



American Council for an Energy-Efficient Economy

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Testimony of Jennifer Amann

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Summary

National appliance and equipment efficiency standards are a proven energy-saving policy. ACEEE estimates that efficiency standards saved 5.4 quadrillion Btu (quads) of energy in 2014 alone—roughly 5% of total U.S. energy in that year. Standards enacted to date will save consumers and businesses more than \$1.1 trillion through 2035.

The Energy Independence and Security Act of 2007 (EISA) established a standard for external power supplies (EPS) and instructed DOE to complete future rulemakings to revise the standards as warranted. The standard, based on those adopted in a number of states, became effective in 2008. DOE estimates the standard will save approximately 3.8 quadrillion Btu (quads) of energy—equivalent to the total annual energy consumption of the state of Pennsylvania—and yield \$42.4 billion in energy bill savings for products shipped from 2008-2032. A revised EPS standard takes effect in February 2016.

At the time that EISA was enacted, solid state lighting (SSL)—primarily LED lighting—was in its infancy for general service lighting applications. Today, a wide variety of high-efficiency SSL products are available. SSL products use power supplies, also known as SSL drivers, to power LED lighting. The broad definition of EPS in EISA captures the power supplies used with SSL, but for technical reasons detailed below these products cannot be shown to comply with the required EPS standard.

The bill under consideration would exempt those EPS products that are used to power LED lighting products from the existing EPS standards while ensuring that DOE retains the authority to set standards for these products in the future. ACEEE is satisfied with this outcome because it removes a potential obstacle to the continued growth of a leading energy efficiency technology while preserving DOE's ability to develop a standard on power supplies for these products in the future if warranted.

Introduction

My name is Jennifer Amann and I am the Buildings Program Director for the American Council for an Energy-Efficient Economy (ACEEE), a nonprofit organization that acts as a catalyst to advance energy efficiency policies, programs, technologies, investments, and behavior. We were formed in 1980 by energy researchers. Personally, I have been involved in energy efficiency issues for the past 20 years with a focus on energy efficiency in buildings, appliances, and equipment including lighting and electronics, the subjects of today's hearing.

National appliance and equipment efficiency standards are a proven energy-saving policy. The first standards were established in 1987 (signed by President Reagan) and subsequent standards enacted by Congress in 1988, 1992, 2005 and 2007. The Department of Energy (DOE) has updated many of the initial standards set by Congress. ACEEE estimates that efficiency standards saved 5.4 quadrillion Btu (quads) of energy in 2014 alone—roughly 5% of total U.S. energy in that year. Standards enacted to date will save consumers and businesses more than \$1.1 trillion through 2035.

History of External Power Supply Standard

External power supplies (EPS), also known as power adapters, are the small boxes on the cord of many small or portable electronic devices such as laptop computers, tablets, modems, computer speakers, and cordless and cell phones. EPS are also used with many small appliances and other household devices. Power supplies convert household electric current (around 120 volts in the United States) to the lower AC or DC voltages on which many electronic products operate. According to DOE, annual EPS shipments number about 345 million units.

In the 1990s, with the emergence of low-cost chips and portable electronics, new EPS technologies were developed that significantly reduced EPS size while offering better performance and improved energy efficiency. Despite these advances, it was not uncommon to find electronics, small

appliances, and other devices sold with bulky EPS utilizing mid-20th century technologies into the mid-2000s. A standard for EPS would effectively capture savings from new power supply technologies across the broad spectrum of products that utilize EPS more efficiently than establishing separate standards for each individual class of product. The Energy Independence and Security Act of 2007 (EISA) established a standard for EPS with the support of manufacturers and the energy efficiency community and instructed DOE to complete future rulemakings to revise the standards as warranted. The standard, based on those adopted in a number of states, became effective in 2008. The 2008 standard includes active mode efficiency requirements as well as a maximum standby power consumption of 0.5W. DOE estimates the standard will save approximately 3.8 quadrillion Btu (quads) of energy—equivalent to the total annual energy consumption of the state of Pennsylvania—and yield \$42.4 billion in energy bill savings for products shipped from 2008-2032.

In February 2014, DOE published a final rule revising the efficiency requirements for EPS and expanding coverage to additional types of EPS. The new standards, effective in February 2016, will reduce EPS energy use by 30-85%, depending on the type of device. DOE estimates the new standard will save an additional 0.3 quads of energy and yield consumer energy bill savings of approximately \$3.8 billion.

The EPS Standard and Issues for Solid State Lighting

At the time that EISA was enacted, solid state lighting (SSL)—primarily LED lighting—was a relatively new technology and very much in its infancy for general service lighting applications. There were few SSL products on the market other than for niche applications. Today, a wide variety of SSL products are available, market share is growing rapidly, and the efficiency of the technology now surpasses that of other light sources making it a very important contributor to reducing national electricity use.

SSL products use power supplies, also known as SSL drivers, to power LED lighting. The broad definition of EPS in EISA captures the power supplies used with SSL, but the products are somewhat different from other products using EPS. Of particular note, these products do not perform and cannot be tested when disconnected from a power-using load and therefore cannot be shown to comply with the “no load” portion of the EPS standard and, as a result, cannot be shown to meet the required EPS standard.

The bill under consideration would exempt those EPS products that are used to power LED lighting products from the existing EPS standards while ensuring that DOE retains the authority to set standards for these products in the future. If it is determined that there are wasteful LED power supplies on the market, DOE can develop an appropriate test method and standard for these specific products. The provision in the bill explicitly granting DOE authority to set future standards on these products is critical to ACEEE’s support for the bill. Absent passage of this technical correction, manufacturers would be at risk of selling LED lighting products that cannot be shown to meet the standard. ACEEE is satisfied with this outcome because it removes a potential obstacle to the continued growth of a leading energy efficiency technology while preserving DOE’s ability to develop a standard on power supplies for these products in the future if warranted.

This concludes my testimony. Thank you for the opportunity to present these views.