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Ms. Katharine Kaplan  
ENERGY STAR Product Development Team Leader  
United States Environmental Protection Agency  
Washington, DC 20460

RE: ENERGY STAR Draft 1 Version 5.0 Computer Specification

Dear Katharine:

On behalf of AMD, we would like to thank you for the opportunity to comment on the ENERGY STAR Draft 1 Version 5.0 Computer Specification, distributed on February 22, 2008. We hope that the information contained in our response is helpful, and we would be happy to answer any questions or provide any additional clarification. We apologize for the delay in providing this response.

AMD has the following comments on the draft 5.0 specification:

### **Usage Pattern Data Collection**

AMD believes that any attempt to characterize the behavior of a PC needs to be holistic in terms of capturing all primary system components including the OS, CPU, GPU, memory, storage, networking, etc. AMD supports the EPA's efforts to collect system usage data so that balanced, realistic usage-pattern models and workload scenarios are incorporated into Version 5.0. Realistic usage models and scenarios will help drive actual, end-user realized improvements in energy consumption while adhering to the Energy Star guiding principle of not defining or limiting performance. In order to support this effort, AMD is collecting computer usage data.

## **Efficiency and Performance Requirements**

The framework and tools developed as part of an EEPA process need to be robust in terms of addressing different computer architectures, must reflect the flexible platform configurations that manufacturers offer, support continuing innovations that deliver improved user experiences and energy conservation, and most importantly, be grounded in realistic usage patterns and scenarios. In many cases, there is more than one way to complete a task at an architectural level. In order to promote innovation and avoid the creation of unnatural competitive disadvantages for some partners, version 5.0 needs to avoid defining unbalanced, usage profiles and unrealistic assessment metrics for the sake of expediency.

In particular, the inclusion of an  $E_{\text{active}}$  component within the annual energy consumption (AEC) formula should be defined in such a way as to reflect the system attributes that broadly drive improved user experiences as delivered by manufacturers' products.  $E_{\text{active}}$  should scale based on a realistic set of workloads that capture a wide range of platform classes from entry-level through performance and equally well across the consumer and commercial segments. Doing so will ensure version 5.0 more fully captures the market in an equitable manner.

## **Networking and Power Management**

With regards to networking and wake management as described in the draft, AMD has several comments.

First, AMD does not agree with the application of wake technology to strictly Enterprise markets. AMD believes it makes sense to generically refer to these segments as IT managed environments. With regards to Wake on Lan and wired Ethernet requirements, the specification needs to acknowledge that computers are increasingly configured to leverage wireless networking and the emergence of Wake on Wireless technology.

AMD requests additional dialogue with EPA in regards to maintaining full network connectivity during sleep. It is not clear to AMD of the intention or the need. Regarding wake management, a requirement for hardware autonomous control seems overly prescriptive and requires further definition to narrow the intended scope.

Going forward, AMD believes that the most effective, long-term means of improving energy efficiency is through the greater application of power management. In particular, AMD believes the usage data will show the aggressive application of sleep states during system idle provides the greatest means of reducing AEC. Therefore, AMD recommends that a EEPA

tool directly address sleep modes and significantly reward platforms that are capable of sleeping as measured by a sleep-test metric versus just using a standardized set of weights. By doing so, EPA can start to streamline future revisions of the ENERGY STAR specification with the goal of increasing sleep time versus having to define and maintain more complex usage metrics and platform categories.

In closing, AMD looks forward to working with EPA and the ENERGY STAR stakeholders on the development of version 5.0 of the computer specification. As always, we would welcome the opportunity to answer any questions or provide additional information.

Regards,

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