

MEMORANDUM

TO: John Cymbalsky, U.S. Department of Energy, Office of Building Technologies

FROM: Ginger Willson, Director, Nebraska Energy Office

DATE: December 12, 2011

RE: Meeting regarding DOE Energy Conservation Standards for Battery Chargers

Following the Friday, December 2, 2011 meeting, please find below participants and discussion points presented relating to the U.S. Department of Energy (DOE) Energy Conservation Standards for Battery Chargers.

The following participated in the meeting:

- (1) Ginger Willson, Director of the Nebraska Energy Office
- (2) Luke Prussa, Director of Sales and Marketing for Lester Electrical, Inc.
- (3) Spencer Stock, Product Marketing Manager for Lester Electrical, Inc.

Request: Classify Golf Cars as Non-Consumer Products

- The DOE battery charger efficiency regulations cover only consumer products.
- According to the DOE, the statutory definition of a consumer product:
“is any article other than an automobile, as defined in section 32901(a)(3) of title 49, that consumes energy or water and which, to any significant extent, is distributed in commerce for personal use or consumption by individuals.”
- Since over 90 percent of new golf cars are sold to commercial or industrial businesses, primarily golf courses, we disagree with the current classification of golf cars as consumer products.

Questionable Balance of Cost vs. Benefit Derived from Proposed Standard for Golf Car Applications

- Lester Electrical products have enabled the conversion of commercial and industrial vehicles to “green” electric power from internal combustion engines for almost 50 years.
- Lester Electrical has invented and pioneered many battery charging innovations that have improved energy efficiency, including the invention of the DV/DT charge termination algorithm, which made possible chargers that automatically terminated when the battery is fully charged, eliminating wasted overcharge and AC energy consumption.
- The market forces in play when supplying commercial and industrial customers have resulted in golf car battery chargers naturally evolving to high-efficiency designs, in comparison to true consumer products, for example:
 - Golf car battery charger efficiency (typical): 80-84 percent
 - Electric tooth brush battery charger efficiency (typical): less than 10 percent
- National energy savings potential for golf car battery chargers (Class ID 7) is only 9 Trillion BTU for Candidate Standard Level (CSL) 1, which is the lowest of all battery charger Class IDs and represents less than 1 percent of the total national energy savings potential for all battery chargers.
- Over half of the golf car battery chargers that are sold each year in the United States use Silicon-Controlled Rectifier (SCR) technology. This is a technology that is often selected for commercial and industrial applications because it offers excellent reliability, longevity, durability, and ruggedness, as well as very good efficiency. However, SCR technology will likely be unable to meet the CSLs beyond CSL 0 (Baseline), which will eliminate this important battery charging technology for golf car applications.

Loss of U.S. Jobs

- The primary battery charger technology that Lester Electrical designs and manufactures at the facility in Lincoln, Nebraska, Silicon-Controlled Rectifier (SCR), will likely be unable to meet the CSLs beyond CSL 0 (Baseline).
- This will result in the loss of 50 to 100 U.S. jobs as Lester Electrical would be required to transition the golf car battery charger designs to Switch Mode technology that currently requires foreign manufacturing in Asia in order to be cost competitive.

About Lester Electrical

- Lester Electrical is a leading industrial and commercial battery charger manufacturer.
- Since 1963, Lester Electrical has been designing and manufacturing battery chargers and other electrical power conversion and storage products in Lincoln, Nebraska.
- Lester Electrical is a vertically-integrated company.
 - Lester Electrical designs and manufactures nearly every component in the products in-house in a 90,000 square foot facility in Lincoln.

- Lester Electrical employs over 250 Americans and have steadily added jobs this year.
- Lester Electrical's U.S. made products compete primarily with imported products manufactured in Asia.
- Lester Electrical is one of the industry's highest volume manufacturers.
- Lester Electrical Quality Management System is registered to ISO 9001 standards and they assemble printed circuit boards per IPC guidelines.

Request for grant information related to Research and Development

- If possible Lester Electrical, would request information on research and development grants DOE has available.

References

Battery Charger and External Power Supply Rulemaking
Docket Number EERE-2008-BT-STD-0005
Regulatory Information Number (RIN) 1904-AB57

Webpage:

http://www1.eere.energy.gov/buildings/appliance_standards/residential/battery_external_std_2008.html

Preliminary Technical Support Document:

http://www1.eere.energy.gov/buildings/appliance_standards/residential/pdfs/bceps_preanalysis_tsd.pdf

Report to Congress:

http://www1.eere.energy.gov/buildings/appliance_standards/pdfs/2010_aug_report_to_congress.pdf

Thank you for your time and consideration.