

July 21, 2006

**JEITA Comments on ENERGY STAR Program Requirements for Computers —
Draft 3**

JEITA International Energy Star Committee

The computer manufacturer members of JEITA have studied ENERGY STAR Program Requirements for Computers — Draft 3 and have the following comments.

Partner Commitments

§ Commitments

¶ Labeling requirement wording

We would like the wording “1. On the top/front of the product” changed to “1. On the top or front of the product” in the interest of clarity.

¶ Labeling

- JEITA would like to see the following items implemented:
 - (1) Displaying the Energy Star mark on the product, on product packaging, and in product literature such as user manuals should be made optional.
 - (2) The partner should decide the size and display time of electronic labeling.

- When computers are sold as BTO/CTO, the same model may have multiple device configurations. In these cases, it is very easy that individual units may either qualify or not qualify as an Energy Star product due to the addition of the Idle state power consumption criteria in this draft. Production/manufacturing management of labeling on an individual unit basis will be prohibitively difficult for the following reasons:
 - (1) To reduce the cost of user manuals, they are incorporated as electronic files in the computer’s pre-installation media. The same pre-installation media, however, are used for all units of the same model.
 - (2) The electronic labeling displayed at system start-up is incorporated in the computer’s BIOS. The same BIOS, however, are used in all units of the same model.

Furthermore, there is an extremely strong demand from customers to have common pre-installation media and BIOS in all units of the same model because such commonality allows for efficient equipment management on their behalf.

Therefore, as long as the possibility exists that different units of the same model can both meet and fail the Energy Star criteria, there is concern that products cannot adhere to the program requirements while permitting efficient production/manufacturing management and customer equipment management.

- JEITA's positions on labeling are as follows:

- (1) Labeling is a means of indicating a product is an Energy Star qualified product at the time a potential customer is considering purchasing a product.

- (2) In this respect, the following labeling items are the most critical:

- The Energy Star mark for products sold at retail
- Catalogs
- Internet sites

- (3) The priority of the following labeling items, which are seen after purchase, is low:

- User manuals and specification sheets
- Electronic labeling displayed at system start-up
- Labeling (seals/electronic labeling) on products shipped through enterprise channels

- (4) We would like the EPA to understand that its labeling proposal to extend the application of the Energy Star mark has serious repercussions on the production management costs of computer manufacturers.

Eligibility Criteria

3) Energy Efficiency and Power Management Criteria

(1) Power Supply Efficiency Requirements

Computer Using an Internal Power Supply.

- When a computer manufacturer develops an internal power supply, it endeavors to use the power supply in many different computer models to reduce its development costs. Manufacturers are able to do this because CB reports are valid for three years. Accordingly, the EPA should give due consideration to this three-year period.

- Introducing efficiency requirements for internal power supplies in Tier 1 of the Eligibility Criteria will mean that, currently, there will be many internal power supplies that fail to meet the requirements. Addressing this issue is complicated by the following problem areas:

- (1) Costs will increase dramatically.

- (2) Developing internal power supplies that meet these criteria in just one year will require tremendous amounts of labor, requirement acquisition efforts, and development costs.

The EPA should determine the start of the application period after giving due consideration to the circumstances of computer manufacturers.

- JEITA would like to see this problem addressed in either of the following ways:

- (1) The criteria on internal power supplies become effective in Tier 2, January 1, 2009.

- (2) If internal power supplies are subject to eligibility criteria starting in Tier 1, we would like the EPA to reconsider the comments on Draft 1 given in “Industry_Power_Supply_Slides.pdf” presented at the February 15, 2006 Computer Stakeholder Meeting in Washington, D.C.

JEITA continues to support the following proposal given in the document above:

Tier 1:

70% minimum efficiency at 20% of rated output

75% minimum efficiency at 50% of rated output

75% minimum efficiency at 100% of rated output

There is no prospect of reaching the 80% target even now more than six months after Draft 1; therefore, this target should be examined in the detailed study period for Tier 2.

Notebook Differentiation

¶ We disagree with the EPA’s assertions in this section. The market in Japan for notebook computers as desktop replacements and with TV tuners is extremely large. There is also wide recognition that the market for HD-compatible notebook computers will grow rapidly in the near future, as the market shifts to digital-format TV tuners.

(3) Power Management Requirements

¶ Wake On LAN (WOL)

- As we stated in the JEITA comments on Draft 2, manufacturers should not be forced to enable WOL as a default when shipping products. We strongly oppose this requirement.
- As seen in the following user scenario with notebook computers, we expect enabling WOL as a default when shipping products instead of the IS departments intentionally enabling WOL will lead to serious complaints from customers.

User Scenario

- (1) The user uses the notebook computer with the AC adaptor connected in an office with a LAN environment. The user, however, does not use the WOL function.
- (2) The user turns the notebook computer off and unplugs the AC adaptor to take the notebook along on a business trip.
- (3) Because WOL is enabled at this point, the notebook draws power from the battery and, in a short time, the battery capacity drops from its fully charged state, as the example below illustrates.

Example: Six-cell battery capacity for a typical notebook computer = 52 Wh

Power consumption in Off mode (S4/S5 state) = 0.05 W

Power consumption in Sleep mode (S3 state) = 0.2 W

Increase in power consumption when WOL is enabled = 0.5 W

WOL	Battery Backup Duration	
Disabled	$52 \text{ Wh}/0.05 \text{ W} = 43 \text{ days}$	(S4/S5)
	$52 \text{ Wh}/0.2 \text{ W} = 10 \text{ days}$	(S3)
Enabled	$52 \text{ Wh}/(0.05 \text{ W} + 0.5 \text{ W}) = 4 \text{ days}$	(S4/S5)
	$52 \text{ Wh}/(0.2 \text{ W} + 0.5 \text{ W}) = 3 \text{ days}$	(S3)

- (4) The user, after leaving the notebook in the Off mode overnight (10 hours), starts the computer and checks the remaining battery power only to find it has

dropped by about 10 percent. Since this drop is far more than the user anticipated, the user is likely to make a complaint about the notebook.

- The following causes contribute to this problem:
 - (1) The user does not know WOL was enabled when the notebook was shipped.
 - (2) The user does not know the remaining battery power drops quickly when WOL is enabled.

- We have considered ways of disabling WOL when the AC adapter is unplugged in order to prevent this loss of battery power. Unfortunately, there is no technology with today's platforms that can initialize the LAN chip and enable the WOL function when the AC adapter is reconnected. Therefore, if this measure is taken, users who do use the WOL function will likely file complaints about it.

- In JEITA's estimation, the EPA's stance on enabling WOL when shipping products is valid only for desktop computers.

5) Effective Date

3. Elimination of Grandfathering

- Even at this date, all the requirements are TBD; therefore, it is impossible to even forecast whether products will qualify or not in the future. JEITA strongly urges the retention of grandfathering to avoid confusion on the manufacturing floor.

APPENDIX A ENERGY STAR Test Procedure for Determining the Power Use of Computers in Standby, Sleep, and Idle

III. Test Procedure

¶ Wireless LAN

- If the wireless LAN switch is switched from off to on and the wireless LAN goes into a link standby state, it will require approximately 1 W under present conditions.

- There should be provisions made in the EPA's data submission format so that partners can clearly indicate the presence or absence of a built-in wireless LAN and the states of wireless LAN switches.
- It is assumed that many current computers are shipped with the wireless LAN switch on. Consequently, the EPA, when setting its criteria, should take into account that the 1 W value cannot be ignored in the Idle power of notebook computers.

¶ The input AC voltage used in the test procedure should be the standard voltage in the respective market and not 115 VAC. The test procedure should also take into account the AC voltage and frequency at the shipping destination of the product.