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VIA EMAIL

June 20, 2011

ENERGY STAR Program  
Environmental Protection Agency  
Washington, DC  
[televisions@energystar.gov](mailto:televisions@energystar.gov)

Re: ENERGY STAR Program Requirements for Televisions, Draft 1, Version 6.0

Dear ENERGY STAR Program:

Mitsubishi Electric Visual Solutions America (MEVSA) is proud to be a leader in the effort to minimize the impact of electronics and manufacturing on our environment, and is pleased to participate in many environmental initiatives, including the ENERGY STAR® program. We have devoted significant resources to participating in the ENERGY STAR program and developing large screen televisions that are very energy-efficient (and meet ENERGY STAR qualification requirements). MEVSA now markets only highly-efficient large screen televisions.

We are pleased to continue to be a part of the ENERGY STAR program, and have the following comments on the program requirements, draft 1.

#### On-Mode Power Cap

Efficiency is not the same measurement as power consumption. Power consumption is a measure of the (electrical) power consumed by a device, either instantaneously (e.g., in Watts) or over time (e.g., in kWh per year). Efficiency is the ratio of the work produced to the power consumed.<sup>1</sup>

MEVSA strongly believes that ENERGY STAR should promote *efficient* devices, not merely those which consume the least amount of power. In particular, treating televisions larger than 50" differently from smaller sets intentionally discriminates against the most efficient class of televisions available.

Of the televisions listed in the June 15, 2011 dataset, only two of the 30 most efficient televisions are smaller than 50". The three most efficient and four of the six most efficient televisions are 70" or larger. More generally, the average efficiency of televisions larger than 50" is 92.76 mw/in<sup>2</sup>, the average efficiency of televisions smaller than 50" is 131.94 mw/in<sup>2</sup>, and the average efficiency of all televisions in the dataset is 124.36 mw/in<sup>2</sup>. This is illustrated in Figure 1 below – as televisions get bigger, the efficiency increases (e.g., mw/in<sup>2</sup> is a smaller value).

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<sup>1</sup> See generally "efficiency," Merriam-Webster Online Dictionary, available at <http://www.merriam-webster.com/dictionary/efficiency> (last visited Mar. 24, 2011); "efficiency," Dictionary.com Unabridged, available at <http://dictionary.reference.com/browse/efficiency> (last visited Mar. 24, 2011).

Another way to look at the data is to view plot average efficiency for each screen size, as shown in Figure 2 below. Figure 2 shows the average efficiency and a linear trend line, clearly showing that as screen size gets larger, efficiency increases.

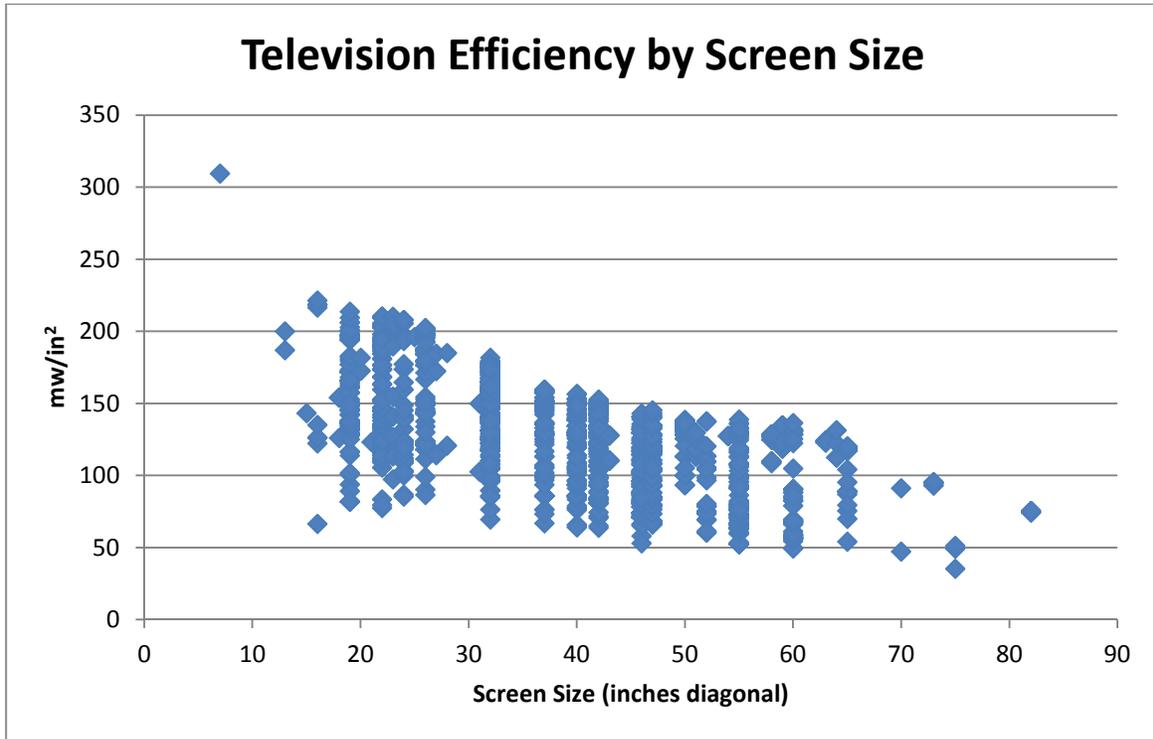


Figure 1 - Television Efficiency by Screen Size



Figure 2 - Average Efficiency by Screen Size

We understand that EPA has been consistent in applying a consumption cap equivalent to the 50" allowance at larger screen sizes. As the average television size sold increases, in order to remain relevant to consumers, EPA should adjust the cap.

We recommend that the cap be adjusted from 50" to 60" (1068 to 1526 in<sup>2</sup>), as follows:

Viewable Screen Area, <i>A</i> (square inches)	$P_{ON\_MAX}$ (watts)
$A < 200.0$	$(0.055 \times A) + 13.0$
$200.0 \leq A < 1526.0$	$(0.070 \times A) + 10.0$
$A > 1526.0$	116.8

Effective Date

The effective date described in the May 25 cover letter is described as "spring of 2012,"<sup>2</sup> in draft 1 as "TBD,"<sup>3</sup> and in the stakeholder conference call held on June 8, 2011, described as "May or June, 2012". We note that the prior version of the Program Requirements for Televisions has an effective date of September 30, 2011.<sup>4</sup>

<sup>2</sup> Letter from Verena Radulovic, U.S. Env. Prot. Agency to ENERGY STAR TV Partners and Other Interested Stakeholders, May 25, 2011 at 1.

<sup>3</sup> ENERGY STAR PROGRAM REQUIREMENTS PRODUCT SPECIFICATION FOR TELEVISIONS: ELIGIBILITY CRITERIA, DRAFT 1 VERSION 6.0, U.S. Env. Prot. Agency, May 25, 2011 at 9.

<sup>4</sup> ENERGY STAR PROGRAM REQUIREMENTS PRODUCT SPECIFICATION FOR TELEVISIONS: ELIGIBILITY CRITERIA, VERSION 5.3, U.S. Env. Prot. Agency, Jan. 24, 2011 at 8.

Previously, the Program Requirements have been revisited biannually with effective dates commensurate with the revision schedule. However, if adopted as proposed, draft 1 would supplant Version 5.3 after just seven to nine months of its effective date.<sup>5</sup>

We do understand that EPA intends to revise the Program Requirements periodically in order to track the state of the industry. However, no matter how fast the marketplace is changing, this is very burdensome.

If the Program Requirements are modified every other year, it's likely that a fair number of television products will be in production during exactly one set of ENERGY STAR requirements, a fair number will be in production during two sets of requirements (depending on how product cycles and Program Requirement cycles align). Only devices with very long production runs are in production during three sets of requirements (and even those devices often undergo significant engineering changes which would necessitate re-test and re-certification).

However, with the Version 5.3-to-Version 6.0 cycle, the majority of 2011 model year products are likely to be affected by *three* different ENERGY STAR Program Requirements – as they'll have begun production during the spring/summer of 2011 (Version 4.2) and continue to be manufactured through the summer of 2012 (Versions 5.3 and 6.0).

ENERGY STAR Program Requirements that change three times during a one-year period significantly increases cost and burden to manufacturers, and would similarly introduce confusion to the marketplace and consumers. Either Version 5.3 should be repealed/skipped, or Version 6.0 should be effective no earlier than spring 2013.

#### Automatic Brightness Control Calculations

In previous Program Requirements, calculation of  $P_{ON}$  with Automatic Brightness Control (“ABC”) was the average of power consumption at 0 lux and 300 lux or greater. Draft 1 changes this calculation significantly (introducing 10, 100 and 150 lux measurements, and dropping the 0 lux measurement) – and attempts to normalize the measurement to the measurement method of Version 5.3.

The normalization attempt assumes that a fair implementation of ABC (e.g., one that doesn't attempt to “game” the requirements) has power consumption that increases in a generally linear manner from 0 lux to 300 lux. Based on this assumption, there's an adjustment factor (the second term in Equation 1) which ostensibly yields a  $P_{ON}$  which is comparable to the Version 5.3 calculations and dataset.

This assumption is false, and therefore this normalization attempt does not yield comparable numbers – and any attempt to compare Version 6.0's four-part ABC measurements to Version 5.3's two-part measurements will be an apples-to-oranges comparison.

There are valid, legitimate reasons why power consumption will be nonlinear at various light levels, and we appreciate EPA's attempt to filter out attempts to “game” the requirements while continuing to enable and encourage ABC use. However, we suggest that the normalization term be eliminated – it does not allow fair and valid comparisons with Version 5.3 measurements or dataset, and will only serve to confuse and complicate matters.

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<sup>5</sup> Version 5.3 has an effective date of September 30, 2011; Draft 1 has an effective date of “May or June 2011”. October 1 to May 1 is seven months, October 1 to June 30 is nine months.

### Internet Content

The Draft Test Method requests manufacturers to provide data for On Mode power consumption using the Internet-content signal as defined in IEC 62087 Ed. 2.0, and suggests that a “growing number of televisions are Internet capable.”<sup>6</sup>

We note that this is a misapplication of the Internet-content signal described in IEC 62087. In particular, the “internet content” described appropriate for “web browsing” applications, which is quite different from the content displayed by “internet capable” televisions that are capable of native reception and display of internet content such as Netflix, Hulu or Vudu video programming. There is little (if any) “internet content” displayed on televisions, but much *video* content received via the internet.

### Testing Burden

Finally, we note that a television tested against Version 5.3 with ABC required two measurements (0 lux and 300 lux). A television tested against Version 6.0 would require four ABC measurements against video content, four ABC measurements against the internet content, plus four ABC measurements against video content with networking features active, plus four ABC measurements against internet content with networking features active.

This is a total of 16 separate, generally redundant measurements – half “for data collection purposes.” This is an eightfold increase from the previous test method, and will significantly increase time and costs to perform the tests.

### Toxicity and Recyclability Issues

We do not believe the scope of ENERGY STAR Qualifications for television products should also address material toxicity or recyclability issues. There are other agencies active in these areas, and creating additional ENERGY STAR specifications for these issues may lead to conflicting or redundant regulations.

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Please feel free to contact me if there are any questions.

Sincerely,

Charles Davis  
Director, Sales Engineering and Compliance  
Mitsubishi Electric Visual Solutions America

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<sup>6</sup> ENERGY STAR PROGRAM REQUIREMENTS PRODUCT SPECIFICATION FOR TELEVISIONS: DRAFT TEST METHOD, U.S. Env. Prot. Agency, Aug. 2011 at 3.