

The following are IBM comments and suggestions regarding the proposed Partnership agreement (Part 1) and criteria for the new monitor MOU (Part 2). Since the MOU draft was not available for more than a few days, these comments are solely based on what documentation was provided within the MOU. Without any supporting data or information, it was difficult to comment and provide suggested wording. As further revisions are released, I will provide updated comments.

Part 1: Partnership agreement:

Originally, the draft partnership agreement had five criteria, which have now been modified. Comments per each condition are summarized below.

Comply with ENERGY STAR eligibility Criteria

No issues.

Comply with the ENERGY STAR LOGO guidelines

No issues (This does not imply we agree with the labeling requirement)

Qualify at least one ENERGY STAR labeled computer monitor within 6 months of activating portion of agreement, monitors

No issues

Provide clear and consistent labeling of ENERGY STAR qualified monitors.

The ENERGY STAR label must be clearly displayed on the top/front of the product, on product packaging, in product literature, and on the manufacturers internet website where information about ENERGY STAR qualified models is displayed.

IBM does not agree with this provision. Per your note of March 15, 2002 defining other options for labelling and suggestion for further dialog, IBM agrees this is key. As you indicated in the March letter, each company utilized different media for marketing, advertising, and promoting the ENERGY STAR label. It is vital that companies have the freedom to decide which alternative works best for their products and customer markets. Some key points that IBM would like to stress include:

1. IBM promotes the recycling of its plastics, and placement of the "stickers" on plastics parts renders them contaminated, thus decreasing plastics recycling value

2. IBM promotes its own logo foremost on the front /top of its products.

Being an international company, it does not desire to entertain placement of the variety of Ecolabels on it products. IBM's professional office design appearance is maintained throughout its product lines. IBM does support promotion of the label and program through multimedia options designed not only for product identification, but education regarding energy efficiency and the ENERGY STAR program.

3. IBM relies on a wide range of suppliers and having a "consistent"

approach is sometimes difficult. IBM works with each supplier to provide an agreed upon approach to ENERGY STAR labeling, which may involve different approaches depending on the unit (size , shape, etc), supplier, market, and cost . The March letter gave the impression this was understood and you were willing to have a variety of options as well as further discussions.

Provide to EPA, on an annual basis, an updated list of ENERGY STAR qualifying monitor models
No issues

Provide EPA, on an annual basis, unit shipment data or other market indicator to assist in determining market penetration of ENERGY STAR.

IBM does not agree with providing unit shipment data. Furthermore, the details requested would require significant resources. Through previous discussions, it was indicated that this was no longer an issue and volume data could be secured by the EPA from Dataquest or similar providers. Industry could then provide, through an agreed upon 3rd party such as ITI, a percentage of qualifying products from which a consolidated value would be provided to the EPA per product category to satisfy the requirement for market penetration. There is wording that states or " an equivalent measurement as agreed upon in advance by the EPA and Partner".

The EPA needs to document whether these previous discussions with industry representatives and ITI are acceptable alternatives, since no such mention was made in the draft MOU.

Notification to EPA for change in its designated responsible party or primary contacts within 30 days
No issues

Performance for Special Distinction Section - 7 items

These items are normally considered the basis for award recognition and/ or support from the EPA and not integral part of a formal Partnership Agreement. Since the wording indicates "may consider the following...", it does not present any objections, but rather its inclusion into this document.

Part 2 - Specifications for new monitor MOU

In general, IBM prefers that the ENERGY STAR program remain focused on power management and not address active power, which could limit technological growth now and in the future. For monitors, the IT industry through technology enhancements, delivered LCD monitors without the need to have ENERGY STAR attempt to set criteria. The ENERGY STAR program is now trying to capture these energy saving values and doing so at the expense of potentially limiting technology growth - the same factor that delivered these highly efficient choices to the market.

Detailed comments to first proposed draft

Item 1B, Sleep mode/Low power

Suggestion to change last sentence wording from "the monitor returns to "on" mode upon sensing a request from the user". Preferred wording is "the monitor returns to "on" mode upon sensing a request from the computer"

Item 3A: On mode maximum power level equation ($Y=30+20X$), where Y is watts and X is number of megapixels).

How was this derived? Justification for determining Maximum Power Use? No research data or information provided along with draft. Research data has been an item repeatedly requested by industry regarding MOU discussions, yet even though EPA indicated they would provide data in the future, none was provided along with this monitor MOU. It is difficult to comment without data to support the given equation.

It is recommended that the column titled "Video Display Category" be eliminated since VESA is trying to replace these (VGA, SVGA, XGA, SXGA, UXGA) with M pixel values, due to several resolutions not having a designation and confusion over designations for new resolutions.

The Max power use values listed would effectively remove 100% of CRTs on the market. If the EPA's goal is the premier label representing the top 25%, then it has accomplished this at the expense of a particular technology. The Maximum power Use values are generally easy to meet for

TFT and almost impossible for CRTs which are a mature technology and will not be able to reduce their on-power consumption to the proposed levels.

IBM recommends that if the "on-mode" is not removed, then CRT's and LCDs be treated separately to allow each technology to drive towards better energy efficiency within each category. The ENERGY STAR program should be focused on energy efficiency, and challenging the respective

technologies towards better efficiency. CRT monitors still represent around 75% -85% of the market. A specific technology should not be eliminated solely based upon energy considerations but a complete Life cycle analysis, cost analysis, economic impact, and ergonomic considerations (see later). Also there can be significant trade-offs between energy consumption and screen brightness. Using this table, a monitor may meet energy efficiency number but be of poor viewing quality.

Item 3B: Sleep and off modes

Sleep mode default times are meaningless in this document since they are controlled by the computer, not the monitor. Discussions with computer manufacturers, who need to evaluate the change in time requirements, is the appropriate method for addressing, not in the Monitor MOU.

Item 3C: Brightness(luminance)

IBM recommends the elimination of the term "nits" and solely refer to the brightness in the technical terms "Cd/m(superscript: 2)" (100 candelas/square meter proposal is adequate). This item, however, should be stated in the test conditions not here.

Item 3D: Contrast Ratio:

This is an ergonomic issue with little relevance to energy issues. (Either set in test conditions or eliminate)

Item 3E: Defective Pixels:

This is an ergonomic issue with no relevancy to energy issues (either set in test conditions or eliminate)

Item 3F: Warranty - Energy Star qualifying models must provide a warranty of at least 2 years

IBM recommends this be eliminated from the MOU. This is not an energy issue, but a consideration between the company and the user

Item 4: Power measurement

The Partner shall measure the average true power. What is the average true power? Is it RMS?

Item 5: Test criteria

Due to the strong correlation between brightness and power dissipation, to define the measurements to be done at the factory default settings penalizes monitors either with brighter screens or those shipped with higher brightness and contrast settings. To prevent manufacturers deliberately limiting the screen brightness or shipping with low brightness and contrast settings, IBM suggests testing be set at the required value indicated in 3C of 100 candelas/square meter instead of variable value determined by each company.

Power consumption measurements: IBM recommends defining whether horizontal or vertical lines are to be used which could differ by several Watts.

General comment: This section needs more work

Item 7: Effective Date

IBM disagrees with the statement that "All products, including models originally qualified under version 3.0, shipped after new effective date (January 1, 2003) must meet Version 4.0 requirements in order to bear the ENERGY STAR label (including additional shipments of models originally qualified under version 3.0)". For a manufacturing process with various suppliers all around the world, there are shipping, transportation, repair and other times required that does not allow stopping shipments at a particular date to change a label. IBM suggests that ENERGY STAR change its label to either include a version number or year and educate the public accordingly, if they wish to eliminate the grandfathering consideration. This is unrealistic for companies to adhere

to, and with the turnover of office equipment, is not needed.

Item 8: Future specification Revisions

IBM would like to see a minimum time addressed before any effective change stated, such as "a new effective date will not be less than 1 year from first notification of any change."

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