

Comments on Draft Final Specification

Submitted by:

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Abstract

The Draft Final Specification is a very disappointing move from the earlier Revised On Mode Proposal which I had supported. The Draft Final Specification uses the illogical mathematical method of averaging the characteristics of apples and oranges in order to determine the rules for the apples. The use of fundamentally unfair methods to arrive at the Energy Star rules will only encourage the use of equally unfair tactics by those that seek to obtain Energy Stars and so the Draft Final Specification does not well serve the needs of the environment.

Comments on Draft Final Specification Proposal

The Energy Star Draft Final Specification released on December 17, 2007 has adversely deviated from the earlier Revised On Mode Proposal that was released by Energy Star on November 26, 2007. This significant move is apparently a response by Energy Star to the strong complaints by environmental groups. It would be better if these environmental groups would make a strong effort to understand the important differentiating characteristics of the TV industry and then work with the industry to arrive at a compromise that would best serve the needs of the environment.

The figure below on page 2 is from the Energy Star Draft Final Specification. The dashed red line represents the Draft Final Specification proposed rule. Any TVs falling below the dashed red line would receive Energy Stars and those above the line would not. It is interesting to note that only one of the 33 Plasma TVs falls below the dashed red line and would receive an Energy Star whereas all of the Rear Projection TVs (DLP and RP-LCD) would receive Energy Stars. A careful analysis of the data in the Energy Star provided file:

ENERGY_STAR_TV_Dataset_11_26_07.xls

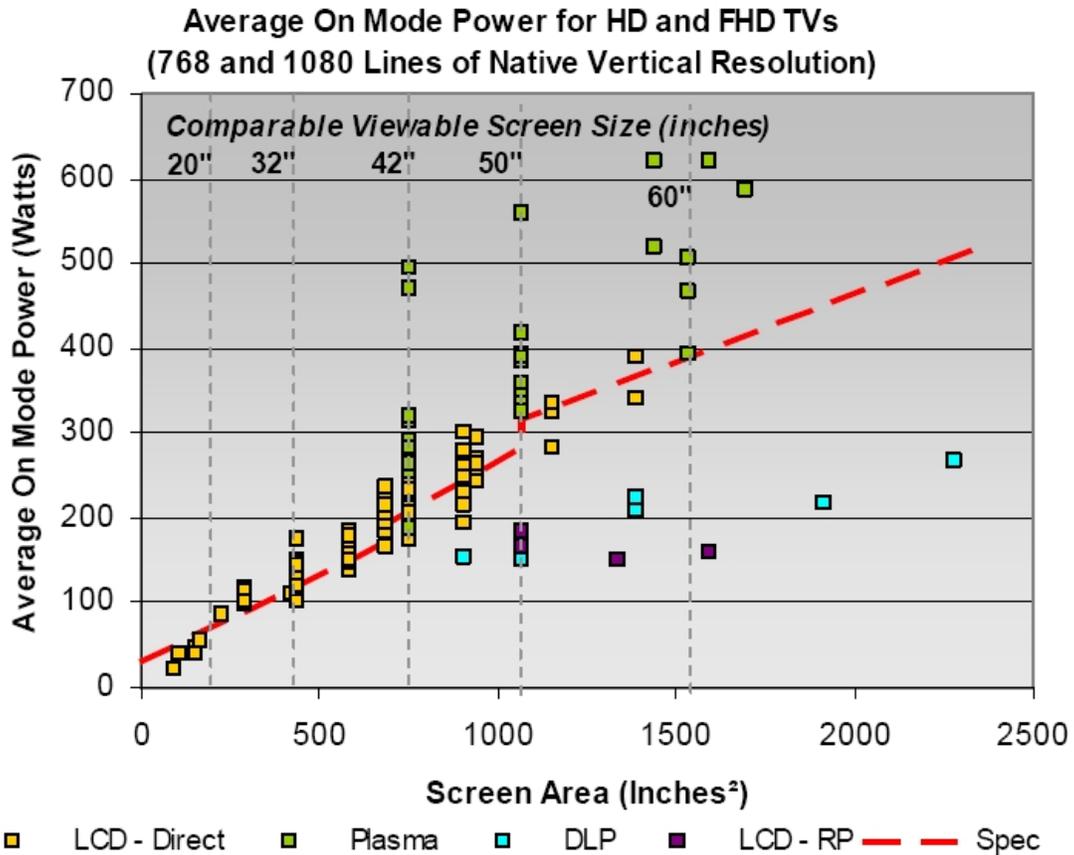
shows that there is indeed only one Plasma TV (index 123, a 42 inch display at 186.9 Watts) which would receive an Energy Star. This is a fundamentally unfair treatment that will be further explained below.

I have pointed out a number of times in my earlier written comments to Energy Star that the Flat-Panel TVs which include LCD TVs and Plasma TVs are quite different than the Projection TVs which include DLP and LCD Rear Projection. The Flat-Panel TVs behave as apples and the Projection TVs behave as oranges. Please see my comments of November 7, 2007 at:

http://www.energystar.gov/ia/partners/prod_development/revisions/downloads/tv_vcr/DrWeberDrAft2TV.pdf

for an explanation of why these two categories of TVs can be modeled as apples and oranges. Simply stated, the Flat-Panel TVs have a characteristic where the power increases proportionally to screen area, whereas the Projection TVs have a characteristic where the power is constant at about 200 Watts independent of screen area. The Projection TVs have a constant power

characteristic because they are limited by the available arc lamp technology which cannot be made larger than 200 Watts. The Flat-Panels do not have this undesirable limitation.



The apples and oranges model of these two TV categories is clearly verified in the above figure which was prepared by Energy Star. Note that the Projection TVs (light blue and purple points) all fall along the horizontal line of about 200 Watts. Also note that the Flat-Panel TVs (orange and green points) all fall along a diagonal line with a slope at roughly 45 degrees in this figure. It is apparent that the dashed red line of the Draft Final Specification is significantly lowered by the improper inclusion of the Projection TV data points (oranges) so that many of the Flat-Panel TVs (apples) will not receive their fair share of Energy Stars. This is especially an issue for the Flat-Panel TVs which have Screen Areas in the range that overlaps the Projection TVs. This is why there is a significant adverse impact on the Plasma TVs and not as much on the LCD TVs.

It is especially unfortunate that the Draft Final Specification proposal rewards all of the Projection TVs with Energy Stars even though they have done nothing to deserve this windfall. The Projection TVs have a comparatively low power because they have an unfortunate power limitation of their arc lamp technology and not because they have worked to reduce energy usage. The Energy Star program would be much better served if it made rules that encouraged its lowest power TV technologies to further reduce their power in order to earn their Energy Stars. We cheapen the value of an Energy Star if we give it away for no effort.

The US consumer is currently voting against Projection TVs in the market place and many market forecasters are predicting that Projection TVs will have less than 1% market share by 2010. On the other hand the Flat-Panel TVs are expected to have 99% of the market share by 2010

because the consumer is attracted to the desirable features of the Flat-Panels. Surprisingly the past king of TV display technologies, the CRT, is forecasted to have less than 1% market share by 2010. The extremely strong consumer preference for the Flat-Panels is a second major reason treating the Projection TVs and Flat-Panel TVs differently. Why should the Draft Final Specification rules include the Projection TV data to determine which TVs will receive Energy Stars when in the second year of Tier 1, the Projection TVs will be less than 1% of market share?

Please note that these market forecast numbers are substantially different from the recent numbers quoted in the NRDC comments to the Energy Star program dated December 7, 2007. NRDC put the market share for Projection TVs at 7%. Possibly NRDC was using the old numbers of past market performance. However since the Tier 1 proposal covers mostly 2009 and 2010, it is only appropriate to use the market projections for these years in the analysis. The Projection TV share is expected to be 1.3% for 2009, and it is expected to be 0.5% for 2010. In 2006 the Projection TV market share was about 8% and so it is easy to see how the 7% NRDC number could be in error due to the dramatically declining US market for Projection TVs.

The environmental groups that opposed the Revised On Mode Proposal apparently made little effort to understand the above very important fairness issues. Instead they argued that any movement of the dashed red line away from their position was bad for the environment. Comments by the NRDC said that there might be "gaming by the manufacturers", suggesting that the manufacturers might use some devious means to receive Energy Stars. Unfortunately the Draft Final Specification makes it MORE likely that there will be "gaming by the manufacturers" than does the Revised On Mode Proposal. Manufacturers that are treated unfairly by Energy Star rules will have little incentive to respect the unfair rules and will be inclined to use any means necessary to correct the injustice. The Draft Final Specification will not serve the needs of the environment if the Energy Star program is tainted by this unfair treatment.

The environmentalists and the Energy Star officials have repeatedly extolled the virtues of the "Technology Neutral" basis for the Energy Star rules. The NRDC in its comments dated December 7, 2007 stated:

"With the possible exception of some plasma TV makers, there is general consensus among the stakeholders that the specification should be technology neutral"

While it is indeed clear that all of the plasma TV manufacturers oppose the "Technology Neutral" basis for the fairness reasons that I have discussed above, the NRDC appears to have overlooked the position of the major electronics industry association, the Consumer Electronics Association (CEA). In its comments dated December 7, 2007, the CEA stated

"We continue to believe that in order for the ENERGY STAR TV products specification to be truly technology neutral it must distinguish products among separate On Mode power consumption equations that factor in display technologies such as LCD, plasma, etc. These display technologies have dramatically different characteristics that lead to differing power requirements. There is ample precedent in existing ENERGY STAR programs for distinguishing products in the same product category based on unique characteristics."

It is hard to understand the NRDC comment about a "general consensus" on "Technology Neutral" when the CEA, who represents all of players on the TV industry side, is clearly against the environmentalists' concept of "Technology Neutral". As pointed out in my comments above, the "Technology Neutral" approach is fundamentally unfair by using an illogical treatment of the apples and the oranges. There is clearly a major division between the environmental groups and the industry groups on this "Technology Neutral" issue. Such a division will not serve the needs of

the environment in the future. It is also clear that the environmental groups and the industry groups are not communicating sufficiently to reduce these misunderstandings.

Recommendation for Revision of the Final Draft Specification

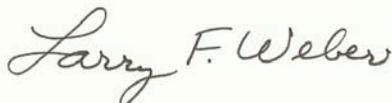
The Final Draft Specification should be further revised to have one dashed red line for the Flat-Panel TVs and a separate dashed red line for the Projection TVs. These two lines can be appropriately adjusted to achieve the desired 25% acceptance level for each of these two categories. Such a change is only a minor but most importantly it would be fair to all concerned. Clinging to a "Technology Neutral" policy that includes the Projection TVs in the data analysis that sets the rules for the Flat-Panel TVs will cause significant damage to the Energy Star reputation. This reputation damage is not worth the almost insignificant energy savings that might be obtained from the Projection TVs that are expected to have less than 1% market share in 2010. Revising this proposed policy to be consistent with the principles of fair play will elevate the image of the Energy Star program in the eyes of the manufacturers. This will translate to a greater compliance with the program resulting in a greater energy savings which is the common goal of both the environmentalists and the industry alike.

Tier 2 Decision Process Recommendations

The decision process used for arriving at the TV set Energy Star rules could be improved in the future. In the Tier 1 process the various independent groups, such as those representing the TV industry and those representing the environmental concerns, interfaced directly with the Energy Star officials. While the Energy Star officials did an excellent job of communicating with the various groups, there was much too little communication between the various groups. It would be very healthy if, for the future Tier 2 process, Energy Star would host many face-to-face meetings with representatives of all of the groups. This would allow each group to understand the legitimate concerns of the other groups. Once a mutual understanding and respect is developed amongst the representatives of all of the groups, a proposal will emerge that will be optimal for the needs of the environment. This series of many face-to-face meetings would reduce the burden on the Energy Star officials since the solution would emerge from the group without these officials needing to serve in the uncomfortable position as arbitrator between the opposing groups. Such a face-to-face process was used to develop IEC 62087. This resulted in an excellent IEC Standard that was fair to all concerns even though when the process started, there were many opposing factions. Unfortunately the Energy Star Tier 1 process has left us with opposing dissatisfied factions and we have not yet achieved a mutual understanding. There is no good reason for the current adversarial relationship between the environmentalists and the industry since both groups share the common goal of wanting greater energy savings. Hopefully this problem can be corrected during the Tier 2 deliberations.

I would be happy to have further discussions with the EPA officials on these comments.

Respectfully submitted,

A handwritten signature in cursive script that reads "Larry F. Weber". The signature is written in black ink on a light-colored background.

Dr. Larry F. Weber