BEFORE THE

CALIFORNIA ENERGY COMMISSION

In the Matter of:	)
	) Docket No. 09-AAER-IC
Proposed Amendments To	)
Appliance Efficiency Regulations	)
California Code of Regulations,	)
Title 20 Sections 1601 through 1607	)

Public Hearing

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

TUESDAY, OCTOBER 13, 2009

Reported by:
Peter Petty
Contract Number:

Commissioners (and their advisors) Present

Julia Levin
Susannah Churchill, her advisor
Karen Douglas, Chair
Jeffrey D. Byron
David Hungerford, Advisor to
  Commissioner Arthur Rosenfeld

Staff Present:

Valerie Hall
Bill Stack
Harinder Singh
Ken Rider
Peter Strait

Also Present (Via WebEx)

Public

Noah Horowitz, Natural Resources Defense Council (NRDC)
Gary Fernstrom, Pacific Gas & Electric (PG&E)
Alex Chase, Energy Solutions for PG&E
Tim Michel, PG&E
Ed Hamzawi, Sacramento Municipal Utility District (SMUD)
Ken Lowe, Vizio
Ron Gorman, Sempra
Edwin Hornquist, Southern California Edison (SCE)
Jasmin Ansar, Union of Concerned Scientists (UCS)
David Barnes, BizWitz LLC
Jerry Koontz, Texas Advanced Optoelectronic Solutions (TAOS)
Pete Pappanastos, Imagine Designs, Inc.
Steve Stephansen, Agoura
Carl Cobb, McLaughlin Consulting Group (MCG)
Mark Sharp, Panasonic
Gerry Demple, CEDIA and Andrews Electronics
Douglas Johnson, Consumer Electronics Association (CEA)
Bill Belt, CEA
Paul Wazzan, LECG
Seth Greenstein, Constantine-Cannon for CEA
Bernadette Del Chiaro, Environment California
Lauren Navarro, Environmental Defense Fund (EDF)
Spencer Gusick, TiVo
*David Lamb, 3M
*David Kline, JVC
*Paul Bendt, Ecos Consulting for PG&E

I N D E X

I N D E X (Continued)

P R O C E E D I N G S

OCTOBER 13, 2009 9:07 a.m.

COMMISSIONER LEVIN: Good morning, everyone, and welcome to the California Energy Commission to our hearing on Television Energy Efficiency Standards. This is CEC Docket 09-AAER-IC. This is the only issue that we will be addressing today. Again, I would like to welcome all of you. I am Commissioner Julia Levin on the Energy Efficiency Committee; to my right is Chairman of the Energy Commission, Chairman Karen Douglas; to my left is my Advisor, Susannah Churchill; to the Chairman's left is David Hungerford, who is Advisor to Commissioner Art Rosenfeld; and to his right is Commissioner Jeff Bryon. And I will have the staff introduce themselves in just a few moments.

So today, as I said, we are here to discuss Television Efficiency Standards. Staff is going to give a presentation about why we have adopted this, or why we are proposing this rule, how we have developed the rule, the evidence in the record so far, what the rule is actually composed of and not, what we expect it to accomplish and not, and where we go from here. So before I hand it over to staff to give their presentation, I would like to make just a few quick introductory remarks and then see whether the Chairman or Commissioner Byron would like to, as well.

Following staff's presentation, we will open it up

for public comment. Depending on the numbers of blue cards that we receive, and if you would like to make a comment, please do fill out a blue card and hand it to -- is our Public Advisor present -- hand it to the staff in the back, or if you leave it on the table at the entrance to the hearing room, we will pick those blue cards up, but you must fill out a blue card if you would like to make public comment. If you are participating by phone or on the Webinar, then we will also give you an opportunity to make public comment following the people that are present in the room who have braved the weather, which is quite quite a challenge out there, I have to say. I have driven out from the Bay Area and it was torrential rain, wind, debris in the road, hydroplaning, everything you could imagine. So I am looking forward to a nice, calm, sleepy, relaxing hearing. And I am sure this will be.

So before handing it over to staff, I just want to emphasize the importance of this rulemaking and energy efficiency, in general. The California Energy Commission was created in large part to ensure a reliable supply of electricity for all Californians. We were created and signed into law by then Governor Ronald Reagan. One of the most important means of ensuring a reliable, cost-effective, inexpensive, low-impact, and job producing supply of electricity, is energy efficiency. It is far and away the

fastest, cheapest, most jobs per dollar, cleanest, lowest impact, best all around source of electricity that we can provide to Californians to ensure that their supply of electricity is stable and reliable, and as low cost as possible. Because of this, the Energy Commission is authorized to adopt Energy Efficiency Standards for appliances when those appliances consume a significant amount of electricity. There is really no dispute about the fact that televisions do consume a large amount of electricity in California. They are up to 8 percent of residential electricity consumption, more than that if you include all the other devices that go along with televisions, VCRs and DVRs and all sorts of things like that, which, to be very clear, we are not proposing to regulate in this rulemaking. We are only proposing to regulate televisions. But, again, televisions alone consume 8 percent of residential electricity use in California, so clearly, by law, significant consumer electricity, and therefore a good way to reduce unnecessary and costly electricity consumption.

We believe that the proposed rule will save consumers money, as all of our past Energy Efficiency Standards have. So far, to date, California's 23 Appliance Efficiency Standards have saved California consumers tens of billions of dollars. They prevented the need for costly and

polluting additional power plants, and they have helped to create a much more reliable electricity supply.

I do also want to address a concern that has been raised by some in the television industry, and that is that we are going to hurt the California economy and cost California jobs. This is an absolutely enormous and critical issue, particularly given the current economic crisis and unemployment in California, and we are very very concerned about these issues. We would not propose a television efficiency standard if we thought there was any actual evidence in the record to indicate that it would hurt the California economy, or cost jobs. We believe that the record points exactly in the opposite direction, that by improving the efficiency of televisions, we will actually save consumers money, help the California economy to grow, and to create new, clean, sustainable jobs. And this is a critical point for us and we believe that the record strongly supports this as one of the goals of establishing a new energy efficiency standard for televisions in California. And to underscore this point, I would like to quote our Governor, Arnold Schwarzenegger, who just last month said, and I quote, "Being a leader in clean energy standards has made California a leader in clean energy investment and green jobs. In the last three years, more than $6 Billion…," and that is Billion with a "B", "…$6

Billion in venture capital has been pumped into California's economy, making us the national leader in a number of clean businesses." So this is not the original purpose of our energy efficiency standards, but we think it is a very large additional benefit, particularly in this time when we need to create every new clean job we can. So with that, I am going to see if Chairman Douglas or Commissioner Byron would like to add comments before we hand it over to staff. Chairman?

CHAIRMAN DOUGLAS: Thank you, Commissioner Levin. I would just like to briefly join Commissioner Levin and my colleagues in welcoming everyone to the California Energy Commission today. As Commissioner Levin stated, energy efficiency standards are one of the most important responsibilities of the Energy Commission and, in part, in large part, through our standards, the energy use of per capita energy use of Californians has remained constant for the past 30 years, where it has gone up 40 percent on average in the rest of the country. So the contribution of our cost-effective and technologically feasible standards promulgated by this Energy Commission has been tremendous. These standards, which we are hearing public comment on today, would obviously continue on in that important record. We are, I am, very interested in public comment on the standards. I have paid very close attention to these

standards throughout their development, particularly in the last I would say six to eight months, if not more. I welcome hearing from the public and, again, welcome you all to the Energy Commission.

COMMISSIONER LEVIN: Commissioner Byron?

COMMISSIONER BYRON: Thank you, Commissioner Levin. I cannot believe you are all here on such a wet windy day, but it shows obviously there is a great deal of public interest in this subject. I would like to lend my support to the work that my fellow Commissioners are doing. I found this particular subject, you know, standards is one of the best things we do here. We have about a 30-year track record of taking on appliance and building standards. I am very interested in the input that you all have to offer today. I have to say, I am interested in more light than heat, however, so if you are really interested in a topic that covers a lot of issues, I encourage my fellow Commissioners to be at the IEPR Hearing tomorrow where we will be dealing with issues that affect the economy, the entire state, and the energy future. But nevertheless, I am sure you will have a bigger turnout here today. That IEPR Workshop is at 10:00 in case any of you want to be here tomorrow.

CHAIRMAN DOUGLAS: Commissioner, I will be here.

COMMISSIONER LEVIN: As will I.

COMMISSIONER BYRON: I am sorry that I can only stay for a short while this morning, but, again, I want to thank my fellow Commissioners for the work they are doing on these standards development, and I will look forward to this coming to the full Commission.

COMMISSIONER LEVIN: Thank you very much. Mr. Hungerford, do you want to say anything on behalf of Commissioner Rosenfeld at this time?

MR. HUNGERFORD: No, thank you. I think it has all been said.

COMMISSIONER LEVIN: All right, well, again, just to remind everyone, this is a formal hearing on the record. As part of our rulemaking, we have held public workshops, actually several over the past year, and now because the rulemaking is underway, we are within the 45-day comment period and this is a formal hearing. If you would like to make a public comment following the staff presentation, please do fill out one of these blue cards and either give them to the staff in the back of the room, or leave them on the table near the entrance, and we will collect them, and you will be given an opportunity to speak. So with that, I would like to introduce Ms. Valerie Hall, who is the Director of our Energy Efficiency and Renewable Energy Division, and she will then introduce the additional staff who have worked on this rule, the proposed rule, and we will

have our staff presentation. Valerie, please.

MS. HALL: Good morning, Commissioners. Good morning, everyone. Again, thank you all for coming here today. We are interested in hearing your comments. As the Commissioner has noted, we will begin with staff presenting information on the Proposed Regulations. Each of you who are interested in presenting comments, we welcome you to come forward. If you would please fill out your blue card, we will also ask that, if you have data that backs up any of the comments that you make, that you provide that in writing to the docket. So you will perhaps throughout the meeting hear us asking for you to please follow-up with information in writing to the docket.

For those of you who are listening in either on the phone or through the WebEx, please note that your comments are also welcome and that we will have time for you after comments from those who are here have been made. If you are on WebEx and using the Chat function, please recognize that is not a comment, and so if you wish to provide a comment, you will need to do so in writing to the docket.

I will also give a couple of housekeeping comments here. For those people who are unfamiliar with this building, there are restrooms outside of this hearing room, or across the atrium. There are restrooms directly across

and additional ones that are behind the guard station. There is a snack bar on the second floor, you are welcome to make use of that snack bar, we just ask that you not bring that food and drink back into the hearing room. If there is an emergency, and we certainly hope there is not, but in the event of an emergency, we will all go across the street to the soggy park, kitty corner from this building, please follow us to that location in the event of an emergency. For those who may need an assisted listening device, we have those available. They can be checked out in the security area here inside this room, just on the other side of the purple wall, you are welcome to check one out so that you can hear the information better. We also ask that you turn off all cell phones. They can be very disruptive during a hearing, and so we ask that you turn them off. If you do need to use your cell phone, please step outside into the atrium to use your phone.

And I would like to go ahead and introduce staff, who will be providing the presentation. I would also like to acknowledge Bill Stack, who is our counsel for this proceeding, who is sitting next to me, and behind me at the podium, you will be hearing from two of our technical staff on this project, Harinder Singh, who is an engineer on the project, and Ken Rider, who is also an engineer, who has been working on this project. And then we have other staff

that are here to help make the hearing go smoothly, and you will be seeing staff to assist you. So with that, I would like to go ahead and turn it over to Harinder and to Ken, to present the actual proposal.

MR. SINGH: Thank you, Valerie. Good morning, Chairman Douglas, Commissioner Levin and Byron, and Advisors, and everyone. My name is Harinder Singh. I am the Project Manager for the Television Rulemaking. First of all, I would like to explain the rules for making comments at the hearing. I know that you have heard it from Valerie and the Commissioners, but I would like to repeat and remind everybody of the rules. After the staff presentation, the Energy Commission's Committee will receive public comments. Anyone who wishes to make comments must fill out the blue card, which is available at the front table, and then fill it out and submit it to one of the staff members here to my right, and the commenters will be called as the cards are received in order, so if you submit first, that is how it is going to be. And the Commissioners are going to be deciding the allotted time, how much time is allotted to each speaker, and depending on how many speakers we have. So I would request you to please follow the rules on the time allotted and finish your comments within the allotted time. So I would request you to do that. And thank you for that.

First of all, the people in this room are going to

be given the opportunity to make their comments, and then we have overflow in Room B, if there are people in there, then we will request them and to call their names and ask them to come to this room and make their comments. And then we will go online on the telephones, and if there are people there who want to make comment, then we have a person on the telephone to receive that information. And also, then, later on, we will request that people on the Web who want to make their comments, we will receive their comments. And as Valerie mentioned earlier, if somebody is chatting and making comments, those comments are not going to be treated as comments. If somebody wishes to submit comments, they may submit those comments in writing to us. With that, I want to thank you again and I am going to move to my presentation part.

Today I, along with my colleague, Ken Rider, will present the rulemaking overview, some of the Proposed Standards, and an analysis of the Proposed Standards to show that the Proposed Regulations meet the California Public Resources Code Sections 25213, 25218E, 250402C1, and Section 254025.4. The Proposed Regulations are technically feasible, cost-effective, and save energy. A significant amount of energy on a statewide basis would be saved and this would result also in the reduction of greenhouse gases.

Consumer electronics is the fastest growing and

innovative industry in the world, and televisions are no exception. Since the 1990s, digital televisions entered in the consumer market and revolutionized the television picture quality and performance. The residential consumption due to new television, digital televisions, rapidly increased from 3 to 4 percent in the 1990s to 8-10 percent in 2008. And it is continuously growing. Without regulations, the residential energy consumption may grow up to 16-18 percent by 2023. This is due to the increase in the size of the televisions, increase in the viewing time, and also added features to the new televisions, and other things also, there are other factors that cause this increase in public consumption.

The Proposed Regulations, once they become effective, will stop the continuous growth in energy consumption and minimally reduce the residential energy consumption. The Proposed Regulations are technically feasible and may actually help stimulate the economy due to the consumer energy savings of $1 million a year, and removing the need to build a $650 million power plant. As new technologies are implemented by the manufacturers in the near future, stringent standards exceeding Energy Star 5 may be needed to reduce the current energy consumption and greenhouse gases.

Now I would like to present to you the television

rulemaking milestones and schedule. On September 18th, we submitted the documents to the Office of Administrative Law, we have a Notice of Proposed Action, Initial Statement of Reasons, Express Terms, and they are all available now at our Website along with a Staff Report, CEQA, the California Environmental Quality Act document, the Negative Declaration, and the Notice for the CEQA. They are all available. And there is a 45-day public comment period. This period will be ending on November 2nd, and all of the written comments shall be submitted by November 2nd. And the Commission will possibly adopt these regulations by November 4th in the Business Meeting. If modifications are required, the modified text will be made available at least 15 days prior to that Notice of the Commission's adoption.

Now I will move to the CEQA Initial Study and Negative Declaration. The California Environmental Quality Act requires public agencies to identify and consider the potential environmental effects of their projects as that term is defined, and when feasible, to mitigate any adverse environmental consequences. The Commission has prepared this initial study to assess the potential significant effects of the Proposed Regulations on the environment, where the initial study demonstrates the Proposed Regulations for television efficiency will not have any significant adverse effect on the environment. And the

notice of Negative Declaration was posted on our website and submitted to the State Clearinghouse on the October 1st, 2009, and the comment period for that is ending on November 2nd, 2009. And we possibly -- Energy Commission may adopt this on November 4th in their Business Meeting. So with that, I would now request my colleague, Ken Rider, to come and make his presentation on the Proposed Regulations. Thank you.

MR. RIDER: Good morning. My name is Ken Rider and I am an electrical engineer with the Appliance Efficiency Program. And what we are going to do right now is talk about the Staff Report, what kind of information you could find in the Staff Report. There is a background section which talks about the history of televisions, there is a section on the test methods, a section on the submitted Statewide Energy Use, which according to the Staff Report and our analysis is that television is currently used statewide 8,772.3 gigawatt (GWh) hours per year. We have the Savings and Cost Analysis which we will be going over in this presentation. We have Economic Impact of Television Standards, which walks through some of the rationale of why we believe the impact will be positive in California. We discuss other economic analysis which includes analysis from the California Air Resources Board and the Consumer Electronic Association. We discuss technical feasibility,

which we will review in this presentation, as well. We specifically have a section on Power Factor to explain our rationale between why we implemented -- or are proposing to implement -- a Power Factor Standard. We talk about greenhouse gases, which is in the Policy Issues and Next Steps. We respond to some of the pre-rulemaking comments, which were made under Docket 07-AER-1C. And we also, at the very end, have a copy of the Express Terms or Post-Regulations. So there are two places that you can find the Proposed Regulations, one is at the end of the Staff Report, and the other, the official version, is the Proposed Express Terms.

Now I am going to give an overview of exactly what it is that we are proposing here today, and to discuss, and comment. I want to emphasize that this is not a substitute for the 45-day language. I am not copying and pasting the standards here, I am kind of giving you an overview of what we are proposing. The exact language is what is to be taken into account in your comments.

So I am going to begin by explaining some of the scope of what we are talking about here, and that is televisions of 1,400 square inches or less. And in kind of a layman's term, that roughly translates to televisions of less than 58 diagonal inches. There is a whole list of definitions in the 45-day language, but I want to emphasize

the definition of the television. The definition is "an analogue or digital device designed primarily for the display and reception of a terrestrial, satellite, cable, Internet protocol TV, or other broadcast, or recorded transmission of analogue or digital video and audio signals." This definition also includes combination TVs, which is a television that incorporates a VCR or a DVD player, or another device. It includes television monitors, which is a television which does not include a tuner. It includes component TVs, which is a television that consists of a panel and another device, but they are sold under one model number. And I would like to point out that these definitions are consistent with the definitions in the Energy Star specifications. And this definition also includes any unit that is marketed to the consumer as a TV. One important inclusion in this definition is that televisions do not include computer monitors. So in our proposal, we propose to adopt two test methods to test the energy consumption of TVs. The first test method I have listed here is the standby-mode, passive standby mode test method, we propose to adopt IEC 62301 2005 and, as the First Edition, it is titled "Household Electrical Appliances Measurement of Standby Power." For the on-mode test method, we propose to adopt IEC 62087 2008 Edition 2, "Methods of Measurement for the Power Consumption of Audio, Video, and

Related Equipment." And I will expand on that one because we have also included additional guidelines for the implementation of 62087. The test method requires the measurement of audio and video energy use, and I think it is really important to point out that it requires built-in additional functions such as DVD Players, Blue Ray DVD Players, IPTV, IPOD Docking Stations, etc., be turned off during the test. And I will quote the actual wording in the test method, "Additional functions shall be turned off during the measurement process." And that is in addition to the basic display. We also are requiring that the test method be done in the dynamic test method, which is a DVD test and not a static test method, which is just a steel image, or the Internet test method. We also are proposing to require the measurement of a Power Factor during the measurements of 62087. We also have added additional guidelines to define testing requirements for TVs which use forced menus, which is a menu that pops up when the television is first used, to usually select between retail and home loads. We also define reporting and test requirements for televisions which incorporate automatic writings control. We also propose to test the luminance of televisions. Our proposal incorporates the latest Energy Star test procedure for luminance and it tests the luminance of television in both its default or Home mode, and the

retail or bright based, also sometimes known as "Torch Mode." We also are proposing several television standards. The first one is -- and perhaps the most important is the active mode power requirements. The first, we set up a two-tier system, the first tier is proposed to begin, or be effective, January 1st, 2011, and that proposal would require televisions on-mode power consumption to be less than or equal to 0.2 X the screen area, which is the viewable screen area of the television + 32, and that is measured in watts or devaluated in watts. The second tier is proposed to be effective January 1st, 2013, and that would require televisions use less than or equal to 0.12 X the screen area + 25, and again, that is measured in watts. We also are proposing to require that televisions use at least -- or have a Power Factor of at least 0.9, and something that is not pointed out in this summary, but is important to note, is that is for televisions which consume 100 watts or more.

We also have several additional requirements that we are proposing in this rulemaking, the first one is stated in 1605.3, Section V3A, "A television shall automatically enter TV Standby Passive Mode, or Standby Active Mode, after a maximum of 15 minutes without video and/or audio input on the selected mode." And "selected mode" is defined in the definitions of the Proposed Regulations. This would cause the television to enter a standby mode in the absence of an

input. This occurs when peripherals are turned off, or enter standby modes. The next additional requirement is that a television shall enter TV standard passive mode when turned off by a remote or integrated button or switch. This would require televisions to go in a standby passive state when power buttons are pressed, so when the power button on a television or on a remote is pressed, the television would be required to go into standby or passive mode. One important thing to note is that this does not limit or regulate wake events, so wake events are events that would transfer it from standby passive mode state to another state, it could be standby active state, for example.

We also propose to adopt a luminance regulation. And this is located in Section 1605.3V3C. And it says, "The peak luminance of the product in Home mode, or in the default mode, shall not be less than 65 percent of the peak luminance of the retail mode, or the brightest selectable pre-set mode of the product." This helps prevent the manufacture of inappropriately dimmed televisions instead of more efficient televisions by limiting the difference between retail mode and Home mode, the luminance difference or ratio.

We are also proposing to adopt more stringent standby mode standards. Our current standards require that televisions meet a maximum TV standby passive mode, power

usage of 3 watts. We propose in our rulemaking to move that down to 1 watt, or require that TVs consume a maximum of 1 watt in standby passive mode.

In addition, this Proposed Regulation would require data reporting. And the data that would be required to be reported to the California Energy Commission is located in Sections 1606, Table X. The reported information will be used to determine compliance with the Proposed Standards and will be publicly listed. We have a publicly accessible database that anyone can access to see the reported information to the Commission.

Also in these standards, we propose to adopt labeling requirements. These are located in Section 1607D11A, and would require that television label modes within built-in menus with their tested power consumption, so that is, we require that the retail mode and the Home or default mode be reported to the Commission, and we would require a digital label on the TVs for those modes to inform consumers of the power consumption associated with those modes.

We also are proposing to require a labeling for sales materials, and this would require that retailers and manufacturers -- and this, sorry, is in Section 1607D11B -- and it would require retailers and manufacturers to list the power consumption and default or Home mode for their

televisions immediately following everywhere the physical dimensions of televisions appear. And this would include things such as websites, boxes, and retail displays.

These Proposed Regulations have been made after we have analyzed relevant information and Energy Star data, and followed the guidelines of the Public Resources Code and APA, which is the Administrative Procedures Act. We have used the same criteria and methodology as utilized for other appliances in previous rulemakings. Based on the analysis, staff found that televisions across various sizes and technologies meet the Proposed Regulations. Staff has also determined that the Proposed Regulations are technically feasible, cost-effective, and save energy, which are the requirements of the Public Resources Code.

So now we are going to switch gears a little bit out of the Proposed Regulations and talk about some of the reasons we believe that these Proposed Regulations are technically feasible. So I am going to begin by talking a little bit about the Energy Star data, and I am going to begin by explaining why this is important to technical feasibility.

Energy Star specifications provide evidence of technical feasibility by demonstrating current energy efficiency and driving future improvements in efficiency. So these are relevant to accomplishing our goals for the on-

mode power requirements. And I have summarized the most current version of Energy Star's Qualified Product List. Currently, there are within the Energy Star database 1,053 televisions that meet our proposed Tier 1 on load levels. In addition, there are 297 televisions that currently meet California Energy Commission's proposed Energy Efficiency Regulations for Tier 2 levels. Amongst all these televisions, there are 32 brands with screen sizes of 10 inches up to 58 inches, which meet the Proposed Standards. So a lot of different manufacturers, and the full scale of sizes, television sizes.

I am going to expand a little bit on the Energy Star Program. Recently, they adopted new specifications 4.0 and 5.0, "The California proposed hereto in the Energy Star 4.0 television specifications are identical down to 275 square inches," at which point the Energy Star specification is more stringent, and you can see that in the band down here, so Energy Star is a little bit more stringent down there. This specification goes into effect 30 months in advance of Tier 2, so that would give manufacturers incentive through Energy Star labels to meet the specifications for over 30 months before our proposed Tier 2 would become effective. In addition, Energy Star has created an advanced specification, 5.0, which is much more stringent than our proposed Tier 2 levels. The Energy Star

Version 5.0 specification will be effective 7 months prior to Tier 2, and that is the purple line located down here, and you can see it is much below our proposed Tier 2.

Here is a graph of all of the televisions in the Energy Star database, October 2nd Energy Star database, so they are limited to the Energy Star data, but you can see here that here are the 297 televisions that already meet Tier 2, and more importantly, there are a lot of televisions that are close, or relatively close to meeting the standards, and you can see here in this analysis, you know, 318 televisions are within 25 percent of meeting Tier 2 today.

So I am going to go through some examples of Tier 2 compliant televisions and manufacturers from the Energy Star data. To begin, and just to note, I want to be upfront about this, these scales are not the same, so as I scroll through a few manufacturers, I do not want you to assume that the scales are the same. So right now, you see this as 50 percent is the maximum, and I think it will change over the next slide, and I will point that out again. But what this really demonstrates, and I think it is important, is that here we have a manufacturer, Samsung, it has 42 televisions which currently meet Tier 2, and it is across an entire spectrum of screen sizes, up to 56 inches, which is really up to the screen size that we are proposing in the

scope. In other words, we do not regulate 58 inches and above. Here is another example of Sharp televisions, and you can see now the maximum of scale is 40 percent. I just do not want to be misleading. Thirteen televisions from Sharp already meet the Proposed Standards and, again, that is across the range of screen sizes. JVC, 20 televisions, again, across the board from 19 inches to 52 inches. LG, 25 televisions that meet the Tier 2 standards, ranging from 19 inches to 55 inches. Sony, eight televisions ranging from 11 inches to 52 inches. Toshiba, 42 televisions that currently meet Tier 2, ranging from 15 inches to 55 inches. So I think it is really important to see that this points out feasibility as televisions of all sizes and all sorts of manufacturers currently have televisions on the market that meet our proposed Tier 2, more stringent, on-mode power standards. And with that, I am going to hand it back over to Harinder Singh, who will talk about television innovations.

MR. HUNGERFORD: Mr. Rider, can I ask a question? I would like to roll back to the slide on page 21. I had trouble in your presentation, it is sort of hard to read the detail, but I just wanted to clarify -- make sure something was understood. The bottom scale is the screen area, so the size of the television, right?

MR. RIDER: Right, my mistake. Let me go over

this real quickly.

MR. HUNGERFORD: Yeah, and the left-hand scale is the power consumption --

MR. RIDER: Correct.

MR. HUNGERFORD: -- so those angled lines mean that, as TVs get larger, they are allowed to consume more energy, and it is a relatively flat line for our standards.

MR. RIDER: Correct.

MR. HUNGERFORD: So as I read that, that means there is no distinction between larger and smaller TVs in these standards, that all TVs are regulated, but that all TVs -- it recognizes that screen size is a determinant of energy consumption.

MR. RIDER: That is correct. It allows additional power consumption for larger TVs, noting that they would require more.

MR. HUNGERFORD: So the assertion that these standards are designed to remove large TVs from the market is factually incorrect?

MR. RIDER: That is right. This line is clearly not biasing towards any screen size, it is on a line which does not bend or change for big screens, or smaller screens, or anything, which is significantly different than the Energy Star which does bend down for small screens, for more stringent, and also just makes a flat line for certain

screen sizes -- which does not -- which would be different from our proposal. We do not differentiate -- we are not discriminating against certain screen sizes.

MR. HUNGERFORD: And this slide also illustrates the idea that the Energy Star specification, which is a reward or a designation for the best or most efficient televisions that are available on the market is significantly separated from a minimum energy efficiency standard, which is what we are proposing.

MR. RIDER: Correct.

MR. HUNGERFORD: Thank you, Mr. Rider.

MR. RIDER: And, again, I am going to hand it over to -- unless there are any other comments -- to Mr. Singh.

MR. SINGH: Thank you, Ken. Hello again. As I have mentioned earlier, the reduction in television energy consumption can only be accomplished by innovative technologies. To continue the innovation so that there will be energy efficient televisions, we propose regulations provide a balanced approach or platform for innovations. The best method in the Proposed Regulations require that all built-in additional functions such as DVD players, Blue Ray DVD players, IPTV's, IPOD docking stations, etc., be turned off during the test. Power signals from these devices will not be measured as energy consumption during the testing of the television.

The first slide shows that -- this one -- shows that the onboard power for a television with IPOD docking station is roughly equivalent to the television without the docking stations. You can see the red bar and the blue bar there, both of these televisions consume the same amount of energy, which is 111.1 watt. The second slide shows that Sharp's AQUOS televisions, they have incorporated a feature, fully featured Internet capabilities, and an Internet-based television service that gives Sharp AQUOS customers access to personalized information. These televisions far exceed the Tier 2 regulations, Proposed Regulations. The third, this particular slide represents the LED backlighting technologies, and these televisions are 40 percent more energy efficient than last year's models. Samsung, Sony, Toshiba, and other manufacturers have introduced these LED backlight televisions, replacing the more power CFL backlight televisions used in the previous years. A 46 inch LED TV measured power usages between 72 watts to 116 watts, depending on the energy level. Again, these televisions exceed the proposed Tier 2 energy standards.

Also, the technologies available are -- another one is the color sequential technology, which improves the efficiency up to 40 percent. These have started coming to the market and they will significantly reduce the cost and improve the efficiency. Again, the innovations are heading

towards the energy efficiency of the televisions, and my next slide is another example is the optical compensated bend technology, which lowers the power consumption. One of the television advantages for the plasma was the wide viewing angle, whereas this implementing OCD into the televisions, the viewing angle for the LCD is really improved and it is 170 degrees left and right. And, also, this provides a high response and high resolution pictures, so these are the technologies which are not costing much in terms of the cost to the consumer, and also are improving the quality of the televisions and energy efficiency.

The next iteration in the plasmas is the triple efficiency televisions. In 2009, we see the double efficiency plasma televisions come to the market, and they are very close to meeting our Tier 2, and Panasonic has announced that they will be listing their triple efficiency televisions fairly soon, and that should meet -- all sizes should meet the proposed Tier 2 regulations.

Again, this is the Sony's LED TV, which is 40 percent -- I am sorry, this is a high Definition CFL television, which is like 40 percent more efficient. This television is treated with ambient light control sensors and also the automatic sensor, and it is a fairly efficient television and meets Tier 2 for a full four years before the effective dates. And innovative technologies, there are a

number of things like digital ambient light, sensors -- sensing technology, which is available. It is a technology which Texas, Advanced Optical Systems have ultra-electronic systems have available, it is for back management of the power consumption, so it reduces the power consumption by 30 percent, and by employing sensors and automatic sensors and ambient light sensors.

And now I will move to 3D televisions because there has been a lot said about the innovations and stifling of innovations in 3D TVs. We have found that our analysis shows that 3D TVs are -- the one that we have compared is Mitsubishi, which has introduced a 65 inch laser view, although it is not covered by the standards, but it consumes 135 watts and it is 3D ready, and it consumes less than the proposed Tier 2 power requirements for a 50 inch television.

Let me add that the 3D television will not consume more power than 2D television. One is measuring energy consumption of 3D televisions, the 3D feature can be turned off. This is clearly illustrated in the test procedure. And this -- well, you know, this is stated in the test procedure, but also, the 3D TVs require the use of either DVD players, Blue Ray, or a PC computer card, and also it requires a special set-up and use of 3D glasses. So these 3D TVs are coming to the market next year. They are not available, but they are in the stores as demo models. But

there is another technology 3M is developing that is going to be without the use of 3D glasses, and this technology currently is available for hand-held devices. 3M's Vikuti Films optical film that can be used in the hand-held devices, and it has not been transferred yet to the television side of it. 3M has a very good track record of their Vikuti Film optical film, integrated into the backlight panels in the LCD televisions, they save 32 percent energy consumption, or reduce the energy consumption by 32 percent. And this 3D film, which is not available yet, we expect it to be energy efficient, we have -- their track record is really excellent in energy efficiency.

So now I will move to the cost-effectiveness. We have -- Commission staff has analyzed and found that the efficient televisions, there are technologies available, such as optical reflective films that can be used in LCD televisions, that would reduce the number of lights on the floor and lamps in the back of the television, and therefore also it reduced the -- it allows the use of smarter power supplies and with less materials and simple manufacturing processes. The energy efficient LCD televisions, the incremental cost is negative or to zero. And for the plasma televisions, with the improved phosphorus and glasses for plasma TVs, TVs will lead to a reduction in overall material costs, so therefore the televisions -- improving the

efficiency of the televisions is not going to cost more money to the consumers, it should be available at the same price as the inefficient television. We have on record from Display Search, which indicates that accounting for the cost of the backlight is 30-40 percent, and this can produce 50-20 percent the cost of employing the newer technology, films and all of that, on improving the backlight can save 15-20 percent in cost. In Video has sent us this information and provided the information that the net cost may increase a few dollars because that is like in 2007 or 2008, so I do not know what they cost right now, but it again shows that very minimum cost, tens of dollars. And 3M also provided this information where they are showing that there may be a few dollars off incremental costs, but in the end, the consumer saves hundreds of dollars. So these are cost-effective televisions. The consumer spends a few dollars extra, but they are getting savings of hundreds of dollars in the end. And this is 3M's security film that improves the energy efficiency and reduces the cost of the televisions.

Again, we received the input from LCD Association, here again they said that the benefit to the consumers is hundreds of dollars, with a minimum cost of a few dollars in terms of improving the energy efficiency of the televisions. And we also received -- we had meetings with McLaughlin

Consulting Group and they have provided the information and, again, they are a very credible consulting group throughout the world, and they have said that the energy efficient televisions can be available at 10 percent or lesser cost, you know, employing the new technologies such as films, reducing the lamps, would reduce the cost by 10 percent. So that indicates that there is not going to be increasing cost due to the standards or improving the energy efficiency of these televisions.

Again, we received the input from Agoura, which is another developer and they make these polarizing reflective films, and they have also said on the record that the energy efficient televisions are going to cost less by implementing the new technologies. And we also received information and had meetings with IDI, which is Image Design Incorporation, and they have new technologies available which reduce the public consumption by 55 percent, and not costing the consumers any extra money, or the manufacturers to employ these technologies. Again, the cost is 50 percent less here than the current technology. So if these technologies can be employed in CCF all types of televisions. The cost in the plasma televisions shows that moving from 2.5 lumens to 5 lumens, the cost is reduced from 9 to 10 percent, 11 percent, depending on the size and the resolution. So there is significant savings in improving the efficiency of the

plasma televisions, savings for the manufacturers where those can be passed on to the consumers. And similarly, the triple efficiency televisions, you know, the manufacturing cost can be from 37-38 percent, and when you put the inefficiencies from 5 lumens to 10 lumens per watt, so these are credible data and it is available here on the Commission website.

Now, I am going to go into the cost effectiveness methodology which is in the next few slides. These are the cost effective televisions which not only saves -- pricewise, they are not costing more because PG&E went out and conducted a survey on the cost-effectiveness and what is available in the market, so they have -- this is the data here, they serve a 19 inch television that were 17 and 46 inch televisions, 32, and more sample sizes, and this data indicates that there is a hundred dollar difference in price and whereas the savings and lifetime energy cost is $233.00, and there are other slides like that which show that employing the energy efficiencies in the televisions and efficient televisions are not costly, they do not cost anything much to the consumer, but the savings are really big savings there. Again, there is the Sylvania model and Envisions, and then there is a Vizio model, they are the same way, the cost in the Vizio model is a $40.00 difference here, and lifetime energy savings cost is $150.00. So that

all indicates that the cost-effectiveness of the televisions, the energy efficient televisions are made available to the consumers and it is not costing any extra money. So I will pass for the further presentation to Ken Rider for Energy Savings and Greenhouse Gas Reductions. Thank you.

MR. RIDER: Thank you, Harinder. I am going to go ahead and move on to the estimated energy savings and greenhouse gas reductions of the Proposed Regulations. This is a breakdown of the unit savings. We estimate that per television or per unit, a savings of 216 kilowatt hours per year, and that there will be no incremental costs which just cover that assumption and Harinder just walked through a lot of examples of the TVs that cost the same or less than the typical current market television and are more fully featured and more energy efficient. So to kind of establish some of the assumptions between incremental cost of zero dollars, so we have come to the first year cost savings conclusion of $30.24 per television, and that is calculated by taking 216 kilowatt hours per year, multiplying it by the Energy Commission's assumption of $.14 per kilowatt hour, and then subtracting the incremental cost, which is zero, and you get $30.24.

The statewide energy savings are estimated to be 6,515 GWh annually and that, again, $.14 per kilowatt hour

translates to $912.1 million per year in avoided electrical utility bills. And some of the background of these numbers is available in the Notice of Proposed Action and the Staff Report.

Demand savings or peak savings, the Proposed Regulations are estimated to reduce peak demand reduction by 615 megawatts. This number comes from the July 3rd PG&E case report study, and this would lead -- or this additional peak -- this demand reduction would allow us to avoid the cost of building the 615 megawatt power plant, which at a cost of approximately $1 million per megawatt for construction of a natural gas power plant, would translate to savings of $615 million, in addition to the energy savings.

Greenhouse gas reductions -- so because these regulations will reduce the energy consumption in California, this will also lead to a reduction in greenhouse gas emissions. And in our Negative Declaration, which is the environmental report on televisions for this rulemaking, we estimate these savings to be 3.1 and this unit here is the same as this, which is a million metric tons of CO_2 equivalent, and that is per year. And these savings are really important to accomplish the goals of AB 32, Assembly Bill 32, which is, to be more specific, a bill that was passed to reduce greenhouse gas emissions in California. And you can see here, we have got a nice graph here on the

side, we have a million metric tons of CO_2 equivalent, and we have business-as-usual case, and a with regulation estimation case, and you can see that this Proposed Regulation, according to our analysis, reduced greenhouse gases from business-as-usual by 43 percent.

I would like to go over a couple of other findings which may be of interest to you commenters up there. And these are found -- these findings are found in the Notice of Proposed Action. We have found that these Proposed Regulations will not lead to increased housing costs, not lead to a loss of jobs in California, not decrease the ability of in-State business to compete with out-of-state business, will not create significant costs to businesses and individuals, and will not add significant costs to small businesses. And I have added below here that -- and it is important for the economics of our proposal -- that the Proposed Standards will have a positive economic impact due to its $8.1 billion value to the state. And there is some background to the assumptions behind that in the staff report and the Notice of Proposed Action.

Another important thing to note is that we have considered alternative proposals to the ones that we were proposing for the 45-day language today. One of the criteria that we used to judge alternative proposals is that they must achieve equal or better energy savings and which

are equally or less burdensome to business. The alternative proposals presented to date to the Commission were already either incorporated in the Proposed Regulations, or not prone to save additional energy.

And I would like to point out particularly that relying on the Energy Star Program will not achieve the same energy savings as our Proposed Regulations, and that the Energy Star savings will occur in addition to the existence of the Proposed Standards, for example, the Energy Star 5.0 specifications, savings related to that, will happen in addition to our Proposed Standards, to the energy savings associated with the Proposed Standards. So therefore, the Proposed Standards accomplish additional energy savings.

I would like to go over or reiterate -- this information is available in the Notice of Proposed Action, the process to make a public comment, a written public comment, you can e-mail -- or you should e-mail the docket, and this is the e-mail -- it is docket@energy.state.ca.us, and that is for e-mails. If you would like to snail mail or physically mail a written comment to the Energy Commission, the address is here, and for those on the phone, you want to address it to the California Energy Commission, you want to add the subject line: "Docket Number 09-AAER-1C," you want to address it to the Docket Unit, and our address is 1516 Ninth Street, Mail Station 4, Sacramento, California, 95814-

5504. And, of course, we are here today to make additional written comments and oral comments, as well. The conclusion, this concludes the presentation, and I want to make a couple comments about public comments. Please try to stay within the allotted time the Commissioners give for public comment. We need to make sure that we can hear everyone today. And I want to say that the order in which the public comments will be conducted, we will start with blue cards in the room. If there is anyone in Hearing Room B with a blue card, I hope there is no one out there, but if there is, we ask that you come in to Hearing Room A when you are called by the Commissioners. And then, after we receive public comment from everyone in the room, and the blue cards, we will move to open the phone lines for public comment on the phones. I think that covers most of this, and I will now turn it over to the Commissioners to maybe perhaps make more statements and to moderate the cards and public comment process.

COMMISSIONER LEVIN: Thank you very much, Mr. Rider and Mr. Singh. I also would like to thank the Commission's other staff who have worked tirelessly on this Proposed Rule. They have done so amidst -- be careful what you wish for kind of blessing of having also to figure out how to distribute several hundred million dollars of stimulus funding quickly and in a way that stimulates jobs

and energy savings, and they have done so amidst furloughs and pay cuts, so I am very very grateful for the tremendous work, not just for Energy Efficiency staff, but our Legal staff and our Communications staff, and a number of other staff, as well. So thank you to them, this is very hard work and it is very important for the Proposed Rule.

At this time, I would like to ask for additional blue cards. I believe we have a dozen so far, in addition to possible comments from participants on the phone. Ms. Hall, do you have additional cards? Okay. I would like to remind you, we are only taking comments on the proposed rule. I would also like to encourage you, if you have extensive comments or a great deal of statistical information, we absolutely welcome them at this time, but if you cannot present it in four to five minutes, please do submit written comments and keep your oral comments more to a summary form, that would be the most helpful. This is not intended as a back and forth; we have held several workshops over the past year, we have met with Consumer Electronics Association and the Retailers Association, many many companies, many manufacturers, retailers, environmental groups, consumer groups, and individuals. We continue to take comments until November 2nd, which is the public comment deadline. But, again, for today's purposes, if you can keep your comments to 4or 5 minutes and then more of a summary

nature, and any additional detail, we would be happy to receive in writing any time up until the close of business on November 2nd. So with that, I am going to begin with the blue cards that I already have. Actually, before I begin, I would like to ask Mr. Johnson, is anyone from Consumer Electronics Association planning to make public comments? I do not believe I have a card. Okay, I have received, okay. Then, with that, I would like to start with Mr. Noah Horowitz from NRDC. Mr. Horowitz. And each speaker, if you could also identify yourself again for the record, that would be great.

MR. HOROWITZ: Good morning, although my name is Noah Horowitz, I am not responsible for the rain today. First of all, thanks everyone for all the hard work and this has been a long process. I am here with the Natural Resources Defense Council, NRDC. We are an environmental advocacy group with over 1.3 million members and e-activists. We did the first study on how much power flat panel TVs used back in 2004, and that kind of served as a call to action on this, so we believe we are experts in this field, and have been an active participant in this process. We are here today to express our strong support for the standards. We think that they should be adopted promptly, and the benefits speak for themselves. To reiterate real quickly, it is about $1 billion per year in electricity

savings, once the full stock turns over, we are going to save around 3 million tons of CO_2 per year, and avoid the need for a large power plant. There are many supporters here today who I think you will hear from shortly. It is an extensive and diverse group. First off, I would like to point out that I am not the only environmental group that supported this, we have Environment California, Sierra Club, Environmental Defense Fund, Union of Concerned Scientists, and many other environmental groups. I have a letter here that we are going to submit to the docket that is signed by all of these groups. Also, I believe you will be hearing from Vizio, who is the largest maker of flat panel TVs, and they have already stated on the record their ability to meet the standards well ahead of the proposed effective date. You will also hear from several suppliers who are providing the technology that helps these standards be met, as well as some of the utilities. I also want to point out other states such as Massachusetts and some in the Northwest that are watching very closely what is happening in California, and they are likely to pass similar standards to those here, and they would propose cutting and pasting what is being done here. They are not going to create a patchwork, which is a concern of many of you here, which we understand, they would simply adopt what California is going to do, hopefully. So quickly, I want to provide a little bit of

context and then make a few reinforcing comments. The goal here is a simple one; we believe, as does the CEC, that we want to ensure that every television sold in California is an efficient one. My comments are going to focus on Tier 2. Today, yes, there are many TVs that meet Tier 2, and this is due to the innovation we are seeing by the manufacturers, but if you note, only about a quarter of today's TVs meet Tier 2, we want to make sure every television sold in California meets those levels. And the context has already been provided, so I do not need to go over it, I just want to add one other comment, that TV is the biggest, or one of the biggest, unregulated appliances in the home. California has a long history of regulating appliances with all the energy savings and other benefits without any problems in their implementation. Some of the largest TVs, some of the less efficient models out there, they use more energy per year than a standard refrigerator, an 18-21 cubic foot refrigerator. Also, as you all know, California has very ambitious goals to meet AB 32. We are trying to have zero net energy homes, or ZNE Homes, that is a good acronym if you just take home from the hearing. We are investing billions of dollars in renewables and we want to make sure that is not wasted. We want to make that go as far as possible, so if you have a 2KW rooftop TV system, we do not want a 300 watt TV throwing a lot of those hard earned

savings away. In terms of product availability, yes, there are close to 300 models today that meet the proposed levels three years before the effective date, and these standards, it is important to note, these are technology neutral and performance-based. The state, despite what you have seen in the newspaper, is not saying whether you can buy an LCD or a plasma, or an old LED, it is not saying you have to use this film or that type of backlight, it leaves the floor open for industry to innovate, which we agree is the way to go. Right now, I have a list here, we cut and pasted from the Energy Star Spec, there are over 300 models -- I am sorry, just under 300 models -- that meet the standard. They are from a wide range of household names, you get the same grade high definition picture, and it is at the low end and high end of price points, from the smallest to the largest TVs. So I would like to submit that to the docket, as well. You have heard a lot about concerns all the small retailers are going to go out of business due to the standard, and the CEA hired a consultant to do a study, and they assumed 25 percent of today's models, the 2008 models will not be available in 2013. Where did that number come from? Which models would be obsolete, despite many request for the data? We have not seen that. And through their model, they assumed the state would lose $50 million in money to the General Fund, and we would lose 4,600 jobs. There has never

been anything demonstrated that you will not be able to get a high-end TV. Also, that study conveniently ignores the close to a billion dollars in savings that we will see in electric bills, so if they hired an economic analyst, we are surprised and disappointed that that was not included. So let's make this real. I went to Best Buy the other night, I looked at their website, and I was happy to see a lot of qualifying models, and I have a couple of pictures of what I saw when I went shopping, if someone could bring those two easels out, please? This is the risk of going low tech. Or if someone could just hold those, we do not need to take anymore time. So, Harinder, if you could hold up your sign first, Ken, hold that. On the floor today is a 46 inch LCD TV by Samsung, and that picture on the bottom, it is 1.2 inches thick, it is one of the thinnest TVs on the market today, and has outstanding performance characteristics, and if you will hold up the sign there, Ken? The standard for a 46 inch TV is 133 watts. The Samsung model today only consumes 104 watts. I went to the salesperson and said, "Hey, what would be a similar high-end Sony? There is a good, better, best sort of nomenclature there, and Sony's XBR series is toward the high end. This was also a 1080P TV, and it used 189 watts, did not meet the standard. The Samsung is about 40 percent lower in power consumption. And look at the contrast ratio. This is what many of the high-

end video files considered to be high end, and the Samsung trumps the Sony model in terms of contrast ratio. Also, if you look at the operating cost, first of all, the Samsung is about the same price, a few dollars less today, and the price of LEDs is only going to go down, and the operating cost, you will save over $200.00 over the life of the product. So this is real, this is not some abstraction. Thank you.

COMMISSIONER LEVIN: Mr. Horowitz, I have to ask you to start to wrap it up soon, please.

MR. HOROWITZ: Sure. So these sizes are available in 46, 52 and 55 inch, and Sharp also has TVs of a similar nature, that use even less power. In terms of innovation, we have heard a lot that we are not going to be able to get 3D TVs, let's be very clear here, when the test is done, you are using images that are 2-dimensional, so you are never forcing that TV to display a 3D image, so that is a complete red herring, as is with Internet TV. We are not plugging the TV into the Internet when you are doing the test, so any incremental power is not shown. So to close out then, and I appreciate the time that has been provided here, Energy Star is a voluntary program, about 25 percent of today's models meet Version 4.0. We want to make sure the other 75 percent of the market also meets the standards, and I believe we will hear from some of the other utilities, they are going

to offer rebates to jumpstart this market, to ensure we have a smooth path, to make sure all the models meet the proposed Tier 2. So, in closing, we think these standards are readily achievable, with technology that is available today, and you are going to hear soon also, I believe, that there is a lot more improvements coming. Also, the Consumer Electronics Industry does not speak for the whole industry, as I think you will hear here today, as well. I encourage the CEC to adopt the standards and have a vote on this promptly. Thank you.

COMMISSIONER LEVIN: Thank you. The next speaker is Mr. Gary Fernstrom from PG&E.

MR. FERNSTROM: Good morning, Commissioners, staff and interested parties. I am Gary Fernstrom, a Program Engineer from Pacific Gas & Electric Company. I would like to say that, over a decade ago, I and PG&E created and developed the Energy Standards Program that the Codes or that the State's utilities now subscribe to. This program was designed to supplement the traditional information and rebates that the utilities in California have given to achieve energy efficient goals, so the Utilities firmly believe that it is important not only to have a carrot, but if you will, a floor, in order to bring up those products that are inefficient in the market, and represent the bottom of the market. The state's utilities are all in support of

this. Over five years ago, PG&E began working with the NRDC on investigating the possibility of television standards. For the last three years, the state's utilities have been actively advocating with the Commission for the standards that you have proposed in the 45-day language. We are universally in support of that, as are some of the non-investor owned, non-CPUC regulated utilities in the state. As Noah mentioned, televisions are an important and growing end use. In order that we collectively can meet the legislated goals for environment and energy efficiency in the state, the California Energy Commission and the utilities need to work together in order to assure that products on the market not only meet minimum energy efficiency requirements, but receive incentives for those that offer premium performance. The Commission has received an unprecedented amount of data over the last year, year and a half, which strongly shows that what is proposed is cost-effective, in the interest of California utility customers and citizens, and should be adopted. It has been suggested that standards minimize the opportunity for innovation. In my experience in the last 10 years, I have found quite the opposite, where standards have been imposed, for example, for external power supplies, swimming pool pumps, and other products, they have stimulated innovation because the market and designers are constantly moving forward with new ideas

to achieve even higher efficiency. So there is no reason to believe that these standards would stifle innovation. Thank you.

COMMISSIONER LEVIN: Thank you very much, Mr. Fernstrom. I am sorry if I mispronounced your name the first time. I also would like to thank PG&E, in particular, as well as the other utilities, for coming forward with the codes and standards advancement proposal that really started this process, and your recognition, PG&E, that televisions are a growing consumer electricity. Our next speaker will be Mr. Alex Chase from Energy Solutions.

MR. HUNGERFORD: I also would like to add a reminder that anyone who comes to the podium to speak, if you could please provide your business card to the Court Reporter so he can properly spell your name that would be a great advantage for him.

MR. CHASE: Well, my name is Alex Chase, I am a Senior Product Manager with Energy Solutions, and I am here representing PG&E today. I would like to thank Commissioners, Advisors, and staff for the opportunity to provide comments. Personally, I have been engaged in this proceeding since the beginning, going all the way back to January 2008 for the initial Scoping Workshop. And over the course of this nearly two years, the Commission has received an extraordinary amount of information from interested

stakeholders. So we are pleased that the CEC has finally received the 45-day language, and we strongly support a quick adoption. Adopting this standard will play an important role in addressing the energy and climate challenges that California is facing today and in the future. For perspective, there is about 35 million TVs in California today. Now, as Noah mentioned, the other states, the U.S. Government, and around the world, is looking to see what California is doing, and worldwide that is important. The International Energy Agency estimates that there is going to be soon two billion TVs in the TV end-use worldwide. So for perspective, if you were to take all those TVs, line them up side by side, you would have a line that stretches approximately 884,000 miles. So in terms of how long that is, that would be enough to circle the Earth about 35 times, or you could go to the Moon about four times. So it is an important piece of information, once you start to plug all those TVs in, how much energy do those TVs use? So worldwide, TVs in 2008 used about 275 Terawatt hours. In more common terms, that is 275 Billion Kilowatt hours. How much is that? That is more than the entire country of Australia's electricity production, that is more than Mexico's and it is just below Spain and the United Kingdom. So the magnitude of these numbers and their implications on system reliability, peak demand, more than

peak the interest of the electric utilities. And it is clear why this is such an important topic, and being followed not just in California, but around the world. Now, as we have presented over nearly two years, the good news is that there is a lot of cost-effective strategies to address this growing load. PG&E has responded by engaging in three areas, first, developed a business and consumer electronics program that is actively engaged with all the national retailers and local independent retailers to help them stock and promote the most energy efficient televisions, it is also providing marketing pieces so when customers go into these stores, they know which are the most efficient TVs. The second area is PG&E has been actively engaged in the Energy Star stakeholder process, and has really encouraged meaningful levels there. And last, but not least, we have of course been involved actively in the Title 20 Appliance Standards for Television Proceeding. PG&E believes that all three of these strategies are interconnected and important, and Tim Michel from PG&E will be addressing in his comments a description on the business and consumer electronics program and the Energy Star engagement, and I am going to focus on the standards themselves. So to step back, just for those that have not been involved in the process over the nearly two years, we have provided five presentations at three public workshops, we have provided extensive two

reports that support the standards, and we have submitted follow-up letters after the July 2008 and the December 2008 workshops. I do not have time to review all this material in detail, of course, but I should mention that everything that we have submitted is available on the Commission's website, it is heavily documented, and it is available for review. I will summarize our findings in five points, first, televisions represent a prominent and growing source of energy use consumption, as has already been mentioned, it is on a trajectory to become perhaps a dominant and in some cases the leading end-use energy consumer in the home; second, addressing this load growth with standards will be an important strategy for California to achieve its energy efficiency and greenhouse gas reduction goals; third, as has been mentioned, a majority of the TVs already meet Tier 1 today, and many already meet Tier 2; fourth, the combination of declining production costs for efficient technologies, combined with the immense operation cost savings, will result in extremely cost effective standards; and finally, as I mentioned previously, California will lead not only the nation but the entire world by adopting these standards. Now, unfortunately, there has been a lot of information spread about the proposed standards without justification. Many of the opposing voices are even contradictory. On the one hand, the CEA has stated that the standards are

"unnecessary because industry is already responding," on the other hand, they state that these standards will result in "dire economic consequences." So it begs the question, if industry is already going to meet these levels, why would the presence of a standard result in such dire economic consequences?

COMMISSIONER LEVIN: Mr. Chase, I have to ask you to try to sum up, please.

MR. CHASE: Sure. I do want to reiterate that, at the December 15th workshop, the CEA presented its model and, as Mr. Horowitz mentioned earlier, the Commissioners and Advisors rightly pointed out two glaring errors within that model, and this was the model that set up the claims for extreme job loss and extreme tax revenue loss. The Commissioners and Advisors rightly pointed out that the model left out all energy cost savings that Californians will realize, and then they also incorporated the assumptions that their members would not change their product assortment over the next few years to meet these proposed levels. So to wrap this up, I will skip ahead and just want to mention that, since 1976, California has been a leader in efficiency innovations by adopting Codes and Standards. This model is proven and was adopted nationally when President Reagan signed the National Appliance Energy Conservation Act in 1986. Since then, these standards have

resulted in close to billions of savings from consumers within the nation. We fully expect this TV standard will continue in this strong legacy. Those are my comments and I thank you for your attention.

COMMISSIONER LEVIN: Thank you very much, Mr. Chase. Tim Michel -- or Michael -- from PG&E. It is probably neither pronunciation.

MR. MICHEL: You got it right on the second one. I was blessed with one of those bad last names.

COMMISSIONER LEVIN: Somebody just forgot a letter.

MR. MICHEL: That is right, I need to add it in. Thank you for the opportunity to be here again. My name is Tim Michel, I am a Supervisor with Pacific Gas & Electric Company, and I have the honor and privilege of working with a team of extraordinary folks at PG&E that have helped develop a voluntary program effort that we believe is very complimentary to the efforts that are being considered here today. Our program works with the industry, so we are working with retailers to help get them to stock, promote, and sell more energy efficient televisions. We are working with organizations under agreement such as Best Buy, Wal-Mart, Costco, Sears, K-Mart, soon a variety of independent retailers through national buying groups, so we are engaging the entire retail marketplace to help create an awareness,

an energy efficiency awareness, around televisions in our marketplace. We also feel very blessed to be working with other utilities in California, and PG&E and the Sacramento Municipal Utility District were the first to launch this program here in California, and now we see other investor-owned utilities like Southern California Edison and San Diego Gas & Electric, who have implemented programs, and we see other municipal utilities in California looking to implement similar voluntary programs. We think that the -- well, we do not think, we know -- that the program is complimentary to what you are considering right now. Essentially, we have a market pull strategy. We are going to, beginning next year, and right now we are already going beyond what you are considering here for Title 20 Standards. Beginning in January, our utilities will be supporting a two-tiered incentive level on a voluntary basis, supporting the Energy Star 4.0 and 5.0 levels, and as we see market share increase within these particular product categories, we will consider raising the bar and continual raising the bar to push energy efficiency on a voluntary basis within our service territories, and I think we will see that throughout the utilities in California doing it on behalf of their utilities. We know that -- and we have seen the same kind of complimentary benefits happen within the appliance sections where you have implemented Title 20 standards on a

variety of appliances and utilities have implemented voluntary programs to help kind of pull the market into where you are going, and it would be our intention to leapfrog beyond that, as those standards get adopted in California. Really, just to wrap things up, we think California is very well positioned to have a very significant market transformation impact in the state, and it would be done through a combination of utility incentive programs working with the industry, energy performance standards, and customer and retailer education. Just to give you an idea, we along with the Sacramento Municipal Utility District and several other utilities in California, are putting up point of purchase materials on television, within retail locations that I have mentioned, so that we can make the customer aware that they do have energy efficiency choices, and we want them to make the right energy efficiency choice. So I thank you for what you are embarking on here in California, and I thank you for the opportunity to speak here today.

COMMISSIONER LEVIN: Thank you very much, Mr. Michel.

MR. MICHEL: Thank you.

COMMISSIONER LEVIN: Mr. Hamzawi from Sacramento Municipal Utility District. Did I slaughter your name, too?

MR. HAMZAWI: No.

COMMISSIONER LEVIN: And just a reminder please, if speakers could give their business cards to our Reporter, that would be very helpful.

MR. HAMZAWI: My name is Ed Hamzawi, I am the Program Implementations Advisor for Energy Efficiency Programs at the Sacramento Municipal Utility District, and I thank you for the opportunity here. I commend the Energy Commission and its staff on the thoughtfulness and thoroughness with which the proposed television standards have been developed and proposed. I guess I am just going to add my voice to the fire thus far, and mention that it is our view that the proposed Standards present a most reasonable and effective balance between setting energy efficiency guidelines on a very fast changing and competitive technology, with innovative and creative manufacturers, while taking into consideration the significant energy savings and greenhouse gas reduction goals for the State of California. As has been stated, televisions are currently a growing source of energy use in homes and business and, in fact, with ever growing sizes and features, can represent the single largest annual electricity end-use in homes, replacing refrigerators and freezers in this category. As history has shown, establishing energy efficiency standards for those and other appliances has approved over the past decades to be an

extremely effective method of managing and reducing energy use without affecting consumer choice, while maintaining reasonable cost per unit, and increasing innovation and creativity by manufacturers in response to the challenges presented by them. We expect and anticipate that the response to these standards will not be any different in this case and are very anxious to continue working with our manufacturer and retailer partners, along with other utilities and organizations in California and beyond, to help promote and promulgate products and information to the consumers that will help them make better energy efficiency choices and product selections, while maintaining a wide variety of choices and options for consumers to select from. It is our hope and belief that the combination of market push provided by the Standards, and the market pull provided by incentives will prove to be a most effective means of transforming this market over the coming years. As has been noted, and we note also that, in support of the proposed Standards, that over 1,000 of today's TV models in all sizes, ranges, already meet the Tier 1 Standards proposed for 2011, and that nearly 300 models already meet the Tier 2 Standards for 2013, and with continued model improvement over the next four years, SMUD has great confidence that TV manufacturers can continue to provide a wide variety of choices and innovative features that meet the Tier 2

standards. I guess, lastly, we have encouraged parties involved to move with all haste to develop and implement standards for televisions greater than 1,400 square inches, with current trends towards ever increasing sizes for televisions, we hope that this niche in the market will not be left unattended or overlooked in the coming months or years. Even now, there are several plasma, LCD, and OLED models larger than 1,400 square inches that could meet the proposed Tier 1 Standards today, even though they do not go into effect until 2011. And we believe there is adequate time and that TV manufacturers possess the ingenuity and technological innovation and resources to make the changes necessary to make these larger televisions meet Tier 1 Standards and in setting and meeting future Tier 2 standards, as well. Thank you for allowing me this opportunity to provide comments on behalf of SMUD. Thanks.

COMMISSIONER LEVIN: Thank you very much. Mr. Ken Lowe with Vizio.

MR. LOWE: I am just making a few statements on behalf of Vizio and who is Vizio? For the first half of 2009, we have been the number one shipper of flat panel TVs in the USA. High quality value priced TVs are available in Wal-Mart, Costco, Sam's Club, and Target. We provide TVs with the latest technologies and features, we have longstanding environmental commitment and our impact on the

environment, not only through reduction in power consumption, but in materials and end-of-life disposal. We have reviewed the proposed CEC standards and are comfortable with our ability to meet the proposed levels and their implementation dates. Today, several of our models already meet the proposed Tier 2 levels, and that are not scheduled to go into effect until January 1st, 2013. We are in the process of redesigning our other models so that the new designs will meet these levels by the CEC deadlines. New technologies such as LED backlighting helps to reduce power consumption to meet Tier 2 levels. Currently, the cost addition for the Vizio consumer is from tens to hundreds of dollars, depending on the screen size. And we expect, as the volume increases of TVs with the LED backlighting that the price/cost additions will come down. Another technology is ambient light sensing, where the TV is able to sense the ambient lighting in the room and adjust the brightness accordingly, therefore reducing the power in a darkened room. The proposed addition of requiring the TV to enter stand-by after 15 minutes of no video could create problems. All Vizio TVs will perform this function on the computer input, and it took several iterations of timing adjustment, years ago, to reduce customer calls to a reasonable level because of misunderstanding by customers of what is happening, and when the TV goes off, they do not know what

to do and they call our tech support, which is a cost to us. If connected to an antenna, a cable box, or a satellite box, the video will never disappear, and so perhaps this is a moot point. One final point I would like to touch on is consumer education. And education campaign through advertisements encouraging consumers to turn off their TVs when not using them will result in further incremental savings. Thank you.

COMMISSIONER LEVIN: Thank you very much. Mr. Ron Gorman, Sempra? Mr. Gorman?

MR. GORMAN: Good morning. Thank you, Commissioners and staff. I have been asked -- I am a Program Manager for Sempra Energy, or the Sempra Utilities, which is San Diego Gas & Electric and Southern California Gas Company, I have been asked to read into the record a support letter from Pacific Gas & Electric Company, Southern California Edison, San Diego Gas & Electric, Southern California Gas Company, Sacramento Municipal Utility District and, excuse me one second, I always forget these, Northern California Power Agency. This should already be in your hands. "Dear Commissioners: On behalf of the undersigned California utilities, we are writing to express our strong support for the California Energy Commission's Proposed Television Efficiency Standards, Docket No. 09-AAER-1C. Together, we provide energy services to over 33.5

million Californians. We agree with the Commission that televisions represent a prominent and growing source of end use energy consumption. Addressing this growth through a combination of energy performance standards and utility incentive programs will be necessary for California to meet statewide energy efficiency and greenhouse gas reductions such as those articulated in AB 32 and the CPUC's recent 2010 through 2012 Energy Efficiency Portfolio Approval. The proposed TV Standards will generate an estimated 6,515 GWh and energy savings annually, after all existing stock is replaced. For perspective, this is equivalent to roughly 2 percent of California's total system-wide electricity consumption in 2008. By focusing on demand-side efficiency, the standard will eliminate a power plant equivalent load from the electric grid, roughly 500 Megawatts. The overall energy cost savings for our customers is expected to be approximately $8.1 billion. An unprecedented body of evidence has been presented before the Commission showing that the TV Standards are feasible, cost-effective, and critical for meeting statewide goals. There are currently over 1,000 TVs that meet the Tier 1 power requirements in nearly 300 TVs that meet the Tier 2 power requirements -- 15 and 39 months before the respective effective dates. Ample evidence has been presented before the Commission showing that TV manufacturers are offering, or plan to offer, before

the effective dates, these energy efficiency TVs with sacrificing product performance. The Commission should continue its decades-long track record by promoting energy efficiency through appliance and building standards such as has been done previously with refrigerators, air conditioners, external power supplies, and many other appliances. In supporting this proposal, we believe that California will be doing what is best for the state, the environment, and the consumer. Thank you.

COMMISSIONER LEVIN: Thank you very much, and to the other utilities, as well. Speaking of which, the next speaker is Mr. Hornquist from Southern California Edison.

MR. HORNQUIST: Good morning, Commissioners, staff, and stakeholders here present today. My name is Edwin Hornquist. I represent the Codes and Standards Program for Southern California Edison. I would first like to thank you for the opportunity to speak here today and would like to reaffirm our support for the proposed television standards. For many years, Southern California has supported voluntary incentive base programs that help bring to market energy efficiency products that result in cost savings to consumers. These programs are an indispensable tool that helps accelerate the adoption of energy efficiency products into the marketplace. As energy efficient products availability and market acceptance

increases, the adoption of cost-effective codes and standards becomes an important tool to achieve further energy reductions. We believe that the CEC proposed standards should be adopted to allow Californians to begin realizing the billions in cost savings, while achieving substantial reductions in greenhouse gases and other environmental pollutants, as move towards zero net energy goals and substantial reductions in greenhouse gas emissions, as called for under AB 32. Industry needs to be commended for their efforts and for their role in helping bring energy efficiency products to the market, which make considering these standards possible today. The recent release of the EPA's Energy Efficient Specifications for Televisions Versions 4 and 5, as we have seen in prior presentations, is a testament to the progress that continues to be made. Again, Southern California Edison supports the adoption of these standards for televisions and urges the Commission to move forward in adopting them. Thank you for the opportunity to speak here today.

COMMISSIONER LEVIN: Thank you very much. Jasmin Ansar, Union of Concerned Scientists.

MS. ANSAR: Good morning, Commissioners and stakeholders. Union of Concerned Scientists is a leading nonprofit alliance of scientists and citizens working for a healthy environment and a safe world. I just want to say,

the Union of Concerned Scientists strongly supports adoption of these standards. These measures are an important and critical part of a portfolio of measures that are needed to help California achieve the greenhouse gas targets embedded in the Global Warming Solutions Act, AB 32. I am a climate economist for the Union of Concerned Scientists, and being a practicing economist, I will focus my remarks on some of the fundamental and significant problems in the admissions with the economic impact analysis undertaken by Resolution Economics for the Consumer Electronic Association. I think one of the main problems with the analysis is that it makes a fundamental and simplistic assumption that all non-compliant TVs represent lost output for the state, and that TV technology essentially remains unchanged, so that these less efficient TVs would command the same sort of market share. The analysis of the report itself estimates for California State tax, job, and revenue losses by examining a forecast of the volume of TV sales for the whole of the U.S., it then estimates California's share by the total TV sales by type of TV, and it assesses as a loss for California the total estimated number of non-compliant TV sales. As I said, one of the problems with this is that, 1) it is a partial analysis, so it is only examining the TV sector and what it really fundamentally ignores is the implications of the

repercussions of these in terms of output for any of the other sectors. It also ignores the fact that, you know, once a regulation is in place, basically the authors assume that all of those sales that would have been made now basically leave California, so they totally ignore the fact that there may be substitution of these sales, that is, substitution from non-compliant to more compliant TVs, and substitution in other markets in the sense that the consumer presumably, if they are not going to buy the TV, and they are not buying another TV, they are going to be spending that money within the state on other goods and services. So this substitution aspect is ignored, and the CEA analysis is partial, and any of the spillover effects or substitutions effects have been ignored. The other aspect is, of course, that this is a dynamic market, and unfortunately for the authors, they rest their analysis based on a Price Waterhouse analysis, which actually is based on 2004 market characteristics. That is probably problematic just given how fast and how quickly this market moves. A more complete analysis would consider the impacts of the costs and benefits of the regulation, and the impacts across all markets in the state economy. This is no easy task, let me add, and so one can sort of sympathize a little bit with maybe why this back of the envelope calculation was done in its place. But, actually, we do have some evidence on this

in the sense that there was a recent study produced in October 2008 by Professor Roland-Holst from U.C. Berkeley. The report is entitled "Energy Efficiency, Innovation, and Job Creation in California." And let me just quote from the report one of the core findings. "Over the last 35 years, energy efficiency measures have enabled California households to redirect…," and I emphasize the word "redirect," "…their expenditures towards other goods and services, creating about 1.5 million full-time employment jobs, with a total payroll of $45 billion, driven by well-documented household energy savings of $56 billion." So there is at least some evidence of both historically the economic stimulus, in fact, effect often of energy efficiency measures. And in the same report, Professor Roland-Holst does also examine the suite of measures as proposed in the Scoping Plan, and those include measures such as these Codes and Standards and, again, the estimate shows substantial benefits. I think another important admission from the report are the economic impacts associated with consumers' energy cost savings from the more efficient TVs and there will be multiplying income impacts in other goods and services markets from these cost savings. And furthermore, for the TV manufacturing industry, there are likely to be economic rewards from the innovation and leadership, which the regulations are likely to induce.

None of these economic benefits are estimated or included in the CEA economic impact analysis. Thank you very much.

COMMISSIONER LEVIN: Thank you very much. If you have not already submitted the U.C. Berkeley Professor Holst report into the record, it would be very helpful if you would do so. Thank you. Our next speaker is Dave Lamb from 3M.

MR. BARNES: Good morning. My name is David Barnes with BizWitz, a Consultancy in Display and Imaging, and I am here representing the LCD TV Association. It is a fairly broad association of companies starting with raw materials like Corning and 3M moving through the supply chain into panel makers, TV product assemblers, brands and other people, even makers of packaging materials that bring TV products to market here in the United States and elsewhere. And we recognize that the TV energy consumption is an important issue for policymakers and for consumers, and we support the strategy to reduce energy consumption in TVs, in general. We observed that most LCD TVs achieved Tier 1 energy usage levels today, and that we have to also note that the entire LCD industry is working on improving energy efficiency as we are hearing here today. The association believes that LCD TVs can achieve Tier 2 energy usage levels in 2012, with current technology, without substantial costs or premiums to the consumer. The

Association is concerned that the CEC approach, if not thoughtfully applied to products with additional new features could theoretically suppress innovative features and TVs which, because they add functions, may also add energy consumption. Some examples of these new ideas are, you know, Internet conductivity, teleconferencing capabilities, 3D TV, gesture recognition, facial recognition, and so forth. Although these features may add energy consumption to the TV, they could also add compelling value to the consumer, and the Commission should take appropriate exclusions or provisions to allow such products to reach the market, and I must note that I think the staff has done an excellent job of presenting the fact that the way the tests are structured today, it looks like may of these new things would be turned off, and are basically moot, you know, as we see them today. With appropriate consideration and communication, I think both ways, we believe that this issue can be addressed and that, since the test methods in the regulations would not cover the incremental energy these features consume, and they are not activated during the test. So if I could just speak as a Native Californian, I am really proud of the state leading the charge. Thank you.

COMMISSIONER LEVIN: Thank you very much. Mr. Barnes, could I just ask a clarifying question because I

thought you were expressing concern about the possibility that the proposed rule could stifle innovation of these add-on features, and yet you seem to understand from staff's presentation that they are not actually included in the standard, and that they will be turned off during the test procedure. So is the rule not sufficiently clear, as written. Is that what you are trying to say? Or -- I am not clear, actually.

MR. BARNES: Well, as I said at the outset, you know, the Association is fairly complex and covering a lot of stakeholders in the supply chain, and some members, you know, that we uphold recently express concern, but it is my personal opinion that our environmental subcommittee needs to do a little bit better job communicating this, and I think by working on the communication with Mr. Singh and others, Mr. Rider and others on the staff, that we can move forward.

COMMISSIONER LEVIN: Okay, so you do understand and hopefully will continue to communicate those add-on features you mentioned are not currently included and so innovation in those areas should not be stifled.

MR. BARNES: That is just a general concern of people looking forward, that television is going to become much more efficient moving forward and, of course, people are looking for other ways to differentiate the product, and

so I think you are going to see a lot of new features and capabilities brought into the television space over the next couple of years.

COMMISSIONER LEVIN: Okay, thank you very much. Has Mr. Lamb returned? All right. Mr. Jerry Koontz from TAOS, it looks like.

MR. KOONTZ: Good morning, Commissioners and Commission members, as well as staff. I would like to thank you for the opportunity to talk and add a few comments to the process, which I highly commend and appreciate the support of your staff in this process. I am here to represent TAOS. TAOS stands for Texas Advanced Optoelectronic Solutions, that is a tongue twister, but for short, we are a technology supplier or semi-metric company, it is about 10 years old, we spun off from Texas Instruments in the late '90s. We were the pioneer in digital ambient light sensing, things you have heard about here today that allows the display of brightness to be automatically controlled, and as a result of that, to see significant savings by as much as 30 percent in energy savings. The energy savings are something that is of interest in many parts of the consumer electronics industry. The great thing about this technology is that it has been in place for almost 10 years, in a variety of different forms. Digital ambient light sensing was first launched in 2002 by TAOS,

and has been used across many different parts of the Consumer Electronics Industry. So the beauty of this from a technology perspective is that it is very mature, it is very cost-effective, and some of the applications -- some of the other consumer applications where this product is being used are, you could argue, as much if not more cost sensitive than in LCTVs such as cell phones, laptops, net-books, monitors, etc. So, you know, the TV industry is getting the opportunity to take advantage of a technology that has come way down the cost curve and would impact negligibly from a cost perspective the LCTV. We are working with many, if not most of the LCTV manufacturers today. You have heard some of the comments today and some of those that were provided by Mr. Singh and Mr. Rider, which indicate that the LCTV manufacturers are moving ahead rapidly, and many of them have been doing so for many years. So working with the likes of Samsung and Vizio and LG, these folks have recognized the value that this technology brings, and I think you will see, obviously, many more manufacturers adopting this, as well. As well, one of the beauties of the technology is it looks at both plasma and LCD TVs. So, in closing, it is a technology that is here, it has been available for many years, it is cost-effective, it is mature, is certainly can deliver energy savings, and as far as additional energy savings is concerned, there is also

moves on the front of proximity which actually you may have heard TAOS has also developed, which can further reduce power consumption by turning the display off when somebody leaves the room, so for those folks that listen to their TVs in another part of the room, you can do that, it will turn the display off and you can save power at the same time. So I thank you for the opportunity to comment on your process.

COMMISSIONER LEVIN: Thank you very much. One of the most interesting and exciting parts of this rulemaking and the process that preceded it was learning about all the new technologies in development and already available, and it is very exciting, and we will try not to hold it against you that you are actually a Texas-based company.

MR. KOONTZ: Well, thank you. And since you made that comment, we are based in Plano, Texas, so I will give myself a --

COMMISSIONER LEVIN: We like innovation wherever it comes from.

MR. KOONTZ: Thanks again, so much.

COMMISSIONER LEVIN: All right. Mr. Pappanastos with Imagine Technologies.

MR. PAPPANASTOS: Thank you very much for having me today. I was introduced to the group just a short time ago. I read the article in the *Los Angeles Times*. I am with Imagine Designs, Incorporated in San Jose, California

-- Campbell, actually. And I said, that is right, that is the opportunity for us to show our technology to the world, and so I made a phone call to the Director of the old Commission, within a day people called me back. It was amazing. I have never seen a bureaucratic group that was so efficient, you know? I was just shocked and really pleased. I was talking to the very most important people within two days, invited up for a meeting within a week, and so I commend you all for being disciplined, but not bureaucratic. You will learn about that from my background. I am a follower of Dr. Deming, the famous consultant that went to Japan and his whole approach to life was to slow down so things can speed up. Well, the side of him was that there can be step functional improvements, and our technology can bring a step function improvement from 135 is the standard for the Year 2, we can take it down to 45 immediately, within a year and a half of development. Our watchword is efficient optics for LED solutions of all types of displays, not only cell phones, hand-helds, TVs, LCDs. The founders of the company are me and Brian Richardson, Brian is 14 years in technology displays, 25 patents. I am 35 years in Silicon Valley, shipping reliable products such as Tandem Computers and Sun Products. So innovation. Our product is less complex, both mechanically and electrically. I brought a static version of it just for fun, so this is the product.

When you switch these pixels, you turn it into a display. That is one LED lighting that entire panel. And those can be shrunk down to whatever size you want them to be, and they will toggle that, and you can lift the light out. As an example of the difference, this is the display that is currently introduced in products, that is how much is blocked by the display, our light is on the left. This is just the light source I am using ours for now. According to the people that make displays, 95 percent of the light is blocked. Our technology unblocks over 25 percent of the light. The LCD on ours is in the back, it is not in between the light source and the user, the viewer. There is no need for the LCD to apportion, the light energy is 80 percent less, so the light that lights the light guide is 20 percent of the volume, which is 20 percent of the energy. We can have our backlight system that works with local dimming, in addition to this. The cost, CH2MHill which is one of the larger engineering companies in the world, we commission them to do an analysis, their numbers are as follows: the cost of our product is 46 percent less on materials, 98 percent less in electronics, 54 percent less in labor, 65 percent less in maintenance, total of 55 percent less cost of goods. We can bring the manufacturing of TVs back to the United States with those reductions, and bring jobs to California, right here. We have supporting evidence from

Optical Research Associations, a bonding company that will bond our film and our technology to the glass, they have proven it can be bonded, film making companies such as Way Front Technologies, Optical companies such as Mems Optical, and experts in electrostatic control. So the net of it is we can trade jobs, we can reduce costs, and we can bring innovation and profit back to America. And we can share it with our people across the world in whatever degree they would like to integrate it. So, again, thank you so much and I encourage you to continue. I am very proud to be a Californian.

COMMISSIONER LEVIN: Thank you very much. Steve Stephansen with Agoura Technologies.

MR. STEPHANSEN: Who takes the business card?

COMMISSIONER LEVIN: The gentleman on your right.

MR. STEHANSEN: Thank you, Commissioner, for having me, being able to speak with you today about the regulation you are looking to bring about. So Agoura Technologies is a venture capital back start-up, actually backed here locally, we have been operating out of Roseville with American River Ventures. We have been in development of a new LCD TV Energy Efficiency Film similar to some of the others we have heard about today. I guess beyond pitching the particular product that we are looking to bring about, I would like to speak a little bit more generally

about what I think these Title 20 regulations will do with respect to creating new technologies that actually allow the TV manufacturers to meet these requirements. So, in my estimation, the Title 20 regulations will create a demand pull for new energy saving technology development and investment. And one of the key problems with technology companies such as ours and some of the other start-ups you have heard about today is actually getting this investment. It is very very -- it has been difficult in the display industry to get investment for technologies such as ours, and the fact is that this regulation will lower the risk of investment for investors, as there will be considerably more demand for these technologies. And we should see considerably more investment in technologies such as ours and some of the ones you have heard about today, once these regulations go into effect. Specifically, with respect to what we are doing, it is an area called Polarization Recycling, it is a key technology that lowers energy consumption in every TV, or any LCD display, by 30 percent. This is largely being implemented by 3M today, 3M is sole-sourced, and I know we are going to hear from the gentleman at 3M, they have a key technology that, in our estimation, will be used in every single TV. And this polarization recycling technology, alone, is sufficient to meet the Tier 2 regulations. So the 3M technology is well known in the

industry today, it is sole sourced and it turns out to be an expensive approach. We have a particular implementation, an improved version of it, if you will, that will dramatically lower the cost of Polarization Recycling, and to give you an idea on perhaps a 60 inch sized TV, it should take about $60.00 of cost out of the TV, which translates into a price decrease to the consumer of perhaps $100.00 or more, depending on the gross margin of the TV sets. So what we have heard today is that some of these technologies can be implemented at perhaps little additional costs, but the fact is, there are going to be technologies available such as ours that will actually lower the price of the TVs. So I think, in my estimation, and I have been in technology commercialization for over 30 years out of Silicon Valley, in my view these Title 20 regulations will in hindsight be viewed as not aggressive enough. We have heard about a lot of technologies today that are going to become available, but the bottom line is they can be used in aggregation. I have not heard of any technology here today that cannot be used in combination with others that can bring about energy efficiency well below the Tier 2 levels, so I think we will in hindsight view these regulations as not aggressive enough and I think we will in hindsight look back and say this is just a really really great thing in saving the energy consumption as much as possible in TVs. Thank you.

COMMISSIONER LEVIN: Thank you very much. Has Mr. Lamb from 3M --

UNIDENTIFIED SPEAKER: He is not here. He is on the WebEx and he is going to call in when you guys open up the line for those calls.

COMMISSIONER LEVIN: Okay, great. Thank you. Someone else must have filled out a card for him, then. All right, Mr. Cobb from McLaughlin Consulting Group.

MR. COBB: Good morning. Thank you for allowing us to speak today. I am Carl Cobb. I am a partner with McLaughlin Consulting. Chuck McLaughlin, who is the President, is here as well, and our third partner, Steve Jurichich, I believe, is participating over the WebEx today. The reason I wanted to speak today was to talk about the feasibility of improving power consumption and I think you have heard a lot about the technologies, and so forth. McLaughlin Consulting does technical and venture consulting for new technologies and, as part of that we do reports for clients and multi-client reports. So displays are the focus of the consultancy and particularly we have done work on LCD displays, both light management films, we have published a series of reports, multi-client reports that are sold throughout the industry, and also more recently on LED backlighting, so both of those topics address how to have more efficient displays. Up until now, until there are

regulations, all of these technologies were for one purpose, which was to lower the cost of production, or for maybe to add features, particular light management films. And Steve Stephansen talked about 3M has been very aggressive in this, but there are a number of companies that have entered that market for different sorts of very innovative micro-optical technologies. But they were focused on how can I reduce the number of lamps in the display and save money, because if you reduce a number of lamps, you reduce a number of inverters, you reduce the size of the power supply. With reducing power becoming an objective by itself, this is going to stimulate more innovation. I will talk about that in a moment. But right now, it has been purely a cost game, so this adds an entirely different dimension, which is a challenge to engineers and it gives them another way to optimize their product. So I think the competitive market is going to drive people very rapidly to adopt different technologies, or to focus on technologies that are available now, that can be used to reduce energy consumption. So, as I said, MCG has done a couple of studies that I will provide references to our website where you can get a summary of those studies, one on light management films and a series on LED backlighting. We have developed for that proprietary models that look at the different engineering variables, so how

would these different films be used, and how should they be price, and so forth. We have particularly focused on polarization recycling, the 3M is the leading one, but the wire polarizers, which Agoura makes, or cholesteric recycling, another way to do that. They improve light output by about 55 percent, which gives you a 35 percent reduction in power right off the bat. There is also micro-optical prism films, game diffusers, and together those can give you up to a 47 percent reduction. So some of these are already being used, but they are being justified only on cost reduction. Right now, these pretty much pay for themselves. And for my talk today, I looked at our model and estimated, there is a difference of four different configurations for a 46 inch TV and the difference in cost from the most expensive to the least of these different light configurations is $7.00 in manufacturing costs, and yet the difference in operating costs for one year is $127.00, using five hours a day, $.14 a Kilowatt hour, same sort of calculations that have been done for the Regulation. So the problem with this is the economists would call it market failure, is that when you go into Best Buy, you see the price, you do not see the operating costs, and so the consumer is unaware that they are buying -- when you buy a gas guzzler, you find that out very quickly from the sticker, but if you buy an electricity guzzler, it is very

invisible and it is not priced out for the consumer. So this is going to make the consumer a wiser consumer. The other innovation that is happening is LEDs are being used for lighting and for backlighting LCDs. Right now, those are quite a bit more expensive. Somebody testified about the Samsung or the Sony devices, but they are becoming rapidly cheaper because lighting is pulling them, and TV is pulling them, and also the production volumes are going up, and output efficiency is going up. So those are too early to mandate now, but it may be too conservative and maybe they should be mandated at some future date. Also, this has applications in lighting. Finally, in addition to those, there are other LCD TV efficiencies that are there right now, dynamic backlight, local dimming, improvements in the LCD ray aperture, what is called aperture, increased color filter transmission, and in the future it maybe possible to completely eliminate color filters, which would reduce power by two-thirds by itself. So there is a lot of innovation there. This is going to spur innovation, not inhibit innovation. You know, right now, the things pay for themselves, and adding a lot of cost is not a problem, there is a large net savings to the consumer. And LED backlighting is coming along, so that is possible in the future. Thank you very much. I will provide a written copy.

COMMISSIONER LEVIN: Thank you very much. Mr. Sharp with Panasonic.

MR. SHARP: I would like to request to defer my time to CEDIA, so they could go first and maybe I could speak later if I could? It would be more appropriate for the order of the comments.

COMMISSIONER LEVIN: Okay.

MR. SHARP: Thank you.

COMMISSIONER LEVIN: Mr. Demple with CEDIA.

MR. DEMPLE: I want to thank the Chair and Committee members and staff. I am representing both CEDIA, which is Custom Electronics Design and Installation Association and Andrews Electronics, where I work, based out of Santa Clara, California. CEDIA is a professional trade organization that specializes in planning in the installing of electronic systems in the home. We represent in California 450 members, 258 of those members are what we call Electronic Systems Contractors, or ESCs, so they are actually the ones that are maybe selling, as well as integrating those systems, and they are a vital part of small business in California. ESCs sell and integrate panels above 58, as well as below 58 inches, and they may integrate them together, as well. So this becomes important because, as they are matching systems, to be able to match quality and type, the Regulations will cover both sets and

they do that today, and anywhere from down into small sizes all the way up to very large sizes and, like I say, sometimes together. Our 2008 CEDIA Benchmarking Survey came back with 52 percent of gross revenues for CEDIA members were associated with home theatres and media rooms, so more than half their revenue. Also, Parks and Associates Q2 2009 Survey came back with CEDIA members, on average, their revenue annually dropped from $1.8 million to $1.6 million, and it is safe to say, with the current economic conditions, that is not going to be better during the next survey period. Flat panel displays are an integral part of the ESC's revenue model and they are the lead-in to the rest of what a ESC will do. So what they tend to do is start with what panel, and then work backwards into the rest of the system, and sometimes with the energy savings products and whatnot in that set-up. And I have a sample of one picture and this is from a company that is a member of ours in Alameda, California, that shows a set with one large set and multiple small sets in a media-type room. There is an example. So ESCs install audio-visual and entertainment systems in single-family residents, which is what ESCs have been kind of noted for, and what people think of mainly as what our members would do, but we also do multi-family units, conference rooms, schools, government buildings, a number of different environments. And, again, as I said,

the entry point to the homeowner is through the flat panel. Our concern on the impact is that the Regulations are going to affect our members on both sides, and as they try to integrate systems together, as we look at the Regulation, especially Tier 1, it inordinately affects the products that our members sell, and so what it does is it puts them in a situation where their differentiation in the products they are able to sell and demonstrate are not much greater than what a person can go and buy from a non-high-end dealer, a non-high-end integrator. Today, our members do many different energy savings solutions when they are doing these systems, things like we offer video calibration to make sure the set is running properly and getting the best energy usage, energy monitoring systems are set up through security, lighting controls, occupancy and motion sensors, automated window treatments, HVAC controls that can all be automated and run remotely, and our members are doing that every day. And with that, I want to thank you for your time in allowing me to comment. And take care.

COMMISSIONER LEVIN: Thank you very much. Ray Williams from PG&E. Now, we have three cards from CEA, Consumer Electronics Association, as well as Mr. Sharp from Panasonic. I do not know if I have the cards in the order in which you want to go. I have Bill Belt, Seth Greenstein, Doug Johnson, and then Mark Sharp. And I would also just

like to ask, since you have several people representing the same association, if you could try to avoid repetition and possible 20 minutes is a long time for one organization, albeit a very important one, so if you could just try to keep your comments to a summary form as other speakers have, and submit more detailed comments in writing, that would be great, especially since I think folks like me are starting to think about lunch.

MR. JOHNSON: Thank you, Commissioners. My name is Doug Johnson. I represent the Consumer Electronics Association. I do recognize that neither of you presiding today was present at the previous workshops where we went into a lot of these issues in great detail. But it is my pleasure to be here this morning and, given the parameters, we will keep our remarks brief, but we do want to cover a number of major points. We do plan to submit written comments for the record and cover some of the points in those written comments this morning. Voluntary efforts are succeeding without regulation, as the evidence clearly shows. Energy Star compliance, coupled with innovation, and the advances you have heard about this morning, as well as new initiatives led by the utilities with regard to rebates are serving to achieve, to meet, and to exceed goals regarding energy efficiency and certainly support the broader goals of emissions reductions that the state has.

The core concern here really has to do with the element of the Commission's proposed regulations that would impose a mandatory power consumption limit on televisions. Such regulation undercuts innovation, it does harm consumers, ultimately, and it certainly harms TV manufacturers in related industries. The CEC's Regulations wrongly assume the accuracy of flawed out of date stakeholder studies. The Commission staff is relying on old data and is making unknowable projections through the year 2022. There is no account of successes already achieved through industry innovation, or, for that matter, through Energy Star Program compliance. The result is that the CEC staff grossly over-estimate the potential energy savings of their proposed regulation. We recognize the power factor correction is an element of the proposed regulations, but believe it is unjustified and not required, particularly in light of the CEC staff's and the USEPA's own acknowledgement that power factor correction generally has nothing to do with energy efficiency or saving energy in products. As you will hear about from my colleagues, the Commission's regulations do bear significant cost for consumers, also would impact innovation in our industry, and also would impact the local California economy. The losses to the state, in our view, certainly outweigh any speculative benefits of the proposed regulation, over the voluntary and market-oriented measures

that are already underway. Commissioners, there is a better way to achieve the state's goal of emissions reductions for this industry sector. We urge you to work with the Association, with our partners, our members, which include manufacturers and retailers, to educate consumers about energy savings and opportunities with televisions, to teach consumers to reduce energy use, certainly to monitor market innovations to reduce energy consumption. There is one element of the Commission's proposal that we have agreed with for a long time, and that is the requirement that all TVs sold in California, for all TV manufacturers to report the power consumption information related to their sales of TVs in California. That body of data would help us all certainly monitor the market going forward. As I mentioned, the core concern is that regulation stifles innovation and the approaches taken with these regulations. There is a long history of innovation in the digital TV market, certainly starting with high definition CRTs, moving to plasma televisions, DLP, LCD, you have heard these technologies mentioned. We have OLED right around the corner, certainly in larger screen size, and then we simply do not know what is going to take place in this industry in 2011 and 2013, and certainly 2022. Innovation in our industry, in the television market, boosts other markets in demonstrable ways. I would include retailers, installers of

products, broadcasters, and the motion picture industry, television production, as well as professional and commercial users of flat panel televisions. It is very clear that consumers want innovative features in televisions and our data and our research at CA shows that price and features are the number one consideration of consumers in buying TVs. Energy savings is indeed important, but it ranks number five on this list, and certainly would never replace either price or features in the list of important qualities. Innovation requires early success. Early adopter consumers in our industry are crucial to product development and investment. Those people who buy those first model televisions of the new technology that come out are very important in creating the volumes necessary that will support the revenues, and further innovation to develop more efficient technologies and products that meet consumers' demands. You can take a look at the market path of OLED technology, plasma displays, DLP or LCD technology, and see that those technologies have been the result of many years of research and investment, and trial and error to get where we are today. Product development requires flexibility, not regulation. Product development requires time, not timetables. Regulations can essentially bind a feature none of us can see. Digital TV technology is just beginning, we are still in the early days, and neither the

CEC nor the PG&E, nor CEA, nor anybody in this room knows the feature or impact of new display technologies in this highly dynamic and innovative industry. Given the fast pace of innovation over the past five years, no one can predict what the market will be in 2013 to 2022, four to 12 years into the future. Regulations do risk stifling innovation and, again, the core concern here is the Commission's focus on mandated power consumption limits in its proposal. We certainly see this as based on a lack of evidence and justification. We do know that this would even pose risks for the existing technologies if CEC regulations had been in place in 2001, there would be no plasma TV introduction, no LCD TV introduction the way that we have seen it, no money resulting from the sales of those televisions to fund future R&D investment, and no demand by consumers for those early products, but, again, yielded benefits on down the road. That is what we know, looking back. What happens to the next DTV technology? In concluding, you will hear in a moment from my colleagues about the alternatives that we have talked to the Commission about, that again can support the broader goals. We believe the industry supported alternatives can save as much or more energy than the mandated limits on televisions. In other words, we can achieve equal or better energy savings without the negative economic or technological impacts of the Commission's

current proposal. It was mentioned earlier, this apparent contradiction in industry claiming that it is already achieving energy efficiency, and the concern we have about negative economic impacts. I do not think there is an inherent contradiction there. We are striving toward a goal that we all agree with, it is just a question of what is the most appropriate path for the high tech industry given that you are now focused on the electronics sector as opposed to wholly unrelated sectors to which you have applied these regulations previously.

COMMISSIONER LEVIN: Mr. Johnson, I am sorry, I have given you well over five minutes. In fairness to other speakers, and because there are several more speakers that come from CEA, just to let you know at some point there is a cumulative total, so if you want to continue and the following speakers from CEA could shorten their remarks to compensate, that would be very helpful.

MR. JOHNSON: I was just a few words from wrapping up, but I think I can leave it at this point. In other words, the goal is very clear, it is something we all support, energy efficiency and helping you to meet the state's AB 32 goals. The question is what is the right path to get here? It is not in the Commission's current proposal. Thank you.

COMMISSIONER LEVIN: Well, having just asked you

to be brief, I do have a follow-up question and it is exactly on your last point. You did say several times that the proposed rule would stifle innovation, but you began by talking about all of the innovation that is coming from the industry, so I am having a hard time reconciling those two statements. Could you please be very specific in answering, how far do you expect voluntary innovation to get us in the same time period as a proposed rule in terms of actual energy savings, and what is the difference from what we are proposing?

MR. JOHNSON: Again, in the interest of time, I think my colleagues will be responding to that point.

COMMISSIONER LEVIN: Okay.

MR. JOHNSON: Thank you.

COMMISSIONER LEVIN: Thank you. Next then, we have -- well, I will let you choose who is coming next, either Mr. Bill Belt, or Mr. Seth Greenstein.

MR. BELT: Bill Belt, thank you.

COMMISSIONER LEVIN: Thank you.

MR. BELT: Good morning. I am Bill Belt from CEA. I am in the Tech and Standards Department at CEA. Like Mr. Singh and Mr. Rider, I am an electrical engineer there. I work closely on technology issues and standards issues. And as Doug sort of just alluded, I want to talk about some of the voluntary measures that we know consumers and

manufacturers can and currently are taking, and what those savings are going to achieve. First, let me say that somebody has already included in the proposed regulations, actually, at our insistence when we began talking a couple years ago, I think, on this topic, and many of these present opportunities for this Commission as it moves forward to produce regulations that are imposed on the functional requirements of TVs, rather than what we are talking about today, which is on the total energy use of a TV. I will start with the most obvious and where we spent the most time today anyway, which is on the Energy Star Program, which as everybody here agrees, and strongly suggests, has been wildly successful, there are at least 1,200 TVs today that are Energy Star 3.0 compliant. There is a path forward for Energy Star 4.0 and 5.0, which ever increase the amount of efficiency being drawn out of TVs. Compliance with that program has happened completely voluntarily, 1,200 TVs completely voluntarily. We recognize the enormous value in that logo and want that logo attached to our TVs and will work hard to get to it, and that is clear that is exactly what has happened. If you compare Energy Star data from December 2007 to now, October 2009, you will find that there is a 29.3 percent average power savings weighted across all sizes. That translates into a 41.4 percent energy improvement over that time period. Some of the other things

we talked about and some of these already appear today in the proposed regs are these forced menu functionality, forced menus, when you bring your TV home, you are sort of drawn through a series of steps to put your TV into what is the right viewing mode for a home, which is obviously different than the viewing mode you would see, let's say, at a Best Buy, or some other place with very bright lighting. We believe that alone could save 47 GWh annually in energy savings. One manufacturer states that, for their sets, their load on the sets actually is approximately a 25 percent savings reduction. Automatic bright controls and other features, we have heard it talked about in several different ways, but these are light sensor controls on your TVs that allow your TV to adjust to the appropriate viewing conditions in its location in its room where it happens to be. It has been at least two years and many millions of dollars to develop, so far. There is a lot of space left for more development there. We have manufacturers telling us that it might bring us 10 to 15 percent in savings. Today we heard from TAOS saying their solution would bring maybe as much as 30 percent in savings for automatic brightness control. Auto on-off, auto power down, we have heard it used many other terms, we estimate that that is going to bring 90-145 GWh of estimated annual savings for just that feature alone. As we heard Vizio today, that

would have to be very carefully crafted to make sure that we do not confuse or somehow harm a viewer's experiences, but if it was carefully crafted, if we allowed the right amount of time, if we did it properly, we suggest that 90-145 GWh per year could be saved. Finally, and probably most importantly in this, this actually runs sort of through almost every presentation today, it is all about consumer education, consumer education. We believe in energy use disclosures. I want to point out that is different than what the report says, the reports says that we are supporters of energy labeling on products, we are not supporters of energy labeling on products. That is one possible way you might disclose energy use, it is not the only way to disclose energy use. I am not sure if it is the best way, or not the best way, it may be. But people go to other places, to many places, for their information. For example, they go to *Consumer Reports*, or they go to the Web, or they go to other locations, so I am not sure that a label on the TV itself is necessarily the best solution. But either way, we support the FTC's -- Federal Trade Commission's -- current activity looking into that, the best solution and the best information, and we would hope that California would support that also. We heard from Tim Michels at PG&E about his very successful incentive program. We estimate that would save about 10 GWh per year. It is a

voluntary program or there are supporters of it. As Doug mentioned a minute ago, we know that voluntary efforts work. We think the best way to compare apples and apples and oranges and oranges across the various figures that we have seen today is to compare the short term figures. I do not think it makes any sense, I do not think anybody thinks it makes any sense to try to project what is going to happen in 2022, as we have seen done today. If we take short term comparisons, we are suggesting that you can save about 960 GWh per unit of short term. That compares very favorably to what your or the CEC Staff Report says could be saved in the short term. We will get all these figures on file with you guys before the public comment period is closed. And we think, again, sort of in conclusion, we think that doing the things we have mentioned here today, things that we have mentioned in the best, data that have often been overlooked by the report, can indeed save more and do so in a way that is incentivizes manufacturers to move quickest toward energy efficiency.

COMMISSIONER LEVIN: Thank you, Mr. Belt. We would appreciate seeing those figures and also whatever supporting materials and analytical work was used to derive the figures. You and Mr. Johnson mentioned Energy Star and several other speakers have, as well, and it is certainly a program we are very supportive of here at the Energy

Commission. Again, though, I am a big confused, though, as to your strong support for it. Are you suggesting that that is actually the standard that we should use for our proposed rule?

MR. BELT: We strongly support a voluntary program that was written and participated in by stakeholders in an open and transparent process.

COMMISSIONER LEVIN: Okay, but it is a program that you understand approximately 25 percent of television meet, or will meet in the coming years? I mean, it is not a program that --

MR. BELT: You are speaking of your program? I will tell you, we heard today something like 290 TVs meet the Tier 2 specs, I think the number -- I forget the exact number -- it is important to note that Ken used the exact correct terminology -- 290 TVs, or whatever the number was, will meet -- 297, I think, might be the number -- meet one aspect of the Tier 2 aspect, they meet the on mode power requirement of the Tier 2 spec. I do not know, I have no sense how many meet some of the other requirements. I do not know, for example, how many meet the luminance requirements, nobody here knows that. That information is not being reported.

COMMISSIONER LEVIN: But my question is, you are not actually proposing that we simply adopt the Energy Star

requirements, or Energy Star provisions as the standard, correct?

MR. BELT: No. We are suggesting that you support Energy Star Program through an educational campaign that would encourage consumers to replace their current TV and to stock their TVs at the quickest rate possible for new energy efficient TVs.

COMMISSIONER LEVIN: Okay. I think we would absolutely welcome more information from you and the industry about which forms of consumer education really do make the most difference. It is an area that we agree is very very important, and we are looking for data on which methods really have the biggest impact, which strategies will get us there.

MR. BELT: Terrific, thank you.

COMMISSIONER LEVIN: Mr. Greenstein from CEA. And Mr. Greenstein, I would just like to note, your colleagues have already spoken for almost 20 minutes, so if you could try to be brief, please.

MR. WAZZAN: That is him over there.

COMMISSIONER LEVIN: Take that up with them.

MR. WAZZAN: I am Paul Wazzan with LECG. And I am the author of the --

COMMISSIONER LEVIN: I am sorry, is Mr. Greenstein not going to speak?

MR. WAZZAN: He is going to go next.

MR. GREENSTEIN: As far as a logical order, I think it makes more sense for Mr. Wazzan to go first.

COMMISSIONER LEVIN: Okay. I just want to make sure I have a card, I do. Thank you. Mr. Wazzan.

MR. WAZZAN: Hi, good morning, Commissioners. I am Paul Wazzan with LECG. I am an economist. I wrote the Economic Impact Report that was submitted earlier by the CEA. That report has been criticized today. I disagree with most of those criticisms, however, I have taken them to heart, and I will be submitting a revised report by November 2nd. What I would like to do in just a few minutes, though, is give the Commission a brief preview of what that report will contain. It is my understanding that the Commission is constrained not to pass regulations that impose costs on the consumers; in other words, the regulations must be consumer net neutral. Where the rubber meets the road from the Staff Report is the $8.1 billion figure, setting aside impacts to innovation. As long as that number is projected to be $8.1 billion and is positive, one could possibly say that the consumers have not been negatively affected. If that number was negative, then you would have to conclude that consumers were impacted negatively by the proposed regulations. The $8.1 billion figure is predicated based on a number of assumptions in the PG&E Case Report. Let me just address a

few of them to give an illustration of how they impact the number. First of all, there is a mathematical calculation error in their analysis. If you fix that error, the $8.1 billion number drops to $4.9 billion, and that is without changing anything in their model other than fixing an arithmetic error. The next fundamental assumption that they have used is a 3 percent discount rate; that is much lower than any estimated homeowner's cost of capital, you have to discount those future savings at the appropriate rate. If you do that, you further reduce the $4.9 billion down to $2.9 billion. The next fundamental assumption is that their baseline savings are predicated on 2007 data. They assume that by 2022, no improvements have been made due to competition in televisions, which must be factored in. If you factor in any level of improvement that is reasonable, and we know that from 2007 to today, there have been some improvements and that it is reasonable to expect additional improvements between 2009 and 2022, the rest of the savings are effectively eliminated. A lot of people have stood up here today to indicate that great technologies are coming, a lot of innovation has taken place, a lot of improvements have taken place. Two panels were provided that showed the power consumption of the better TV was actually lower, and I think the price was lower. I totally agree with that, there is no question innovation has taken place in the absence of

regulation. That kind of improvement is not factored into the Staff Report, and I think it is critical. Lastly, once you have eliminated all these savings, there are still costs to be considered, cost to innovation. But also, I think the gentleman from Vizio indicated it was tens or hundreds of dollars to implement the necessary steps to comply with the regulation, then that would certainly drive the number into the negatives. Thank you. And I will submit that in writing in my report.

COMMISSIONER LEVIN: Thank you. Now, Mr. Greenstein?

MR. GREENSTEIN: Thank you, Commissioner. My name is Seth Greenstein. Picking up on some of the points we just articulated, while the presentation that was made by the staff today included a lot of up to date information concerning Energy Star compliance as of October 2nd, 2009, the fact of the matter is that the findings that are in the Staff Report are based on old data from July of 2008, that were created by PG&E in its Case Report. And why is that significant? It is significant because it does not take any account whatsoever of Energy Star compliance and voluntary efforts already made by the industry. When you look at the tables that have the basis of the data at the end of the Case Report, that is relied upon by the staff, they admit their tables and estimates do not account for national

market improvements over time in the baseline, or for improvements in the adoption of higher efficiency models. They agree that the plasma data is not necessarily indicative of performance for all plasma TVs on the market. That case study was basically created using older data, three months before Energy Star 3.0 took effect. And what does that mean? It means that the savings that are potentially identified by the report are over-estimated. It means that it understated the costs of compliance. And it overstated the degree of the problem, to begin with. And certainly, to the extent that PG&E came forward with recommendations in this Case Report, based on that flawed and out of date data, the Commission's proposal to go even further with more stringent standards does not have any basis in the data that is relied upon in the Staff Report. Another fundamental feasibility error is that it assumes that technological differences among technologies really do not matter. But plasma, LCD, DLP, OLED, they all have different characteristics, they all consume power differently, they all use power differently, and the ability to comply with regulations, a one-size-fits-all regulation, varies for each technology. A brief mention on power factor correction. Both the CEC Staff Report and the Energy Star website note that power factor correction devices may improve power quality, but it does not generally improve

energy efficiency, and it means that it will not decrease in any way, shape, or form a consumer's energy bill. We think the power factor correction regulation is for that reason unnecessary and, in fact, a mistake. With respect to the costs, the fact is that energy savings for TVs come at a cost. Manufacturers have invested tens of millions of dollars in research and development, and manufacturing changes, personnel training, etc., Energy Star 3.0 did not happen overnight, it was the result of four years of prior effort by the industry. Let me give you a couple of examples on TVs. Take a look at an LCD TV that has the HCFL energy savings of backlights versus CCFL lighting. For the same size TV display, the panel with HCFL costs 32 percent higher, the electronics are 10 percent higher, the price of the TV is $200.00 higher, which is about 12 percent more. The annual energy savings from that particular TV -- $8.16 per year. So if you look at the cost of consumer over 10 years and back off the present value, it comes to a net loss to the consumer of about $128.31. Now, the manufacturers are the ones who are actually absorbing the loss, for example, you take two equivalent LCD models, one with CCFL, one with HCFL, the energy saving technology that is higher priced. HCFL sales of that unit were 77 percent lower than the cheaper priced CCFL unit. The manufacturer was forced to lower its price just to sell them off the shelves and get

it out of inventory at significant lost profits which need to be used for R&D capital for additional improvements into technology. And in the report itself, the Staff Report ignores evidence that was previously submitted to the record concerning energy saving technologies that cost more. So, for example, Best Buy in its January 19th, 2009 comments noted they saw a $167.00 higher price for energy saving TVs over the comparable more popular models. The Energy Star findings that are sited in the Staff Report show not that the cost is neutral, but rather that the models that are Energy Star compliant cost as much as $400.00 more, or 40 percent higher than the more popular comparable television. The fact is, TVs are not the same as toasters. You cannot regulate them the same way. They are not utilitarian appliances, they are central to the home, they are the electronic hearth, consumers gather there for entertainment, for education, for information, and the performance counts in those televisions. Consumers see the difference among televisions and among technologies. They should be entitled to choose their own winners and losers based on a number of factors. They should have information about energy savings, they should factor that into their decision making, however, consumers should have the right to choose based on all the factors and CEC should not pick winners and losers based solely on a single factor. Thank you.

COMMISSIONER LEVIN: Mr. Greenstein, I have to ask you kind of a similar question because, I am sorry, now having heard from four representatives from the industry, I am still confused as to what appear to be contradictory positions, that voluntary standards work, you like Energy Star, and yet you were just saying that Energy Star is as much as $400.00 more expensive. I do not understand how you are trying to reconcile -- we are somehow going to stifle innovation, and yet you are doing all these great innovations, and just in the past year since the study that are staff relied on came out, there have been all these additional great innovations, and yet you cannot meet the standards without serious price impacts, consumers will not want it, and yet voluntary labeling and other voluntary education, where it just seems like a contradiction here that I cannot quite reconcile. I am hoping you can clarify briefly how to reconcile.

MR. GREENSTEIN: Let me try to pull this together for you, for Mr. Johnson through to myself, and it is actually, I think, summarized well by a quote that I heard yesterday from one of the inventors of plasma displays which is that you cannot schedule invention. Innovation takes time. It is something that you cannot say has to happen by a particular date without other consequences. As Mr. Johnson noted, if these regulations had been in place back

in 2001, when CRT was the primary technology, plasma televisions could not have been introduced into the marketplace because they could not meet the standards. LCD could not have been introduced into the marketplace. And yet these are very popular technologies today that are bringing a lot of value to consumers. What we are saying is that, with voluntary compliance, manufacturers can meet the targets over time, managing the cost impact, and yet not in any way impeding innovation. They can bring you technologies to the market, they can get the early profits from them, and they can work on bringing new features into those products, manufacturing efficiencies, bringing the cost down, along with working on energy compliance. But those things do not happen off the bat, they do not happen from the start, it takes time. And by allowing it to proceed as a voluntary program, that has shown very significant results today, more than 1,200 televisions comply with Energy Star today -- ahead of schedule. By allowing it to happen on a voluntary basis, we can achieve those energy savings, and we can achieve energy savings through the other voluntary measures that Mr. Belt talked about and that we will supplement in our report. But it is not going to happen by a regulation that says you cannot market a particular product or bring a new product to market in California if it does not meet a particular standard from

the very first day it is available. That is not going to work.

CHAIRMAN DOUGLAS: Mr. Greenstein, Commissioner Levin has given CEA a remarkable amount of time here --

MR. GREENSTEIN: For which we are grateful.

CHAIRMAN DOUGLAS: -- I just want to point out that we have requested data from CEA in December of 2008, in March of 2008, in June of 2008, and you have given us nothing, and so I am not particularly receptive to you standing here complaining that we are not relying on your data. We have asked for your data and asked for it and asked for it. I wanted to just make that point clear. We appreciate your engagement in this workshop today. It would have been -- we would have appreciated your further constructive engagement in this entire process, but again, if you -- you have a limited amount of time remaining to, in fact, submit additional data. We have made data requests to CEA repeatedly. And the docket is open. You are welcome to submit it.

MR. GREENSTEIN: We will submit additional data. Thank you very much.

COMMISSIONER LEVIN: You can go ahead and sit down. I do want to make one additional comment. And I guess one last time, we will ask CEA, please, to respond, but in writing. I continue to hear almost back to back

contradictory statements that do make it hard for us to take what you are saying into account in constructing a rule that achieves the energy savings and not only allows for, but actually encourages innovation. And we have heard from a number of speakers earlier this morning talking about all the ways in which we are innovating and, in nearly the same breath, Mr. Greenstein, you said you have made all these strides very very quickly, and yet you cannot possibly meet the rule in time. And we hear a lot of those contradictions, that are not helpful to us in constructing a cost-effective rule that encourages innovation and reduces energy consumption, it just does not compute when you say innovation is happening so so so so quickly, you just let the voluntary labeling and other programs proceed, and yet you cannot possibly meet the rule in time, and it will wreak havoc with the industry. If there is a way that you can actually explain that and give us data, I am not sure how it is possible since those really do appear contradictory, but if you can, please do by November 2nd. But I have to say, your comments so far continue, to me, to appear contradictory. And we are struggling to make this a very workable, successful rule. We need data from you. As the Chairman has said, we have asked for it repeatedly, these sorts of contradictory statements are not data, they do not help us to fashion the best rule we can for California. So

with that, are there anymore -- oh, I am sorry, I did not even finish the last -- Mr. Sharp from Panasonic, you have been very patient.

MR. SHARP: I promise to be very concise with my comments. My name is Mark Sharp. I represent Panasonic. I want to address a couple comments that have been made by several individuals, including my colleague and friend, Noah Horowitz, comparing refrigerators and flat panel TV energy consumption. It is a great sound bite the news medias picked up on it, there is just one problem, it is wrong, it is inaccurate. Let me give you an example. Number one, we need to consider refrigerators are -- when you see energy information on a refrigerator, it is always presented in terms of watt hours per year, and that reflects the usage pattern, and the refrigerator is used 24/7. That contrast with a television for the usage pattern is anywhere from five, to six, to seven hours a day, and the rest of the time it is off. And that is why TV energy usage is normally expressed in terms of watts. It is very different, it is an apples to oranges comparison. Now, let's look at comparison -- I think Noah's comment was that many TVs use as much energy, if not more, than 18-21 cubic foot refrigerators. Again, that is not an accurate statement. Let me give you an example. A 42 inch Panasonic plasma television, current model year, uses between 285 and 318 kilowatt hours per

year. A refrigerator that I had looked up before coming here, a Maytag side by side refrigerator that happens to be 22 cubic feet, it is not necessarily a large refrigerator, would classify as mid-size, uses nearly double the amount of a 42 inch plasma TV at 537 kilowatt hours per year. In fact, a more apt comparison would be comparing a 42 inch plasma TV with a 2.9 cubic foot micro-refrigerator that you would see in a kid's dormitory room. That would use, an example I looked up just last week, 290 kilowatt hours per year. So, in fact, that is comparable to a 42 inch plasma TV, not a much much larger refrigerator. As you scale up into larger TVs, of course, the gap would narrow, but here is another comparison, a 50 inch Panasonic plasma TV, current model year, uses between 385 and 492 kilowatt hours per year. A 25 cubic foot Whirlpool side by side with icemaker, which in terms of features set, that would be comparable to a 50 inch plasma that we make, that would use 571 kilowatt hours per year. So, again, we are talking about a differential of 150-200 watts more for the refrigerator. So I guess the point I just wanted to leave with you is, in fact, that these comparisons that new flat panel TVs use as much, if not more energy, than a refrigerator, is just an inaccurate comparison, and I know it has been repeated many many times, but I wanted to give out some current data to show what the accurate numbers are.

Thank you.

COMMISSIONER LEVIN: Thank you. We have three more blue cards. If anyone else who is present in the room, or Hearing Room B, I do not know if people ended up there or not, would like to make public comment, please submit a blue card and then we will turn to anyone who has managed to hang on the phone this long. I appreciate anyone who has. Bernadette Del Chiaro with Environment California.

MS. DEL CHIARO: Thank you, Commissioners. My name is Bernadette Del Chiaro. I am with Environment California, we are a statewide nonprofit environmental advocacy organization with over 200,000 dues paying and e-activist members in the State of California. HDTVs are rapidly becoming the Hummers of the home, wasting consumers' money and putting increased pressure on the state to build polluting and unnecessary power plants. It is high time that the State of California take on the Fred Flintstones of the TV industry and bring this technology into the 21st Century, help us save money, and help us protect our environment and meet all of our environmental goals. It would be foolish for California to continue to put new goals on the books with regards to renewable energy, with regards to solar roofs, and with regards to making our homes more energy efficient from the built environment perspective, while continuing to load up our homes with ever energy

guzzling appliances such as wasteful television sets. I want to make one other comment, which is the CEA has suggested that we, instead of doing standards, simply do labeling and consumer education. This is the sort of logic that can only come from sort of a TV log-on hand. The CEA themselves have suggested in their testimony today that, when a consumer walks in the door to Best Buy, or where have you, the efficiency of a TV is not their top priority. While important, the brand and the quality of the picture is number one. That is the evidence alone, all the evidence you need, to rest on your decision on making it apply in these standards and making them across the board in California. So we are here in strong support and we urge you to move quickly in adopting these standards so we can move on to Level 3 and other appliances that continue to need our support. Thank you.

COMMISSIONER LEVIN: Thank you. Lauren Navarro from EDF.

MS. NAVARRO: Good afternoon, Commissioners. My name is Lauren Navarro with Environmental Defense Fund. I am also a TV watcher. I am here to thank you for proposing the standards for televisions that will save consumers money, cut energy use, and reduce global warming pollution and to urge their adoption. We need to harness all energy efficiency opportunities as the state develops a

comprehensive plan to meet the goals of our landmark global warming solutions bill of 2006. By proposing smart regulations that conserve electricity, drive industry innovation, and are a win-win for our economy and our environment, California is again creating a model for the nation to follow. TVs account for 10 percent of household electricity and their energy consumption rate is increasing 8 percent annually. I just do not want us to lose sight of that as we go through some of these comments that we have heard earlier. Improving energy efficiency is the easiest and most cost-effective way to cut pollution and save consumers and businesses money. If adopted, these standards will save consumers $50.00 to $250.00 a year in utility costs over the life of their TVs. That translates into a statewide total household savings of nearly $1 billion a year and an estimated $1.1 billion a year over a 10-year period. Your analysis also shows that these standards can be readily met by industry at no additional cost. There is no reason to not adopt these standards. Because these regulations will reduce pollution and save consumers money, we urge the Commission to adopt them without delay. If we wait and see what happens without these standards, we risk losing these benefits for California. Thank you very much.

COMMISSIONER LEVIN: Thank you very much. We have two final blue cards at this point, Mr. Williams from PG&E.

He may have been on of the people who is on the phone. And Spencer Gusick from TiVo.

MR. GUSICK: Thank you. I will try to keep it brief. Since we are a local California company, we wanted to come down and speak. Hopefully most of you have heard of TiVo. We are a homegrown success story. We have made a product that has managed to be one of the most popular and beloved electronic products in recent years, while at the same time constantly struggling for economic viability as a company. And one of the concerns that we had, and I was going to keep silent, but after hearing Mr. Greenstein speak, I just wanted to speak generally to is the balance between when is it good for California to regulate something, as opposed to allowing market forces to take their course. TiVo employs 500 people in Silicon Valley. We have attracted talented men and women from all over the world because they want a chance to work at a company like ours where innovation is possible. Now, what Mr. Greenstein said is, when you have a market force that is driving customers towards purchasing decisions, they are able to make informed decisions and have a variety of factors that play into their purchasing issues -- the purchasing decisions. There are times when companies innovate quickly, there are times when companies innovate slowly, a lot of it really depends on the economic viability of a product. We

are working very hard in a voluntary fashion to make our products economically energy efficient. In fact, I am pleased to say that our newest product that is coming off the line is going to have an Energy Star symbol on it, and we are going to continue working as the course of this important level of economic concern grows. However, as companies start out, they are not always as economically able to meet these challenges. If these kind of energy efficiency standards were imposed 10 years ago, TiVo might never have been an economically viable product. When we make energy efficiency benefits to our products, it costs us in engineering, it costs us in more expensive components, it costs us in different types of software, and so while we are happy and excited to meet the challenge on a voluntary basis, we have a general concern that regulation, if the bar is set too high, if we do not allow the market to make these decisions, it could hurt the ability of innovative California companies, and hurt start-ups and other companies that are trying to create jobs in California. So, in short, I am sure I will be before you again in the future when it becomes our turn, and that is kind of why we are here today. I mean, we are Californians, so the parking lots are full of Prius and Minis and even the Tesla. We want a greener future for our children like everyone else, we just want to make sure that, as these decisions are being made, that due

weight is given to the market forces that are pushing companies to innovate to make better products for consumers, and not set the bar so high that it is not viable to have the kind of innovation that creates jobs in the state. Thanks very much.

COMMISSIONER LEVIN: Thank you. At this point, I am going to assume that there are no more blue cards in the room. Last change. Okay, do we have any sense of how many callers would like to make a comment? I am wondering if people can hang on and hope that we can take any callers' comments by phone, or do we need to take a break for lunch?

MR. STRAIT: I think probably taking a break for lunch would be a good idea, but what I would like to ask the callers that are online on WebEx to currently do is there is a "raise your hand" button that you can click, and anyone that would like to make a comment over the phone that is on both WebEx and the phone lines, please click that button and let us know if they would like to make a comment and we will take a tally of those, and come up with an order for when we get back from lunch, and we will take those comments, and then after we are done with those, we will then take comments from the phone users that are not on WebEx, we will load up those phone lines and give them a chance to speak, I think would probably be the best way to do it.

COMMISSIONER LEVIN: Can we take a quick tally of

folks on the phone right now and see whether --

MR. STRAIT: I am seeing three hands currently up.

COMMISSIONER LEVIN: I am wondering, if there are only three, or even five or six people on the phone, we could let them speak, rather than take a -- it always ends up being a minimum of an hour break, no matter how long we say it is.

MR. STRAIT: Certainly.

COMMISSIONER LEVIN: Why don't we give folks on the phone another 30 seconds or so, please let us know if you would like to make a comment, and then we will decide whether or not to break for lunch or take the remaining public comments now.

MR. STRAIT: Also, I note that one of the hands up is from David Kline, however, there is not a phone line associated with his name. I am assuming he is one of these unnamed calling users, which would mean we would have to take his comment with these people here.

MR. RIDER: Would you like me to open up the lines so that people can speak directly? Because that might cause a little bit of chaos, I just want to prepare you for that, if you want me to do it.

COMMISSIONER LEVIN: Well, can we open up the lines and just take names and create a list, and then decide how many public comments we have remaining. I see some

heads nodding and some heads going back and forth.

MR. STRAIT: All phone lines are now open.

COMMISSIONER LEVIN: So if there are people on the phone, maybe we could start with Northern California and the Greater Sacramento Area, if you would like to make public comments, if you could just identify your name for right now so we could get a sense of how many people would, that would be very helpful. And then we will ask people in Southern California. I do not know if that helps or not. Is there anyone from the Northern California, Sacramento area, Bay Area who would like to make a public comment that is on the phone? All right, anyone from Southern California? All right, anyone from outside of California? Dave Lamb, 3M. Anyone else?

MR. KLINE: This is Dave Kline from JVC.

COMMISSIONER LEVIN: Thank you, Mr. Kline. Other callers inside, outside of California? All right, hearing none, I am going to assume we have two phone callers and three WebEx participants. Is that it?

MR. RIDER: That sounds correct.

COMMISSIONER LEVIN: Okay, I think the Chairman and I would prefer, then, to continue with public comments. I know it has been a long hearing, but that lets everyone leave a bit earlier, and especially in this weather, I think folks would like to get going sooner rather than later.

Good, I am seeing a lot of head nodding now. I could not quite get the pulse of the people here in the room earlier, but now it seems to be a consensus. All right, how should we do this? Should we start with the phone callers? Mr. Lamb, actually, I called on you earlier thinking you were here in the room. Why don't we start with you?

MR. LAMB: Okay, thank you very much.

COMMISSIONER LEVIN: And you will need to speak really loudly, or, if you are on a headset, if you could just switch to a handheld now, because you are not coming in very strongly here.

MR. LAMB: Okay. Is this better?

COMMISSIONER LEVIN: Yes, thank you.

MR. LAMB: Okay. Thank you, Commissioners and staff. I will keep my comments brief because, actually, I think a lot of the comments I wanted to make have been made. My name is Dave Lamb. I am an Advanced Physics Research Specialist with 3M Company in St. Paul. I am a transplant from Sebastopol, California, so I do have a vested interest in what goes on in California. I have been working on passive brightness enhancement films for liquid crystal displays at 3M for the past nine years, and I just want to make a few points. First, regarding our technology, which actually many have already spoken to, our Vacuity dual brightness enhancement film technology fundamentally

increases the efficiency of any and all TV panels to which it is applied. Our technology has been implemented in LCDs of all types, and by all manufacturers for more than a decade, and our analysis has demonstrated, and others have commented today, that when this type of technology is applied to an LCD TV, visual performance improves and the set power can be reduced by as much as 32 percent. In some cases, at a net cost savings. And the way that this is accomplished is, basically what we do is we substitute our film for light sources and associated electronics that consume power, and this enables a net reduction in the cost. Also, as has been commented, there are many other technologies, ours is not the only game in town, and our technology is completely compatible with all the other energy savings technologies that are available. So just in summary, in short, 3M believes that the on-mode power consumption requirement currently being considered at the CEC are reasonable and achievable with existing cost-effective technologies. Thank you very much. Enjoy your lunch.

COMMISSIONER LEVIN: Thank you very much and thank you for hanging on this long by phone. Mr. Kline from JVC.

MR. KLINE: Yeah, this is Dave Kline. I would like to make a couple of comments, first about the specifics of the slide that was presented, I believe, during the Staff

Report mentioned JVC television and the energy efficiency of that product. It was an iPod television. Now, we at JVC are very proud of our record, we have more number one sets and more top five sets than any other manufacturer in the Energy Star database, so we have a long track record of success with reducing the energy consumption on our sets, and we are very proud of that effort. The model that you all described in the 42 inch was last year's model. This year's iPod television is above the line for the 2012 standards. The reason this product is above the other JVC sets we have, this is 127 watts, the other JVC sets are at 111 watts, the difference between them is the increased operating system of the Apple iPod. It is a more complex operating system, and therefore demands more horsepower from the central processor, more processing resources, and it consumes, therefore, more electricity. This product will not meet the 2012 standards. Our regular base model TVs will meet the 2012 standards, but because of the increased operating system consumption which is specified by Apple and meets 2B to allow the iPod to play on that television, that cannot be turned off. And unfortunately, it is designed in as part of the whole operating system, so the regulation which turns off other different functionalities, or allows other functionalities to be turned off, are not applicable to this particular set. So this set would be, because of

its larger processing power, eliminated from the market. Secondarily, I have a more general comment that the voluntary programs, to your specific comments about seemingly conflicting CEA positions, is that we favor market proposals and voluntary programs rather than mandates, and that is the reason for the distinction between the success of Energy Star and the forces in the larger total market. Energy Star is only 25 percent by its own elitist criteria, they want to be a small compact group of people who only represent 25 percent of the market, so even though those standards are strict, we hope to fulfill them on a voluntary basis, and do not see the regulation because the success test of Energy Star, and the vagaries of future prognostication, we do not see the market forces as being capable of providing the energy savings and AB 32 requirements that you all have to face there in California. Thank you very much.

COMMISSIONER LEVIN: Thank you, Mr. Kline, just to clarify your comment, you refer to a 2012 standard. I am assuming you mean the Tier 2 standard which --

MR. KLINE: Yes, I am sorry, I misspoke.

COMMISSIONER LEVIN: -- go into effect in 2013. Does that change your comments at all?

MR. KLINE: No, ma'am. I was referring to the Tier 2 and misspoke.

COMMISSIONER LEVIN: Okay, thank you. Are there any other callers on the phone that have not identified themselves through the Webinar? Okay, do you want to call on the WebEx participants, then, please? The people that have waved their hand?

MR. STRAIT: Sure. There is a hand up from a Paul Bendt.

MR. BENDT: Yes, this is Paul Bendt. Am I free to go?

MR. STRAIT: Yes.

COMMISSIONER LEVIN: Yes, please.

MR. BENDT: Okay. I just wish to address one misrepresentation that we have heard from, I believe, two speakers during the morning, and that is that power factor does not save energy. The truth is that improving the power factor does save energy. It is a very subtle distinction. If you listen to their words carefully, they say it does not save energy in the product. It turns out the real problem with any appliance that has a poor power factor is that it draws a lot more current through all the house wiring than it needs to draw, and that extra current through that house wiring leads to extra heating and energy loss in the wiring of the house. Now, they are very careful to say it does not save energy in the appliance, that may be true, but it does save energy for the consumer, and all the calculations for

this have been submitted, they should already be in the docket, but I just wanted to emphasize that the power factor requirements that are in the staff proposal are appropriate, they do save energy, they are important, and the calculations to back that up are part of the docket. And I thank you for that.

COMMISSIONER LEVIN: Thank you, Mr. Bendt.

MR. FERNSTROM: Gary Fernstrom from PG&E. I would just like to clarify that Dr. Paul Bendt is with Ecos Consulting and a Consultant for PG&E. Thank you.

COMMISSIONER LEVIN: Thank you.

MR. STRAIT: Is there anyone else on any of the phone lines that would like to speak?

COMMISSIONER LEVIN: So the other people that waved their hands are no longer online?

MR. STRAIT: Yeah, the people that have raised their hands have spoken.

COMMISSIONER LEVIN: Okay. All right. I am assuming, hoping there are no other public comments in the room. If anyone has an urgent need still to add a public comment that has not already, please let me know right now, otherwise, I would like to ask if our Chairman would like to make any concluding comments, or David Hungerford for Commissioner Rosenfeld?

CHAIRMAN DOUGLAS: I would very briefly like to

thank everybody who participated in today's workshop. We have listened carefully to all that everybody has said. I saw staff sitting here taking copious notes, and we encourage you to put your comments and information and we will take your responses to data requests in the record at the Energy Commission. Thank you for being here.

COMMISSIONER LEVIN: And I would --

MR. HUNGERFORD: I just wanted to say thank you on behalf of Commissioner Rosenfeld. I have been with him at all the prior workshops and hearings and am satisfied that we have taken as much public comment as has been offered, and that we can move forward today with taking a look at our regulations, the proposed regulations, given the comments that we have received, and that we will receive until November 2nd into this docket. And we encourage everyone who has additional comments to make to provide written comments by November 2nd. Actually, if staff could close -- oh, that slide is up now. That shows you how to submit those comments and we appreciate your participation. Thank you.

COMMISSIONER LEVIN: And I would like to thank everyone, I know it has been a long hearing, but I appreciate how many people have stuck around this long. This is a very important issue for energy consumption, for reliability, for greenhouse gas emissions, all the reasons that you have heard and staff considered. I am very happy

to hear how much consensus there is around all the innovation going on in this industry and I am happy as a television user myself, I just bought one recently, just got my first DVR this weekend, and I am trying to move into the 21st Century.

MR. HUNGERFORD: You will love the pause feature.

COMMISSIONER LEVIN: It is very exciting to hear really from both sides of the aisle about all the innovation, and whether it is occurring in California or Texas, I think it is great for the economy and the environment and green jobs wherever it is occurring. Obviously, I am particularly happy to hear about all the innovation, all the new companies springing up, all the new products in development in California. We are thrilled and will do whatever we can to encourage green jobs and a new clean economy. As I said to several of the speakers later in the morning, we are hearing contradictory statements about the amount of innovation, and yet that the rule will be stifling of innovation, and I think receiving additional information on that specific issue will be very helpful to us to try to clarify one of the last speakers, I believe it was the gentleman from TiVo, which, I have to say, I think it is great when your company name becomes a verb, as well as a noun, right up there with Google, is to TiVo something now. But the idea that market forces are enough, and yet

the energy consumption data across the state shows that energy consumption for television continues to go up quite quickly and quite significantly, and so to reconcile some of the things that we have heard this morning would be very very helpful and, again, by November 2nd. So thank you all very much. We look forward to working with all of you in the future, particularly on public education, spurring new innovation, and saving Californians money and energy. Thank you all.

(Whereupon, at 12:42 p.m., the workshop was adjourned.)

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CERTIFICATE OF REPORTER

I, PETER PETTY, an Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing California Energy Commission Workshop; that it was thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said meeting, nor in any way interested in outcome of said meeting.

IN WITNESS WHEREOF, I have hereunto set my hand this _____ day of October, 2009.

_____
PETER PETTY