



**NRDC Comments on CEC 15-Day Language for Battery Charger
Systems Efficiency Rulemaking Dated December 14, 2011**

**2010 Rulemaking Proceeding Phase II on Appliance Efficiency
Regulations: Docket Number 11-AAER-2**

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Submitted by:
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On behalf of the Natural Resources Defense Council and our more than 250,000 members and online activists in California, we respectfully submit these comments on the Energy Commission's proposed regulation on battery chargers posted on October 7, 2011.

NRDC strongly supports California Energy Commission's (CEC) Battery Charger Systems (BCS) proposed mandatory standard and encourages CEC to adopt the proposed standard without delay in order to lock in strong savings for Californians as well as to positively influence the US Department of Energy (DOE) federal rulemaking.

CEC's proposed standard will save California the equivalent of the output of a 350 MW power plant, enough electricity to power all the households in a city the size of San Francisco. Each year of sales of battery charging products meeting the standard will save Californians \$300 million in reduced electricity costs over the lifetime of the products. The reinvestment of these savings will stimulate the California economy, creating jobs. Finally, the standard is very cost effective: for every dollar of incremental retail cost for the efficiency improvements, Californians will save 7 dollars in reduced electricity costs, an excellent return on investment by any standard.

For this to happen, California needs to enact its standard before DOE adopts a federal standard, in order to lock in savings until preemption, as well as to influence DOE to set a standard at the same level of stringency so that Californians keep the same level of savings after pre-emption.

CEC's 15-Day Language includes the following changes in response to battery charger systems manufacturer comments:

- The ability to use the battery manufacturer's recommended end of discharge voltage in place of values in the test method for non-consumer products
- An additional delay of 1 year for USB charger systems with battery capacities of 20 Wh or more
- The flexibility to place the efficiency mark on retail packaging and instructions cover page instead of the product name plate.

We commend CEC for addressing key manufacturer concerns with the 45-Day Language proposed regulation. In support of CEC moving forward with this proposed standard, NRDC offers comments on the following topics:

1. The proposed standard is reasonable for USB charger systems with battery capacities of 20 Wh or more, and the extended 24-month compliance period provides manufacturers with enough time to adjust their designs and implement the required changes throughout their supply chains
2. The proposed regulation does not impact "loosely-coupled" chargers sold as after-market charging pads. It only applies to products sold as a system which need to be optimized for the product they are designed to charge. We believe this addresses the concerns raised by manufacturers of these loosely-coupled charger systems.

1. CEC's Proposed Standard Does Not Penalize USB Charging Systems

In its comments, TechAmerica raised the concern that the standard proposed in the 45-day language was too tight for products that use USB chargers and have battery capacities of 20Wh or more. This is the case for tablet computers such as the iPad and competing products. USB chargers are low-voltage, high-intensity chargers (5V output) and are inherently slightly less efficient than custom chargers typically used for notebooks (approximately 3% less efficient per EPA data). Tablets are sold with USB chargers because of the broad availability of these chargers and their convenience for users.

Our analysis, confirmed by TechAmerica and TechNet's comments dated December 26 2011, indicates that it is possible, using existing technology, for USB chargers to meet the proposed standard with enough margin to allow for manufacturing variability. External power supplies with 5V output are available at the 81-82% efficiency level¹, which enables efficient USB charging systems to meet the standard with sufficient margin.

¹ Average of 25%, 50%, 75%, 100%-load efficiencies per the federal external power supply test procedure.

The remaining issue is thus the time required to achieve compliance: high volume IT products such as tablets pose unique challenges in terms of supply chain as it can take 12-18 months to change battery charging components in a supply chain capable of shipping tens of millions of a given product annually. NRDC recognizes that the 12-month compliance period would have been challenging in this particular situation due to the high volume supply chain situation.

NRDC believes that the extended 24-month compliance period addresses this issue. We would have preferred CEC to adopt the levels proposed by TechAmerica as an interim 12-month compliance period instead of a 1-year exemption in order to minimize the loss of savings, however we support CEC's recommendation as a fair compromise with a limited loss of savings relative to our preferred solution.

2. CEC's Proposed Standard Will Not Delay the Introduction of New Loosely-Coupled Wireless Chargers

CEC's proposed regulation only covers battery chargers sold as a system, including the external power supply, the charge control circuitry and the battery. The objective is to ensure that the efficiency of such systems is optimized for the products they are intended to charge. Many loosely-coupled charging systems are marketed as after-market accessories: the pad or charging surface is sold separately from the products it charges. In such cases, the loosely-coupled charging system is essentially an external power supply, and is not covered by the proposed battery charger system regulation.

For those loosely-coupled battery chargers sold as a system, it is important to set the right design guidelines so that the technology is developed with efficiency in mind rather than as an afterthought. This will provide designers with clear design standards and prevent inefficient products to be introduced in the market until standards can catch up and cover these products.

Conclusion

NRDC thanks the Energy Commission for its leadership in establishing an effective standard to capture cost effective energy efficiency opportunities in battery chargers in California.

Thank you for your consideration of NRDC's comments.

Respectfully submitted,

A handwritten signature in blue ink, appearing to be 'Df' or 'Delforge'.

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