November 4, 2010

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

Comments on 2010 Rulemaking Proceeding Phase II on Appliance Efficiency Regulations: Docket Number 09-AAER-2

This letter constitutes the comments of the Appliance Standards Awareness Project (ASAP) in response to the California Energy Commission (CEC) request for comments on appliance efficiency standards for battery chargers. ASAP is a coalition group dedicated to advancing cost-effective energy efficiency standards for appliances and equipment. ASAP works at both the state and federal levels and is led by a Steering Committee with representatives from consumer groups, utilities, state government, environmental groups, and energy-efficiency groups.
We appreciate the opportunity to provide input into this important process, and we strongly support the CEC conducting this rulemaking as energy efficiency standards for battery chargers have the potential to provide significant benefits to California and to the nation.

Battery chargers represent a significant portion of total California electricity consumption. The Codes and Standards Enhancement (CASE) report estimates that 57 million battery chargers are sold annually in California and that the stock of battery chargers consumes approximately 7,700 GWh/year. According to the CEC, total electricity use in California in 2009 was approximately 257,000 GWh.[1] Battery chargers therefore represent about 3 percent of total electricity consumption in California and an opportunity for achieving significant energy savings.

The standards proposed in the CASE report for battery chargers would provide large, cost-effective energy savings. The CASE report estimates that the recommended standards could reduce energy consumption of all battery chargers by 35 percent for annual savings of 2,739 GWh/year after stock turnover. These savings could reduce total electricity consumption in California by about 1 percent. California residents would also see significant economic benefits from the recommended standards. The CASE report estimates that the benefit/cost ratios[2] for different end-use applications that are powered by battery chargers range from 5 to 284 and that the net present value after stock turnover is more than $2.4 billion.

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[1] California Energy Commission. 2010. *Energy Almanac: U.S. Per Capita Electricity Use By State In 2009*. http://energyalmanac.ca.gov/electricity/us_per_capita_electricity.html.
[2] For small battery charger standards and Tier 2 large battery charger standards.

The efficiency metrics proposed in the CASE report would ensure energy savings regardless of how products are used in the field. There is very limited information on duty cycles of battery chargers, and there are likely significant variations in the amount of time spent in different modes both within and among end-use applications due to differences in end-use products and consumer behavior. The CASE proposal addresses these issues by including separate efficiency requirements for 24-hour charge and maintenance energy, maintenance power, and standby power for small battery chargers and for charge return factor, power conversion efficiency, maintenance power, and standby power for large battery chargers. These separate metrics ensure that significant energy savings will be realized in the field regardless of the amount of time that different battery chargers spend in different modes.

The power factor requirements proposed in the CASE report for both small and large battery chargers have the potential to yield significant additional energy savings. The CASE report estimates that about 8 percent of the total energy consumption of battery chargers is attributed to power factor losses. The proposed power factor requirements in the CASE report are estimated to achieve savings of 20-79 GWh/year.

The tiered approach proposed in the CASE report for large battery chargers would achieve significant efficiency gains while allowing sufficient time for products to be redesigned. The CASE report notes that the Tier 1 proposal for large battery chargers would eliminate the poorest-performing products while Tier 2 would adopt efficiency levels for each metric that represent the best performance levels in the current market. The proposed effective date in the CASE report of 2013 for the Tier 2 standards gives manufacturers enough time to meet these more stringent efficiency levels that would achieve the majority of the energy savings from large battery chargers.

This CEC rulemaking is important even in the context of the Department of Energy (DOE) rulemaking. This rulemaking is important even though DOE is concurrently conducting a rulemaking that will establish federal standards for battery chargers. The three points discussed below summarize the significance of this CEC rulemaking in the context of the DOE rulemaking.

- Broader scope: The CEC is considering a broader scope of coverage than the scope of the federal rulemaking by including battery chargers for both consumer and non-consumer products. DOE only has authority to set standards for battery chargers for consumer products. This means that significant energy savings can be achieved for California beyond what the DOE rulemaking can achieve due to the broader scope. The CASE report estimates that after stock turnover, annual energy savings of 395 GWh/year could be achieved for battery chargers for non-consumer products, which is enough electricity to power about 56,000 California homes.[3] Some examples of non-consumer battery chargers include chargers for lift trucks, handheld barcode scanners, and two-way radios.
- Potential to influence DOE rulemaking: Historically, DOE has often followed California's lead in setting appliance efficiency standards. A CEC standard for battery chargers that results in significant cost-effective energy savings likely would influence

[3] Based on average California residential consumption of 587 kWh/month: U.S. EIA. 2010. *Table 5. Average Monthly Bill By Census Division, and State 2008*. http://www.eia.doe.gov/cneaf/electricity/esr/table5.html.

the outcome of the DOE rulemaking, yielding additional energy savings for both California and the nation than might otherwise be achieved.

- Opportunity to accrue additional savings: The CEC standards would likely become effective about a year earlier than the federal standards. For consumer product battery chargers, this effective date means that California would begin accruing energy savings sooner than would be the case absent a CEC standard. In addition, due to the ability of California standards to influence the national and international markets, a CEC standard likely would also yield additional savings outside of the state. According to the CASE report, the first year of implementation of the recommended standards would reduce total statewide electricity consumption in 2012 by approximately 678 GWh.

Thank you very much for the opportunity to provide comments. We look forward to continuing to participate in this rulemaking process.

Sincerely,

Joanna Mauer
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