EU Comments on the revision of the Energy Star criteria for computers and imaging equipment (20 September 2005)

Representatives of the US EPA and the EU Commission have discussed the revision of the Energy Star qualifying product criteria for computers during a telephone conference on 14 August 2005. The discussion was based on the following documents:

- Framework documents on the revision of the Energy Star specifications for computers dated August 17, 2005;

Regarding the revision of criteria for Energy Star qualifying **computers**, the Commission has expressed during the telephone conference that the following aspects are considered as being crucial:
- ambitious criterion for power supply efficiency is very important (80+ initiative) for first tier of new computer specifications;
- inclusion of criterion for idle-on mode (good approximation of on-mode energy consumption in common circumstances) is very important for first tier of new computer specifications (some of EU experts contribute to the development of a test method for idle-on mode);
- an allowance for wake on LAN functionality is acceptable since power management enabling rates are expected to be improved by wake on LAN;
- two product categories are adequate (desktop and notebook).

Before the telephone conference the Commission had asked European experts for comments on the documents listed above. The list of EU experts' comments is given in the annex below for consideration.

Annex: List of EU experts' comments

The following list contains the input received from several EU member states and the chip manufacturer AMD Europe. Not all comments are shared by all of the parties having submitted input

Computers

Definition of qualifying products
- it is almost impossible to define the various product groups without overlap, i.e. desktop, desktop-derived servers and workstations form a continuous scale
- products on the market are subject to rapid innovation, therefore rigid categories may be problematic
- in particular: suggestion that workstations and desktops can be differentiated by specification is likely to introduce lengthy arguments
- therefore: two definitions are sufficient, one for notebooks and one for desktops including desktop derived servers and workstations

- notebook PCs should not be categorised by the power supply configuration which may be internal or external (as for all other PCs, there are examples of desktop PCs with external power supplies and notebooks with internal ones)
- clarification and consideration of thin clients as being part of the desktop computers would be appreciated

Hardware requirements
- requirements on power supply efficiency is key for energy savings (average savings potential estimated to be larger than 16%)
- one set of requirements for all internal power supplies
- test procedure for 80+ power supplies changed between 2003(version 1) and 2005(version 5) to give the internal power supply rail loading levels quoted by EPA (although the 10% level is not included)
- rationale for this change would be appreciated
- large database of UK test results shows that the critical (extended period) efficiency performance area of the power supply is on-idle, so that the loading region 25% to 50% is likely to be the most pertinent for efficiency testing
- therefore the original loading values of 25% 50% 75% and 100% seem adequate unless evidence would justify the change
- concerns of manufacturers regarding due availability of power supplies meeting the criteria
- introduction of a power factor criterion that is being better than that required for Japanese and European EMC conformance should be avoided
- supply manufacturers have indicated at meetings of the EU Code of Conduct on external power supplies that an 80+ criterion is commercially feasible without referring to power factor conformance
- the significant energy efficiency advantage of 80+ must not be held up for Tier 1 on a power factor debate

On-idle state
- on-idle state levels have to be included in Tier 1 specification
- new speed step processors' lower consumption levels should be taken into consideration when deciding the levels
- UK can provide an on-idle test procedure that consistently generates an on-idle value totally representative of the PC (including notebooks) average power requirement in normal office operations (word processing, spreadsheet manipulation, email etc.)
- relatively large UK test results database is available to support this for a wide specification range of PCs and notebooks
- Denmark has experiences on the idle mode test procedure from the Voluntary Agreement on computers with manufacturers
- Results of UK and Denmark possibly easily support on-idle conformance criteria for Tier 1
- UK test results show that the criteria may be significantly different to current EPA proposals
- results may be forwarded to EPA for consideration
- a clarification of the term "other software" in the idle state definition would be appreciated

- suggestion: the machine is started with the operating system as shipped; in case of no operating system being installed, the machine should be tested with the operating system recommended by the manufacturer

Sleep mode
- should not be the lowest level but rather the level after a certain time span since the lowest sleep level will be save to disk and the consumption typically corresponds to the soft off mode.
- integrated computers may meet the same levels as desktop computers, both in sleep and in off mode

Standby mode
- reference is made to the IEC 62301 standard on the measurement of standby power
- "standby" definition of this standard may be confusing, because it is rather a "description of a situation" that can occur in various modes (note: IEC 62301 was developed for household appliances like washing machines)
- for comparison: Draft 1 Imaging Equipment (lines 297-300) states that "Standby (as defined in IEC 62301) usually occurs in off mode, however may occur in ready, sleep or hard off"
- suggestion: wordings of the standard are not used for the definitions of the modes
  - modes should be defined according to the needs of the product group (as in the imaging equipment draft), i.e. off mode definition of imaging equipment can also be used for computers
  - if - besides that - the standby definition from the standard is needed this should be clearly noted

On-modes other then on-idle
- energy efficiency index (EEI) concept based on the performance(index) of the machine and the energy or power consumption related to that index may be useful
- for the sake of not holding up the process, a possible EEI may be considered for Tier 2

Wake on LAN (WOL)
- WOL particularly relevant due to the growing use of wireless LANs
- concerns of manufacturers on possible requirement for an additional power allowance for the deeper sleep modes to support WOL
- test data input and liaison with Industry on this matter must be a priority since the inability of a PC to provide WOL without compromising work patterns is the primary cause of the disablement of power management
- disputes on amount of possible additional power allowance for WOL should not delay the criteria setting process since power management enabling is key to energy savings