Supplemental Response to Consumer Electronics Associations (CEA)'s comments

1. **If these standards were adopted in 1990 industry would not have been able to introduce plasma and LCD television because they could not meet the standard.**

The Energy Commission would not have adopted these standards in 1999(??) because we would not have been able to make the necessary finding that the energy savings were feasible, attainable, and cost effective.

Now turn the clock 10 years and it is 2009. This new technology has cause the energy consumption to rise from 3% to 10% of home energy use. It has been projected to keep rising to 18%. A consumer today goes to a store looking for a 52 inch LCD television with an energy star logo and does not know that some use around 110 watts of energy while others use over 300 watts of energy to operate. That 300 watt TV costs much more to operate."

The Energy Commission has looked at these TV and investigated the reasons one TV used only 110 watts of energy and another over 300 watts (or 900 watts). The results of that analysis are findings that the cost to manufacturer the efficient TV is not any more than the energy wasting TV. Thus, today we are able to make the findings that TVs use a significant amount of energy statewide, and the technology to make TV more efficient are feasible, attainable, and cost effective to the consumer.

2. What televisions are being regulated?

The proposed regulations include all televisions of sizes 58" or less. Regulations apply equally to all technologies. However, the two most widely available television technologies are plasma and LCD. Plasma televisions use approximately 32 percent more energy than LCD televisions. Some plasma television set manufactured in 2008 draw more power than a large refrigerator, even if the television is only used a few hours a day. Powering a television plus an extensive entertainment system—with set-top boxes, game consoles, speakers, DVDs and digital video recorders—can add nearly $200 to a family's annual energy bill

3. How much energy will the standards save?

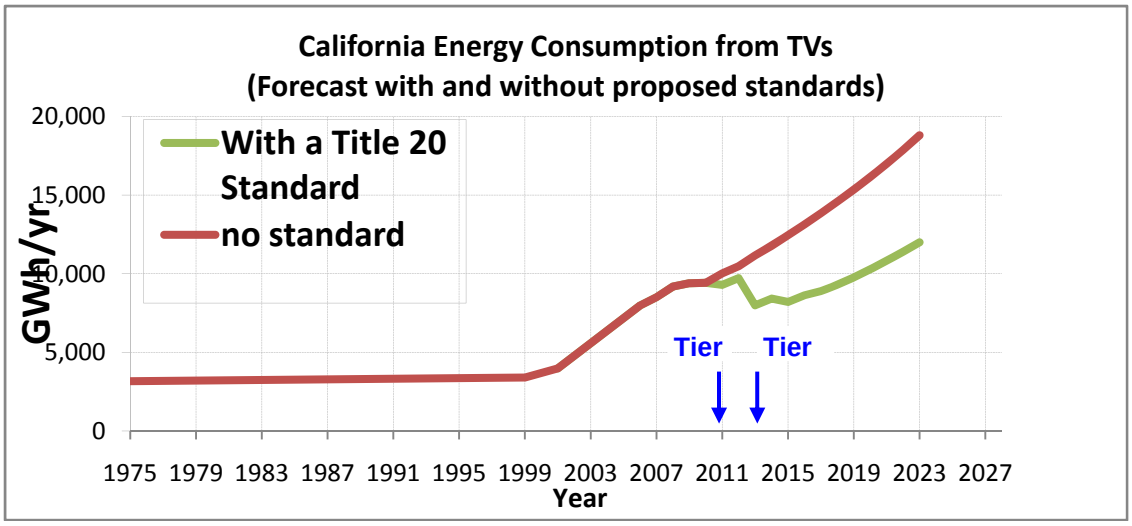
Statewide energy savings after Tier II (with fully compliant stock) are 6,515 GWh. Peak demand reduction is 615 MW. The cost to construct a natural gas power plant to cover this capacity is approximately $1 million per MW. A power plant to meet this television demand would cost $615 million.

4. **Why we did not discount the expected grown trend by assuming TV will get more efficient as time goes on**?

Staff has conducted analysis of 2007 to 2009 data to determine the impact of Energy Star compliant television. Staff has found that there is no significant change in energy consumption due to current Energy Star specification 3. The current Energy Star specification 3 is not stringent at all and most televisions meet Energy Star power requirements and qualify for Energy Star sticker by reducing the brightness level. Whereas California's proposed Tier I regulations are stringent and require minimum brightness control.

The staff analysis included mainly three variables:

- Energy Consumption per square inch for average size LCD, DLP, and Plasma television
- Growth in size
- Increase in television viewing time.



CEA has not provided any analysis in support of their statement. Nor they have provided any information or bases for their conclusion

5. What is the current televisions Energy use in California?

Energy use for all televisions in California is estimated to be about 8,770 GWh/year (a GWh is one million kilowatt-hours of electric power).

6. What are the Energy savings from Regulations?

The Energy Commission estimated from information in the record that the statewide benefit from the proposed efficiency standards for televisions will result in an energy savings of 6,515 GWh/yr which will result in a direct energy cost savings to consumers of 8.1 billion dollars.

7. Examples of TV's that meet the CEC standards?

There are more than 1000 television models that meet proposed tier 1

There are more that 300 models that meet CEC proposed tier 2 energy levels

VIZIO has all their models meet the tier II

Sony has 8 models

LG has 25

JVC has 20

Sharp has13

Samsung has 42

Toshiba has 42

There are 32 brands of televisions with screen sizes of 10" up to 58" which meet the proposed standards.

Industry has a full 3 years to improve their inefficient TV to meet the more efficient models

8. Technical feasibility?

There are many new technologies found in televisions currently being built and sold in the market that effectively reduce their energy consumption, that the use of these technologies has not imposed and does not impose a large cost on either the manufacturer or consumer, and that they would greatly decrease the energy consumption of the most inefficient televisions still being sold in the market were they incorporated into these units.

New phosphors with enhanced gas mixtures are being used that improve the efficiency of Plasma televisions, and enhance the picture quality LCD screens that increase the efficiency of the backlight's transformation into a picture. Light diffusing and light polarizing film technologies are available today that can enhance the energy efficiency in all sizes of televisions. 3M's Vikuiti optical film is integrated into the backlight of many flat panels of LCD televisions. 3M film alone can reduce their power consumption by 37 percent. Many other diffusing and polarizing film technology are being used by many manufacturers in their television models and have resulted in a significant reduction in energy consumption.

9. Cost vs. efficiency?

No increase in cost for energy efficient televisions:

The record provided by the various manufacturers strongly support the Energy Commission findings that there are many new technologies found in televisions currently being built and sold in the market that effectively reduce their energy consumption, that the use of these technologies has not imposed and does not impose a large cost on the manufacturer, and that they would greatly decrease the energy consumption of the most inefficient televisions.

10. Technology availability examples?

- LCD Light Emitting Diode (LED) television backlight technology,
- new technology Hot Cathode Fluorescent Lamp (HCFL)
- Energy Efficient Organic LED (OLED) televisions are currently available
- photo sensors which automatically adjust the brightness and contrast of a screen based the ambient light condition
- Agoura Technologies, 3M, and Imagine Designs technologies that polarize light diffusing films that can significantly improve backlight transmission thus can significantly reduce the energy consumption.

11. Consumer savings $50 - $250 – how we got this amount?

Annual energy savings Tier 1= 132 KWh X$0.14 =$18.48

132 KWh is Tier I Annual Unit Energy Savings a year calculated based on the average size plasma and LCD television

Annual energy savings Tier 1= 84 KWh X$0.14 =$11.76

84KWh is Tier II Annual Unit Energy Savings a year calculated based on the average size plasma and LCD television Tier I and Tier Savings are $18.48+11.76=$30.24

Will Save consumers about 912 million dollars per year after all the existing the stock is replacement**.**

6515 GWhX$0.14=$912 million

12. Economic analysis – how did we arrive at $8.1 million?

After all stock replacement the total energy savings are 6515 GWh

Does this assume two years of stock replacement under Tier I efficiency levels and the remaining stock (22 million – tier I replacement) being replaced by tier II televisions?

The present value of a kWh over a 10 year design life is calculated to be $1.24 using $0.14 per kilowatt hour with a 3 percent discount rate.

6515GWhX$1.24= 6,515,000,000 X$1.24=$8.1 billion

13. Why are we doing the power factor?

- Power factor saves energy in the house wiring and power grid (34 million television adds to about 212 Gwh

- Power factor requirement would prevent electrical excess electrical resistance due to unnecessary demand by the television that results in in-house and grid losses.

Definition: Power factor is the ratio of real power to apparent power. A 100 watt television can collect the energy it needs by drawing 100 watts from the grid for 1 second, or 200 watts from the grid for 0.5 seconds. Power factor energy savings are due to the control of the excess power draw of the television.

14. Testing requirements for power factor measurement are extremely tough?

Staff will look at it work with you and please contact the staff for further discussion

15. Energy Star vs. CEC standards?

- The role of standards is to eliminate the least efficient products, and they are mandatory as opposed to voluntary

- Voluntary and regulatory approaches can work hand in hand over time to improve the efficiency of products

- CEC's proposed Tier 1 is more stringent that current ENERGY STAR 3

- CEC's proposed standards include brightness control, whereas ENERGY STAR 3 does not.

16. TV $ sales amount per year in CA?

Roughly $3 billion

17. Test procedure and innovation

The IEC 62087 test procedure states require testing of Audio and Video.

- **IPod, etc. can be turned off**

- Currently JVC a has number of models with iPods that meet the Tier 2 standards and has four years before TIER 2 take effect to correct any excess energy use due to design defects.

18. Standards are technology neutral?

- The proposed standards are technology, features and size neutral

19. Energy efficiency standards are based on screen size?

- The proposed standards are based on the screen size, and apply to television screen size of 58 inches or less. Larger screens get larger energy discount.

Does CEC analysis have math error?

There is no mathematical error in the analysis. CEA and its allies have not identified any error.

20. Why do we need regulations when Energy Star program is effective?

The television energy consumption from 1975 to 1999 was approximately 3-4 percent and the energy consumption started growing, after the digital flat screen television entered the market, from 1999 to 2008 grew to about 9-10 percent. Without regulations television energy consumption will grow to about 18 percent by 2023.

With proposed regulations television energy consumption will grow up to 12 percent by 2023. Regulations are needed to keep the energy consumption from growing.

21. CEA's claim that regulations will cost 4600 jobs lost and $50 million

This statement is baseless CEA has not provided information in support of their argument. Commission analysis shows that Energy savings of $8.1 billion over 10 year period will generate jobs and stimulate the California Economy.

CEA does not provided any energy saving measure in their analysis.

22. CEA's claim 25% TVs not available to consumers

Only inefficient energy guzzling hogs will not be allowed to be sold in California. The inefficient television will be replaced with the televisions of the same size, same quality, same features, and same cost and the energy efficient models t will use less energy and save consumers in their electrical bills.

23. What is rulemaking process?

1. Start with workshops gather and gather data on straw proposal.

2. Prepare staff report to support proposed regulations.

3. Prepare initial rulemaking documents required under the Administrative Procedure Act and provide proper notice to open rulemakings process which includes a 45-day public comment period.

4. Hold an optional public hearing to accept written and oral comments.

5. All relevant comments received during the 45-day public comment period, including those taken at the public hearing must be a considered prior to adopting the regulations.

6. If changes to regulations are needed additional 15-day public comment periods many be needed prior to adopting regulations.

6. Finalize rulemaking pursuant to the Administrative Procedure Act.

24. What does CEC do to enforce efficiency standards?

- Manufacturers certify under penalty of perjury that the efficiency data they provide to CEC is correct. Approved models are listed in CEC's appliance database.
- CEC staff and contractors pro-actively spot-check retailers; retail and manufacturing competitors also alert CEC to non-compliant products
- When non-certified items are found, CEC enforcement staff first contact the retailers and manufacturer, offering assistance with certification process
- Enforcement options range from administrative action by CEC, to prosecution by the Attorney General's office.
- The AG has granted statewide enforcement authority to the Sacramento County DA's office.
- The DA is currently working with us to on three Unfair (Business) Practices cases. The settlement agreement will include a permanent injunction "to comply with Title 20 now and future, and civil (financial) penalties

25. What are the total television retail sales $ in California?

It is roughly $3 Billion