November 2, 2015

Ms. Brenda Edwards, EE–41
Office of Energy Efficiency and Renewable Energy
Energy Conservation Program for Consumer Products
U.S. Department of Energy
1000 Independence Avenue, SW.
Washington, DC 20585–0121

Docket Number: EERE-2008-BT-STD-0005
RIN: 1904–AB57

Dear Ms. Edwards:

This letter constitutes the comments of the Natural Resources Defense Council (NRDC), the Appliance Standards Awareness Project, and the Northwest Energy Efficiency Alliance on the Department of Energy (DOE, the Department) supplemental notice of proposed rulemaking (SNOPR) for Battery Chargers Standards.

The Natural Resources Defense Council (NRDC) is an international nonprofit environmental organization with more than 1.3 million members and online activists. Since 1970, our lawyers, scientists, and other environmental specialists have worked to protect the world's natural resources, public health, and the environment. NRDC has offices in New York City, Washington, D.C., Los Angeles, San Francisco, Chicago, Livingston, Montana, and Beijing. NRDC's top institutional priorities are curbing global warming and creating a clean energy future. Energy efficiency is the quickest, cleanest, cheapest solutions to global warming and other energy-related problems. Cost-effective energy efficiency standards help to ensure that consumer and commercial products provide the same level of comfort and service using less energy, with benefits for consumers, the environment and the electricity grid. For more than 30 years, NRDC has advocated for stronger federal and state energy efficiency standards for household appliances and commercial products, and for strong implementation and enforcement of these standards, including better test procedures.

The Appliance Standards Awareness Project organizes and leads a broad-based coalition effort that works to advance, win and defend new appliance, equipment and lighting standards which deliver large energy and water savings, monetary savings and environmental benefits.

The Northwest Energy Efficiency Alliance (NEEA) is an alliance of more than 140 Northwest utilities and energy efficiency organizations working on behalf of more than 13 million energy consumers. NEEA is dedicated to accelerating both electric and gas energy efficiency, leveraging its regional partnerships to advance the adoption of energy-efficient products, services and practices.

We thank DOE for its efforts in developing energy conservation standards for battery charger systems (BCS). Over 500 million battery charger systems were sold in the United States in 2011, consuming more than 10 billion kilowatt-hours annually. Battery charger systems sales are continuing to increase with the proliferation of consumer electronics products, the trend toward mobile product use, and the rapid drop in the price of batteries.

We believe that energy efficiency standards play a critical role in reducing the energy used by electrical equipment, thereby reducing carbon emissions, and the environmental, economic and public health impacts of electricity generation.

We appreciate the opportunity to comment on the supplemental notice of proposed rulemaking (SNOPR) for energy efficiency standards for battery charger systems. These comments complement the comments we submitted on October 20, 2015 on the test procedure NOPR.

Generally, we strongly support DOE's latest battery chargers SNOPR as a large improvement over the 2012 NOPR. By aligning with California's battery chargers standards, in most cases, DOE avoids backsliding and a loss of savings in a national market already largely transformed by California standards. Not aligning with California could even have led in an increase in national energy consumption for battery chargers. Instead, DOE's revised proposal will yield significant energy and financial savings to U.S. consumers. However, we have a number of remaining concerns and suggested improvements to DOE's proposals in the SNOPR. In summary:

1. Exclusion of back-up battery chargers embedded in continuous use devices (product classes 10a and 10b), including Uninterruptible Power Supplies (UPS)

We strongly recommend that battery backup systems (product classes 10a and 10b) be included in DOE's battery charger standards. Their exclusion would cause temporary, or possibly even permanent, backsliding for some chargers relative to California standards currently in effect. Alternatively, we suggest DOE explicitly exclude battery backup systems as a covered product in the SNOPR in order to allow the California Energy Commission to continue to enforce its standards for these products, until such time as UPSs can be covered under DOE Computer and Battery Backup Systems (CBBS) standards.

2. Stringency of proposed standards levels for product class 2

We urge DOE to set standards at the CSL 2 level for product class 2 (phones and other low energy, low voltage chargers). DOE's analysis found that CLS2 is cost effective and the CA IOUs' analysis of CEC's product database shows that two-thirds of products already achieve this level. This is important, because PC2 is responsible for more than half of all battery charger energy use in the United States, and CSL2 would more than double savings from BCS standards.

3. Efficiency marking

We urge DOE to reconsider its proposal to not require battery charger efficiency marking. The benefits of efficiency marking were demonstrated by DOE's own analysis, which relied on California marking requirements. In a similar manner, marking would facilitate enforcement, maximizing savings for U.S. consumers.

4. Shipment projections

DOE's shipment projections are unrealistically low because growth in battery chargers is projected based primarily on population growth. There is little reason to believe that all battery-powered devices, across all product categories, have reached full penetration in the U.S. economy. We believe that shipments of battery chargers associated with mobile telecommunications and entertainment devices covered by PC2, as discussed above, will

continue to grow more quickly than the population. As a result, DOE's shipment projections vastly underestimate the energy use and savings potential from battery chargers. We encourage DOE to revisit its approach and assumptions for shipment analysis.

5. **Reporting/representation requirements**

We suggest that manufacturers be required to report actual test procedure values, including the 24 hour energy, maintenance power, and no-battery power. However, we suggest that DOE only hold manufacturers accountable to the annual energy consumption reported for the product. We assume that manufacturers would provide conservative estimates of annual consumption to minimize the chances of an enforcement issue. However, the accurate raw data would also be available for future analyses.

Below we provide our detailed comments and recommendations on these issues.

1. **The exclusion of back-up battery chargers embedded in continuous use devices (product classes 10a and 10b), including Uninterruptible Power Supplies (UPS) risks reducing energy savings nationally.**

As laid out in our October 20, 2015 comments on the battery charger test procedure NOPR, we believe that DOE's proposal in the SNOPR to not set levels for battery backup systems is problematic. We suggest that DOE either return to the coverage originally proposed in the NOPR, or explicitly avoid preempting the existing California standards:

DOE's proposal not to set levels in the SNOPR creates a risk of preemption; and therefore, backsliding of California BCS standards for a period of three years or longer. If federal BCS standards cover backup battery charger standards without setting standards for them, they would preempt California standards between the date when federal BCS standards go into effect and the date when federal CBBS standards go into effect, which would likely create a three year gap. If the CBBS standards are delayed or are not completed for whatever reason, the backsliding could be much longer or even permanent, which would result in a **loss of 683 gigawatt-hours** in annual electricity savings that otherwise would have resulted from the California standards remaining in place.

Even if CBBS standards eventually cover uninterruptible power supplies (UPS), **they may leave certain battery backup systems uncovered**: The CBBS standards will most likely cover a narrower scope of backup battery charger systems than is covered by the 2012 battery chargers standards NOPR. There are important non-computer related battery backup systems, such as for modems, that the CBBS standards may not cover. Excluding battery backup systems from the federal battery chargers standards would lead to no standards being set for non-computer related devices, allowing them to be unnecessarily inefficient.

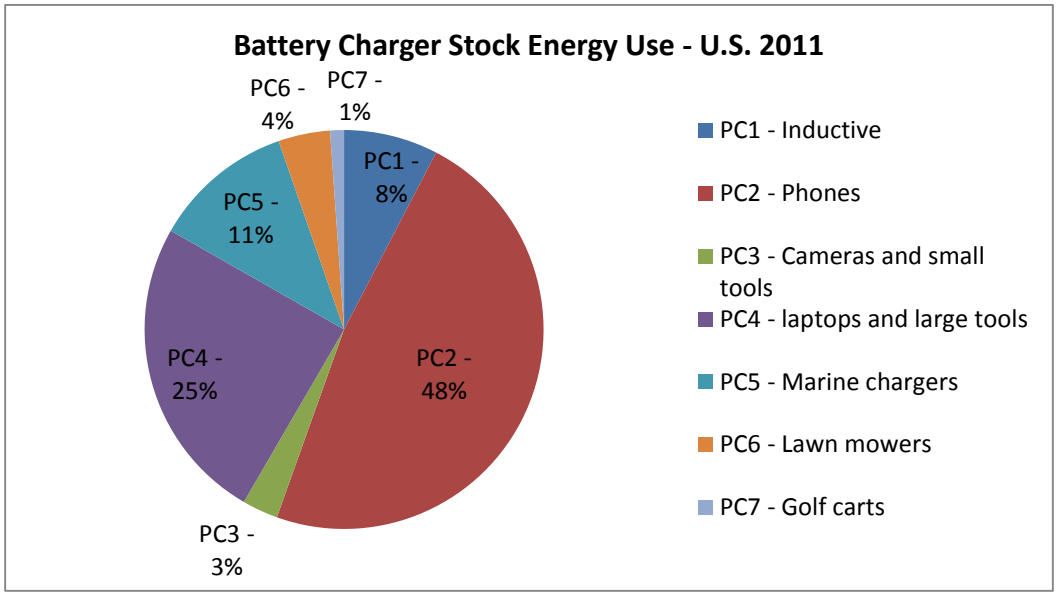
Instead, we recommend that DOE choose one of the two following approaches:

To maximize energy savings, we recommend that DOE keep battery backup systems in the battery chargers standards, at least until the CBBS standards go into effect. Setting federal standards for battery backup systems as initially proposed in the 2012 battery chargers NOPR **would save an additional 240 gigawatt-hours** of electricity annually, on top of the 683 gigawatt-hours already saved by California standards.

Alternatively, DOE could explicitly exclude UPSs only from the definition of battery chargers and cover other battery backup chargers in the BCS standards. This would let California standards remain in effect for all battery backup systems, until the federal BCS and CBBS standards come into effect.

2. DOE found Candidate Standards Level 2 (CSL2) to be cost effective for Product Class 2 (PC2). Therefore the standard for PC2 should be set at CSL2.

Product Class 2, which includes chargers with a charge capacity less than 100 Wh and voltage less than 4 volts, includes smart phones, mobile phones, cordless phones, MP3 players, media tablets, etc. DOE estimates 383,000 units were shipped in 2011, representing three quarters of all battery charger shipments. PC2 is responsible for nearly half of all battery charger energy use in the United States, with 2.3 billion kilowatt-hours annually.



DOE also evaluated CSL2 and found it to be cost-effective (Table 8.4.3 in the Technical Support Document or TSD): the additional cost of $0.43 per product over CSL1 pays for itself in 2.5 years, and two thirds of consumers incur no incremental net cost. The lifecycle cost difference of $0.03 is within the margin of uncertainty; therefore CSL2 would cost consumers no more than CSL1, while saving substantial amounts of energy.

Figure 5.4.14 from the TSD shows that CSL2 represents a modest incremental cost of CSL1 for a substantial reduction in energy use.

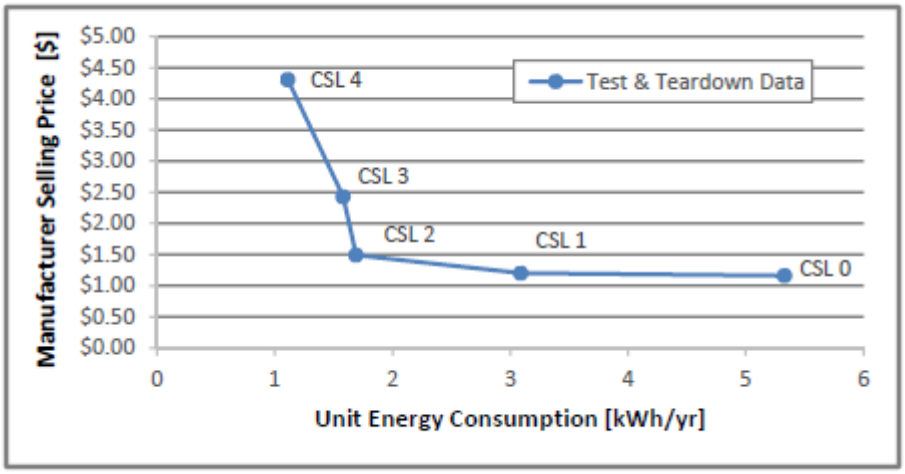


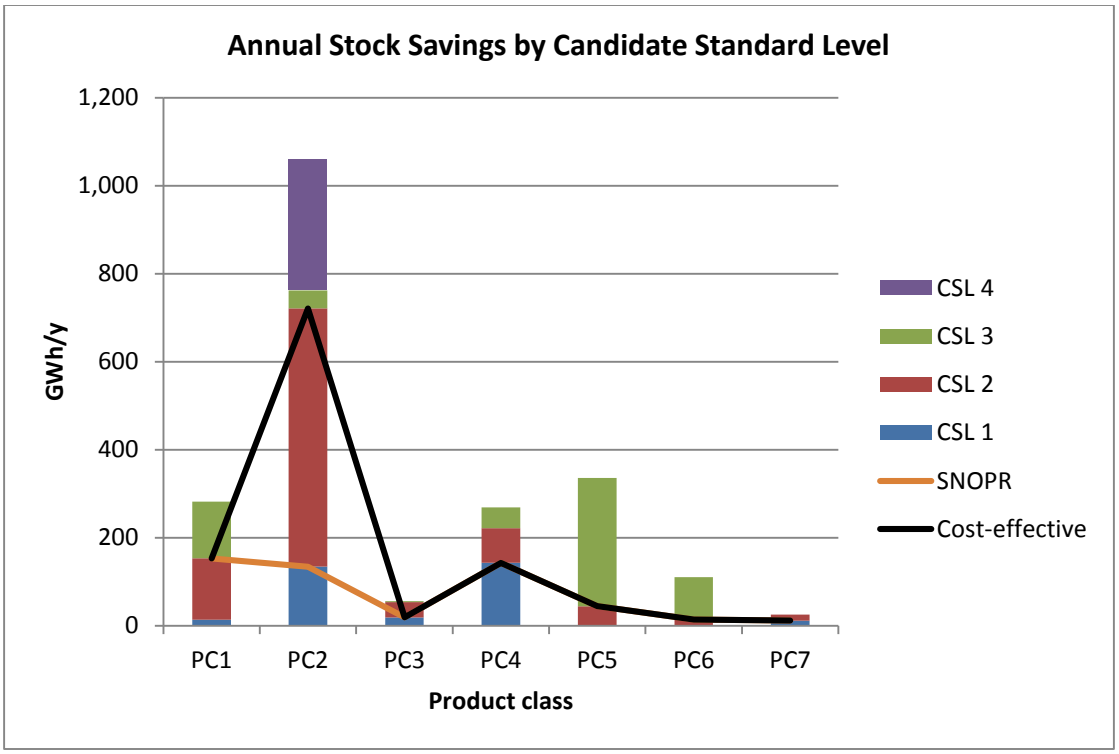
Figure 5.4.14 MSP vs. UEC for Product Class 2

The CA IOUs analyzed battery chargers registered in California's product compliance database, which includes all covered battery chargers sold in California, and is largely representative of the U.S. market. They found that two thirds of registered products met CSL2 levels, and more than 20 percent of chargers using nickel chemistries met CSL2. This demonstrates that many products with nickel chemistries currently in the market meet CSL 2. Moreover, DOE's CSL2 representative unit uses a nickel-based chemistry, showing that these chemistries can meet this standard level cost-effectively.

However, despite the results of its own analysis, DOE proposed standards levels of CSL1 for PC2. For the purpose of setting standards levels, DOE grouped product classes 2, 3, and 4 together in a Trial Standard Level (TSL). DOE found that for TSL2, which included PC 2, CSL2 was not cost effective because the higher cost of PC3 and PC4 outweighed the cost-effectiveness of PC2. DOE did not evaluate a TSL grouping PC2 at CSL2, with PC3 at CSL1, and with PC4 at CSL1. Had it done so, it would have found this TSL to be cost-effective.

Because PC2 represents such a large percentage of all battery chargers sold, we urge DOE to reexamine the cost-effectiveness of PC2 separately from PC3 and PC4 for the purpose of selecting an appropriate CSL. While product classes 2, 3, and 4 do use similar technology options and cover the same range of battery capacities, the duty cycles of most of the products in PC2 are longer, and justify CSL2 for these products. This is the raison d'etre of defining separate product classes.

Setting PC2 standards at CSL2 would more than double savings from battery charger standards from 518 million to 1,105 million kWh annually.



3. Efficiency marking: We urge DOE to reconsider its proposal to not require battery charger efficiency marking.

DOE's 2012 BCS standards NOPR considered adopting a marking protocol consistent with the proposal submitted by NRDC in November 2010 (NRDC, No 56). In the SNOPR, DOE no longer proposes to adopt such a marking requirement.

We believe that an efficiency mark for battery chargers would facilitate standards enforcement, help to identify non-compliant products, and drive accountability from the retailer throughout the supply-chain. California already has a marking requirement for battery chargers, which appears to be working, and we are not aware of any evidence that it has placed an undue burden on industry. DOE leveraged California's efficiency mark for battery chargers when evaluating efficiency distributions, per its statement on page 14 of the SNOPR.

We therefore urge DOE to reconsider this proposal and include a marking requirement as proposed by NRDC in our NOPR comments in the final rule. Alternatively, we would also support using California's marking system for battery chargers, which is also compatible with the battery charger system marking approach used in the Canadian province of British Columbia.

4. DOE's shipment projections for battery chargers are unrealistically low. We encourage DOE to revisit its approach and assumptions for shipment analysis.

DOE estimates that battery charger shipments will grow at the same rate as the U.S. population or 0.62% annually. Yet, per DOE's own estimates, BCS shipments in the United States were

437 million in 2009 (2012 NOPR) and 506 million in 2011 (SNOPR), a 7.6% annual growth rate, or 10 times DOE's previous estimated growth rate.

We agree with DOE that some products are transitioning, and others are converging, but this product-based analysis does not account for two major trends:

1) The number of miscellaneous electrical devices per household is growing rapidly, with an average of 65 per home found in NRDC's Idle Load study (Delforge, May 2015[1]). Innovation in the technology industry, the trend toward product mobility, and wearables are causing new end uses to appear that were not thought of previously, and are not included in DOE's analysis.
2) The rapid drop in battery prices is accelerating the shift from hardwired to battery-powered products.

We believe that DOE could find more appropriate proxies, such as disposable income, for the growth in miscellaneous electrical loads which may be more representative of the growth in battery chargers.

Underestimating shipments does not reduce actual energy savings, but it could increase source emissions and costs. When state energy planners cannot account for committed savings from appliance efficiency standards the result can be the over-construction of power generation, and the saddling electricity rate payers with unnecessary costs for excess capacity.

5. We encourage DOE to adopt reporting/representation requirements which encourage manufacturers to report accurate battery charger represented values.

During public comments at the September 15, 2015 hearing, DOE mentioned that represented values, the detailed outputs from the test procedure that are used to calculate the Typical Energy Consumption (TEC), could be verified by DOE as part of its enforcement process. DOE indicated that a measured TEC that is higher than reported TEC could constitute non-compliance, even if the measured TEC is still below the standard and in compliance.

While we agree with DOE that the reporting of represented values is important to facilitate replicability in testing, and that it promotes accountability and traceability. However, we believe that considering a measured value that is higher than a reported value but still below the standards value as non-compliant may have unintended negative consequences. In this situation manufacturers have a clear incentive to report the highest possible values that still meet DOE's standard levels in order to minimize the risk of being found non-compliant based on actual represented values. This could result in most manufacturers reporting the same values for batteries within a product class, making represented values meaningless and useless for future analysis.

Instead, we suggest that manufacturers be required to report actual test procedure values, including the 24 hour energy, maintenance power, and no-battery power. However, manufacturers would only be held accountable for the annual energy consumption reported for the product with regard to standards compliance. Manufacturers could estimate their annual energy consumption conservatively to minimize the risk of being found non-compliant. However,

[1] http://www.nrdc.org/energy/home-idle-load.asp

the raw 24 hour energy, maintenance power and no batter power data would still be available for future analyses.

Thank you for considering our comments.

Sincerely,

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