SONY

Sony Electronics Inc.,
16530 Via Esprillo, San Diego, California 92127-1898

November 2, 2009

California Energy Commission
Docket No. 09-AAER-1C
Docket Unit
1516 Ninth Street, Mail Station 4
Sacramento, California 95814-5504

Docket@energy.state.ca.us

Dear Commission:

On behalf of Sony Electronics Inc., headquartered in San Diego, CA, I respectfully submit the following comments in regard to the Commission's proposed mandatory energy efficiency standards for televisions.

History of Sony

Sony has a long history with the state of California having made substantial capital investments here. Three of our four operating companies are headquartered in the state: Sony Pictures Entertainment in Culver City, Sony Computer Entertainment in Foster City, and Sony Electronics in San Diego. There are approximately 8,000 Sony employees in the state. This number does not include the thousands of suppliers, contractors and other consultants that support our operations.

Sony has also made a commitment to protecting the environment. Our corporate vision reads:

> Sony is striving to create the ultimate closed loop product life cycle. Using recycled materials, innovating production processes, building energy efficient products, and increasing the ease of recycling reinforce Sony's commitment to sustainability and consideration for our environment.

In promoting a sustainable environment for generations to come, Sony is focused on four key areas:

- Global warming and the reduction of greenhouse gases
- Conservation and effective use of natural resources
- Preservation of our natural environment
- Reducing CO2 emissions from product use by introducing more energy efficient products

Sony Electronics' Headquarters

As an example of our dedication to California and to the environment, earlier this month, Sony Electronics opened a new headquarters building in San Diego which was built to "LEED" or Leadership in Energy and Environmental Design specifications from the U.S. Green Building Council. Some of the environmentally and energy-friendly features include:

- Solar panels have been installed to collect energy that can be used by the local utility company.
- There is a 48% reduction of typical water usage by using high-efficiency fixtures.
- The building's energy performance has been optimized by 17.5% via energy sensors and a design that harvests energy.
- Water condensation is collected from air conditioning units then recycled and reused.
- Motion sensors and lumen sensors adjust lighting based on daylight availability.

There was no government mandate that we build our San Diego headquarters building to such high environmental standards; Sony did so because our management and our employees want to be good corporate environmental citizens.

Product Innovation

For over 50 years, Sony has been developing world-class products and services that add excitement and creativity to consumers' lives. Sustainability is an integral part of Sony's commitment to innovation. We have long been an industry leader in the environmentally-friendly design of our consumer electronics and information technology products.

One of our newest additions to our television model line-up, and one which makes us very proud, is our Eco-TV or VE5 line. Our VE5 line has the most innovative energy-saving features available on the market today. With full High Definition (HD) 1080p resolution, it offers consumers the best possible viewing for Blu-Ray Disc players or any other full resolution HD content. It has a Hot Cathode Fluorescent Lamp or HCFL backlight, which uses specialized components to provide optimum brightness as soon as you turn on the HDTV while still reducing power consumption by over 50%. In fact, the 40" VE5 consumes only 90 watts – as little as an incandescent light bulb.

A unique energy saving feature of the Sony VE5 TV is the Presence Sensor. The Presence Sensor helps you conserve energy when you forget to turn off your set. If the Presence Sensor detects that you've been away from your TV for 5, 30 or 60 minutes, the backlight will automatically turn off, but the volume will remain on so you can still hear the sound. If the Presence Sensor on the television detects movement, the backlight will turn on again, or if you don't return after the display has been off for 30 minutes, the VE5 turns completely off.

A new Energy Saving Switch, located on the side panel, enables your TV to consume zero power when activated, effectively eliminating the use of unnecessary power when you're not watching TV.

Finally, the VE5 has an integrated light sensor which gauges the ambient light in the room and raises or lowers the brightness of the backlight based on room lighting conditions. So, if you dim your lights to watch a movie, the light sensor will also dim the backlight, reducing unnecessary power consumption even further. This light sensor enables an approximate 30% energy reduction.

The technology behind the VE5 is the result of many years of research and development, and a significant investment on the part of our company. While the VE5 has the most eco-friendly features on the market, there is indeed a cost premium for it. The cost of HCFL technology is approximately 25-35% more than a model of comparable size and design.

Again, Sony developed these energy-efficient technologies because we want to be good corporate environmental citizens, not because there was a government regulation.

The VE5 has won numerous awards, including:

Popular Mechanics Editor's Choice Award

The editors claimed, "This is one of the greenest TVs in the world."
The Sony Bravia VE5 Series TV was among the top 18 products at the 2009 Consumer Electronics Show.

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2009 IEA - Product Stewardship Award

At the Industrial Environmental Association's annual Statewide Environmental Summit in San Diego, Sony Electronics accepted a product stewardship award for sustainable television design in the 2008 and 2009 BRAVIA television models.

Environmental Leadership

In 1999, Sony was a charter member in the EPA's Energy Star program for energy-efficient consumer electronics. That same year, we were honored to receive their first "Partner of the Year" award for the program.

In 2004, we were the first company with a mercury-free silver oxide battery.

Again, these advances came about because of Sony, not because of government mandates.

Electronics Recycling

In 2007, Sony made an even stronger commitment to environmental stewardship. We teamed up with Waste Management to implement the first national, truly comprehensive recycling initiative in the U.S. Our program provides customers free recycling of *any* of their unwanted Sony products, from a Bravia TV, to a VAIO computer, to PlayStation, to a Sony Ericsson phone.

Under this program, Sony takes full manufacturer responsibility for all products that bear the Sony brand. We will recycle those products at *no cost* to the consumer. This not only includes consumer products, but business and professional products as well.

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Since its inception in September 2007, our program has collected almost ***23 million pounds*** of consumer electronics products. Sony wants to make the recycling of our products as easy for consumers as the purchasing of products. We have set a goal to recycle one pound of consumer electronics goods for every pound sold. This is sustainability.

Our national electronics recycling program was also done at Sony's own initiative, not because of a government mandate.

New Technologies

Sony also continues to introduce an array of environmentally-friendly electronic products, such as our digital book, the Reader, and our "OLED" televisions.

OLED or Organic Light Emitting Diode is a revolutionary Sony display technology that offers exceptional picture quality and color reproduction from a screen that is a mere *3mm thick*.

And an OLED television is also exceptionally efficient. Under normal viewing conditions, the OLED technology can result in reduced power consumption of up to 40% per panel square inch as compared to other technologies. And Sony's OLED displays do not incorporate any lead or mercury content. Sony hopes to utilize this technology for other future products, such as laptops, cell phones and larger size televisions.

However, the technology is many years away from being produced in the sizes and prices which consumers demand and at a significant cost for us as the manufacturer. The only model currently available is an 11" model which retails for $2499.99. While promising, OLED technology is not a viable option for consumers at this time.

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CEC Proposal

As explained above, Sony is an environmental leader, innovator and visionary. And while the goals of this rulemaking are commendable, we question the ability of industry to meet such aggressive goals without the addition of significant manufacturing costs and significant cost increases to consumers.

Indeed, stakeholders who actually design, engineer and manufacture televisions have unanimously opposed the regulation.

Specifically, Sony has concerns regarding the following issues included in the regulation:

Download Acquisition Mode (DAM)
Luminance
Power Factor Correction (PFC)
Consumer Cost
Uniformity
Labeling

Download Acquisition Mode

A certain number of Sony televisions are equipped with circuits to download TV guide channel listings, perform channel scanning, receive software updates, and display emergency alerts without the added energy consumption that a set-top box requires. Sony has diligently worked to optimize these features for over five years. These features continue to be expanded to additional models and customers have demonstrated great acceptance to such functionalities and the service these features provide.

Section 1605.3 (v)(4)B contains language that will prevent these features from operating. Download Acquisition functionalities require the television to enter the "Standby Active" mode when turned off by the remote. Televisions must be in this mode for approximately five to ten minutes in order to collect data that will force the television to wake up automatically when not in use to update TV Guide channel listings, channel scans, software updates and emergency alerts.

Sony previously requested that the Commission amend section 1605.3(v)(4) B via a letter submitted on July 29. 2009. Sony respectfully requests that the Commission revisit and amend this section. If left un-amended, a large number of televisions will not meet the proposed specifications.

Luminance

Luminance is almost directly related to power consumption. As luminance is higher so is the power consumption of the television. Likewise as luminance is lower, so is the power consumption of the television. As of today, there is no data to support the need to include luminance specifications in the proposed language.

Assuming a one to one ratio for illustration purposes, if the television is set at 100% luminance, the television will also be at 100% power consumption. If the "Home" mode is set a 65% luminance as outlined in the proposed language, the power consumption will be set at 65% as well. The proposed language limits further energy reductions that can be achieved by defining that the peak luminance of the television in the Home mode or in the mode as shipped shall not be less than 65% of the peak luminance of the retail mode or in the brightest mode of the product (section 1605.3(v)(4)C). The CEC is limiting how low the luminance mode can be set in the Home mode, and Sony believes that it could be set even lower.

There are Sony televisions on the market today shipped at 50% luminance which do not sacrifice picture performance or brightness. Sony monitors customer calls on a daily basis. To date, Sony has not received a single call to suggest our televisions are shipped with low luminance otherwise known as "dim condition." Sony does not see the need to include the luminance requirement specifically if it limits further energy reductions.

Power Factor Correction

Sony commends the Commission for limiting the power factor correction requirements to televisions that consume 100 watts or more as we requested via our July 29, 2009 letter. Nonetheless, Sony feels compelled to inform the Commission that although our products that consume 100 watts or more currently contain "PFC" (power factor correction) circuits, they amount to a significant cost to the consumer. One-third of the components in the power supply are utilized for power factor correction. There are publications available ("Is Power Factor Correction Justified in the Home?" W. Rynone, Power Electronics Technology May 2007) that clearly indicate the small and limited benefits of PFC circuits, benefits that do not justify the additional cost.

Consumer Cost

Sony strongly believes that the Commission should not promulgate a regulation that will increase the overall cost of the covered products to consumers. Based on existing data, Sony believes that there will be a significant increase in cost to the consumer. Television manufacturers will see an increase in the cost of compliance due to increased research and development, component sourcing, design and development.

Although it is true that there are a number of films and/or polarizers in testing that may potentially increase energy efficiency, they must be properly evaluated within the design cycle and tested for long-term reliability and picture performance. Additionally, film manufacturers would need to scale up supply to meet the demand likely to be created by this regulation. None of the film manufacturers presently have the infrastructure to support the demands of the proposed regulation.

There are many other types of technologies currently being produced on a limited scale or in the process of evaluation, but each presently increases the cost of the product and is gauged against many criteria, including picture performance. In the case of LCD televisions, there are currently at least five versions of backlighting available but each brings different attributes to picture quality and energy efficiency. There are:

- Cold Cathode Fluorescent Lamp (CCFL)
- Hot Cathode Fluorescent Lamp (HCFL)
- Direct Backlight LED
- Single Edge Lit LED
- Dual Edge Lit LED

There are several types of versions of these models in the market today. It is important to note that the backlight technology used on some of these models may not accurately be identified in the market. However, depending on the backlight used, the cost to the manufacturer may increase by several hundred dollars. This cost is certainly then passed along to the consumer.

Please see the chart below which compares the cost of two 40" models based upon initial model release. Both models share the same design platform. The main difference is the panel in use and variations in the circuits to match the type of panel used.

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Table 1: Cost Comparison

	Model launch price	
ITEMS	CCFL model KDL-40V5100	HCFL model KDL-40VE5
Panel	$$	32% higher
Electronics (power supply, tuner, etc.)	$$	10% higher
Plastics	$$	$$
Price of TV	$1,500	$1,700
Cost increase to consumer	$$	$$ + 12%
Energy consumption /year (KWh/ year)	285	166
Cost to operate TVs/year (KWh/year x cost of KWh)	$24.56	$14.34
Energy saving ($)	$10.22	
Life of TV(assume 8yrs)	8 years	
Saving over life of TV	$81.76	
Additional Cost /saving to consumer	$200 - $81.76 = $ **118.24**	

For manufacturers to comply with the regulations as presently proposed, the cost of manufacturing would increase. Ultimately, those increased costs would be passed along to the consumer. Additionally, the energy savings for the consumer do not offset the cost increment of a super-efficient television as illustrated above. As you can see, the cost savings to the consumer does not outweigh the costs of compliance. Consumers will pay more.

The Commission even heard from Vizio, the lone television manufacturer to testify at the October 13th hearing, that their costs would increase if this regulation is passed.

> "Currently, the cost addition for the Vizio consumer is from tens to hundreds of dollars, depending on the screen size."
> (Transcript of CEC hearing 10/13/09, p. 73)

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Uniformity

If enacted, the CEC proposal will result in inconsistent standards being enforced across the United States, one standard in California and one standard for the rest of the country. Such a lack of uniformity will result in the elimination of the some of the nationwide economies of scale that Sony and other manufacturers have struggled to create, thus ultimately increasing the cost of and reducing the choice to all consumers, especially for California residents.

In a best-case scenario, California consumers will be limited in their choices. California retailers will face a loss in revenue, and border states such as Nevada will have an increase in theirs.

The worst-case scenario would be forcing manufacturers to comply with numerous, and sometimes contradictory, federal, state and local energy-efficiency laws. As noted above, the inconsistency between these regulations inevitably creates inefficiencies in the system and minimizes any economies of scale. And since Sony - and likely no other manufacturer - does not build products to be sold only in one particular state, adding a specific state regulation adds significant complexity to the process of manufacturing and distributing a television, everything from design, to actual production, to the supply chain. In the end, a patchwork quilt of different and ultimately contradictory state and municipal laws will only serve to undermine everyone's shared goal of furthering energy-efficiency.

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Labeling

Sony supports energy usage disclosures to the consumer; indeed, Sony already includes this information in our owner's manual.
As the Commission knows, the Federal Trade Commission has an ongoing rulemaking on the issue of energy labeling. Sony, along with our industry association, is supportive of these efforts.

To be effective, consumers need access to this information at the earliest point in the purchasing process. Most consumers shop online prior to making a major purchase such as a television. In fact, retailer Best Buy stated in their testimony before the California Assembly Utilities Committee on October 21, 2009 that 89% of all television consumers research prices, manufacturers and models online before making a purchase. Because of this, we support online energy consumption disclosures.

In addition, the marking requirement as described in section 1607(d)(11) may cause a problem and confusion with regard to the Safety Marking requirements (UL requirements). Manufacturers are required to indicate the rated power consumption of the television in the conditions determined necessary for testing during the safety approvals process.

Special Interests

During the CEC hearing of October 13, 2009, the Commission heard testimony from two technology manufacturers or designers who have a vested interest in passage of this regulation. Agoura Technologies spoke about its start-up company and the difficulties it has encountered with capital investment.

> "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…once these regulations go into effect."
> (Transcript of CEC hearing 10/13/09 p. 80)

As always, the Commission should weigh the comments of any stakeholder who would financially benefit from a proposed regulation with a healthy dose of skepticism. Indeed, if the claims of these component manufacturers were indeed true - that a simple technology has already been developed which costs very little, yields great energy savings and does not adversely affect picture quality - television manufacturers would already be implementing this technology.

CEC Staff Presentation

There were several inaccurate and misleading points made during the staff presentation at the October 13th CEC hearing which we would like to clarify for the record.

While we support the test method for televisions in On Mode (IEC 62087), we dispute the claim that additional functions such as an IPOD docking station, Internet-enabled television and other features can simply be "turned off" during testing as the CEC staff claim. In the effort to optimize performance and energy efficiency, the operating processor for all features is contained in one single printed circuit board with one processor that enables all features to be ready on demand. A physical disconnection of this processor turns off all circuits, including the panel drive circuit. To satisfy the proposed requirements,

additional printed circuit boards will be required which will ultimately add costs and eliminate technological advances and improvements made to date.

On page 55 of the staff presentation, the CEC staff incorrectly used a Sony 52" model as an example of a Tier 2-compliant television. This model was made for distribution only in Australia and New Zealand, and thus has an entirely different engineering structure, including a different tuner, power supply and luminance settings of 50%.

Separately, the CEC staff lists examples of Tier 2-compliant televisions beginning on page 23 of their presentation. They claim that this information was based upon publicly disclosed manufacturer data. To date, television manufacturers have not been required to comply with luminance, power factor correction or DAM requirements. The list of Tier-2-Compliant televisions is misleading as it is solely based on a comparison of active mode power consumption and did not factor in luminance, power factor correction, and the impact to DAM, all of which would be mandated by the CEC regulations.

Closing Points

Sony will continue adding new features and innovative technologies on all of our products, increasing energy-efficiency and environmental sustainability.

We support voluntary programs. Voluntary programs reward innovative manufacturers. Government mandates remove the incentive to create, because they set the lowest-common denominator and, thus, reduce the inducement to strive to be the best within an industry.

In addition, the arbitrary dates of implementation chosen by the Commission are not in line with the design cycle of most manufacturers and will not provide enough time for all to implement the product innovations necessary.

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The government should remain technology neutral. The CEC or any other government entity should not choose the types of TVs allowed to be sold in California. The severe nature of the Commission's proposal provides a clear advantage to certain technologies, and creates distinct "winners" and "losers."

Do not stifle technology pioneers. We anticipate many new technological breakthroughs in the next five years. We will not be able to proceed if we divert resources to developing government-designed TVs.

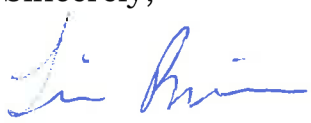
Do not increase consumers' cost. If there were an available technology with superior picture quality that was cost-effective, we would be using it already. The fact is this regulation will increase manufacturers' and consumers' cost.

We support consistency. We would prefer not to have to adhere to a patchwork quilt of government regulations.

In closing, Sony has a proven track record of environmental and energy-efficiency leadership. We have already made great strides in this area, and we will continue to do more.

We all share the same goal – the goal of conserving energy.

Sincerely,



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