

August 23, 2005

To: Andrew Fanara/EPA

From: Ric Erdheim  
Philips Electronics

Re: Draft Battery Charger Energy Star Standard

I am providing the comments of Philips Electronics on the first draft of the Energy Star battery charger specification. Philips Electronics makes Norelco shavers and beard trimmers, Sonicare toothbrushes and other products using very low voltage batteries with much lower energy capacities than the other products EPA is proposing to address in this specification. These products also use relatively little energy resulting in very little possible energy savings from standby and maintenance modes for these products. In addition, toothbrushes use inductive charging for safety and consumer reasons leading to lower energy efficiency. For these reasons Philips Electronics believes it does not make sense to include these low battery voltage products in proposed specification and we recommend exempting these products from the Energy Star specification. We have previously provided written comments to EPA on this issue and incorporate those comments in these comments.

Our comments will address four issues: 1. Support for Battery Charger specification as opposed to using External Power Supply Standard 2. Support for the exemption for products with inductive coupling, 3. Opposition to including products with battery chargers that are not designed to be and are not continuously plugged into a socket, 4. Opposition to inclusion of products using 1.2 voltage.

We note as a preliminary matter that during the stakeholder meetings on the specification, EPA showed a slide titled "Guiding Principles for ENERGY STAR Specification Development." This slide identifies six principles for the program. The first two principles are as follows:

- "Significant energy savings potential"
- "Purchasers will recover their investment within a reasonable time period"

Philips does not believe that EPA has shown that these guiding principles to specification development have been demonstrated with regard to the low voltage, low energy use products. The only data EPA has shown concerning battery charger energy savings potential addresses power tools and cordless vacuum cleaners, products that use much higher voltage batteries and use much more power than the Philips personal care and other products.

### 1. Philips Supports EPA Development of a Battery Charger Specification

Philips supports EPA adoption of a battery charger rather than relying on the existing external power supply standard. As a result of existing product designs that help keep costs down, Philips Electronics does not believe that any of our shaver, toothbrush or other low-voltage battery products would meet the existing external power supply standard. Compliance with such a standard would take significant time for product redesign and add costs to the products without saving a significant amount of energy.

### 2. Philips Supports Exempting Inductively Coupled From the Specification

Philips Sonicare toothbrushes use an inductively coupled charger that has elements of both electronic and linear chargers but does not have the efficiency of an electronic charger.

Philips Sonicare believes that consumers strongly prefer contactless inductive charging combined with a toothbrush charger/holder for bathroom use because of a perception that the lack of metal contact makes the product safer and the reduced maintenance for cleaning the metal contacts of toothpaste residue to provide proper functioning. The low magnetic coupling in the circuit, which is dictated by layers of plastic needed for safety and product robustness in both the charger base and handle housing preclude use of high-efficiency switch-mode circuits.

Philips, therefore, supports the provision in the draft specification exempting inductively coupled products from the specification.

### 3. Philips Supports Exempting Non-Continuously Plugged Battery Chargers From the Specification

For most models of Philips' Men's Shavers, Beard Trimmers, Lady Shavers, and Epilators there is no charging station – the batteries are recharged through a direct connection between the product and outlet. As a result, there is no standby power loss for these products.

The only maintenance power for the products without a charging station would occur when the product is plugged into the outlet for recharging and the battery is recharged before the consumer unplugs the product. The Instructions Manual for all such products advises consumers to unplug the product after recharging. An average men's shaver charge lasts two weeks (14 shaves). That means it only is charged 26 times a year. Other products' battery charge lasts much longer because they are used less frequently than shavers. So maintenance power losses for products without charging stations/stands are limited to the number of recharges/year and the length of time the product is connected to the socket after recharging. (Not recommended by manufacturer and usually not convenient for consumer).

With no standby power use and minimal maintenance power use Philips does not understand how EPA can set a specification for such products and be consistent with its guiding principles of achieving significant energy savings potential. As a result Philips believes that EPA should exempt such products from the specification.

#### 4. Philips Supports Exempting Products Using 1.2 Volt Batteries

Philips supports exempting products using 1.2 voltage batteries that are continuously connected to a power source because we do not believe that EPA has shown that these products will not result in “significant energy savings” resulting purchasers not recovering “their investment within a reasonable period of time” as specified in the ENERGY STAR. Comments submitted by AHAM show that these products use relatively little energy and have inherent efficiency limitations. While the specification exempts products using only 1 watt, we believe the draft would capture many products for which there would neither be significant energy savings nor purchasers recovering their investment in a reasonable period of time. We recommend either exempting the 1.2 volt batteries or significantly increasing the wattage exemption to reflect products that have significant energy savings.

#### Conclusion

We look forward to continuing to work with EPA on the development of this specification.