

DOCKET

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To: California Energy Commission
Dockets Office, MS-4
Re: Docket No. 09-AAER-2
1516 Ninth Street
Sacramento, CA 95814-5512

From: The Power Sources Manufacturers Association Energy Committee

Date: March 14, 2011

Re: Docket No. 09-AAER-2
March 3, 2011 Staff Workshop Meeting on Battery Chargers

The Power Sources Manufacturers Association (PSMA) is a nonprofit trade association incorporated in California that represents more than 40 companies that manufacture power supplies, battery chargers, and the key components found in them (www.pdma.com). PSMA wrote letters of support during the California Energy Commission's prior deliberations on external power supply efficiency standards, believing that such energy efficiency requirements are beneficial to our member companies in numerous ways. Standards remove uncertainty regarding future market demand for energy efficient integrated circuits, encouraging our manufacturers to make long term investments in the manufacturing capacity and design engineering for such advanced technologies.

And, indeed, the external power supply energy efficiency requirements adopted by California, ENERGY STAR, the US Congress, and other government agencies around the world have proven very beneficial for our member companies. Sales volumes of the enabling components have increased steadily, bringing costs down for consumers and allowing virtually all electronic products sold worldwide with external power supplies to employ smaller, lighter weight, cooler-running power supplies.

We are writing to express similar support for the California Energy Commission's proposed efficiency requirements for battery chargers. These standards would help to differentiate highly efficient battery chargers from the "commodity" designs that have become increasingly prevalent in the marketplace. Such products may have a low initial purchase price, but can often be nearly unprofitable to manufacture and end up costing society more in the long run in the form of higher energy bills.

Given today's significant energy and climate challenges, we are supportive of the California strategy to increase energy efficiency of battery chargers and our member companies can provide solutions within the supply chain to help achieve that goal. Fortunately, great advancements in power conversion efficiency have been made in recent years with zero or nearly zero incremental cost. These high efficiency power conversion solutions are key to the cost-effective reduction of energy use in battery charger systems. Specifically, PSMA is aware of the following low-cost technologies that can help achieve the various proposed levels:

- 1) *Low no-battery and battery maintenance power*: many years of worldwide policy focus on standby power have driven innovative solutions to reduce fixed power losses, such as the LinkZero™-LP family of integrated circuits by Power Integrations (www.powerint.com) and the design example given by ON Semiconductor (www.onsemi.com) in its application note AND 8142-D. Both of these demonstrate standby power below 100 mW with readily-available low-cost components.
- 2) *Charge efficiency that varies based on battery capacity*: because of recent improvements in power conversion efficiency and the current market need for Li-Ion battery charge control solutions, technology to increase charge efficiency is readily available, including ON Semiconductor's NCP1835B that does a thorough job of safely and efficiently charging a Lilon cell. It has been on the market for over 5 years.
- 3) *Power factor improvements*: the power sources industry has many solutions available to support power factor improvements. These are offered by several major manufacturers of power-management integrated circuits. A typical example is the FAN 7527B from Fairchild Semiconductor (www.fairchildsemi.com), the NCP1607 from ON Semiconductor, and many others.

We support the Energy Commission moving prior to the U.S. Department of Energy Standard. Because the U.S. DOE is limited to employing an annual energy consumption metric instead of multiple metrics focused on the modes of operation, it is possible that alone, the DOE mandatory standard will not as effectively stimulate growth in our industry and drive further innovation to low power solutions. CEC's inclusion of power factor will help increase sales volumes and bring down costs for active power factor solutions. Low power required in no battery and battery maintenance mode would help spur research and development for low-cost integrated circuits that that yield very low no-battery mode and battery maintenance mode power consumption.

We thank you for this opportunity to provide our inputs into this process and would be glad to continue the conversation as the standard develops.

Regards,

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Chairman, PSMA Energy Efficiency Committee

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