SENATE, No. 3260

STATE OF NEW JERSEY

216th LEGISLATURE

INTRODUCED DECEMBER 7, 2015

Sponsored by:
Senator LINDA R. GREENSTEIN
District 14 (Mercer and Middlesex)

SYNOPSIS

Establishes energy efficiency standards for battery chargers.

CURRENT VERSION OF TEXT

As introduced.

AN ACT concerning energy efficiency standards for battery chargers, and supplementing Title 48 of the Revised Statutes.

BE IT ENACTED *by the Senate and General Assembly of the State of New Jersey:*

1. As used in this act:

"Battery" or "battery pack" means an assembly of one or more rechargeable cells intended to provide electrical energy to a consumer product, and which may be a detachable battery that is a battery contained in a separate enclosure from the consumer product and is intended to be removed or disconnected from the consumer product for recharging, or an integral battery that is a battery contained within the consumer product and is not removed from the consumer product for charging purposes.

"Battery capacity" means the electric output of a cell or battery on a service test delivered before the cell reaches a specified final electrical condition and may be expressed in ampere-hours, watt-hours, or similar units. The capacity in watt-hours is equal to the capacity in ampere-hours multiplied by the battery voltage.

"Battery charger" means a device that delivers electrical energy in the form of a charge to a battery or battery pack used to power a consumer product. "Battery charger" includes, but is not necessarily limited to, battery charger systems and the following devices and systems: electronic devices with a battery that are normally charged from alternating current line voltage or direct current input voltage through an internal or external power supply and a dedicated battery charger; battery and battery charger components of devices that are designed to run on battery power during part or all of their operations; dedicated battery systems primarily designed for electrical or emergency backup; devices whose primary function is to charge batteries, along with the batteries they are designed to charge, including chargers for power tool batteries, chargers for automotive, AA, AAA, C, D, or 9V rechargeable batteries, and chargers for batteries used in larger industrial motive equipment; and charging circuitry of battery charger systems that may or may not be located within the housing of the end-use device itself and any dedicated external charger and power supply combination that is separate from the device that runs on the power from the battery.

"Board" means the Board of Public Utilities.

"Charge return factor" or "Crf" means the measure of the amount of energy applied to the battery versus the amount of energy extracted from the battery, and the energy losses occurring in the battery during charging.

"Consumer product" means a product that functions with the use of a battery or battery pack which is distributed in commerce for personal use or consumption by individuals in a variety of settings.

"DOD" means depth of discharge.

"Inductive battery charger" means a battery charger that transfers power from mains to the charger through magnetic or electric induction.

"Large battery charger" means a battery charger that draws peak power of two kilowatts or more.

"Maintenance power" means the amount of power the charger draws to keep a battery at full charge.

"No battery power" means the amount of power the charger draws when no battery is attached and the charger is in standby mode.

"Non-consumer battery charger" means a battery charger, which is used primarily in commercial settings for products other than consumer products.

"Power conversion efficiency" means the efficiency in the battery charger for converting high voltage alternating current into lower voltage direct current and the measurement of losses occurring in the circuitry during charging.

"Power factor" means the measure of how well the charger is able to synchronize with the power utility's 60-Hertz cycle, expressed as a ratio of the real power to the apparent power.

"Small battery charger" means a battery charger that draws peak power of less than two kilowatts.

"Standby mode" means the mode of operation when the battery charger is connected to the main electricity supply and the battery is not connected to the charger.

2. a. Within one year after the effective date of this act, the Board of Public Utilities, in consultation with the Commissioner of Environmental Protection, shall adopt, pursuant to the "Administrative Procedure Act," P.L.1968, c.410 (C.52:14B-1 et seq.), rules and regulations establishing minimum energy efficiency standards for battery chargers sold in the State. The rules and regulations shall establish the minimum efficiency standards for inductive battery chargers, large battery chargers, and small battery chargers as follows:

(1) Large battery chargers manufactured on or after July 1, 2016 shall meet the applicable performance values for large battery chargers with 100 to 80 DOD percent or a 40 DOD percent cycle performance as specified in this paragraph. The performance value for the charge return factor shall be a Crf of less than or equal to 1.10 for a 100 to 80 DOD percent large battery charger, and less than or equal to a Crf of 1.15 for a 40 DOD percent large battery charger. For both DOD percent large battery chargers, the power conversion efficiency shall be greater than or equal to 89 percent; the power factor shall be greater than or equal to 0.95; the maintenance power shall be less than or equal to 10 watts; and the no battery power shall be less than or equal to 10 watts;

(2) Except as provided in paragraph (3) of this subsection, small battery chargers manufactured on or after the effective date of this act shall meet the performance standards set forth in this paragraph. The 24-hour charge and maintenance energy watt-hour performance standard shall be less than or equal to 12 + 1.6(battery capacity). The maintenance power performance standard shall be less than or equal to 0.5 watts. The no battery power performance standard shall be less than or equal to 0.3 watts; and the power factor standard shall be dependent upon the input current;

(3) A small battery charger that is made available directly to a consumer or to a service or repair facility after and separate from the original sale of the product that requires the battery charger as a service part or spare part shall not be required to meet the small battery charger standards set forth in paragraph (2) of this subsection until July 1, 2017; and

(4) Inductive battery chargers manufactured on or after the effective date of this act shall meet the applicable performance values set forth in paragraph (2) of this subsection for small battery chargers, or shall use less than one watt in 24-hour charge and maintenance energy watt-hours, maintenance power performance standard, and no battery power performance, or both, as determined by the board.

b. The board, pursuant to the "Administrative Procedure Act," P.L.1968, c.410 (C.52:14B-1 et seq.) and in consultation with the Commissioner of Environmental Protection, may modify and revise the standards established in subsection a. of this section as it finds necessary and prudent. When making such modifications and revisions, the board shall consult, and avail itself of, the most recent information concerning energy efficiency standards, including but not limited to, the recommendations of the California Energy Commission establishing minimum energy efficiency standards for battery chargers and any rules and regulations adopted pursuant thereto.

3. a. Two years after the effective date of this act, no battery charger may be sold or offered for sale in the State unless the battery charger has:

(1) an energy efficiency that meets or exceeds the efficiency standards set forth in the rules and regulations adopted pursuant to section 2 of this act; and

(2) it is equipped with a charger sensor or switch that shuts off the flow of electricity through the charger once the battery has been fully charged.

b. The Board of Public Utilities, in consultation with the Commissioner of Environmental Protection, shall adopt, pursuant to the "Administrative Procedure Act," P.L.1968, c.410 (C.52:14B-1 et seq.):

(1) procedures for testing the energy efficiency of battery chargers sold in the State; and

(2) rules and regulations governing the certification of such products.

The board shall require the use of United States Department of Energy approved test methods, or in the absence of such test methods, other appropriate nationally recognized test methods. The board also may propose to work in coordination with the certification program of other states with similar standards.

c. Each manufacturer of battery chargers shall: (1) cause samples of its products to be tested in accordance with the test procedures adopted pursuant to this section before offering any battery charger for sale in the State; and (2) certify to the board that its product complies with the provisions of this act.

d. The board may test products using an accredited testing facility. If products so tested are found to not comply with the minimum efficiency standards established pursuant to section 2 of this act, the board shall: (1) charge the manufacturer of such products for the cost of product purchase and testing; and (2) provide information to the public on products found to not comply with the standards.

4. The provisions of this act shall not apply to any:

a. non-consumer battery charger;

b. battery charger or battery charger system used to charge highway vehicles; or

c. battery charger that is classified as a device for human use under the federal "Food, Drug, and Cosmetic Act," 21 U.S.C. s. 301 et seq., and requires United States Food and Drug Administration listing and approval as a medical device.

5. The Board of Public Utilities, in consultation with the Commissioner of Environmental Protection, may cause periodic inspections to be made of distributors or retailers of battery chargers in order to determine compliance with the provisions of this act. The board shall also work with the Director of the Division of Consumer Affairs in the Department of Law and Public Safety to coordinate the inspections for battery chargers and consumer complaints concerning battery chargers.

6. a. The Board of Public Utilities, in consultation with the Commissioner of Environmental Protection and the Director of the Division of Consumer Affairs in the Department of Law and Public Safety, shall cause investigations to be made of complaints received concerning violations of this act and shall report the results of such investigations to the Attorney General. The Attorney General may institute proceedings to enforce the provisions of this act.

b. A manufacturer, distributor, or retailer who violates any provision of this act shall be issued a warning by the board for a first violation. Repeat violations shall be subject to a civil penalty of not more than $250. Each violation of this act shall constitute a separate offense, and each day that the violation continues shall constitute a separate offense.

c. Penalties assessed under this act are in addition to costs assessed pursuant to subsection d. of section 3 of this act, and are to be collected by a summary proceeding under the "Penalty Enforcement Law of 1999," P.L.1999, c.274 (C.2A:58-10 et seq.). The Superior Court and the municipal court shall have jurisdiction to enforce the provisions of the "Penalty Enforcement Law of 1999" in connection with this act.

7. The Board of Public Utilities, in consultation with the Commissioner of Environmental Protection, may adopt, pursuant to the "Administrative Procedure Act," P.L.1968, c.410 (C.52:14B-1 et seq.), any further rules and regulations as may be necessary to implement the provisions of this act.

8. This act shall take effect immediately.

STATEMENT

This bill directs the Board of Public Utilities (BPU), in consultation with the Commissioner of Environmental Protection, to establish minimum energy efficiency standards for battery chargers sold in the State. Specifically, the bill provides for the minimum efficiency standards to be established by regulation, as specified in section 2 of the bill, for inductive battery chargers, large battery chargers, and small battery chargers, and also authorizes the BPU to modify and revise these standards as it deems necessary and prudent.

The bill prohibits the sale of battery chargers in the State that do not comply with the standards established by the bill beginning two years after the date of enactment of the bill into law.

Because of the technological explosion of the past 10 years, battery chargers and recharging systems are an essential and integral part of every household, needed to support the use of a wide array of devices that have become necessary to communicate and succeed in our society. However, these battery chargers have been identified as a large energy drain, wasting billions of kilowatt-hours of electricity annually. The California Energy Commission has estimated that, in California, battery chargers are estimated to use 8 billion kilowatt-hours per year but only deliver about 2.9 billion of those kilowatt-hours to the batteries. The 5.1 billion kilowatt-hours that annually are not delivered to batteries represent

a significant opportunity for annual energy savings – energy savings that translate into real cost savings for every household. Establishing and enforcing the energy efficiency standards as set forth in this bill is estimated to be able to capture almost half of this otherwise wasted energy. This wasted energy is sometimes referred to as “vampire energy.”