the country that implies something on the order of 670 products for the national market, which is still a number smaller than you need to get that 250 units per quarter. If I understood the math it strikes me that there is a fundamental infeasibility of producing most of the products in that long tail. And again, perhaps I misunderstood those numbers but that is a question I would like to ALA about in the future.

PRESIDING MEMBER PFANNENSTIEL:
Mr. Swanson, do you want to respond to him?

MR. SWANSON: The products in the long tail tend to be more sophisticated products that cost more money. So based on a dollar volume they will make those products in a little smaller quantities. So that's the answer.

PRESIDING MEMBER PFANNENSTIEL: We also were going to hear from ACEEE.

MS. AMANN: Harinder just mentioned to me that Gary had a couple more slides to present before I spoke.

PRESIDING MEMBER PFANNENSTIEL: Gary
Flamm?

MS. AMANN: Yes, that's what he just said but I guess he was mistaken, okay.

PRESIDING MEMBER PFANNENSTIEL: We are not moving off of this topic yet.

ASSOCIATE MEMBER ROSENFELD: Gary, while she is looking for her slides let me ask you. How are you going to handle my complaint that I really love my Berkeley lamp which has 50 watts per socket? I am just trying to curry favor with Siminovitch here.

MR. FLAMM: I was surprised to hear that the Berkeley lamp wouldn't work. I thought it would work under the proposed standard.

MR. FERNSTROM: Yes, let me make a comment on that. Gary Fernstrom, PG&E. If I understood the proposed standard right it was okay with pin-based and Energy Star. And your Berkeley lamp uses a pin-based light, a square-D/2D lamp. So it would be okay with the standard.

ASSOCIATE MEMBER ROSENFELD: Okay, thank you.

MR. FERNSTROM: By the way, I have one too and really like it.

MS. AMANN: I'll address exactly how we
can make allowance for the Berkeley lamp and like lamps. I am Jennifer Thorne Amann, I am with the American Council for an Energy-Efficient Economy, and I appreciate the opportunity to address the Commission today on behalf of PG&E.

I'll review just briefly. I have just a few slides here and I'll review a little bit of the history of how we got here and add some comments to some of the topics that Gary presented earlier. As mentioned, PG&E submitted the initial standards proposal in January for portable fixtures. As Gary mentioned, we see portable fixtures as a great opportunity to capture additional energy savings beyond those that are offered by adoption of the GSL standards or an accelerated adoption of the federal general service lamp standards.

We presented a preliminary case report in April recommending maximum power limits for portable fixtures. As has been discussed, 35 watts for screw base lamps and 40 watts for non-screw base low voltage halogen. We also added an Energy Star compliance path and that was specifically to allow products with a higher light output than might be allowed by a 35 watt maximum
wattage cap for lamps. So that would allow the Berkeley lamp and similar lamps that have a higher wattage, maybe using the 55 watt D lamps and so forth.

The estimated energy savings from our proposal was 45 gigawatt hours and four megawatts in the first year of sales and growing to 901 gigawatt hours and 84 megawatts upon stock turnover. That's about 20 years, a 20 year assumed life for portable fixtures. We had a cost-benefit ratio of 18.

As discussed ALA submitted their alternate proposal on April 7. The CEC staff, PG&E team and ALA have held meetings and conference calls to discuss the proposals and I think it was quite constructive discussions, we were able to learn a lot from each other, and PG&E submitted comments in response to the ALA proposal on April 15.

The key issues in our response to the ALA proposal were concerns about the limited coverage of the standards that they proposed. Limited coverage meaning just covering medium screw base products.

There are a number of portable lamps
that are sold with candelabra or smaller bases than the medium screw base. We wanted to make sure that those were covered as well so that they would be, we could get the energy savings from those products but also to prevent a loophole increasing the market share of those products.

The overall high wattage limits in their proposal, which was 150 watt maximum, which is actually larger than most of the portable fixtures on the market today. Other than torchieres, which are preempted by federal standards.

We were also very concerned about the dimmable requirement because of the fact that most CFLs on the market today aren't currently dimmable. We felt that a dimmable requirement could lead people away from using CFLs or could lead to problems with the CFLs once they were installed.

The CEC staff report has put out a new proposal as Gary Fernstrom has mentioned, one that PG&E is now supporting. The staff report recommends wattage limits dependant on the number of lamps and the type of fixture. It addresses the difference between floor luminaires and other portable lamps by setting higher wattage...
allowances for floor luminaires.

And in the table that Gary showed you could see that the main way of doing that is setting the same power limit for a single socket floor and table lamps, but allowing a higher maximum wattage for two-socket floor lamps than for two-socket table lamps and allowing a higher adder for each additional socket.

It sets a maximum wattage for one- and two-socket luminaires as just mentioned. It provides an adder for the additional sockets. But that adder is only enough to allow the use of high efficiency light sources and sets the absolute cap at 150. And that is in keeping with the overall ALA proposal.

The staff report does have the GU-24 compliance option and it has appropriate limitations for that to disallow the use of the incandescent lamps. And also to disallow use of GU-24 adapters that could do this reverse conversion back to a medium screw base.

And one thing that I will have to update in this presentation. Although in detail the staff report no longer maintains the Energy Star compliance as a third option, in practice it
allows similar levels, which again takes into account that there would be a role for lamps with larger light output.

We would like to note, however, that the staff recommendations would reduce energy savings by an estimated 73 gigawatt hours at stock turnover and that could be an important contribution to Huffman goals.

It is clear that floor lamps tend to provide higher light outputs and we agree that the new approach addresses that concern and that market reality. And also that the staff recommendations allow for greater adoption of new GU-24 base products and are happy to see the inclusion of the appropriate limitations on the GU-24 socket type.

We've definitely appreciated ALA's willingness to discuss the standards options for portable lighting. The ideas and the energy that they have brought to the discussions that we have had. We believe that the staff recommendations reflect upon a constructive process in considering the PG&E and ALA proposals and are willing to support the staff recommendations as a compromise from the initial PG&E proposal.
And the team is available to discuss any additional comments or concerns from the CEC or from industry. I think a couple of the things in particular that have come to light. Mr. Swanson's presentation showed some of the responses from consumers about concerns over CFLs and other high efficiency light sources.

While I think there is a lot of cause for concern for those comments I think much of that can be addressed through better efforts to educate consumers, as has been discussed, about the appropriate use of CFLs, the appropriate wattage levels to use and so forth.

And also we look forward to continuing improvements in the technology of both CFLs and LEDs and other high efficiency light sources that can help address some of the other usage problems that consumers have perceived in the past.

PRESIDING MEMBER PFANNENSTIEL: Thank you. Are there questions?

ADVISOR TUTT: Yes. Jennifer, thank you for coming. Were you coming all the way from Washington DC?

MS. AMANN: Yes.

ADVISOR TUTT: So quite a trip to take
for this. We appreciate the work that ACEEE does all around the country and the world.

I had a couple of questions. One about the 40 watt, low voltage halogen. I guess I know about those in regular fixtures but I have not seen many portable fixtures that are like that. Are there a variety of those?

MS. AMANN: There are a number of desk lamps and other portable lamps that use particularly MR-16 and other small halogen light sources. And those are typically, you know, can be of varying wattage. Some of those that are quite common are like 32 watts. But they also have power requirements for the transformers so that's why we gave them a higher allowance.

ADVISOR TUTT: And in fact in those particular lamps a 40 watt limit may not change the market that much because they are often less than that anyway.

MS. AMANN: Yes. There are some products that are over that amount but the average is under.

ADVISOR TUTT: Thank you.

MR. FLAMM: Tim, if I could interject something, this is Gary Flamm. The low voltage
MR-16 is a very direct task light. It creates a contrast. It is for those task lights where you need a spot of light that is intense.

And the 35 watt limit may not allow that. So the reason that the 40 watt low voltage was brought up was to allow that lamp. I believe it is 37 watts plus transformer losses. So it was to allow the functionality of that very bright task light.

ADVISOR TUTT: Thank you for that clarification, Gary.

In reading the original task report, and I presume it is the same in the latest version, you talk about a variety of options including an option where CFLs or other very efficient bulbs might be packaged with the fixture. And the case report goes on to say that you don't expect much savings from that because consumers wouldn't use those bulbs.

I am having trouble understanding that because it seems to me that either the consumer likes CFLs and so would use them. Or if they had never used them before, at least some percentage of them would, since they have them, stick them in and may at that point decide that, you know, maybe
it's not as bad as they thought they were and continue using them after that.

So it seemed to be dismissed. I was wondering if there was any data for dismissing that particular option.

MS. AMANN: I believe the main reason that we dismissed the option was because it would allow for consumers to revert to less efficient light sources in the future. So even if they did use the original CFL that was packaged with the lamp they might discontinue using it in the future.

ADVISOR TUTT: Okay.

MS. AMANN: And then I would also add that there are also problems with compliance and the packaging has often been an issue that has been raised by industry as very prohibitive in their efforts.

ADVISOR TUTT: The other question I had. I'm just trying to get clarification about what we mean by demand limiters here. The case report says, including a circuit breaker that prevents the fixture from operating if a lamp wattage exceeds a preset value. And I had understood that it didn't prevent the fixture from operating but
just prevented it from using more watts than that level. So which of those is correct?

MS. AMANN: There could be two options, actually. And I believe that in the torchiere market fixtures of both types have been introduced. Some have a limiter that just will not allow the lamp to operate if it is over a certain wattage, others allow it to operate much more dimly. So you might have a 75 watt incandescent, for instance, but it could only use 35 watts of power if that was your power limit. So you would have a lot less light output.

ASSOCIATE MEMBER ROSENFIELD: Practically zero.

ADVISOR TUTT: I assume that we were talking about the kind that just limited it to the watt limit but still allowed it to operate when we were talking about it.

MS. AMANN: I am not sure actually. I believe that those that just don't allow operation are more common in the torchiere market or have been more common.

ADVISOR TUTT: But for these standards.

MS. AMANN: But maybe somebody from industry could comment on which has been more
widely used.

ADVISOR TUTT: But for these standards what would be proposed, which kind?

MR. FERNSTROM: Tim, it's Gary from PG&E. The far least expensive product would be, in effect, a circuit breaker, and it would simply turn the lamp off if you put in a bigger lamp. You would have to reset it. The more expensive product would be a limiter. And that in effect would be a dimmer of sorts, which simply wouldn't allow the lamp to operate at any higher than a 40 watt level. That would be a more expensive alternative.

PRESIDING MEMBER PFANNENSTIEL: So which did you use to your cost-effectiveness?

MR. FERNSTROM: Exactly. So --

PRESIDING MEMBER PFANNENSTIEL: Which one, the cheaper one?

MR. FERNSTROM: The cheaper one is the one I think that would be prevalent.

MS. AMANN: And that is the one we used for the cost benefit analysis.

ADVISOR TUTT: I see Ted approaching the mic here.

MR. POPE: Thank you. Ted Pope, Energy
Solutions, for PG&E. The legal language doesn't specify either. It just says, the fixture shall not be able to operate over 35 watts. I believe that was the approach taken.

ADVISOR TUTT: Yes. I'm looking earlier in the case report and I saw that.

I had one last question and that relates to the baseline for savings. It appears from your calculations that you are using the proposed new HIR lamps at the federal level as the baseline for long-term savings. And in California, as you probably heard today, and even federally, in 2018 here we'll be moving to 45 lumens per watt bulbs. So it seemed like that should be perhaps the baseline for long-term savings as opposed to the HIR levels that you used. Any comment on that?

MS. AMANN: Yes, I would agree. I think our estimates can be seen as conservative, our savings estimates. We have used an estimate that 50 percent of sockets would be using CFLs already, which is a little bit more conservative than I think the latest modeling has shown. And also -- or gives more conservative savings estimates. And then also the fact that there would be additional, additional savings further on. I guess actually
it's the opposite, we would take out of our savings.

ADVISOR TUTT: Yes, I think it's the other way around.

PRESIDING MEMBER PFANNENSTIEL: Yes, further discussion or questions?

MR. SWANSON: I'm just curious. When they made their projections of savings did they assume there was going to be any effect on the sale of lamps with these limiting devices?

MS. AMANN: No, we did not.

MR. SWANSON: Do you think that's realistic?

MS. AMANN: I think we'd have to look at the market and see. But I think at this point people buy lamps on a regular basis that have limitations for safety concerns. I know many of the portable fixtures in my home now I can't operate or they are recommended for operation only at 35 watts or less. So I am not sure. I think we'd need to look and see if there's some market studies or analyses that could help us figure out how we might adjust savings.

MR. SWANSON: I would agree. Because the limiting switch will significantly impact the
sales. Being a retailer I know that. And I think before you make projections you need to know how it is going to affect the sales because it will have a big impact.

I just want to say one other thing on the cost of these devices. The torchiere limiting switch didn't limit the product much, it really wasn't an issue. You had ultimate choices of bulbs that you could use. This proposal, there really isn't any other choice than the CFL solution. And I think that is a very important differentiation between limiting devices on torchieres and this particular limiting device.

Another thing regarding cost. We found -- They were in the process of finding a reliable torchiere switch but they're going to cost around at least $5 retail. Because engineers talk 50 cents to a dollar for the part. By the time that gets into the factory and he adds it into his food chain and we add it into our's, that turns into four and five dollars. So we always have to look at what is the impact on the retail.

PRESIDING MEMBER PFANNENSTIEL: Thank you, Mr. Swanson. Other questions, comments?

ADVISOR TUTT: I would just like to
point out, in terms of the staff proposal which is here in front of us, one could in a floor lamp install one of the new 75 watt equivalent incandescent lamps. I guess if the socket limit is for a luminaire. I mean, if you can leave a socket bare. Can you leave a socket bare under the staff proposal and just install one incandescent bulb? If you have other sockets that are --

MR. FLAMM: This is Gary Flamm. I think that answer could be however, whatever technology the industry brings to the table. How it is wired, how it is circuited, what kind of controller they put on that. I would assume it is going to be the cheapest thing to do is put one control at the home run. And therefore what you are saying then is that you could put a higher wattage lamp in a single socket. It would probably be most often true. That's just speculative on my part.

MR. FERNSTROM: Gary Fernstrom, PG&E. I think it is important to note, if I understood this dialogue correctly, that you probably wouldn't want to leave an empty socket because that is kind of dangerous. You know, to the
extent that somebody might stick their finger in it.

PRESIDING MEMBER PFANNENSTIEL: Further discussion then on the portable lighting fixtures? Yes, please come up.

MR. UPTON: Thank you, Madame Chairman. I am Dick Upton, President of the American Lighting Association. I didn't come as far as the lady from Washington but from Dallas this morning.

PRESIDING MEMBER PFANNENSTIEL: Thank you for joining us.

MR. UPTON: Well no, it's important. And if we are a little late to the dance over the last two years, I apologize to you. But in dealing with this issue on a national level, and I had the privilege of sitting in last year on the national negotiations with advocates, it became abundantly clear after Senator Pryor made a comment to us. I said to him, you know, there isn't any light until a lamp is screwed into a socket. And we tend to be on the fixture side of life. And he said, well if that's the case then you better have a seat at the table or you'll find out you're on the menu. And that's a very real statement. (Laughter)
I want to make a couple of quick comments but I do need to respond on one thing. On the power limiter. When it was finally approved on the torchiere I called our director of engineering, who a number of you know, Terry McGowan. Terry would be here but he has got another responsibility that I am going to tell you about.

I said Terry, let's not just tell them that there's a power limiter requirement, let's tell them where to buy it. And Terry is a pretty prompt guy and I didn't hear from him for three days. And Terry said, I have been on the Internet in every catalog that exists and there isn't such a thing as a power limiter for 190 watts or anything else. So big deal, we'll create one.

Well it was a big deal. And we struggled to meet the deadline for the power limiter. I went to ACEEE and told them what our challenge was and we were going to need some extra time and they thought that was reasonable. We are still struggling with the ceiling fan power limiter at 190 watts because of miniaturization requirements and the heat factor that exists in that small space.
But when we talk about a 35 watt power
limiter we are talking about a new product that is
going to have go be created. And I don't know
what your time frame is but that is a real issue
for us. And what the final cost is going to be I
don't know either.

What I did hear today that I like was
this gentleman's comment talking about fleet
averages. We know a couple of things pretty
clearly. And besides Dennis Swanson, who is the
largest retailer in California and the United
States on this kind of product, an exceptionally
brilliant man intellectually, we have got two
other members here, one from locally, Lofing's
Lighting, and one from Bakersfield. Different
kind of communities.

All of our people in California are
telling us their product as far as portables are
going down in sales. And when you talk about that
Long Tail curve. When you get into the long tail,
the 138 location retailers that we have in this
state sell in that long tail. And if those
products disappear or are not available in
California, and they won't be because I also have
the manufacturers as members of this association,
then we have a real dilemma for business for
Californians.

And it may be that it will go to Arizona
or go to Nevada tomorrow. And hey, I can tell you
the states too and it's Minnesota and New
Hampshire and New York. But that will be over a
period of time and the impact is going to be here
now with people. And when we are looking at the
kind of economy in the lighting industry that is
tied significantly to the housing mess, that's a
problem for our people. That's not your problem
because you are looking at the energy issue. But
it is a big picture issue that I thought I had to
share with you today.

The other piece of the pie that I want
to talk about though very quickly is Terry isn't
here because he is wrapping up the sixth annual
Lighting for Tomorrow competition. ALA manages
that and we partner with CEC and the Department of
Energy. In the first year I had to get on the
telephone to call manufacturers and say, for God's
sake, send something in, we have got to have some
products. Manufacturers drive our industry pretty
heavily.

I'm tickled to death to tell you I
haven't made a telephone call after the first year. The program was so successful that the guy who had the winning entry was knocked off within eight months by most every other manufacturer, and that has got to be a mark of flattery, or something. (Laughter)

But we had over 100 entries on LED this year. That's a staggering number. Because when you look at the cost differential on LED today, that's a message that is coming through pretty loud and clear. We have got some other problems with LED. Is it a really good, white light yet? I think it is. I'm like that fellow. I'm an old guy, I can't tell the difference on the whites. But the real issue is we have over 100 there.

And the other piece that I want to say to you is ALA manages that program and has for six years. And we have got the best engineer that we could have on that job doing that job because he is dedicated to energy efficiency, and that is Terry McGowan. But he has helped move our association to energy efficiency.

Every one of our training programs, which are extensive to our retail showrooms and their salespeople talk about energy efficiency,
Energy Star, and marketing that product today. There isn't one of those courses that don't. All of our advanced courses, all of the programs we do in layout are all involved. The industry is there with you.

What I am suggesting, I think, is you don't have to have your answers up. Let's try to bring people still together so we can explain Long Tail impacts. As we look at the numbers and what you are going to save on new portable sales in California is just -- it's hard to use the word, marginal.

And the real question comes, if we want to save lighting energy and you have to get to a 50 percent number then let's find a vehicle that gets us there. And if we need to walk with you over to the State Capitol and try to get something passed that works, that achieves that, we're prepared to do that.

We're aware that this isn't going to be isolated in California. You have got some very fine organizations that have the ability to speak just as I do in every state in the union. And it is not just sensible to try to battle these little issues everywhere we go.
And the biggest challenge I have when this stuff goes state to state is you all want to have your own labels put on stuff as well. When we were talking about the torchiere and I was fooling around in twenty-some states I finally said, we will have to weld a flange onto every torchiere so we'll have a space long enough to put labels on. And those things sound silly but the silliness of it is, that's how we have been working.

And we're the ones that have been late for the dance and I apologize to you for that but we're there. And we have the team of people that can make things happen and work with you. And I would hope we could have the time necessary to talk about this fleet issue so retailers in this state are not negatively impacted to the point of job loss and tax revenue loss that ends up being this word called unintended consequences.

And as bright as you are on that panel, and as we may be sitting in this audience, we are not going to have the ability to anticipate all the damned issues that are going to jump up and bite us on some of these things. And if we can help you with that we are keen to do it. But we
don't want to negatively impact the retailer and
we don't want to negatively impact the consumer.

The one thing I found in wrapping up
serving with some of the people in the room
nationally last year. People say, well we have
got to get the right labels on the boxes so people
know what they want. That is not marketing. The
consumer needs to know what they are doing before
they get to the store so they know what the hell
they are looking for. That's reality.

And so I sat there and said, we've got
to have ten million bucks a year for a five year
period before this thing goes into effect
nationally to get the consumer where we need them
to be.

The good outcome of that issue was
government, industry and the advocates were on one
page saying one thing. If you don't have that on
this issue or any other issue the consumer will
continue to be confused. And in my opinion, if
the consumer is confused they will continue to do
what they are doing today, which isn't buying what
you want them to buy.

So let's leave them there and let's help
them understand the issues. But when we talk
about mandates, the one that is in the questionnaire that was put out, the response that I thought was the funniest is one person said, don't mess with my bedroom lighting. (Laughter) Stay out of my bedroom with your lighting or something of that nature. Funny stuff kind of makes a point. But I really want to see us come up with an answer.

And you are the leaders in this issue. Let us find an answer here that can transfer to other states and work effectively for business, industry and efficiency in lighting. Thank you.

PRESIDING MEMBER PFANNENSTIEL: Thank you. We do share your goals and we do want to work with you. We appreciate your taking the time to come here and address us.

MR. UPTON: Sure.

PRESIDING MEMBER PFANNENSTIEL: More questions? I think we are about to move off of this subject so last comments on this subject.

Tim.

ADVISOR TUTT: I just had one question for Mr. Upton if I could.

MR. UPTON: Surely.

ADVISOR TUTT: Ms. Amann suggested that
packaging bulbs with the fixture, with the portable luminaire, was something that manufacturers I think had found not very practical to do. I bought a couple of LED luminaires recently and obviously the bulb is packaged with the luminaire with those. But can you speak about packaging CFLs with a luminaire and how that might work. Have you tried that within your industry?

MR. UPTON: One, I am not a very good person to ask that question. I know how to run a trade association but I don't know a heck of a lot about the operations day to day. But I will make some guesses with you and then we'll ask a couple of other people who are better.

We know that on ceiling fans if it is a CFL product those have to be put in the box and used. And I can't imagine, frankly, you or I going into the store, finding the lamp in the box, and not using it. I would presume somebody has sold me something that they know what the heck they were doing. Especially if you go to the kind of stores that are members of the American Lighting Association, an independent lighting showroom.

I don't know that much about lighting
and most people don't. And those kind of folks do. If they package that thing and present it to you I would think that would be the case. But Paul, what happens? One, manufacturers don't ship lamps, you would have to insert the lamp. But what do people want? Do they want the lamp inserted?

MR. PAVLETICH: I'll answer that question.

MR. UPTON: Paul Pavletich from Bakersfield.

MR. PAVLETICH: It depends on the customer. Paul Pavletich from Premier Lighting in Bakersfield.

It depends on the customer. If we are selling something to someone that -- What they are going to use it for. We need to figure that out because they may not need as much light in there. Or they may be able to use a CFL or they may be able to use a lower wattage bulb if it is just going to be just general illumination. I hope that answers the question.

ADVISOR TUTT: But if they were required to include a CFL along with the package then the customer would still have a choice it's just, you
know, there would be a choice in front of them.

MR. UPTON: Sure, but if you're buying a product it would seem to me -- and you and I are on the same wavelength. If you go in to buy a product or fixture and you're looking to get a GU-24 or want something else that is going to have that lamp in it. If you are going specifically to buy that product I think you'd use it that way.

Somebody made a comment about limitation, by the way, on candelabra lamps. Candelabras are specifically exempt in the federal bill. And I would hope we don't try to move into some products that work only and very effectively with candelabra lamps. They just don't look right and they don't work right and they are terrible. CFLs are great products and we are making great strides but one of the things our industry believes in is proper application of lighting. That's very, very important to us. I can't say that more strongly.

I'm married to a British girl who should have been born in Edwardian times. So polite that it's -- I'm from Iowa and it renders me speechless sometimes how long it takes her to say something.

I brought home a CFL candelabra lamp
because I wanted to see how it operated, what it looked like. And she said, what are you doing. So I told her, I'm running a little test. And she said, well that's nice but when it's done take it out because that's ugly in there. And there's other things that they aren't ugly in but in some applications they aren't the right beastie.

But this fleet thing of yours really --

MR. PENNINGTON: I wasn't an advocate for that. You have to be clear about that.

MR. UPTON: No, but he said it. But that's interesting. Excuse me, thank you very much.

PRESIDING MEMBER PFANNENSTIEL: Thank you. The last comment on this subject because we need to move on.

DR. BENDT: Again, Dr. Paul Bendt. My comment is very brief. I've heard an assumption made that if sockets are limited to 35 watts that is going to force people to use CFLs. And I would like to point out that there are some highly efficient incandescent bulbs. The Philips Halogen is one. But I'm talking about the ones that on Chris Calwell's presentation were way above the line. There are some very efficient
incandescent bulbs that at 35 watts put out very reasonable amounts of light. And so this limitation on the fixtures would not be forcing people to CFLs.

PRESIDING MEMBER PFANNENSTIEL: Thank you. We are going to move back to Gary Flamm to move into the area of high intensity discharge metal halide luminaires. Gary.

MR. FLAMM: Thank you. The Committee received a proposal from Pacific Gas and Electric and their team for a regulation for high intensity discharge luminaires.

The proposed standards affect new fixtures in commercial applications.

And the energy savings do help to meet our AB 1109 requirements for commercial applications.

So there are existing and proposed regulations for metal halide luminaires.

California has adopted a two tier regulations for metal halide luminaires. The first tier became effective in 2006 and the second tier became effective in January 2008.

And the EISA that was just adopted in December contains requirements, federal...
requirements, that will become effective on January 1, 2009.

And the EISA provisions allow California to adopt revised standards for metal halide luminaires by December 31, 2011. And that is the basis for this proposal.

So to try to get our arms around apples and oranges here there is a chart that we put into the staff report. The first section under California 2008 shows the current requirements in California for metal halide luminaires between the wattages of 150 to 500 watts. And currently it says it shall not contain a probe start ballast and there is a minimum ballast efficiency of 88 percent.

The new federal standards that were adopted in December, which take effect in 2009, have a more complex structure than the California existing standards. They do allow probe start lamps and they have a variety of efficiencies, depending on if it is a pulse start ballast, a probe start ballast, electronic or magnetic. So that's why there's a table here to try to capture that.

In the PG&E proposal, which staff
supports, it is very similar to 2008 in that we are proposing to continue not allowing probe start ballasts and to have an efficiency that is higher than 88 percent, depending on the wattage threshold. So between 150 to 275 watts it will require a minimum 90 percent efficient ballast. And above 275 to 500 watts it would require a minimum 92 percent efficient ballast.

And that is all I have on my presentation.

PRESIDING MEMBER PFANNENSTIEL: Thank you. Questions for Gary? We have some other people who want to speak on this same subject. Jen for ACEEE.

MS. AMANN: Thanks again. Again I appreciate the opportunity to speak on metal halide fixtures as well.

I won't spend time on this. This is very much what Gary just presented, kind of the history of the proposals, the current status of standards at the California level and at the federal level.

The recommended revision to the current metal halide fixture standard that PG&E has proposed is as Gary said, to require ballast.
efficiencies that are equivalent to electronic ballasts. There are some magnetic ballasts that can meet these requirements as well so it is not an electronic ballast requirement, but it does set levels that are in the range of those met by electronic ballasts. In the lower wattage, 150 to 274 watts, a 90 percent ballast efficiency. And from 275 to 500, a 92 percent ballast efficiency.

The estimated energy savings from this would be 19 to 59 gigawatt hours and 3 to 11 megawatts for the first year of sales. Growing to 173 gigawatts to 538 and 31 to 96 megawatts upon complete stock turnover.

And the reason, I'll explain a little bit the reason for this large range in energy savings assumptions. One of the benefits of using electronic ballasts for pulse start metal halide lamps is that they allow some significant lumen maintenance benefits and as a result people can use lower wattage lamps to get the same lumen output.

Our savings estimate, the low end of the estimate is just a savings based on the wattage reduction that you get from the more efficient ballast. The higher end savings comes from an
assumption of the lumen maintenance benefits as well. The cost benefit ratio for this is 2.65.

And again just to underscore that the federal standards do have this temporary carve out, this one time carve out for California to adopt new standards as long as those standards are adopted by January 1, 2011.

The CEC staff report does recommend the adoption of PG&E's proposal. The staff report indicated that there had been no lighting industry -- the lighting industry hadn't raised any substantive issues to them in response to the proposal to date. And again, the PG&E team is available as needed. We'd be happy to address any comments or concerns from CEC or industry as we move forward.

PRESIDING MEMBER PFANNENSTIEL: Thank you. Questions here? Others, questions?

MR. ERHARDT: This is Bob Erhardt. I contributed to a NEMA response. NEMA and industry did respond to ACEEE and we do have some very serious concerns about this proposal. Mr. Dain Hansen will present the NEMA response and I can comment further.

PRESIDING MEMBER PFANNENSTIEL: Thank
you. Mr. Hansen.

MR. HANSEN: Good afternoon. My name is Dain Hansen with NEMA, the National Electrical Manufacturers Association. First of all I want to thank the CEC for the great working relationship we have had. We have been able to have great working meetings and accomplish a lot and be able to speak with them on an up-front level and we appreciate that. We want to continue in this effort as we move forward.

My presentation is on our positions on the proposal. The NEMA lighting systems division, we propose a system solution through Title 24 and other means that represent a more effective solution for the citizens of California to realize energy savings than the currently proposed Title 20 rulemaking.

In the proposal currently it will result in a negative net present value for California citizens and eliminate more cost effective, proven energy savings means based on electromagnetic ballast technology. Also the proposal risks lower reliability of lighting systems and a major disruption in the supply chain into California.

Current proposals increase ballast
efficiency from current 88 percent levels, as we discussed already, to 90 percent for 150 to 275 watts, and 92 percent for wattages greater than 275 up to 500. Proposed levels have the potential to effectively eliminate many of the most popular electromagnetic ballast solutions available in California, requiring costly electronic ballast alternatives.

Many current dimming alternatives utilizing electromagnetic ballasts would be eliminated by the current proposals.

Energy savings from the current proposal. Approximately 2.3 to 4.5 percent depending on the wattage level will be the savings. NEMA’s position is that there is no industry-accepted direct correlation between ballast efficiency and any other energy savings factor. For a 350 metal halide ballast system this results in a 78.8 kilowatt hour per year energy savings. This can be projected to result in a present value of lifetime energy savings of approximately $75, $75.33 exactly.

Additionally, a cost adder per luminaire is going to be an issue as well. Ballast cost adder estimates run between $50 to $200, depending
on the source. The luminaire cost adder will be even higher due to the commercialization costs associated with the typically larger housings needed for electronic ballasts.

Even assuming a lower end adder estimate of $75 for a 350 watt luminaire the net present value is 33 cents, for an energy savings present value of $75.33. And NEMA expects the actual luminaire cost to the consumers will be much higher.

So the bottom line, the current proposal we feel delivers minimal energy savings, will result in unjustified cost to the increase to end users and also looks backwards rather than forwards. And also we feel that a new approach is needed to meet California's energy challenges.

So we propose a systems alternative. We propose adding dimming and controls to metal halide systems. This can result in over 25 percent energy savings in many applications such as occupancy sensors in warehouses, occupancy sensors in parking lots, and also daylight sensors. Additionally, outdoor occupancy sensors, such as parking, will also decrease sky pollution or lighting pollution, light trespassing.
Furthermore, adding dimming and controls to electromagnetic metal halide ballasts typically costs less than changing to fixed output electronic ballasts.

For the same $75 additional cost estimate applications that can utilize dimming electromagnetic ballasts can save over 435 kilowatt hours annually and realize a present value of energy of over $415 per luminaire.

Existing electromagnetic metal halide dimming systems represent a proven technology for meeting California's energy reduction needs.

So moving forward NEMA wishes to continue to work with the CEC, the utilities and all interested stakeholders in defining a systems approach rather than a component approach that will allow California to meet its energy reduction goals through multiple cost effective means.

Thank you.

PRESIDING MEMBER PFANNENSTIEL: Thank you, Mr. Hansen. Responses or questions? Gary.

MR. FERNSTROM: Gary Fernstrom, PG&E. Gee, that's an interesting idea. Do you have any sense what fraction of the market would use dimming, you know, relative to the other
alternative, which would affect all sales of these products in their section of the market?

MR. HANSEN: I'm trying to find that offhand. I would have to look. Bob, do you know the answer to that?

MR. ERHARDT: I don't know the relative sales. I would ask if you have -- I don't know who is present from NEMA. If you have Becky or Cheryl they can probably tell you where the relative sales of metal halide go. I know warehouse is a significant percentage.

When we were last meeting with the California Energy Commission I believe we were talking about how to address outdoor. And we feel that outdoor parking lots offer a sizable market as well.

Our overall position is, though -- and we have had this discussion as long as we have been discussing metal halide in front of the California Energy Commission. There is, again, in the ACEEE proposal an assumption that you get lumen maintenance from ballast efficiency. And that is speculation and there is no direct relationship for it.

Yes, many of the electronic ballasts
that are available today, our companies included, can improve lumen maintenance. But by specifying efficiency you are not specifying lumen maintenance. And until you can have a means of specifying a lumen maintenance number from lamp manufacturers, or having lamp manufacturers agree to a lumen maintenance, it's purely speculative that you are going to be able to realize it as energy savings.

MR. FERNSTROM: Okay. Well, you know, I think that's an important question that we would want to know the answer to in considering the merits of this. Being the energy efficiency advocate that I am I would just say, that's a heck of a good idea, why don't we do both. (Laughter)

MR. ERHARDT: Well our position is if you put an efficiency level of 92 percent and 90 percent you will eliminate the electromagnetic dimming systems that can give you more energy savings.

MR. FERNSTROM: Well yes, for sure, but there are very fine electronic dimming systems. In fact, electronics offers, I think in terms of incremental costs, less additional costs for dimming than perhaps the very fine magnetic ones.
MR. ERHARDT: No, that's not true. The cost of an electromagnetic dimming system is less than the cost of a fixed output electronic system.

MR. FERNSTROM: That isn't --

MR. ERHARDT: And if you add dimming to an electronic system its cost will be even higher.

MR. FERNSTROM: That isn't quite the point I made. I was talking about the incremental cost from the basic cost of the ballast, adding the dimming capability. And my allegation was that adding dimming to an electronic ballast is less incremental cost than adding dimming to a conventional, magnetic ballast that doesn't have it.

MR. ERHARDT: I think the incremental cost difference is rather insignificant.

PRESIDING MEMBER PFANNENSTIEL: Gary Flamm, did you have a comment or question?

MR. FLAMM: Actually I was just thinking from the various stakeholders something similar to what Gary was thinking but not quite there. I was wondering if the stakeholders, what they thought about an alternate option. One would be the efficiency proposed by staff, the originally PG&E proposal, or one of the dimmers integral to the
luminaire as proposed by NEMA as a dual path.

ASSOCIATE MEMBER ROSEN Feld: Alternative
paths, right?

PRESIDING MEMBER PFANNENSTIEL: Right.

MR. PENNINGTON: Excuse me.

PRESIDING MEMBER PFANNENSTIEL: Bill.

MR. PENNINGTON: Is there good
information about the likely savings that would
arise from dimming controls? Is there good
information about the application of these
controls being feasible for dimming?

MR. ERHARDT: There is information.

Unfortunately NEMA is a rather cumbersome process
and we were unable to pull together the studies in
time to include them in our presentation.

PRESIDING MEMBER PFANNENSTIEL: But they
will be forthcoming for written comments?

MR. HANSEN: Yes.

PRESIDING MEMBER PFANNENSTIEL: Okay,
thank you.

MR. HANSEN: We are going to be
expanding quite dramatically in our written
comments on what we said today. More details and
more numbers as well.

PRESIDING MEMBER PFANNENSTIEL: Okay,
that's excellent.

MR. COOK: Keith Cook from Philips Lighting. CLTC has been doing an extensive amount of work in these controls of HID products and they have had some very good results. I would suggest that we, of course, pull them into this conversation and make sure that they are included.

We do need to do some more homework on this, there is no question about it. This is just something that came up in the last week or so and we have not had a chance to really flesh out all the details. We expect to provide more information with our written comments.

PRESIDING MEMBER PFANNENSTIEL: Thank you. Ted.

MS. AMANN: I just have maybe one question for Bob or the other manufacturers about dimming for metal halide. Does dimming have an efficiency penalty with metal halide lamps like you get with incandescents and some other lighting sources?

MR. ERHARDT: If you are asking if the efficacy of the lamp decreases while you dim it, there is some decrease in efficacy as you dim. I don't believe it is as dramatic as it is with, as
it is with incandescents. As you dim to 50 percent power I believe it is something like 30 or 40 percent light output.

MR. POPE: Ted Pope, Energy Solutions, for PG&E. Bob, I think the question might have been also, if you have a metal halide lamp operating at the full light output in applications where there is no need for dimming is there a percent or two efficiency penalty for having that dimming circuitry attached to the product? Or is that just the same as a non-binding product?

MR. ERHARDT: It would be the same as a non-dimming product. The dimming of an electromagnetic metal halide system simply involves changing the reactance value of its impedance circuit. You're switching a different capacitance with the capacitance that is already there. So during full light output it's exactly the same as the regular. With, you know, perhaps a half watt or so of control circuitry overhead. But on a 400 watt system that's not substantial.

MR. FERNSTROM: Gary Fernstrom, PG&E. Earlier before you came on-line we had a discussion about power factor and its potential value in terms of energy efficiency. Does dimming
affect the power factor of those products?

MR. ERHARDT: I'll have to look at it.

You know, of course during a dimming operation you
are using less power to begin with. But the power
factor, we'll have to address that in our written
comments.

MR. PENNINGTON: So is the dimming, is
the dimming controlled on some time basis? Do you
have a time clock approach to dimming to
accomplish the savings or is it a manual control
situation? If it's strictly manual I think there
are very potentially high issues with the
reliability of the savings that you might predict
from that versus an automatic control of some sort
such as an occupant sensor. If the origin of the
ability to dim or to reduce light comes from an
intermittent need for light then an occupant
sensor would be perhaps a more reliable control.

MR. ERHARDT: Yes, I think occupancy
sensing is perhaps the most effective means for
realizing energy savings. For instance, if you
have a warehouse where certain aisles are only
accessed sporadically. If you have a large
warehouse and each aisle is only accessed one-
third of the time, then you can have 50 percent
power saving two-thirds of the time. You can gave
as much as 33 percent energy savings.

Similarly, if you can think of a parking
light that is illuminated all night and has only
one or two people retrieving their car from it, it
will stay at the lower power the whole time that
you don't have somebody present to retrieve an
automobile. Dramatic energy savings can be
realized.

MR. PENNINGTON: So just a follow-up
comment and then I'll be quiet. It seems to me
that the potential breakthrough idea is the
integral occupant sensor with these lighting
devices and we ought to be really focusing --

ASSOCIATE MEMBER ROSENFELD: Bill, could
you be a little louder.

PRESIDING MEMBER PFANNENSTIEL: Bill,
you need to speak into your mic.

MR. PENNINGTON: Sorry. It seems to me
that the potentially breakthrough idea is the
integral occupant sensor with these luminaires.
And that we really ought to be focusing on
thinking through that problem and seeing if we
could make that happen.

MR. FERNSTROM: So Gary Fernstrom, PG&E.
And additionally where you might have outdoor lighting, as in a parking light, it might be an astronomical time clock or a regular time clock.

PRESIDING MEMBER PFANNENSTIEL:

Mr. Cook, did you have a --

MR. COOK: Yes. Keith Cook Philips Lighting. You really have to look at it on a case by case basis. A lot of times an occupancy sensor may not make sense in roadway lighting and yet you could do an astronomical clock and reduce the power, even on roadways, for early morning hours and things like that. So you really do have to look at it.

As far as integral occupancy sensors.

There are luminaires today that are readily available that already have them in them. That's very commonly used in warehouse applications. So that's another option.

These are all things that are available today so we don't have to wait for having to redesign all the ballasts. We don't have to worry about certification processes. We don't have to worry about having to come up with new luminaires to house electronic ballasts. These are things that we can do very short term.
PRESIDING MEMBER PFANNENSTIEL: Thank you. Further questions?

ADVISOR TUTT: Yes, I just had one. Does the dimming concept for these luminaires require a probe start ballast, a magnetic probe start ballast?

MR. ERHARDT: No, it can be used with a probe start or a pulse start.

ADVISOR TUTT: Thank you.

PRESIDING MEMBER PFANNENSTIEL: Anything else? Any further thoughts, questions, discussion on this? Anybody on the phone on this subject?

MR. STRAIGHT: No.

PRESIDING MEMBER PFANNENSTIEL: No.

Okay, I think we have pretty much covered the agenda. I do have one other -- I see. Tim has a different agenda than I do. (Laughter)

MR. PENNINGTON: That's normal, right?

PRESIDING MEMBER PFANNENSTIEL: That's a different subject. All right.

Apparently there is another subject, linear fluorescent fixtures. Ted.

MR. POPE: Commissioners and staff and stakeholders, Ted Pope with Energy Solutions for PG&E. Before anybody in industry panics I want to
clarify that what I am about to talk about is not a full blown proposal to the Commission at this point. It is an addendum to a case proposal that was submitted in January regarding linear fluorescent fixtures.

And NEMA and manufacturers have been brought into discussions on that in the past. Since January, though, I don't believe there has been any formal communication between industry and the PG&E team. This is our first time taking this concept public.

It was noted by some with the proposed -- there was nothing proposed but the case report on linear fixtures, that some folks felt there might be preemption issues associated with the concept.

In response to that, that feedback, although I don't think we have an official opinion on that, we looked for alternate options. And we have been crunching numbers and pulling data from spec sheets for several weeks now and have come up with a concept we wanted to share with industry today, also under the view of the Energy Commission as well.

We want to go through that quickly and
then sort of hand the idea off to industry to see how they respond to it and then work with them going forward to see if this is a viable, alternate proposal to what was in the original case report.

So again, I guess I mentioned these points. But our original case report did estimate savings impacts of 78 gigawatt hours a year and 22 megawatts in the first year's sales. Leading to about 2,000 gigawatt hours per year and 561 megawatts once the stock turned over.

The alternate concept is attached to the case report that was filed with the Commission, I believe yesterday, and is probably on the website at this point. The approach is to look at the -- somewhat analogous to what Bob and others were just saying moments ago for metal halide and that is, go for a systems approach. This is somewhat analogous to that, looking at the full fixture.

So the performance of the fixture efficiency, the fixture itself. The performance of the ballast and the lamps all together. That is done with a LER rating, which stands for luminaire efficiency -- efficacy rating, excuse me.
I may have this wrong. I am not sure it was actually proposed by DOE but it was part of the 1992 federal process. As far as we know that metric has not been used in a standard process before. And we understand from conversations with NEMA and industry that NEMA, in fact, is trying to develop a -- I believe it's NEMA or -- okay, Pam is shaking her head. Develop an alternate metric called a targeted efficiency rating, a TER for short.

Our understanding is that that process is fairly early in its inception and therefore there probably would not be a functional TER environment to operate in for a number of years from now. So we have looked at LER as a near-term potential strategy for a potential metric.

Our approach was to look at a pretty broad cross-section of products. We analyzed data on 500 fixtures. For the purposes of this conceptual approach we narrowed down pretty quickly to two-by-four recessed and surface mount box fixtures. We took a look at the efficiency as posted in the spec sheets and brochures and website catalogs of several major manufacturers and I believe a few small manufacturers as well,
of fixtures.

We kind of identified three basic product classes, those with louvers, those with prismatic lenses and those with basket diffusers, which is typically a perforated metal to sort of diffuse the light output from the lamps. From these three, basic categories we broke it into 11 total sub-categories driven largely by the number of lamps in the fixture because that does tend to affect LERs.

And also trying to make sure that even though this is just a first pass we wanted to get the obvious separate categories for products that provide distinct consumer utility such as video display terminal appropriate fixtures.

Based on our preliminary sense we believe these categories properly break down the two-by-four fixture broader category into the necessary sub-categories to preserve performance characteristics that customers require. Obviously we'll be looking for more input from industry on that to see whether we've cut the data properly.

And this is a quick view. And I can get into more detail. I know it's late so I am going to try and be quick. And I can go back if we want
to discuss some of the details a little bit more.

But we took all the fixture data for the
two-by-four fixture categories we were looking at.
And again, that was 250 products. We took
whatever data was in the spec sheets and so forth
and we developed LER ratings based on a
presumptive base case lamp and fixture, which was
the generic electronic ballast and a series 700 T8
lamp, and calculated the efficiencies of that.

We also looked at the same fixtures if
you installed a high performance electronic
ballast as well as a super T8 3100 lumen lamp to
see the distributions for those products.

And based on looking at those data for
these 11 categories a fairly rational approach,
from our perspective anyway, is that you take the
LER that is the top of the performance spectrum
for the fixtures with the base case lamp and
ballast and use that as the LER, the minimum LER,
for the fixture.

And the interesting thing about that
point, and it is a little hard to tell on this
graphic here, but the maximum LER performance of
the fixtures generally coincided with the median
performance -- excuse me. The maximum performance
of the fixtures with base case lamp and ballast generally coincided with the median performance of the fixtures with the high efficiency electronic ballast and the super T8s.

We looked at that but that wasn't true in the case of all product categories. So our solution or our optimal pathway, we think, is to say that either the maximum LER in a category with standard lamp and ballast or the median LER of the fixture category with high performance -- excuse me, high efficiency ballast and super T8 lamps, whichever is lower, would be our proposed efficiency level for each fixture category.

You know, you can see the spread here. On your basic lens fixture the performance is, you know, fairly comparable between two-, three- and four-lamp products. And it differs here with the basket fixtures as well as the louvered, it's a little more spread.

But anyway, it effectively means that about half of fixtures under -- If you were to pursue a standard following this approach at the levels we have conceptually identified you would expect that half your fixtures would have to be improved in ways that went beyond putting high
efficiency electronic ballast and a super T8 lamp in it.

Certainly you could qualify under the standard with base case generic ballasts and a series 700 lamp if you have a high FV or a high fixture efficiency fixture. The idea with this approach is it allows industry multiple pathways to deliver a high efficiency fixture product. And it, as we understand it, entirely eliminates any threat or any consideration of preemption.

So that is the basic, the concept. I want to be very clear, these are very rough estimation of impacts. But if one -- I jumped ahead.

What we found running the numbers on this, that that implies about a 12 percent efficiency saving per fixture. When you gross these numbers up and you make an assumption. It may not be a safe assumption. But if you assume that you can get roughly the same percentage savings in other fixture categories for which we did not run the analyses and you extrapolate that across the whole linear fluorescent fixture market, you would be looking at these savings, which are approximately 27 megawatts in 103
gigawatt hours in the first year of sales and
growing to a megawatt savings of about 670 and
about 2500 gigawatt hours at full stock turnover.

The numbers work out to be a little
bigger than the other approach. On the other hand
it provides more flexibility for industry to
comply with the standard. And I would also add
that there are other efficiency benefits that the
State should consider because, you know, in theory
when your ballasts and your lamps get replaced
people could downgrade the products. If you get
improvements in the fixture at the same time,
you're getting better ballasts and lamps in there,
you're likely to ensure longer term savings.

So it's more of a systems approach. We
are not standing behind any particular number here
but we do feel like we pulled a pretty good data
set to do this and it is probably reasonably
representative, at least of the two-by-four
recessed and box category. We'd like to, you
know, engage conversation in a conversation to see
if this is a better way of pursuing efficiency in
linear fixtures.

I think that's pretty much the deck of
slides there. Are there any questions I can
answer at this time?

PRESIDING MEMBER PFANNENSTIEL:

Questions for Ted on this?

MR. O'BOYLE: Mike O'Boyle from Lightolier, Philips Lighting. You're aware that the LER is being replaced by the TER?

ASSOCIATE MEMBER ROSENFELD: Into the mic.

MR. O'BOYLE: I'm sorry. You're aware that the LER is going to be replaced by the TER? For a matter of fact, at the last lighting systems division meetings that was, that was agreed to. So I think while the idea here is good you may want to look at that metric instead of the LER.

MR. POPE: Yes, Michael, I mentioned that at the beginning. We are aware that that process was underway. I am not clear that we ever had a particular estimate from industry as far as how long it would take to develop that TER rating system and data to the market. Our sense was it would take a number of years for that process to happen.

You know, neither approach seems perfect. It sounds like the TER is going to address efficiency for getting light onto the work
plane, whereas the LER simply describes lighting
coming out of the fixture. So they're doing
slightly different things.

Based on what we've heard from TER, it
sounds like a good idea to develop that. But our
sense was that that might take a number of years
and it would be something that a standard like
this could migrate to over time. We didn't see a
clear reason why we wouldn't want to pursue LER in
the near term. That was our view on it.

MR. O'BOYLE: Mike O'Boyle. Actually we
have developed the test measurement or the
methodology for the TER right now and it is going
to be replacing the LER in a very short term
basis.

MR. PENNINGTON: Could I ask you a
question?

MR. O'BOYLE: Sure.

MR. PENNINGTON: If this approach is
getting the light onto the work surface, and the
work surface is in different places depending on
the application, do you get into a building-
specific determination of the TER? Or do you
define the work surface in a generic way for your
testing procedure?
MR. O'BOYLE: Well the TER is more comprehensive than the LER. The LER only applied to specific products. The idea of the TER is going to apply to a much wider range of products. And there would be, there would be application-specific considerations in applying the TER.

But the difference between the LER and the TER, the TER actually brings in the fixture efficiency, the coefficients of utilization, sort of using general arrangements that you would anticipate for the luminaire type.

MR. PENNINGTON: So do you need to know the application? Can you figure out a TER for a luminaire and say, this is the TER for it.

MR. O'BOYLE: Yes, you do. That's exactly --

MR. PENNINGTON: Or do you end up with multiple TERs for a luminaire because it is going into different applications?

MR. O'BOYLE: No, there is a single TER for a luminaire type.

MR. PENNINGTON: Thanks.

MR. O'BOYLE: Okay? All right, thank you.
questions? Discussion?

Thanks, Ted. So this is just the beginning and we will be discussing this more.

I have one other blue card from somebody from earlier and before I close today I am going to see if anybody else has any other comments.

This is Scott Mitchell with Southern California Edison. I don't know if he is still here. Yes?

It's Randall instead.

MR. HIGA: Hi. My name is Randall Higa, Southern California Edison. Scott Mitchell had to leave so I am going to try to fill in for him.

Real briefly, this is with regards to what was talked about at the very beginning about the various things that we want to bring Title 20 up to the federal standards. Our comment relates to walk-in coolers.

We have noticed that the draft regulations include the entire federal piece on walk-in coolers and I am not sure if that is the intent because some of the provisions of the federal walk-in coolers are less stringent than the current Title 24 measures.

So we would recommend that we only pick those measures that are, that are, that are more
stringent than Title 20 rather than taking the whole thing as a whole. And there may be legal reasons why that can't be done that way but our understanding is that California can do that, that we can still assert our current Title 20 provisions prior to the actual federal regulations going, going into effect. That's sort of the gist of the comment and we could provide something more specific in writing.

PRESIDING MEMBER PFANNENSTIEL: I assume you will in writing. But is there a staff comment on that?

MR. PENNINGTON: I think what he is suggesting is highly desirable, I don't know what the legal constraints are. So we should definitely consider it.

PRESIDING MEMBER PFANNENSTIEL: We'll see it in writing though, the comment?

MR. HIGA: Yes, we'll submit our comments in writing.

PRESIDING MEMBER PFANNENSTIEL: Thank you.

MR. HIGA: Okay, thank you.

PRESIDING MEMBER PFANNENSTIEL: So let me -- Go ahead.
MR. WOLFMAN: Thank you, Madame Chairman. I am Howard Wolfman from Osram Sylvania. I also chair the NEMA lighting systems division. The hour is late and for some of us from the Midwest or the East Coast it is even later so I'll try to keep this brief.

First of all I'd like to thank you and thank the Commission for the opportunity for those of us from NEMA who have been in attendance today and on the phone to express our opinions. And to reiterate what Dain Hansen said, that we look forward to the opportunity of working together to come to a collaborative solution.

I have a question which is somewhat philosophical. And if it is then it is probably best that we not get into a discussion here. And I ask this out of ignorance so forgive me. But in AB 1109 or other documents has there been a methodology to define the 2007 baseline for energy so that we know what we are going to build upon? That's part of it. And the other part is, if there is, is it normalized on something like a square foot basis or something so that we don't get penalized by all the new buildings that are going to be put in between now and 2018?
ADVISOR TUTT: I guess the way I would answer your question is the word average is included in 1109 and that implies some degree of normalization. I don't know that anyone has suggested that it be on a square foot basis versus a household basis. Square footage for commercial is something else. We certainly have some idea of lighting use in 2007. But if a more definitive baseline is desired I think that would have to still be developed.

There has been some analyses I know by PG&E's consultants, by CLTC, as to what they believe the amount of lighting use in 2007 has been. I am not aware that there has been any public vetting of that or any understanding whether that is sufficient for the target we are setting ourselves for.

MR. WOLFMAN: If there is work to be done, speaking for NEMA, we would offer to participate in that so that, again, we end up with a collaborative solution that makes sense and doesn't program us all for failure.

PRESIDING MEMBER PFANNENSTIEL: Thank you sir.

Let me then go back to Melinda and see
if you have comments, final comments, next steps, follow-up, written comments due.

MS. MERRITT: I don’t really have any final comments or discussion. I would refer back to the workshop notice that we happily accept any further written comments after today. The workshop notice indicates submitting comments by five p.m. on May 26. However --

ASSOCIATE MEMBER ROSENFIELD: Give the date a little louder and clearer.

PRESIDING MEMBER PFANNENSTIEL: May 26.

MS. MERRITT: May 26 is the requested date for submitting comments.

ASSOCIATE MEMBER ROSENFIELD: Thank you.

MS. MERRITT: And again, everything that we have received and will receive will be posted promptly for the benefit of all parties. We, staff, are expecting to continue to engage the different stakeholder groups as we have been and we'll be looking forward to discussing this, today's events with the Committee and moving forward.

PRESIDING MEMBER PFANNENSTIEL: Thank you. Any other staff final comments?

MR. PENNINGTON: No. I just would like
to say that we really appreciate the input we have received. There were a little rocky communications immediately prior to this meeting and sorry about that but it was a very good meeting, thank you.

PRESIDING MEMBER PFANNENSTIEL: I just wanted to say that we really appreciate and we really need the input of the people represented here. These standards when they ultimately get adopted by the Committee and then the full Commission need to reflect as much input, as much both technical input and I would say sort of common sense input as we can receive. And we process and we go through many iterations of this, that's why it takes a long time. But it needs to because they do need to be done in an open process like this. So with that, Commissioner Rosenfeld, anything further?

ASSOCIATE MEMBER ROSENFIELD: A very good meeting.

PRESIDING MEMBER PFANNENSTIEL: We'll be adjourned, thank you.

(Whereupon, at 4:20 p.m., the Committee Workshop was adjourned.)

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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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