

Commissioners Present

Karen Douglas

Commission Staff Present:

Galen Lemei
David Hungerford
*Mike Leason
Ken Rider
Paula David
Lyn Sadler

Also Present (*on phone/WebEx):

Henry M. Wong, ITI
Ric Erdheim, Philips
Cory Watkins, Schumacher
Steve Carlson, CTIA
Mark Bare, Motorola
Jay Taylor, Schneider
Kevin Washington, AHAM
Gary Fernstrom, PG&E
Suzanne Foster Porter, Ecova
Robert Callahan, TechAmerica
*Joanna Mauer, Appliance Standards Awareness Project
* Alex Boesenber, NEMA

I N D E X

	Page
Welcome and Introduction	4
Commissioner Karen Douglas	
Proceeding Overview	6
Ken Rider	
Staff Presentation of Proposed Regulations for Battery Chargers and Self-contained Lighting Controls	18
Ken Rider	
Staff Presentation of the Proposed Negative Declaration	19
Ken Rider	
Stakeholder Comments	25
Closing/Next Steps	77
Commissioner Karen Douglas	
Adjournment	77
Certificate of Reporter	78

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

P R O C E E D I N G S

OCTOBER 24, 2011

1:03 p.m.

COMMISSIONER DOUGLAS: Good afternoon. Welcome to today's public hearing on the Battery Chargers and Self-Contained Lighting Controls. My name is Commissioner Karen Douglas. To my left is David Hungerford one of my adviser's on efficiency; Galen Lemei is my advisor who will be coming in shortly. Before we—Mr. Hungerford sat in the wrong chair.

Before we begin I wanted to say briefly that when we Noticed this hearing we Noticed it as a Committee Workshop and since that time the Commission has changed its business practices to a model of lead Commissioners leading on subject areas. So this is now a Commissioner opposed to a Committee Workshop. In any case, this is the public hearing on the Battery Chargers and the Self-Contained Lighting Controls.

With that, let me turn this over to staff to go over the agenda.

MS. DAVID: Thank you, Commissioner Douglas. Good afternoon, everyone. Welcome to the hearing. Thank you those of you who have come in person and thanks to everyone participating on the phone and via WebEx.

My name is Paula David. I'm the Supervisor of the Appliance Efficiency Program. First I have a couple

1 of housekeeping items for everyone.

2 First to let you know that the hearing is being
3 recorded today and for those of you not familiar with this
4 building the closest restrooms are located to left of the
5 exit here. There are also restrooms behind the guard desk
6 and around the corner.

7 We have a snack bar that's on the second floor
8 under the white awning. In the event of an emergency and
9 if the building is evacuated please follow our employees
10 to the appropriate exits. Then we all reconvene in
11 Roosevelt Park which is the park that's diagonally across
12 the street from this building. Please proceed calmly and
13 quickly. Again, following the employees with whom you are
14 meeting to swiftly and safely exit the building.

15 A reminder for speakers, please state your name
16 clearly before speaking. That helps those on the remote
17 access and also our recording.

18 And, finally, our Public Adviser's Office has
19 blue cards available for those who want to speak after
20 PowerPoint presentations from staff. It will be the
21 opportunity for public comment. The blue cards are
22 available out on the front counter where you came in and
23 when you have one filled out please return it to either
24 me, I'll be sitting right over here by the podium, or Lyn
25 Sadler from the Public Adviser's Office in the green suit

1 here. Thank you. And now I'd like to introduce Ken
2 Rider, electrical engineer from the Appliance Efficiency
3 Program.

4 MR. RIDER: Hello, everybody. I hope everyone
5 had a good lunch and is ready to talk about Battery
6 Chargers and Lighting Controls and regulations.

7 So I want to begin with an introduction to
8 process. The purpose of the hearing today is to really
9 gather public comment from stakeholders. We will also
10 respond to clarifying questions, questions about the
11 process, about the regulations. It's an opportunity to
12 deliver oral comments rather than only written comments.

13 The Battery Charger proceeding started quite
14 awhile ago; we've already hosted three workshops. The
15 first one was about a year ago, a little over a year ago,
16 and we held two more. One in March and one in May.

17 All the documents for the rulemaking are
18 available on the web at this link here, www.energy.ca.gov
19 is the homepage. You can find proposed regulations, staff
20 report and this presentation along with other documents at
21 that webpage.

22 The comment period began October 7 and will
23 continue through November 21. After that date the
24 comments will be considered outside of the 45 day comment
25 period.

1 We will also be having an adoption hearing on
2 November 30 and you may submit written or oral comments at
3 that adoption hearing, or is consideration for adoption I
4 should say.

5 Once the 45 day period lapses we will take a
6 look at all of the comments, both oral and written, we've
7 received before November 21 and consider what we want to
8 do. Do we want to amend the regulations? Do we want to
9 adopt the regulations? The decision process will be
10 summarized in the FSOR, Final Statements of Reasons, where
11 we will respond to all stakeholder comments received. The
12 adoption hearing, as I said, is scheduled for November 30,
13 2011. It will be part of a Business Meeting at the Energy
14 Commission. We will be either adopting the regulations or
15 proposing to conduct a 15 day language review.

16 Here's a link to a good resource for questions
17 about processes and Business Meetings and just general
18 Energy Commission questions. We have a Public Adviser's
19 Office here and there's the phone number and the link. If
20 you're on the phone and can't see this, again this
21 presentation will be available online through the webpage.

22 So I'm going to give some background on the
23 proposed regulations. You shouldn't take this in place of
24 the actually 45 day language. I'm going to give an
25 overview but the presentation isn't meant to be

1 comprehensive. There are some things that are in the 45
2 day proposed language that will not show up in this
3 presentation and that goes for some of the background
4 information for the proposal too, there's a wealth of
5 information on the web including a lot of the referenced
6 documents. I won't be going into great detail into each
7 and every one of them so this in no way is going to
8 completely replace those documents so I recommend you take
9 a look at them.

10 So battery charger systems. What is a Battery
11 Charger system? This definition I have here is copied and
12 pasted, essentially from the proposed regulations.
13 Essentially a battery charger system includes the external
14 power supply, the battery and the charging circuitry and
15 together these things are referred to as the battery
16 charger system.

17 The full definition is a little bit more complex
18 than that but the full definition is available in the
19 express terms in Section 1602(w).

20 There are some exceptions. So what does this
21 really cover? It covers a very broad range of products
22 from cell phones to laptops to golf carts to forklifts.
23 There are certain things that it specifically does not
24 cover. These are available in Section 1601. Many types
25 of motor vehicles are not considered battery charger

1 systems for the purposes of this regulation. FDA class II
2 and class III medical devices which are essentially ones
3 that are—your life could depend upon. Illuminated exit
4 signs are exempt. Stationary power applications with
5 three phase line-line input voltage of 300 or greater, so
6 like really big systems that maybe a utility or a large
7 server farm might use. Battery analyzers and certain
8 types of uninterruptable power supplies.

9 So some general definitions that you'll need to
10 know to kind of follow along with this presentation. So
11 there's a distinction between large and small battery
12 charger systems in the regulations. The line is drawn at
13 an input power of 2 kilowatts.

14 If it's above that it's a large battery charger
15 or if it's below it would be considered a small battery
16 charger system. And there's also a distinction between
17 small consumer and non-consumer and that distinction is
18 drawn by federal law and that law is cited here. It's 49
19 U.S.C. Section 32901(a)(3).

20 There's also a couple types of special classes
21 of small battery charger systems. One is an inductive
22 charger system. This is a quotation from the definition
23 of that. Basically it can transfer power—it would be a
24 battery charger system that could transfer power without
25 direct wiring. It can do it through magnetic or electric

1 induction.

2 Another type of special class is battery backup
3 or UPS system. These would be the type of battery charger
4 system that would provide power in case of an outage or
5 brown out.

6 So they're also many measurements needed and
7 different modes that battery charges have. No battery
8 mode that—Oh, sorry. Let me start over.

9 There's many types of modes that battery
10 chargers have and we regulate several of those. Let me
11 give a quick background of what those are and what they
12 mean.

13 No battery mode is a mode where the battery
14 charger is connected to the main electricity supply but
15 has no battery in the cradle or in the product.

16 Maintenance mode is where the battery charger is
17 connected again to the electricity supply, has a battery
18 in it but the battery is full.

19 There's another measure and it's called 24 hour
20 charge and maintenance energy. This is essentially part
21 of the test method where you measure—where you take an
22 empty battery, put it in the charger—well you start with
23 an empty battery, charge it and then measure the energy
24 consumption over a 24 hour period. It includes a little
25 bit of maintenance mode because at some point the battery

1 will become full. In some cases, it's kind of misleading,
2 but the test can last—this can measure more than 24 hours
3 of energy because some chargers are very slow chargers and
4 can take sometimes three days or longer to charge a
5 battery.

6 Large battery chargers have some specific
7 metrics associated with them that we're proposing to
8 regulate. Charge return factor is the ratio of amp hours
9 used to charge the battery to amp hours discharged from
10 the battery. Power conversion efficiency is exactly what
11 it sounds like. It's the efficiency of converting AC to
12 DC. Power factor which is a kind of complex topic but is
13 essentially the ratio of real power to apparent power.

14 The test procedure and the method of testing we
15 are proposing to use for small battery chargers is the
16 recently adopted federal test procedure. There was a
17 final rule released, I believe in July that adopted a
18 similar test procedure to what we had before.

19 There's a few small additions. The test
20 procedure can test the battery charger in many ways and so
21 we specify which test result. There may be five test
22 results that the DOE test procedure could produce and we
23 tried to specify it down to one.

24 Firstly, we require that the battery charger be
25 tested with a battery in each port so if you had a AA

1 charger and it has two ports you would test it with both
2 ports full. When there are multiple results provided by
3 the DOE we required the highest values to be reported. We
4 also have put some requirements on what's considered a
5 multi-port and what's not. I'll get into that further
6 when I get into the 24 hour maintenance calculations for
7 small battery charger systems.

8 We haven't changed the large battery charger
9 system test procedure. We adopted that in 2008. We have
10 added a few modifications. Mainly to reduce burden to
11 manufacturers by limiting the number of tests needed to be
12 performed. We have a kind of worst case scenario test
13 where the—where we charge the test profile with the
14 highest charge return factor and that's CRF, the term I
15 mentioned earlier, Charge Return Factor, battery with
16 lowest capacity and then of batteries with the lowest
17 capacity we would then test the lowest voltage.

18 We also allow testing at discharge voltages
19 other than defined in the test procedure. Meaning if you
20 had an exotic battery or a battery manufacturer recommends
21 a different discharge voltage we would allow that to be
22 used in place of the table that's inside of the test
23 procedure.

24 So the proposed large battery charger standard
25 has an effective date: January 1, 2014, so approximately

1 two years after the proposed adoption. We have
2 regulations for—we're proposing regulations for charge
3 return factor and that's that three different levels of
4 depths of discharge which is—this first level here it
5 discusses 180 percent depth of discharge. So this would
6 be a charge return factor standard when the battery is
7 essentially empty. We're requiring a CRF or charge return
8 factor of 1.10 when a battery charger is charging an empty
9 battery.

10 For a half empty battery or 40 percent depth of
11 discharge means that it still has quite a bit of energy
12 left in it. That charge return factor is required to be
13 1.15 so a little bit less stringent in that case.

14 Power conversion efficiency must be greater than
15 or equal to 89 percent for large battery charger systems.

16 We also propose power factor requirements. That
17 requirement is that it must be greater than 0.9 for large
18 battery chargers. There is no power factor requirement
19 for small battery chargers.

20 The maintenance mode power must be less than or
21 equal to 10 watts and there's also an additional kind of
22 skilling factor depending on the size of your battery. So
23 you get 10 plus 0.0012 multiplied by the battery capacity
24 so you get additional wattage depending on what the size
25 of your battery is.

1 The no battery mode power must be less than or
2 equal to 10 watts for large battery charger systems.

3 The small battery charger systems have two
4 separate effective dates one for consumer products and one
5 for non-consumer products. For consumer products we're
6 proposing an effective of January 1, 2013. For non-
7 consumer products we're proposing an effective date of
8 January 1, 2017. We also have an exemption for À la carte
9 chargers which are essentially are battery chargers that
10 don't ship with a battery. For À la carte chargers which
11 are used for repair parts will have an additional period
12 of time to comply with the standards.

13 There's a lot of symbols used in the proposed
14 regulations so I'm going to take a second to explain them
15 to you. As you can see there's Eb and N and it's a mess.

16 The Eb stands for the capacity of the battery as
17 measured in the test procedure. The unit used is watt
18 hours and it's the capacity of all hours. So, again, if I
19 had two AA battery chargers it would be the capacity of
20 both batteries, would be considered Eb and not just the
21 capacity of one of the two batteries.

22 The number of ports as I mentioned earlier we
23 kind of specify what the number of ports—so if I had a
24 four AA battery charger that had four ports in it but only
25 two were independently controlled so I had to, you know,

1 if I put two in here—it won't charge just one. I have to
2 put two in. It can—the number of independent ports is
3 independent ports is equal to the number of charge control
4 circuits in the battery charger. We'll see how that plays
5 into the standard in a second here.

6 We have four—for the 24 hour charge and
7 maintenance energy, we have four separate standards but
8 they all make a continuous line but there are different
9 lines for each capacity range. So for very small
10 batteries it's a flat line, it's at 16 watt hours and then
11 multiplied by the number of ports. Again that's N. (For
12 $E_b \leq 2.5 \text{ Wh} : 16 \times N$)

13 For between 2.5 and 100 watt hours, it's, this
14 equation, 12 times N plus 1.6 times E_b , the battery
15 capacity. So 12 times the number of ports plus 1.6 times
16 the capacity of the battery. (For $2.5 < E_b \leq 100 \text{ Wh} : 12 \times$
17 $N + 1.6 \times E_b$)

18 And then for 100—between a 100 and 1,000 watt
19 hours you can see this slope gets a little bit more
20 shallow. The equation is 22 times the number of ports
21 plus 1.5 times the capacity of the batteries. (For $100 <$
22 $E_b \leq 1000 \text{ Wh} : 22 \times N + 1.5 \times E_b$)

23 And for really large batteries—well, larger
24 batteries in the small battery charger category the
25 equation is greater than 1,000 watt hours. The equation

1 becomes 36.4 times the number of ports plus 1.486 times
2 the battery capacity. (For $E_b > 1000$ Wh: $36.4 \times N + 1.486$
3 $\times E_b$)

4 If that wasn't confusing enough for you, I tried
5 to provide a graphical equation of those four standards.
6 This is in logarithmic scale so it's Base 10 scale and you
7 can see on the bottom here is the battery capacity note.
8 This is for a—oh we have a video guest. Hi, Steve. We
9 put Steve in the corner.

10 [LAUGHTER]

11 MR. RIDER: You're not in trouble, Steve, don't
12 worry.

13 Okay. So on the bottom axis is battery
14 capacity. As you can see, the bigger the battery that
15 you're charger the more energy you have in this standard.
16 On the left side is the allowance so you can see how it
17 scales. And note that this is only for a single port so
18 this graph was based on in this previous slide, which I
19 can't change slides anymore, N equal to 1. This is a
20 graph where N was equal to one but varying E_b .

21 There's also a maintenance and no battery mode
22 power requirement. So there's not individual requirements
23 but the requirement is that the sum of your measured
24 maintenance mode power and your measured no battery mode
25 power must be less than or equal to this equation which is

1 1 x N, which is again the number of ports, + 0.0021 x Eb.
2 So as you can see it scales with the battery capacity so
3 bigger battery, larger amount of maintenance mode
4 allowance and no battery mode allowance.

5 There's some special case standards, one for
6 inductive charger systems that essentially says that if
7 you can demonstrate that an inductive charger uses one
8 watt or less on average then we'll accept that instead of
9 meeting the other standards that I just presented.

10 For battery backup and UPS systems we only
11 regulate the maintenance mode power because of the low
12 instances of free charges. The duty cycle of a UPS system
13 is essentially that it's always in maintenance mode
14 because most of the time you have power. So we're only
15 looking to regulate the maintenance mode so the equation
16 for that is that same in form but a little bit different.
17 It's 0.8 watts + 0.0021 x Eb watts.

18 We're also proposing marking for battery
19 chargers systems. We are proposing to require circle BC
20 marking, and I've tried to illustrate that in my slide.
21 And that circle BC would need to show up on the product
22 that has the charge terminals. So if you have an external
23 power supply and you had a cell phone, the labeling would
24 go on the cell phone and not on the external power supply.
25 It would only need to be on one and not both.

1 For products with extremely small nameplates we
2 would also have, instead of requiring another label on a
3 space constrained product, we're requiring those types of
4 products to put the label on the packaging and also the
5 first page of the instructions.

6 The proposed regulations would also require
7 battery charger system manufacturers to certify to the
8 Energy Commission and would require them to submit data
9 basically demonstrating compliance with the various
10 metrics that I just presented.

11 The proposed regulations also cover lighting
12 controls or more specifically self-contained lighting
13 controls. The definition—I've pasted the definition up
14 there but essentially a self-contained lighting control is
15 a lighting control that's in a single package as opposed
16 to a system that may have several components to construct
17 the lighting control. It covers such things as time-switch
18 controls; an automatic daylight controls; lighting photo
19 controls. There's a whole list of them.

20 The proposed regulations for lighting controls
21 essentially are adding the requirements that exist in
22 Title 24 which is building code standards and moving them
23 into Title 20. Currently these products are already
24 required to certify with the Energy Commission. The real

1 purpose and the benefit of this move is that it will
2 clarify the certification process which Title 20 has a
3 very robust certification process and will also prohibit
4 the sale of noncompliant lighting controls before they're
5 installed in buildings. Title 24 regulates what's
6 installed and Title 20 regulates what's sold. So now they
7 won't even be able to be sold. It'll hopefully prevent
8 noncompliant products from getting installed in California
9 buildings.

10 So this is also a hearing—besides the proposed
11 regulations this is also a hearing to collect comments on
12 the proposed negative declaration. The proposed negative
13 declaration is basically a discussion of the environmental
14 impacts of the regulations. The study shows that there
15 are no adverse environmental impacts and you can read
16 that. That's on the web. The comment period of that
17 document is different than the comment period for the
18 proposed regulations. It ends sooner and the final date
19 for comment is November 12, 2011 for those. However, they
20 will share the same adoption hearing on November 30.

21 So I'm going into some of the background into
22 why we proposed the regulations we have and also some of
23 the fundamental concepts located in the staff report.

24 So where did we get all this information that we
25 used to propose these regulations? One major source is

1 stakeholder input. We've been gathering input for
2 proposed regulates since December 28, 2007. That's when
3 the Energy Commission first started looking into battery
4 charger standards and, at that time, we decided to move
5 forward only with the test procedure. But we've been
6 gathering information since that time and also during the
7 workshops that I discussed earlier. We also have funded a
8 few research endeavors through PIER included research to
9 create the test procedure that's now the basis for the DOE
10 test procedure and is still the test procedure for the
11 large battery chargers. We also received a great deal of
12 information from Investor Owned Utilities and we also took
13 a look at the US DOE's preliminary analysis for battery
14 charger systems.

15 The proposed express terms include many changes
16 that we made over the last year and most of those changes
17 were made to minimize burden to industry while maximizing
18 savings. For instance, in the May 19, 2011 Committee
19 workshop the notice for that workshop discusses notice
20 discusses more than 16 changes made to the regulations and
21 those were all made based on stakeholder input. The
22 express terms we're considering now include even further
23 changes made after that workshop, that Committee workshop
24 or Lead Commissioner workshop.

25 The IOUs submitted a case study in October of

1 2010 that really identified battery chargers as having
2 significant statewide energy use. At that time it
3 identified as having over 170 million of these products in
4 use in California, consuming 7,700 GWh/year that's very
5 significant. And those numbers were projected to continue
6 to rise but more importantly than that they identified
7 that battery charger systems have a significant energy
8 savings potential. I'll get into that next.

9 So how can you improve the efficiency of a
10 battery charger system? One important way is to introduce
11 or modify charge termination for very simple products,
12 battery chargers, they don't stop charging the battery
13 once it's full so one way to improve the efficiency would
14 be to install some type of switch or termination circuitry
15 that will stop charging the battery once it's full.

16 Ecos demonstrated this on a few real world
17 products. One example is their tear down and redesign of
18 a power tool. They estimated for about \$1.20 worth of
19 parts that they could improve the 24 hour efficiency of a
20 power tool by 19 percent and cut the maintenance mode
21 power by nearly 2 watts. With that kind of incremental
22 cost and the duty cycles of a power tool that puts the
23 payback period in about half of a year.

24 So an example of the change made here.
25 Originally this power tool kind of just kept drawing the

1 same amount of wattage over the entire period of the
2 charge cycle. After the alteration you can see that after
3 a certain amount of time the battery charger system went
4 ahead and switched into a low power mode and that was the
5 basis for the majority of the savings.

6 This is some DOE data that further demonstrates
7 the feasibility of this standard. This is only looking at
8 extremely small or smaller sized battery charger systems.
9 You can see here there's that flat 16 line that we
10 mentioned earlier. So this is more zoomed into the lower
11 end, not in logarithmic scale this time. To the left here
12 you can see the 24 hour energy as measured by the DOE and
13 on the X axis you can see the battery capacity of the
14 products tested. The red dots represent lithium ion
15 technology batteries and the green dots represent nickel
16 metal hydride and they didn't have any nickel-cadmium
17 tested at this low capacity. You'll see that the primary
18 reason that these lines above these dots fall above the
19 line is due to their high maintenance consumption and this
20 is typical of a system that doesn't enter a low power mode
21 when the battery is full. These bars are in order in
22 order, from left to right, of the dots so this bar—the bar
23 to the left, Number 1 here, is correlated with this first
24 dot on the graph and the same goes for the red. You can
25 see here for the dots that fall below the line they have

1 extremely low maintenance load power. That goes for both
2 lithium and nickel chemistries.

3 There are other opportunities to improve
4 efficiency of battery charger systems. One can improve
5 the AC to DC conversion efficiency and that can be done
6 with an external power supply or an internal power supply.
7 The constant power draw or what I like to call the
8 overhead of the system can be reduced and that can be done
9 by using more efficient transformers or eliminating
10 transformers and also switching from resistor based
11 current limiters. For instance, resistor based current
12 limiters are used frequently in LED indicator lights.
13 It's just a cheap method to use a LED but there are more
14 efficient ways to light up a LED than by using a resistor.
15 Also, there are many products that comply with the
16 regulations today. So looking at those products and
17 applying strategies and technologies to noncompliant
18 products will be a key way meet to the proposed standards.

19 So we've estimated the cost and savings and
20 we've done this for several product categories but this is
21 kind of an aggregated version. Small battery charges.
22 This is an aggregate of power tools, golf carts, laptops.
23 All these products are all kind of aggregated here into
24 this line. The individual calculations for each product
25 type are available in the staff report in Appendix A.

1 You can see here that a typical small battery
2 charger system, the incremental cost is about \$0.80 and
3 the savings are about 14 kWh and that leads to a payback
4 period of less than half of a year in California.

5 In large battery charger systems, obviously the
6 numbers are quite larger because the systems are much
7 bigger. For this product the incremental cost is
8 estimated to be \$375-\$376 and the savings are estimated to
9 be 3.3 megawatt hours per year. Cost effective, the
10 simple payback period is a little longer but the product
11 lifespan is also a big longer.

12 So what does this mean for the State of
13 California passing these regulations? Well, we estimate
14 that if all the battery chargers on the market today and
15 in people's homes were compliant with the proposed
16 regulations that we'd be saving 2,187 GWh/year which is
17 quite a large number of houses as you can see in the
18 diagram. That would save \$306 million per year in avoided
19 electricity costs and that's using a rate of \$0.14 a kWh.
20 Just the compliance of the consumer products of first year
21 sales in 2013 would save 370 GWh/year. So that means that
22 next year, at the end of the year, if all the battery
23 chargers met the proposed standard, we'd be saving energy
24 at a rate of 370GWh a year until those products broke,
25 essentially.

1 So I'd like to again reiterate the comment
2 process. That's why we're here today but the written
3 comments are due by November 21, 2011. Please remember to
4 send a hard copy to the Dockets Office as well as a
5 digital copy and the information is here. It's also in
6 the NOPA which is the Notice of Proposed Action. I would
7 actually just following the directions in the Notice of
8 Proposed Action but, again, this an attempt to summarize
9 those requirements.

10 Thank you. That concludes my presentation. I
11 guess that leads to the Public Comment process if you want
12 to take it over with that.

13 COMMISSIONER DOUGLAS: Absolutely. Thank you,
14 Ken. I've got a stack of blue cards. If you'd like to
15 make a comment and you haven't given the Public Adviser
16 your card, please do so. We'll take the people in the
17 room and then we'll move onto the phones. So the first
18 card I have is Henry M. Wong with Intel.

19 MS. SADLER: Is it this one?

20 MR. WONG: CEC battery charger. October 24.
21 Yes. Okay. Great. I'll instruct you as to when to move
22 the slides.

23 Hi. My name is Henry Wong. I'm a Senior Power
24 Technologist at Intel and representing both ITI as well as
25 its members.

1 Thank you for listening to the comments that we
2 have and inviting us to this forum.

3 I'm going to cover some of the details behind
4 the comments that we've already submitted through ITI as
5 well as the recommendations that we submitted last year.
6 For any of the additional questions or clarifications, the
7 CEC staff and the key stakeholders are more than welcome
8 to contact either Ken Saletts at ITI or myself for any of
9 the details. The contact information is listed in the
10 documentation that's been submitted. Next slide.

11 There are actually two areas of which are
12 extremely challenging for these multi-function mobile
13 computer systems. The first is the 24 hour charge and
14 then the second is the maintenance plus no battery test
15 limit.

16 I'll highlight the challenges that these provide
17 as well as offer a recommendation that would reflect the
18 current manufacturability of products that are in our
19 industries today.

20 I'd like to remind the Commission of the
21 industry's previous written comments prior to last week's
22 comments on the test procedures. We still believe the
23 best way to isolate just the battery circuitry of these
24 complex devices is to test and subtract these non-battery
25 functions away from the power levels that way we can

1 isolate the battery charge and maintenance power
2 separately.

3 The industry will be working with the CEC staff
4 and consultants to demonstrate the viability of this new
5 test procedure during next year. We hope that the CEC
6 will support the industry in its effort and consider its
7 adoption ending viability of the adoption. We also hope
8 that the CEC will support industry's efforts with the DOE
9 to harmonize to these new test methods, unless we have
10 them developed.

11 Let's move on to the challenges that the current
12 specifications hold for us given the current test methods.
13 Next slide. Next slide.

14 Great. So the industry really wasn't sure
15 whether or not the publicly available ENERGY STAR data was
16 taken into account when reviewing some of the limits and
17 so forth. Unfortunately this ENERGY STAR data is data on
18 a very narrow scope of notebook computers and it's all
19 without the battery; so it establishes the baseline where
20 the limits of the battery systems were a few years ago.
21 We expect that the other mobile computers that are not in
22 this category would actually represent a broader spread
23 but we haven't had a chance to go ahead and review a lot
24 of those other product lines. We'll also note that it
25 doesn't include the battery nor the integration of the

1 battery because once the battery is inserted into these
2 platforms and is plugged into these AC outlets there's an
3 addition integration outlet in terms of power to manage
4 the systems between the battery as well as the AC load.

5 Fundamentally to be able to migrate all of these
6 systems from the, roughly around the limits are around
7 2.5-3 watts, to migrate them down to the half watt level
8 which is represented on the maintenance power for these
9 systems is very, very challenging. In order for the
10 industry to achieve those levels it will take a lot more
11 time than the few years that are available in order to
12 migrate the entire population down below a half a watt.
13 Next slide.

14 As was indicated to the industry since mobile
15 computers are really using advanced battery chemistries
16 like lithium ion as well as sophisticated power
17 management, it was indicated to the industry that they
18 would use the 1.6 multiplier that was in the limits, in
19 the 24 hour test limits, to address some of these other AC
20 power loads. Since we're using very advanced and very
21 efficient battery charging techniques already that we
22 could go ahead and use that 1.6 and part of that would be
23 associated with the AC load that's not accounted for.
24 However, what I show is here basically the budgeting that
25 the system manufacturers face when encountering a

1 specification as we described or as has been described to
2 us.

3 If you look at the budget, especially when
4 dealing with devices with less than 50 watt hours, the
5 fixed load losses are tremendous. Instead of 1.6 it
6 tallies up to 1.9 that the manufacturers would have to
7 reach in order to go ahead—that's the best that they can
8 do with the current devices that they have available.

9 Let me also emphasize that since these are
10 manufacturing limits when manufacturers go to these limits
11 they test 100 percent compliance to them. Anything that
12 fails these limits are rejected, scrapped and the cost
13 burden is on all of the other passing units which can be
14 quite tremendous. Next slide.

15 Now this is not just a budgeting exercise. Now
16 the industry took five of these very small battery
17 charging systems and tested them according to current
18 manufacturer flow given the limits that were described to
19 us. You can see from the five samples that we took four
20 of them failed the limits, especially the 24 hour test
21 limits. Those 24 hour test limits do include the
22 manufacturer guard bands that are going to be necessary
23 for the industry to comply with in their manufacturer
24 test. Next slide.

25 So given those challenges this is what the

1 industry recommends in terms of the limits for the very
2 small battery chargers. On the devices ranging from 50
3 watt hours to 100 watt hours, we're recommending
4 increasing the maintenance and off power to 1.2 instead of
5 the scalar of $1+0.0021 \times E_b$. It really is meant to handle
6 these fixed off power losses that are associated with
7 these non-battery functions.

8 On the devices less than 50 watt hours, these
9 are really the really small devices like cell phones and,
10 or excuse me smart phones, tablets and netbooks and things
11 of that nature. We're looking at 20 plus 1.6 for the 24
12 hour test instead of the 12 plus 1.6. The 12 was
13 representing the half watt that we were talking about
14 before. The 20 represents something closer to a 0.7 or
15 0.8 watt for 24 hours.

16 On the maintenance and off mode test we're
17 looking for the additional 100 milliwatts because of the
18 fixed off power losses with the AC functions. Although
19 this is what we think is feasible it's still very
20 challenging when you looked at the budget of what the
21 systems have to go through today and were still pretty
22 well challenged to bring the population down to those
23 tighter levels. In addition what these levels do is that
24 they provide a slightly greater margin for the small
25 battery supply devices. That's actually consistent with

1 the motivations behind reducing the AC grid burden by
2 moving to smaller and smaller battery supplies for these
3 devices and reduce the effective load on the AC grid.

4 Finally, next slide. An additional comment on
5 the labeling. On the labeling, ITI does not recommend
6 labeling to signify compliance. In fact the physical
7 label on the units would actually raise costs and may
8 increase debris and also may impact the functionality of
9 the device such as blocking the airflow and things of that
10 nature.

11 If documentation is really needed we recommend
12 placing compliance acknowledgement in the accompanying
13 literature or be referenced electronically. That way we
14 know that it's compliant and it just ships with the
15 product.

16 Thank you for your time.

17 COMMISSIONER DOUGLAS: Thank you for your
18 comments. Thanks for being here. Next I have Ric
19 Erdheim, Senior Counselor for Philips Electronics.

20 MR. ERDHEIM: Good afternoon, Commissioner and
21 Dave and Galen. My name is Ric Erdheim, I'm Senior
22 Counselor for Philips Electronics.

23 We have three major lines of business. First,
24 we're one of the world's largest medical companies. If
25 you're ever needed an MRI or an X-ray you may have had a

1 Philips machine that's performing that operation but we
2 also have a large home healthcare division. We have
3 numerous products that are in the hospitals.

4 We have a very large consumer lifestyle division
5 where we have our consumer products. You may be more
6 familiar with them as the Norelco Shavers and Sonicare
7 toothbrushes as well as our own consumer electronics
8 products.

9 Finally, we're the world's largest lighting
10 company. I know this Commission is very familiar with our
11 lighting activities and I'm sure that you're aware we
12 recently received the L Prize for the achieving of the
13 highest standards for the new LED bulbs. We have 60 watt
14 bulbs which are in the marketplace right now. We have 60
15 watt equivalent products in the marketplace. We've just
16 come out with 75 watt marketplace. I think you can guess
17 what's going to happen with the 100 watt equivalents also.

18 As Ken said this process has gone on for over a
19 year. I've been involved in the whole process. It has
20 been long process and during that time the staff has made
21 themselves available. I think Ken and I have become pen
22 pal buddies. So we very much appreciate the staff's
23 attempt to work with us. There have been a number of
24 changes that were very positive and I don't want the
25 record to reflect that we don't appreciate that, we do.

1 When we submit written comments I will in more details
2 explain the changes that we found were favorable.

3 But I'm going to focus today on three areas
4 where we still find significant problems with the
5 proposal.

6 The first deals with emergency lighting. Simply
7 put we believe that the CEC has no data to make the
8 requirement determinations regarding the technical and
9 economic feasibility for emergency lighting products which
10 are listed under UL standard 924. That's the technical
11 standard for the emergency lighting as opposed to other
12 battery backup type products.

13 Now as Ken pointed out and as the proposal
14 pointed out, there are four sources of data. One source
15 is the DOE data. That rulemaking does not apply to non-
16 consumer products. It only applies to consumer products.
17 That data provides no information regarding emergency
18 lighting equipment.

19 Second is the case report. Commissioner, you
20 may remember that I talked about this at the last hearing.
21 The case report only looked at one low-end product out of
22 dozens of emergency lighting types of products. Those
23 products address a wide range of environments and
24 applications which is why you would have such a large
25 number of different types of products.

1 But more importantly it focuses on the wrong
2 aspects in terms of measuring energy. There are code
3 requirements and those code requirements focus on
4 providing a certain amount of light in a certain area.
5 It's not done on a per product basis. This is done on
6 providing a certain amount of light and a certain area.
7 We provided staff with an analysis showing that it would
8 take nine of the products that the case report included.
9 The low end products to provide the amount of light
10 required by the standards and a Philips Chloride which is
11 our major brand would have two of those products that
12 would provide the same amount of light. When you actually
13 total up the energy use you'll find that the two products
14 use less energy than the nine products, although on a per
15 product basis the low-end product has a lower energy use
16 than our higher end product. So by focusing on the
17 product ourselves you're missing the focus of what you
18 should be dealing with in terms of energy.

19 The third area is the staff report. We saw no
20 discussion of the applicability of any of the technologies
21 discussed in the staff report to emergency lighting. None
22 of these technologies are proven for emergency lighting.
23 We think that emergency lighting is fundamentally
24 different than the products that are otherwise being
25 looked at in the staff report.

1 The fourth set of data was data that we provided
2 under confidential business information which we may have
3 been the only one to have done that. Since it is CBI I'm
4 not going to disclose the information other than to say it
5 shows that for any theoretically possible savings that
6 they're not economically feasible. We don't see any data
7 in the record that deals with emergency lighting. So
8 without having that data we don't know how you could make
9 the findings by this statute of technologically and
10 economic feasibility.

11 The vast majority of existing emergency lighting
12 products do not meet the maintenance mode power standards
13 proposed in the regulation because of the inherent
14 performance attributes and battery characteristics used.
15 There's no discussion in the report about the feasibility
16 and the cost effectiveness for emergency lighting and the
17 charging circuit modifications and other proposed
18 solutions discussed in the staff report have not been
19 shown to be reliable for emergency lighting.

20 Now, I think the CEC's own proposal demonstrates
21 that it can't make the findings necessary because as Ken
22 pointed out you provide five years to come up with
23 compliance for non-consumer products. There's no
24 explanation as to why five years are necessary and the
25 staff has informally told us that it will give us time to

1 figure it out. Well we don't think that the figuring out
2 standard is the standard that's in the statute. The
3 statute says that you have to show that it's
4 technologically and economically feasible.

5 And, ironically I've made this point at every
6 workshop, also part of this rulemaking today that you're
7 talking about are regulations dealing with lighting
8 controls. At the very first meet, Mr. Flamm of the staff,
9 talked about how the CEC sat down with NEMA, the National
10 Electric Manufacturers Association which represents the
11 lighting control manufacturers, and came up with a
12 proposal and worked it out and that's why there's no
13 objections that you're hearing about on lighting controls
14 because that was all worked out. We don't understand why
15 the exact same process isn't being used for emergency
16 lighting.

17 Finally, we think that the proposal is
18 potentially dangerous for occupancy safety. We're not
19 talking about a product that we like to use but not
20 essential. I love my iPod Touch but if it was taken away
21 it wouldn't be the end of the world. If you have a
22 problem with an emergency lighting product it could be the
23 end of the world. We think that these are heavily
24 regulated products for life safety purposes. We think the
25 CEC should be even more careful than for other products,

1 for regulating such life safety products because the
2 effects of being wrong are so potentially serious.

3 Finally, we'd point out there there's no
4 urgency. These products are not being regulated by the
5 Department of Energy. We've talked about that through
6 this rulemaking that you have concern about acting before
7 the DOE acts so there's no preemption. There's not going
8 to be any preemption for these products. The fact that we
9 have five years to comply shows there's no urgency.

10 So, again, we don't understand why this proposal
11 is going forward and we don't think that you have the
12 information necessary to do that.

13 Second area I want to talk about is labeling.
14 We share the concerns that were just expressed by ITI but
15 I want to go into a little bit more detail. We all know
16 that the DOE is expected to regulate battery chargers and
17 that the DOE is in fact under a congressional mandate to
18 do that. As part of that the DOE could propose rulemaking
19 and if the DOE acts on energy standards and labeling then
20 the CEC actions are, of course, preempted.

21 If DOE labeling is not exactly the same as what
22 CEC is proposing then manufacturers would have to change a
23 label twice. First to comply with CEC and then to comply
24 with the DOE, adding costs and providing no value as my
25 colleague from ITI just mentioned. We don't know what the

1 DOE is going to do. I've heard, "Well, we're going to do
2 this and then the DOE will pick it up." Commissioner, as
3 an attorney you know as well as I do, probably better than
4 I do, that we don't know what the DOE is going to do.
5 They have to go through the notice and comment rulemaking
6 and only after they've gone through that can they decide
7 what in fact they're going to do. So any statement about
8 well, the DOE is going to pick up what the CEC does would
9 make, if true, would make a mockery of the DOE process. I
10 think DOE—if I were to say that in front of the DOE they
11 would reject that right out of hand.

12 If the DOE regulates battery chargers but
13 doesn't require labeling the CEC can't require labeling to
14 show compliance because you'll be compliant to preempted
15 standards. What's particularly puzzling is that we're
16 faced with the exact same situation that we were with
17 regard to regulating the energy efficiency of televisions.
18 It was either last year or the year before that the CEC
19 required television labeling at the same time the Federal
20 Trade Commission was working on a federal labeling
21 standard. The legislation passed a bill and the Governor
22 signed it staying the CEC labeling as long as the FTC
23 acted which in fact is what it did. The CEC proposal on
24 labeling in the face of the DOE's expected imminent action
25 shows that—seems to show that the CEC hasn't learned

1 anything from the television labeling experience and we
2 would urge the CEC to not move forward with the labeling
3 proposal or, at the very least, stay its effectiveness
4 until the DOE makes a decision on its own labeling.

5 Finally, I want to talk about a more generic
6 problem. I think you heard a little bit about this from
7 my colleague at ITI. Unlike the DOE draft proposal which
8 broke the regulation into 10 product categories and, in
9 fact, we asked for even more product categories to reflect
10 the differences in the products CEC proposal lumps many
11 dissimilar together to make the statutory findings.

12 To be fair the CEC has added more categories
13 into what was originally proposed then I don't want that
14 to be neglected but you still have this lumping of very
15 different product categories to come up with this
16 conclusion that the proposals are all technological and
17 economically feasible.

18 Now we've raised concerns throughout this
19 process about regulating infrequently charged products
20 which are documented in the DOE's technical support
21 document. I see my friend Mr. Hungerford has a beard;
22 perhaps he uses a beard trimmer like I do. If he does,
23 maybe he doesn't, so my beard trimmer I use once a week.
24 It lasts about 13 trims which means that I plug it in four
25 times a year. If I'm not carefully maybe it goes more

1 hours than it's supposed to but at the most it's going to
2 be four days a year that it's plugged in out of 352 days.
3 Again, we would—there are other products like this, again,
4 that are established in the DOE technical documents. I
5 really don't understand how no matter how efficient you
6 make the battery charger you're going to save any energy
7 if the product is almost never plugged in.

8 We think that, and that's just an example of how
9 the CEC has lumped all of these products together and said
10 since it's all well and feasible and economically feasible
11 because you're lumping in lots of products, some of which
12 don't have the characteristics of other products. Now we
13 also have just become aware that we have a Class I medical
14 product that is going to be affected by this. It's a
15 bilirubin monitor. We're in the process of reviewing the
16 feasibility of that now but we are concerned because
17 unlike the devices, other devices which are made for
18 consumer products where you're making large products of
19 them, we make small numbers of them. So whatever the
20 costs are, they have to be covered over a much smaller
21 number of products making the cost per product much
22 higher.

23 We also some more extensive testing requirements
24 that are necessary for Class I products as well as Class
25 II and Class III. Again, the staff, based on our

1 comments, exempted Class II and Class III and I want to
2 recognize that. But we're not sure that we don't have the
3 same problems with Class I.

4 We're going to continue to study this problem
5 over the next month and provide you with comments about
6 these other types of products that are lumped together in
7 the CEC's findings that allow you to make the proposed
8 findings that you have.

9 I thank you for your time and I'd be happy to
10 answer any questions.

11 COMMISSIONER DOUGLAS: Thank you for your
12 comments. The next card is have is from Cory Watkins,
13 Executive VP and General Counsel for Schumacher Electric
14 Corporation.

15 MR. WATKINS: Good afternoon. I'm Cory Watkins,
16 Executive Vice President and General Counsel for
17 Schumacher Electric. I'd like to thank the Committee for
18 giving us an opportunity to speak today.

19 We did submit some material prior to the meeting
20 that I assume is now in the docket. After listening to
21 the comments from both ITI and my colleague at Philips it
22 would appear to me that our products are not what you're
23 attempting to regulate here. By way of background
24 Schumacher Electric makes battery chargers for 12 volt
25 automotive products. Cars, motorcycles, snow mobiles,

1 ATVs, those sorts of things.

2 In all of the material that has been not only
3 submitted but produced by the Committee, they all seem to
4 be systems which is, as Ken pointed out, it's a battery,
5 it's the circuitry and it's the external power supply that
6 goes with it. In our industry, it would appear that we
7 would be what's classified as your À la carte chargers
8 which is we don't know the battery that's being used here.
9 It could be anything from a five amp hour motorcycle
10 battery up to a deep cycle battery for starting a bus.
11 When you're looking at these tests that we would be
12 required to meet and I guess I would submit that we're not
13 proposed to the testing mechanism it's just that one of
14 the known things that we would need is lacking. Well,
15 what battery are we using and which scenario.

16 Not unlike what Mr. Erdheim said of Philips is
17 also of the duty cycle of these chargers in a consumer
18 context is virtually none. If any of you have battery
19 chargers for your motorcycles or, I guess not snowmobiles
20 in this area, but they may be used three or four times a
21 year. When you classify a consumer product under this
22 testing and we look at what that duty cycle is some of the
23 proposed areas where we would be lumped in would require a
24 charger that's being using almost daily. In our scenario
25 that almost never happens.

1 Likewise in the type of product that we have we
2 are not looking at something that is always used
3 constantly. I think the example is that I heard most
4 frequently was with cell phones and cordless tools and
5 things like that. In this scenario and especially in the
6 consumer application which is, again, a scenario where I
7 think we're being lumped into two different categories is
8 that we sell a range of battery chargers for a range of
9 different types of batteries. Sealed lead batteries, AGM,
10 gel cell, not nickel hydride or lithium ion like was
11 mentioned but they're used in two different applications
12 as well. There's a commercial application which is your
13 repair shops and dealerships and things like that and then
14 there's also your do-it-yourselfer that perhaps has two or
15 three different types of vehicles at home.

16 If we are suggesting that most all of these are
17 2,000 watts or less and therefore we would be a consumer
18 product that doesn't really apply for when it's used in a
19 commercial application so is it exempt, is it not. We're
20 not really certain there and the definitions don't seem to
21 be clear.

22 A couple of the comments I do want to make
23 regarding that even if you did decide if we were in one
24 category or the other is that some of the data that the
25 CEC has set forth isn't accurate in our industry. Our

1 distribution network is not only through the service
2 dealer and so forth that is used in a repair shop but also
3 in a retail application at many retailers that sell
4 products throughout California. In those scenarios there
5 was a suggestion made in the NOPA that replacing some of
6 the technology that we use. I believe they said it was
7 going to be no large cost on either the manufacturer or
8 the consumer and in our product category that's just not
9 accurate. We cannot take a retail based product that if
10 we are required to redesign the topology of the unit to
11 make it comply with this test, especially in the scenario
12 where the duty cycle of it is only two or three times a
13 year. That is known to be at the cost of the
14 manufacturer. Well, Mr. Schumacher is not so magnanimous
15 that he's not going to pass that cost on, of course. Our
16 retailers are certainly not that magnanimous and they're
17 going to double that cost. In the example that we used
18 that if it goes up \$1.20 and we raise that cost, that's
19 going to be at least \$2.40 that goes to the ultimate
20 consumer. So I don't necessarily think that that is
21 something that the Committee has considered when looking
22 at our types of products.

23 Again, it may be that our chargers are in such a
24 subset of what you're attempting to cover here, I'm not
25 even certain that some of these exemptions that you've

1 listed that we could arguably fit into now. I think what
2 we're attempting to determine today is do we fit in or do
3 we not so we're not attempting to play some sort of game
4 about whether we're in compliance tonight. I would argue
5 that this type of product is not something that would be
6 covered under this type of regulation and that's part of
7 the reason why we attempted to submit all the materials
8 that we have.

9 Finally, my only other thought there on the
10 technology is that the comment that there's readily
11 available technology at a low cost. Again for our type of
12 product because the one thing we don't know is the
13 battery, again I think we're talking laptops, cell phones,
14 power tools, they know what the battery is; in our
15 scenario it's not known. It could be such a broad range
16 of products it would be impossible for us to know whether
17 we've passed the test or not.

18 So, again, it's our opinion that what is
19 regulated here our product should be excluded. And,
20 again, if you have any questions I'd be happy to answer
21 them.

22 COMMISSIONER DOUGLAS: Thank you. Thanks for
23 being here. Is Ted Harris with CTIA in the room?

24 MR. CARLSON: Ms. Douglas?

25 COMMISSIONER DOUGLAS: Yes.

1 MR. CARLSON: This is Steve Carlson. I'm—can I
2 make comments from my webcam position here?

3 COMMISSIONER DOUGLAS: I have both of you on my
4 card and—

5 MR. CARLSON: That was because if I wasn't able
6 to make it but I'm the California representative for CTIA.
7 If that's okay?

8 COMMISSIONER DOUGLAS: It appears to be okay
9 with Mr. Harris.

10 MR. HARRIS: Yes, it does. Thank you.

11 COMMISSIONER DOUGLAS: So it's okay with me.

12 MR. CARLSON: Thank you.

13 COMMISSIONER DOUGLAS: It's your turn.

14 MR. CARLSON: I'm Steve Carlson. I am with the
15 California Government Affairs Council at CTIA, the
16 wireless association. We are the trade association for
17 wireless carriers, equipment providers and software
18 providers. I appreciate the opportunity to address the
19 Commission today. I wanted to start out by saying we
20 certainly support the intent and goal of the
21 Commission on this issue. CTIA is in the forefront of
22 doing things that decrease energy use, solid waste and
23 other things. One of the things that we have done on a
24 voluntary basis is to standardize the inputs for battery
25 charges and the goal of which it looks like we're going to

46

1 meet is 50 percent of all battery charges having the same
2 input by January 1, 2010. Again, that was a voluntary
3 action on behalf of the industry.

4 We certainly appreciate the Energy Commission
5 staff extending their proposed implementation by six
6 months to go into effect January 1, 2013. But we believe
7 and I think some of the other speakers referenced that the
8 timeline is still aggressive and will be difficult for
9 manufacturers to do all the necessary research, testing,
10 production and labeling changes within that period of
11 time.

12 I'll also second the comments of a number of
13 folks on the labeling issue. Because of the labeling on
14 the box and directly on the product it will—we don't
15 believe that the consumer benefits are public safety which
16 are, in most cases, what those disclosures are meant to be
17 on those. Again, these products are distributed
18 nationally and sometimes internationally and not just in
19 California.

20 As the last speaker mentioned, we also believe
21 and we will be providing more detail on this information
22 in our written comments but we believe that the costs have
23 been understated and we are gathering that information
24 currently.

25 We also second the point raised and I'm

1 certainly not an engineer or a mathematician but that even
2 with products that may currently meet the proposed energy
3 efficiency standards, the proposal may negatively affect
4 production because of the allowance problems. We think
5 that for these very low power devices because of the
6 inherent variability in the manufacturing process we
7 believe that the final regulations need to allow adequate
8 allowances to account for the natural variability within
9 each process.

10 Again, I think the first speaker spoke in much
11 more detail about that but that is concern we certainly
12 have and many of our members of ITI as well.

13 Finally, I think there's an issue that hasn't
14 been brought up but the issue of inductive charging. The
15 sort of mats that are used where you can put any number of
16 charged devices on that. But the emergent technology for
17 that, I think they're called loose coupled charges, has
18 the potential to reduce or eliminate multiple chargers for
19 different electronic devices which certainly has its huge
20 benefits in the UA side. Because loose couple inductive
21 charges must have the flexibility to charge a wide range
22 of highly complex electronic products such as cell phones,
23 hearing aids, gaming devices, etc. they're very different
24 from the tightly coupled charging devices for toothbrushes
25 and various other things which we're talking about here.

1 We believe those kinds of devices warrant a
2 specific exception while these devices are being developed
3 and initially introduced to the market.

4 Finally, we would also like to second the
5 concern we have about parallel proceedings or upcoming
6 proceedings with the Department of Energy. You know, to
7 try to predict an outcome that's exactly equivalent with
8 what goes on in California we don't, just don't, think is
9 possible or feasible.

10 With that, thank you very much for the
11 opportunity to testify. We look forward to working with
12 the Commission staff on these issues as we go forward.
13 Thank you very much.

14 COMMISSIONER DOUGLAS: Thank you, Mr. Carlson.
15 We'll look forward to working with you as well. Thanks
16 for being online.

17 MR. CARLSON: Thank you.

18 COMMISSIONER DOUGLAS: All right. Next card I
19 have is from Motorola. Mark Bare.

20 MR. BARE: Good afternoon, Commissioner Douglas.
21 Mark Bare, Director of Government Affairs for Motorola.
22 First, I'd like to thank you, the other Commissioners and
23 staff for your willingness to meet with Motorola Solutions
24 to hear our issues and concerns to work collaboratively to
25 address those issues and concerns. Also want to recognize

1 Ken Rider in all the work that he's done and his
2 willingness to work with Motorola Solutions.

3 Regarding the proposed amendments Motorola
4 Solutions has one request for clarification on a matter
5 related to the newly referenced Department of Energy test
6 method and one safety concern with the DOE method. The
7 DOE test method requires that battery charger systems with
8 DC inputs that do not shift with an external power source
9 nor recommend one for use be tested with five volts DC for
10 products drawing power from a computer USB port. This is
11 also a requirement in the California Energy Commission's
12 Energy Efficiency Battery Charger System Test Procedure,
13 Version 2.2 referenced in earlier drafts of the CEC's
14 regulation.

15 Motorola Solutions previously asked for
16 clarification that the energy conversion losses to develop
17 the DC source should not be included in the test
18 measurements. This clarification was received during the
19 May 2011 workshop from Mr. Rider. However, Motorola
20 Solutions respectfully requests that this clarification be
21 formalized in the final version of the amendments and
22 regulation. In addition, Motorola Solutions has a safety
23 concern with the DOE test method's requirement to test
24 batteries at a prescribed end of discharged voltage based
25 on battery chemistry as this may require testing at a

1 point of discharge beyond that recommended by the battery
2 manufacturer.

3 Previously in the draft proposed amendments from
4 May 2011 the CEC had addressed this issue and had amended
5 the requirements of the Energy Efficiency Battery Charger
6 System Test Procedure, Version 2.2 to state that the
7 batteries end of discharge voltage may be use in places of
8 values in the test method Table D. We respectfully ask
9 that this same modification to the DOE test method be
10 added back into the final version of the regulation for
11 small battery charging systems. This will allow a
12 manufacturer to specify the appropriate end of discharge
13 voltage and prevent violation of the manufacturer's
14 specifications during the testing process resulting in a
15 safer test.

16 So, Commissioner Douglas, we again thank you for
17 the work that's been done to-date and we are seeking the
18 Commission's favorable consideration of these remaining
19 issues. Thank you.

20 COMMISSIONER DOUGLAS: Thank you. We've
21 appreciated your working with us as well. The next card I
22 have is from Jay Taylor with Schneider Electric.

23 MR. TAYLOR: Okay. Thank you very much for
24 seeing me today. I appreciate also you lending me a lot
25 of Ken and Mr. Singh's time to work through these issues

1 with us and the industry. To give you some background,
2 I've been in power systems design for about 20 years and I
3 am an engineer. I also have about six patents with
4 perspective battery chargers and battery charging systems
5 on record.

6 So we'll go ahead and start out. Next page,
7 please. Nope, that's not mine.

8 MS. SADLER: Anybody got an idea?

9 MR. TAYLOR: Thank you. Excellent. Okay, so.
10 First of all, we'd like to also acknowledge the fact that
11 we adopted the definitions in the IEC 6204-3. It's
12 important to us because it provides us a method to reduce
13 the complexity involved in defining battery chargers and
14 it also allows us to shift one product worldwide.

15 These definitions also align to all of the
16 international norms that we currently meet. We also will
17 be at the end of this proposing because battery charging
18 by itself hasn't really been a topic of standards
19 generation we would like to consider proposing it as a
20 topic for battery charging for standards setting.
21 Specifically within the UPS framework.

22 We also like the fact that you reduced the
23 complexity which was our recommendation by narrowing the
24 scope to VFD UPS systems. We also acknowledge that also
25 is the largest number of UPS systems that we ship to the

1 marketplace and they're available here in California.

2 All UPSs with output voltage regulation

3 transformers capable of correcting undervoltage.

4 Generally speaking, in the United States and in California

5 specifically we don't have overvoltage conditions that UPS

6 systems are really targeting. So a lot of them target

7 undervoltage systems. This happens to be a modification

8 that sits between the categories within the IEC document

9 and we're recommending that you include that in the

10 exemption of UPS system. Next page, please.

11 Today when we started looking at the data that's

12 available I heard it a number of times about how there are

13 a number of battery charger systems that meet the criteria

14 of the current standard. I cannot find any UPS systems

15 that meet the battery charger criteria of the current

16 drafts. This is a particular concern because in a graph

17 that I'm going to be showing you in a few minutes, I'm not

18 even close.

19 Systems we have currently in production don't

20 meet the criteria. Systems that I actually have on the

21 drawing board targeted toward getting developed also do

22 not meet the criteria from the development tests that

23 we've made thus far.

24 Finally, we've also gone to the point of

25 procuring competitive systems. I don't want to leave you

1 with an impression that there's an exhaustive number of
2 these systems that we've evaluated but we've taken a hard
3 look at competitive systems. We also find competitive
4 systems—we haven't found competitive systems that also
5 meet the criteria. And it wasn't been for want of trying
6 to find them either.

7 So our concern is basically that the data set we
8 have is non-exhaustive and we'd be happy to provide what
9 we do have at this point. The DOE information which we
10 provided substantial information to was also unavailable
11 for this particular draft comments so we weren't able to
12 provide you the extensive list the DOE currently has. And
13 I was in contact with the DOE folks last week on that
14 topic.

15 The development cycle time, we have a little
16 greater than 60 systems which sit in this framework that
17 you're currently specifying and the 15 months that we have
18 to deliver to that means we have to be on a schedule of
19 delivering four systems a month which considerably exceeds
20 what we're capable of providing. So that's the other
21 concern is. That we'd either have to withdraw them in
22 order to meet the timeframe criteria or shift them to
23 other systems which are exempted under the current
24 rulemaking which we don't propose either. We would
25 actually propose a longer cycle time for compliance

1 specifically within UPS systems.

2 And then, finally, UPS systems in general are
3 not just battery chargers. I realize there's a long
4 debate about whether they should be included or not. I'm
5 not arguing about whether they should be included because
6 they do, as a function, charge batteries. However, in the
7 greater scheme of things they are also continuously
8 monitoring the power line voltage that goes into the
9 systems. Why? Because as little as a half cycle dropout
10 can cause whatever they're attached to to stop
11 functioning. And they're usually used in critical system
12 applications although in many consumer cases they're used
13 to make sure that consumers don't have to reprogram their
14 DVDs for the time. In the greater scheme of things
15 they're also there to protect the data of computer users
16 to prevent desktops from going down and losing whatever
17 data occurs when the operating system crashes due to lack
18 of power.

19 That's one of the reasons that we think that we
20 need better consideration on some of the criteria that are
21 there for the UPS systems. Next page, please.

22 So this is a chart that we prepared which shows
23 the redline shows where the actual current limits are in
24 the drafts. The blue line indicates where we have
25 systems, we meaning APC by Schneider Electric, we have

1 systems there. The yellow lines, the yellow dots, were
2 not intentional but that is competitive equipment that we
3 have in the marketplace. That is what our concern is,
4 basically that even the best systems we have to offer you
5 right now don't meet the current criteria and we haven't
6 found systems that do.

7 I will leave that with you. I do appreciate the
8 opportunity to get to address this body; and that we had
9 the opportunity to submit our data to you through both
10 written comment and oral comment. Thank you, very much.

11 COMMISSIONER DOUGLAS: Thank you. Thanks for
12 being here. Kevin Washington, Home Appliance
13 Manufacturers.

14 MR. WASHINGTON: Commissioner Douglas and staff,
15 thank you for the opportunity to address this rulemaking.
16 It's nice to see you again. It's nice to be talking
17 battery chargers again.

18 One of the things that seems to be a very common
19 trait is that the folks in the room are all and certainly
20 on the phone will be talking about energy efficiency. One
21 of the other common traits about the comments that have
22 preceded me is that, particularly from the industry
23 perspective, while we all appreciate the ins of achieving
24 and maximizing the energy efficiency that the rulemaking
25 would achieve we cite some continuing, ongoing concerns

1 about the details of the rulemaking as the proposal
2 currently stands.

3 We are grateful for the changes that have come
4 as result of our interaction. AHAM, Appliance Home
5 Manufacturers, have certainly been glad to be available to
6 you and for the interaction that your staff has provided
7 with us. And for the changes that have come from that.
8 For example, now that we're talking about standards in the
9 case of three categories - 24 hour maintenance, energy
10 maintenance and no battery modes.

11 However, there are other details where our
12 concerns still remain and places where we've offered these
13 concerns in the past. I would start as my friend from
14 CTIA mentioned, and others have also mentioned, the fact
15 that the DOE is currently working on a battery charger
16 proceeding. The contents of which could have the
17 potential with conflicting with the rulemaking that we
18 have pending before the CEC as well. To the extent that,
19 for example, that rulemaking would cause standards to be
20 set that might be duplicative and in conflict with the
21 CEC, thereby compelling manufacturers to make changes not
22 once but twice with their products. First, it puts a
23 burden on manufacturers because of those changes but
24 second, it also places some risk of products to be
25 available to consumers here in the state of California as

1 well. Because manufacturers being put in a position of
2 making those changes or pulling a product all together, as
3 my colleague from Schneider Electric just before me
4 pointed out, if there are not products that actually meet
5 the standard then that certainly puts manufacturers in a
6 very difficult position. So we would argue to have the
7 rulemaking continue to evolve on that particular point.

8 Similarly, with regard to making changes to
9 products the currently proposed effective date of January
10 2013 is something that would place an incredible burden,
11 basically an impossible burden, on the products that our
12 members make but even more to that we express some concern
13 that the CEC would pursue that particular date in light of
14 previously information from your own consultants that
15 would recommend an actual two year window to enforce this
16 rulemaking and to expect manufacturers to make changes.
17 If that is true, since we are currently 13/14 months from
18 what would be your November approval date for that hearing
19 that would fall well short of the two years, 24 months,
20 that industry would advocate and your own consultants had
21 previously advocated in their 2010 report.

22 When it comes to the issue of labeling I could
23 echo many of the comments that have come before me today
24 in the sense that we would advocate against not only the
25 need of labeling but the end that it would achieve. Given

1 that the product certification is already the requirement
2 or the law under Title 20 and that registration currently
3 exists as a requirement, we question the need for the
4 labeling in terms of what end it actually meets. For
5 example, labeling is typically used to serve two purposes:
6 to differentiate products in an instance where there are
7 in effect two standards being met or to differentiate in
8 products when they're using a voluntary standard. Neither
9 of those purposes is served in this case. The CEC
10 standard will, of course, be mandatory here in California.
11 And compliance of that standard will be adequately
12 demonstrated both to the CEC and to the public by the
13 certification processed by the reporting that is necessary
14 through registration in the amended proposal. We would
15 argue that, in fact, there really is no need for the
16 labeling itself.

17 There are other concerns that we have with
18 regard to the process of the proceeding itself. As I
19 mentioned we've been appreciative of the interaction we
20 have received but we're curious and have concerns about
21 the several opportunities when comments have been
22 solicited and submitted by my organization but have met
23 with no response. Four opportunities in writing in
24 particular in the 12 months this particular proceeding has
25 been underway since last October, and that doesn't count

1 our oral comments or other request to information that
2 we're happy to provide. We're very interested in being a
3 resource and have been in the past and continue to
4 maintain that interest ongoing. We're certainly concerned
5 about the fact that the concrete data that has been
6 submitted through those comments and other opportunities
7 have not yet been met either with response and certainly
8 in the case of issues like labeling and other parts of the
9 active rulemaking that's proposed before us our comments—
10 that data is not actually reflected.

11 We would further express a concern about the
12 limitations of technologies that can be employed by the
13 proposed rule. The presentation indicates that there are
14 a number of technologies currently on the market and at
15 low cost that could actually allow for products not in
16 compliance to actually come into compliance. Setting
17 aside the issue of the cost which we would, of course,
18 certainly differ with the level of energy standard and
19 performance to that standard is actually best achievable
20 by lithium ion technology but in order for the standard to
21 actually impose that requirement it would foreclose the
22 use of other technologies in currently used products, most
23 of that being nickel based. We have a great concern about
24 that. Not only from the retooling standpoint and the
25 burden that places on manufacturers but, again, the impact

1 that that would have on the supply of products facing
2 consumers here in the state.

3 So all told we, again, continue to be willing to
4 work with the Commission. We are very glad that this
5 Commission is very active on the issue of energy
6 efficiency. We maintain our very strong and serious
7 concerns with both the substance of the rulemaking, the
8 process that goes forward and would certainly urge that
9 the Commission continue to work with us and consider it's
10 behavior going forward and its timeframe in particular to
11 perhaps adjusting that to match many of the comments and
12 concerns expressed by industry today. We're very thankful
13 again for the chance to offer comments and happy to
14 continue to be a resource.

15 COMMISSIONER DOUGLAS: Thank you. Thanks for
16 being here. It's good to see you again. Next I have Gary
17 Fernstrom from PG&E and SCE and SEMPRA.

18 MR. FERNSTROM: Commissioner and staff, I'm Gary
19 Fernstrom from PG&E. I'm representing PG&E and the
20 Southern California Edison Company and SEMPRA Utilities
21 here today.

22 I'd like to thank you for the opportunity to
23 present the case study on battery chargers and work with
24 the Commission through the past several years in
25 developing this energy efficiency advocacy opportunity.

1 As utility supplies we serve the majority of gas and
2 electric customers in California. We're really working in
3 this energy efficiency effort in the public interest. We
4 think that the recommendations we've made are modest.
5 And, again, we think that they're in the public interest.
6 I've made the observation that there are a few advocates
7 here today and many opponents that have concerns. When
8 you look at the position of the advocates and the concerns
9 please keep in mind the interests that are being
10 represented. I believe the utilities are representing the
11 interests of the public, energy efficiency and the
12 environment.

13 Many of the issues brought up here today are
14 ones that have been previously raised and we'd like to
15 minimize our comment here today and address some of the
16 issues that have not been previously raised and reserve
17 the opportunity to address all of the comments later in
18 writing.

19 So with that brief introduction I'd like to call
20 upon our consulting team to bring up any specific comments
21 that we may have. Thank you.

22 COMMISSIONER DOUGLAS: Thank you. Please come
23 forward.

24 MS. FOSTER-PORTER: Good afternoon. I'm Suzanne
25 Foster-Porter with Ecova, formally known as Ecos

1 Consulting. I'm here representing the Investor Owned
2 Utilities Statewide Codes and Standards Team and have been
3 a technical consultant to Pacific Gas and Electric on this
4 topic.

5 Thanks, Gary, for passing that over. I wanted
6 to raise a couple—respond to a couple of comments that
7 have been made by manufacturers here today regarding the
8 feasibility of the levels for the proposed in the 45 Day
9 Codes and Standards.

10 Specifically, I'd like to address, just to
11 start, the comments that were made by Schneider Electric,
12 that manufacturers, the APC, uninterruptable power source
13 products. In response to the question of data and whether
14 or not there's sufficient data to create a UPS energy
15 efficiency level under the battery charger systems.
16 Specifically DOE has addressed this product in its
17 preliminary analysis and the levels that were proposed for
18 battery maintenance were actually significantly lower in
19 the various candidate standard levels than what's being
20 proposed here at the Energy Commission in the 45 Day
21 language.

22 Specifically the levels proposed were 0.5 watts
23 for the most stringent levels, 0.7 watts was cited as the
24 market average. CEC's level, which is approximately 1
25 watt, for a 70 watt hour UPS is significantly higher than

1 both of these levels and would yield energy savings. This
2 particular product category is worth 90 gigawatt hours per
3 year after full stock turnover to the Californians.

4 We recommend as well that the Energy Commission
5 keep the 45 Day language energy requirements for computer
6 systems. ITI raised some concern around data and whether
7 or not either the CEC staff or the IOU consultant team has
8 considered data that's publicly available or other test
9 data. I wanted to highlight that as part of the
10 preparation of the case proposal, the IOU consultant team
11 did test a number of netbooks and laptops, some of which
12 met the standard and some of which did not; resulting in
13 the compliance passing rate that's cited in the case
14 report.

15 I'd like to emphasize that these are older
16 systems form 2006-2008, excuse me, 2006-2010 and as a
17 result we also sourced publicly available data from two
18 main manufacturer websites specifically on these small
19 systems just to support the case standard levels.

20 Our breakdown of the analysis from this public
21 data suggest that the CEC battery charger low power mode
22 requirements currently proposed in the 45 day language are
23 actually less stringent than the European Union's Lot 6
24 requirements proposed to go in on the same date, by about
25 60 percent which about only 0.3 watts but is significant

1 when you're looking at the power budget.

2 In addition, I'd just like to point out that the
3 data that was shared by ITI in the first slide of their
4 presentation which created the framework for why less
5 stringent levels were needed includes computer systems
6 from the ENERGY STAR programs that goes back to 2008. So
7 the distribution of power in the power modes is quite
8 different with the newer systems which is why we cited the
9 newer data from two manufacturer websites. So there's a
10 little bit of a more nuanced story in the data that are
11 being shared relative to the total—relative to the
12 timeline.

13 Thirdly, I'd like to address Philips' comments
14 related to emergency egress lighting. Unlike most
15 lighting applications in California, the majority of
16 energy consumed by egress lighting is to charge a battery
17 that's used for emergency purposes in the event of a power
18 outage. This standard does not impact the type of
19 lighting, the amount of lighting, the quality of light
20 that's used with the emergency egress and only measures
21 the energy use that a battery has used to create the
22 backup system for that light.

23 The case report—in preparation for the case
24 report, we reported test data from one specific lighting
25 system and investigated the circuitry of others to confirm

1 that the battery charging circuitry found within an
2 emergency egress light is the same type of topology,
3 technology and approach that is used with other battery
4 charger systems found in other parts of the standard; and
5 concluded that the technology from other battery charger
6 systems that have similar topology can transfer to this
7 technology.

8 In sum, we recommend that the CEC keep emergency
9 egress products in the scope. We recognize that the CEC
10 has given these product groups five years to comply in
11 part to reflect the life safety concerns associated with
12 the products. This is worth 37 gigawatt hours per year to
13 the California ratepayers. So we encourage you to keep
14 that standard as the same.

15 Lastly, I'd like to address comments from
16 Schumacher Electric representing the auto chargers. The
17 duty cycle and comments made by Schumacher Electric are
18 largely focused on consumer products for auto marine
19 chargers. Although the types of duty cycles are common
20 for some consumer products, these products are also used
21 in non-consumer applications such as garages as well as
22 marine and RV applications where the product is plugged in
23 for a significant amount of time. We do not disagree with
24 the costs presented by Schumacher. In fact the cost we
25 cite in our own case report analysis is \$24.00 incremental

1 cost which is very similar to Schumacher's range of
2 \$12.00-\$70.00 which averages, if you average the data
3 points, is about \$30.00. To us that helped to confirm the
4 case report findings that although the cost compliance is
5 high for this category so is the energy use.

6 The payback time for this category is very short
7 and it's a significant portion of the savings associated
8 with the battery charger system measure. Specifically the
9 energy savings for this category which includes
10 recreational vehicles, auto marine chargers, chargers of
11 all those categories is 570 gigawatt hours per year and
12 that's in part because of the inefficiencies that are now
13 found in auto chargers.

14 To give you an example we observed chargers in
15 the course of studying this product category that had fans
16 that were constantly operational over the course of the
17 charge and constantly plugged in when not charging, using
18 approximately 3 watts. Other examples are linear power
19 supplies that are not very efficient relative to their
20 switch mode power supplies which are currently available.
21 So those are two examples of obvious efficiency
22 improvements that can be had within this category and one
23 of the reasons why 570 gigawatt hours is such a large
24 number is because there's lots of room for improvement in
25 this category where cost has been a large focus and

1 efficiency has not.

2 And that concludes my comments. Gary, would you
3 like to add anything else? Okay. Thank you.

4 COMMISSIONER DOUGLAS: Thank you. I have two
5 more cards now. We've already heard from CTIA so I don't
6 know if we need Ted Harris or not but if you're still
7 here, it doesn't look like it, if you'd like another bite
8 of the apple here it is otherwise we'll go on to Robert
9 Callahan of TechAmerica.

10 MR. CALLAHAN: Thank you, Commissioner and staff
11 for the opportunity to speak here today. My name is
12 Robert Callahan. I'm the Director of State Government
13 Affairs here for TechAmerica in California. We appreciate
14 the workshop being held here today by the Energy
15 Commission and many of the comments that I was planning to
16 make have already been made by several of the presenters
17 so I will be very brief in acknowledgement of your time
18 and I don't want to be repetitive here.

19 First and foremost, we represent over a 1,000
20 technology member companies across the country, many of
21 whom are very engaged in energy efficiency and
22 sustainability on a voluntary basis. Part of that is
23 voluntary is being good environmental stewards and another
24 part of that is the inherent competition and battling for
25 consumer preference in the marketplace which comes

1 naturally for these companies. Much of this has led to,
2 as I think we saw in a staff report or presentation at the
3 last Energy Commission workshop on the broader scope of
4 appliance energy efficiency standards, was the industry
5 gains that have been happening over the past decade have
6 been very significant and shouldn't be ignored in our
7 opinion.

8 I'd also like to commend the Commission for what
9 appears to be very thoughtful work that's being put into
10 this proceeding thus far. It is very complicated and
11 there are a lot of factors to address and to consider so
12 we understand the challenge before you.

13 Kind of our primary concern when looking at
14 these regulations is we want to ensure that any potential
15 package adopted by the Energy Commission allow this sector
16 of the economy, the technology industry, to continue to
17 evolve as rapidly as it does. I think that's part of the
18 balancing process that we have here but we want to ensure
19 that it can do so without unnecessary costs or delays to
20 production of new technologies that may deliver greater
21 energy efficiency savings and be more nuanced in terms of
22 consumer demand. And that's what these companies are
23 doing on a voluntary proactive basis regularly. One of
24 the examples in that area that I think has already been
25 mentioned is the loosely coupled wireless charging systems

1 which is a new, innovative technology that is still in its
2 not really yet to market and we just want to ensure that
3 as it is currently captured in the inductive charging
4 systems, I think that it's one that merits special
5 attention by the Commission.

6 Second, I think I'll bring up something that
7 hasn't been mentioned yet. We've been—I think you've
8 heard some comments about some of the tests and formulas
9 need to be looked at a little bit more carefully. Number
10 1 to ensure that we are seeing some practical thresholds
11 for industry to meet to make sure that it's not overly
12 burdensome or challenging while still providing energy
13 savings; and Number 2, some of the formulas can lead to
14 some nuances with the various technologies involved and
15 I'll point out one. I ask that you take a look at the USB
16 charging systems which are inherently limited to 5 volts
17 as larger battery capacities are going to be being applied
18 to—or being used by those USB-based chargers because time
19 for charging is one of the factors in the formula that
20 results in an efficiency score those will naturally be
21 burdened or handicapped because of that limitation that's
22 naturally in USB-based chargers which is again the 5 volt
23 limitation.

24 So that's something that I think that as you
25 guys are looking at your formulas and testing procedures

1 to take a look at that one in particular. And, again,
2 we're happy that we have until November 21 to make written
3 comments because we are still taking an in-depth look at
4 these things.

5 Finally, I'll pile on to the folks who said we
6 do have concerns with the proposal for labeling. Again we
7 think that on the product labeling is excessive and is
8 challenging to meet. You know, if it's part of the
9 documentation that's a lot easier for us to comply with
10 and, again, because you have the parallel process
11 happening at the federal level it sort of speaks to that
12 issue.

13 And, yeah, I guess I'll wrap it up there. Thank
14 you for your time.

15 COMMISSIONER DOUGLAS: Thank you. Thank you for
16 your comments. Is there anybody else in the room who may
17 not have filled out a card who still wants to make
18 comments? I see that there's at least one. Anybody else
19 beyond the person who just filled this out? All right.
20 Well, we'll go to Suzanne Porter.

21 MS. PORTER: Thank you. Suzanne Porter,
22 representing the IOUs Statewide Codes and Standards Team.
23 I just wanted to respond to one more concern that I heard
24 today around the wireless, loosely coupled inductive
25 chargers. Specifically what this is referring to is what

1 you might call a pad charger. Where you have a pad on a
2 desktop and then you're able to set a wireless device down
3 on the pad without connecting a wire to charge the device.

4 I just wanted to clarify that the Technical Team
5 for the IOUs did examine two of these types of these
6 products in consideration of the standard. As has been
7 mentioned here it is a new technology and so the ones we
8 looked at were aftermarket products which means they
9 weren't integrated with the devices that they charged.

10 What we found was that there were two different
11 technologies, one of which has been focused on here and
12 another of which has not. The first technology is the
13 inductive wireless cart coupling which has been championed
14 by some parts of the industry and does have some inherent
15 efficiency penalties associated with the inductive
16 coupling.

17 The other technology that we've seen in
18 aftermarket products is actually a conductive product
19 where you have a conductive pad, a product sits down on
20 the conductive pad and then with various analytics can
21 assess where those point contacts are and then charge the
22 battery.

23 So the same exact consumer service is delivered
24 in both of these technology scenarios that we've studied.
25 But very different technologies. We would recommend that

1 the Energy Commission continue to keep these products in
2 scope. They provide the basic—there's two technology
3 pathways to compliance. They provide the same and
4 possible same pathway compliance within each technology.
5 They combine the same functionality to the consumer and
6 they are maybe an important and growing energy use in the
7 state of California. Although, it is difficult to
8 articulate now because they are an emerging technology.

9 I think the main point we'd like to make is we
10 want all battery charger systems in the state of
11 California to be efficient regardless of the specific form
12 factor or sort of configuration of the device. Thank you.

13 COMMISSIONER DOUGLAS: Thank you. Let's now
14 turn to WebEx. Do we have any public comment on WebEx?

15 MS. SADLER: I'm going to unmute and ask.

16 COMMISSIONER DOUGLAS: We've unmuted the lines.
17 Please speak up if you'd like to make a public comment. I
18 hear somebody speaking. Whoever just spoke, would you
19 like to make public comment. All right, I didn't hear any
20 comment on WebEx and you've got the phone line at the same
21 time, right Lyn? So it sounds like there's no public
22 comment on the phone.

23 As was mentioned there's still time to submit
24 written comments. I've been—just listening to see if
25 anyone wants to pipe up. Okay.

1 MS. MAUER: This is Joanna Mauer. Can I make
2 some discrete comments?

3 COMMISSIONER DOUGLAS: Yes, you may. This is
4 the perfect time to do it.

5 MS. MAUER: Thank you. This is Joanna Mauer with
6 the Appliance Standards Awareness Project. And thank you
7 very much for the opportunity to participate in this
8 hearing.

9 We support the CEC moving forward on this
10 rulemaking for standards for battery chargers. And I
11 wanted to just briefly comment on the significance of the
12 CEC rulemaking in the context of the DOE rulemaking on
13 battery chargers.

14 So, first, the CEC rulemaking has a broader
15 scope than the DOE rulemaking. DOE only has authority to
16 set standards for battery chargers for consumer products
17 while the CEC rulemaking is covering battery chargers for
18 both consumer and non-consumer products. And the
19 standards for non-consumer products will achieve long term
20 energy savings for California.

21 Second, California has the opportunity to lead
22 here and set strong standards for battery chargers that
23 will achieve large, cost effective energy savings. The
24 staff analysis of the battery charger standards estimate
25 that in just the first year that the standards are in

1 effect, California would save over 400 gigawatt hours and
2 peak demand would be reduced by 46 megawatts. And after
3 stock turnover, California consumers and businesses would
4 save over \$300 million each year on their electricity
5 bills. We would hope that DOE establish standards that
6 are no less stringent than standards set by California.

7 Third, California has the opportunity to accrue
8 savings for consumer battery chargers before the DOE
9 standards take effect which can help the state meet its
10 aggressive energy savings goals and reduce consumers'
11 electricity bills.

12 Based on the effective date of January 1, 2013
13 for consumer battery charger in the Notice of Proposed
14 Action, California would accrue at least one year of
15 savings before any DOE standards go into effect.

16 DOE was required by statute to publish a final
17 rule for efficiency standards for battery chargers by July
18 1 however we still have not yet seen even a proposed rule
19 published and, therefore, we encourage CEC to move forward
20 as the timeline and the outcome of the DOE process are
21 still very much uncertain.

22 And I also just wanted to note that the Power
23 Sources Manufacturers Association which represents
24 manufacturers who make components for battery chargers and
25 external battery supplies submitted comments to this

1 docket expressing their support for California strategy to
2 increase the energy efficiency of battery chargers and
3 stating that their member (inaudible) provide solutions to
4 help achieve this goal of energy savings. Thank you very
5 much.

6 COMMISSIONER DOUGLAS: Thank you for your
7 comments. I wanted to ask if there's anyone else who'd
8 like to make public comment.

9 All right. We've got a hand raised. Let's go
10 to Peter Newman. Peter Newman, would you like to say
11 anything?

12 MR. NEWMAN: Hello?

13 COMMISSIONER DOUGLAS: Yes, go ahead. Peter
14 Newman do you have any public comment to make right now?

15 Would anybody else like to make any public
16 comment? All right. In that case.

17 MS. SADLER: Mike Leason just raised his hand.

18 COMMISSIONER DOUGLAS: Mike Leason, would you
19 like to make a public comment?

20 MR. LEASON: Thank you, Commissioner Douglas. I
21 guess I apologize for not being able to be at the hearing
22 today in person but as the Manager over the Appliance
23 Program I just wanted to recognize the efforts of staff
24 and stakeholders in working to make changes to the
25 regulations to, I think, improve them from where we

1 started from. We'll certainly be taking a close look at
2 the testimony that we've heard today and consider any
3 additional changes that might be necessary.

4 COMMISSIONER DOUGLAS: Thanks, Mike. That's a
5 very helpful comment and I agree wholeheartedly with both
6 statements. With that, is there anybody else who'd like
7 to comment?

8 MS. SADLER: There's one comment that came over
9 chat that I'll read into the record, if you'd like.

10 COMMISSIONER DOUGLAS: Sure.

11 MS. SADLER: "NEMA supports Mr. Erdheim's
12 comments regarding emergency and life safety products be
13 exempt from this proposal and Title 24 energy savings
14 goals. That is a comment by Alex Boesenberg.

15 COMMISSIONER DOUGLAS: Thank you, Lyn. All
16 right. With that we will look forward to written
17 comments. We'll work on the comments that we got today
18 and the issues that were raised today and so we'll look
19 forward for more communication with stakeholders. Thank
20 you. With that, we're adjourned.

21 [Meeting is adjourned at 3:06 p.m.]

22

23

24

25