



March 18, 2008

Mr. Andrew Fanara  
Office of Air and Radiation  
United States Environmental Protection Agency  
Washington, DC 20460

Dear Mr. Fanara,

Nokia is the world leader in mobility, driving the transformation and growth of the converging Internet and communications industries. Nokia makes a wide range of mobile devices and provides people with experiences in music, navigation, video, television, imaging, games and business mobility through these devices. These products use External Power Supplies (EPS) and are impacted by proposed revisions in ENERGY STAR specifications.

On November 16, 2008, Nokia submitted comments on Draft 1 of Version 2.0 of the ENERGY STAR EPS specification, which was released in October 2007, raising our concerns with some of the elements proposed. On March 6, 2008, the EPA released the Revised Final Draft Version 2.0 of the ENERGY STAR External Power Supply (EPS) specification, outlining proposed new energy efficiency requirements would replace Version 1.1 of the EPS specifications and that EPS models would need to meet in order to earn the ENERGY STAR logo. After reviewing this latest draft, we continue to have concerns about the Revised Final Draft Version 2.0 and submit the following comments for further consideration.

#### Effective Date

The EPA proposes November 11, 2008 as the date when ENERGY STAR EPS Version 2.0 takes effect. Even for companies like Nokia with best-in-class supply chain management, this date leaves far too short of a period between publication of the specification and implementation. We believe that this date should be extended to 18 months from the date of publication of the revised specification to ensure adequate lead-time for changes across multiple models with regional variants.

Moreover, the EPA proposes that “to qualify as ENERGY STAR, primarily portable products with EPSs that are not otherwise covered by the ENERGY STAR program (e.g., mobile phones, MP3 speaker systems, water filtration systems) must meet the EPS Version 2.0 specification as of July 1, 2008.” While this July 2008 deadline is aligned with the federally mandated rules set to go into effect on that date, we do not believe that it is possible to ensure that primarily portable products and their EPS will be redesigned and available by this date, which is even earlier than the November 2008 deadline for EPS. We urge the EPA to align the effective dates for EPS and primarily portable products, requiring both to meet the new specification 18 months from the date of publication.

#### Low-Power Chargers

ENERGY STAR EPA Version 2.0 proposes that low-wattage EPS meet more stringent requirements. We believe that implementing these revised specifications will only result in negligible energy savings that are far outweighed by the costs.

A low-voltage model will have an output voltage of less than six volts and a nameplate output current greater than or equal to 550 milliamps. For these types of low-voltage and low-cost chargers, their low output current makes it impossible to meet the energy efficiency criteria for AC-AC and AC-DC EPS specified in Table 2 of the Final Draft Revision.

As an example, a 5V/350mA charger needs to meet 65.7 percent efficiency level, the low-voltage EPS category is required an efficiency level of 60.3 percent. In the case of 350mA charger with 850mAh battery charged every second day (365/2), one full battery charge will require about 6.9Wh of energy under the current Version 1.1 specification. Under the proposed Version 2.0 specification, the required 5.4 percent efficiency improvement only 68 Wh ( $5.4\% \times 6.9\text{Wh} \times (365/2)$ ), the equivalent of approximately

0.01 EUR). This is an extremely minor energy improvement when one considers that the design changes required to gain this efficiency, including the use of more copper, insulation and cable materials. Those design changes result in greater use of materials and higher costs for only small energy savings.

The case is even more pronounced in the case of no-load mode. Between one-half to two-thirds of the energy consumed by a mobile phone during use is consumed while the phone is in "no-load" mode, when the phone is fully charged but the charger is still plugged into an electrical outlet.

In the case of our 350mA charger, the typical no-load consumption is 0.15W. If charging happens every second day, then the no-load energy consumption will be 125kWh ( $46.66h \times 0.15W \times (365/2)$ ). Assuming the same pattern of use, under Energy Star Version 2.0 specifications, 2.5kWh of energy will be lost annually. Under Energy Star EPS Version 1.1, we currently consume **1.25kWh less** energy annually than we would after the Version 2.0 specifications would be implemented.

Nokia proposes removing the proposed requirements for low-wattage EPS. If EPA would like to address these kinds of chargers, it should create a separate class for "mobile battery operated devices using EPS" and concentrate on improvements in the no-load mode as opposed to the active mode efficiency.

Thank you for the opportunity to provide our comments on the Revised Final Draft ENERGY STAR EPS Version 2.0 specification. If you have any questions, please do not hesitate to contact us.

Sincerely,

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