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March 27, 2023

Mr. Bryan Berringer
U.S. Department of Energy
Office of Energy Efficiency and Renewable Energy
Building Technologies Office
EE-5B
1000 Independence Avenue SW
Washington, DC 20585-0121

Re: Energy Conservation Program: Energy Conservation Standards for General Service Lamps, Docket # EERE-2022-BT-STD-0022

Dear Mr. Berringer,

The Edison Electric Institute (EEI) appreciates the opportunity to submit comments on the proposed Energy Conservation Standards for General Service Lamps issued by the Department of Energy (DOE or Department). *See* 88 *Fed. Reg*. 1,638 (January 11, 2023). EEI is the association that represents all U.S. investor-owned electric companies. Our members provide electricity for about 235 million Americans and operate in all 50 states and the District of Columbia. As a whole, the electric power industry supports more than 7 million jobs in communities across the United States.

Driven by customer demands, technology developments, and federal and state regulatory obligations, the electric sector is undergoing a transition of its generating fleet that will continue over the next decade and beyond. Concurrent with this transition, EEI member companies are investing significant amounts of capital—over 143 billion dollars in 2021 alone—to make the energy grid smarter, more dynamic, more flexible, and more secure in order to integrate and deliver a balanced mix of resources from both central and distributed energy resources to customers.

EEI strongly supports the Department's energy conservation standards program for consumer products and certain commercial and industrial equipment. The program has been one of the most successful energy efficiency efforts ever created in large part due to its focus on setting standards that are technically feasible and economically justified for a large majority of consumers. The program's success can be largely attributed to its historical reliance on setting standard levels that ensure that customers who purchase the product save money. According to a recent report by the Edison Foundation's Institute for Electric Innovation, electric companies spent nearly $7 billion on efficiency programs in 2021, saving 237 billion kWh of electricity—enough to power 33 million U.S. homes for one year.

**The Significant Role of Lighting in Cost-Effective Electric Company Demand Side Management Programs**

Customer-funded electric company demand side management programs continue to be a low-cost way to help ensure electricity system reliability and resource adequacy by reducing peak demand. According to the most recent meta-analysis on the cost of saving electricity from Berkeley Lab, from 2010 through 2018, residential efficiency programs accounted for 30.6 percent of total energy savings across all market sectors (i.e., commercial, industrial, low-income, and residential).[1] In fact, residential lighting programs were responsible for 48 percent of all residential program savings (i.e., 14.8 percent of all market sectors). Berkeley Lab's analysis also found that the levelized cost to save a kilowatt-hour (kWh) of electricity through residential lighting programs is extremely cost-effective at just over 1 cent per kWh.[2] In comparison, the average levelized cost of saving electricity from residential programs (including lighting) over the 2010-2018 study range was 2.7 cents per kWh.[3]

Electric company program support for energy-efficient lighting is complementary to the efficiency gains from federal minimum standards and coordination is key to ensure there remains ample opportunity to achieve additional energy savings at least cost to all customers.

As proposed, the efficacy requirement of 120 lumens/Watt for most types of lighting would eliminate 98 percent of the highest-efficiency light bulbs currently available to consumers. [4] If the proposed standard is not revised, many consumers will realize direct economic losses. In setting the standard at near maximum trial standard levels (TSL), DOE will make it very difficult to impossible for electric companies to justify investments in future lighting efficiency rebate programs.

**DOE Analysis Should Accurately Capture the Ongoing Clean Energy Transition**

DOE's utilization of a fossil fuel equivalent marginal heat rate for electricity generated from renewable sources is inconsistent with prior DOE recommendations for all appliance standards rulemakings.[5] By assigning renewable energy—which does not have carbon emissions associated with the electricity generated—a fossil heat rate as if that energy has an emissions impact, DOE's analysis is not accurately capturing the emissions profile of clean energy resources the sector continues to deploy at large scale. DOE should use a more appropriate methodology for this rulemaking, such as the "captured energy" approach as outlined in an October 2016 report, *"Accounting Methodology for Source Energy of Non-Combustible Renewable Electricity Generation"* [6] or the NREL long run projections from the Cambium project.[7]

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[1] Lawrence Berkeley National Laboratory, Still the One: Efficiency Remains a Cost-Effective Electricity Resource (August 10, 2021). Slide 14 https://eta-publications.lbl.gov/sites/default/files/cose_cspd_analysis_2021_final_v3.pdf
[2] Ibid
[3] Ibid. Slide 12.
[4] Energy Star Certified Light Bulb database accessed in December 2022: https://www.energystar.gov/productfinder/product/certified-light-bulbs/
[5] 88 *Fed. Reg. 78,382*, December 21, 2022, EERE–2010–BT–STD–0031 RIN 1904–AB96 *Clean Energy for New Federal Buildings and Major Renovations of Federal Buildings* and January 5, 2023, DOE Webinar use of "95% by 2035 case" from *NREL's 2021 Standard Scenarios Report: A U.S. Electricity Sector Outlook*.
[6] See https://www.energy.gov/sites/prod/files/2016/10/f33/Source%20Energy%20Report%20-%20Final%20-%2010.21.16.pdf
[7] Gagnon, Pieter; Cowiestoll, Brady; Schwarz, Marty (2023): Long-run Marginal Emission Rates for Electricity - Workbooks for 2022 Cambium Data. National Renewable Energy Laboratory. 10.7799/1909373. Available at https://www.nrel.gov/analysis/cambium.html

Otherwise, DOE's use of fossil-fuel marginal heat rates results in at least a 3x overstatement of the amount of primary energy that would be saved if new efficiency standards for consumer light bulbs are promulgated. Given the ongoing transition to clean energy, the decision to use fossil fuel marginal heat rates for renewables results in a compounding and distortionary effect.

**The Department Should Choose a Standard That Increases Energy Savings With Fewer Negative Consequences**

In order to realize economic and energy savings through the ongoing deployment of efficient light bulbs through utility-funded programs, DOE should establish a lumen efficacy standard below the proposed level of TSL 6. This would allow for utility-funded programs to deliver real energy savings from lighting products by providing incentives for those products that are above minimum federal standards as part of ongoing utility-based efficiency program efforts. These programs have been successful and have resulted in an increase in the deployment of higher efficiency lighting without substantially increasing customer costs for these efficient lighting products. DOE should continue to follow this type of approach and should thus finalize a lower level.

Thank you for your review and consideration of our comments. Please contact Steve Rosenstock (202-508-5465, srosenstock@eei.org) if you have any questions about EEI's comments.

Respectfully submitted,

Steve Rosenstock, P.E.
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