



Via electronic submission

June 17, 2016

Irene Kim Ashbury
Secretary of the Board
New Jersey Board of Public Utilities
44 South Clinton Avenue, 3rd Floor, Suite 314
Trenton, New Jersey 08625-0350

Re: Straw CRA Proposal FY17 and Compliance Filings

Secretary Ashbury,

On behalf of Northeast Energy Efficiency Partnerships (NEEP),¹ please accept our insights responding to the Board's request for comment on the FY17 Comprehensive Resource Analysis Straw Proposal and Compliance Filings.² NEEP is a regional non-profit that works to accelerate energy efficiency in homes, buildings and industry across the Northeast and Mid-Atlantic states. NEEP serves as an information resource for policymakers, program administrators, Commissions, and others to inform the adoption and implementation of public policies and programs that advance energy efficiency.

1. 'VALUE LEDS' IN PROGRAM PORTFOLIOS

Within their summary of proposed modifications for Fiscal Year 2017, Applied Energy Group (AEG) suggests inclusion of 'value LEDs' in efficiency program plans.³ The comments below provide information to help the Board assess the best pathway forward to maximize energy savings resulting from high efficiency residential light bulbs with a focus on the superior benefits of products that meet the ENERGY STAR Version 2.0 lamp specification.

In support of our mission to accelerate energy efficiency in the region, NEEP actively manages a regional residential lighting working group, convening industry stakeholders, utility program administrators, manufacturers, and others to help inform best practices in program administration and accelerate market transformation. As part of this initiative, we publish an annual residential lighting strategy report, which provides an overview of the current and future market for residential lighting.⁴ Drawing upon the collective knowledge of our working group and most recent strategy report, we respond to the Board's solicitation for comment, detailing:

¹ These comments are offered by NEEP staff and do not necessarily represent the view of the NEEP Board of Directors, sponsors or partners.

² New Jersey Board of Public Utilities. CRA Straw Proposal and Fiscal Year 2017 Budgets Notice of Opportunity for Comment. (May 31, 2016) Available at:

http://www.njcleanenergy.com/files/file/public_comments/CRA%20Straw%20and%20FY17%20Budgets%20Notice%205-31-16.pdf

³ Applied Energy Group. Energy Efficiency and Renewable Energy Program Plan. Summary of Proposed Program Modifications for Fiscal Year 2017. Page 6. (May 2016) Available at:

http://www.njcleanenergy.com/files/file/public_comments/Summary%20of%20FY17%20Program%20Changes.pdf

⁴ NEEP. Northeast and Mid-Atlantic Residential Lighting Strategy: 2015 Update. December 2015. Available at:

<http://www.neep.org/sites/default/files/resources/2015RLSUpdateFinal.pdf>

1. The historical value of ENERGY STAR;
2. The evolution of ENERGY STAR to Version 2.0; and
3. Concerns regarding 'value LEDs'.

1.1. The Historical Value of ENERGY STAR

While residential lighting is now a mainstay of energy efficiency programs throughout the region, early residential lighting programs faced difficulties with compact fluorescent lamps (CFLs) that did not have the quality attributes to meet consumer expectations, resulting in consumer backlash against the technology.⁵ To overcome those difficult beginnings, residential lighting programs in our region and beyond have relied on EPA's ENERGY STAR program to promote ENERGY STAR Certified lighting products whenever possible. These products meet stringent quality and efficiency requirements and receive third-party testing both to earn the ENERGY STAR Mark, *and* after they have been in market through verification testing.

1.2. The Evolution of ENERGY STAR to Version 2.0

In the early days of commercially available LEDs, the technology was much more expensive than less efficient alternatives. Efficiency programs were necessary to help buy-down the first cost to introduce products to consumers, and ENERGY STAR's stringent certification was necessary to ensure high quality. A lifetime of 25,000 hours (about 22 years at three hours per day) was set as the minimum threshold for ENERGY STAR LED; this very long rated life seemed necessary to encourage early consumers to purchase a lightbulb in the \$20-40 range.

More recently, LED manufacturers have gained the economies of scale necessary to bring down product costs much closer to a commodity level—especially with a an efficiency program incentive—and a lifetime of 20+ years is no longer necessary for consumers to justify the purchase. As a result of this, several manufacturers are beginning to release LED a-line bulbs that do not achieve ENERGY STAR certification. These new products meet low price points, but do not meet ENERGY STAR's criteria concerning lifetime, power factor, and beam angle. These lamps, referred to as "value LEDs," or "-ish bulbs," have no industry accepted common attributes beyond low price, leaving consumers with no assurance that the product will perform well, efficiently or for the stated product life hours..

As a result of the growing "value-LED" market segment, it became clear that ENERGY STAR would need to react to these new products to ensure the integrity and quality of LEDs in the market was maintained. Through 2015, ENERGY STAR worked with dozens of stakeholders to revise their Lamp specification. The group reached a consensus that an ENERGY STAR certified product with a lifetime of 15,000 hours would meet consumer expectations, be available at a very reasonable price point, and save consumers energy. This consensus was embodied within a new specification, ENERGY STAR Lamps Version 2.0, with the purpose of maintaining quality, but still allowing manufacturers flexibility to reach a low price point.

The ENERGY STAR Lamps 2.0 specification was finalized in January, 2016.⁶ Since January, manufacturers have been retooling their product to meet the new specification and testing it through third-party certified testing

⁵ See Generally, McCulough, Jeff (et al.) LED Lighting: Applying Lessons Learned from the CFL Experience. (2008) Available at: http://aceee.org/files/proceedings/2008/data/papers/6_95.pdf

⁶ United States Environmental Protection Agency. ENERGY STAR Program Requirements Product Specification for Lamps (Light Bulbs), Eligibility Criteria, Version 2.0. Available at: <https://www.energystar.gov/sites/default/files/ENERGY%20STAR%20Lamps%20V2%20Revised%20Spec.pdf>

bodies (CBs). The testing takes several months, but **according to staff with the Environmental Protection Agency (EPA) products certifying to the new specification will be available in the market starting in July, 2016.**⁷

1.3. Concerns Regarding ‘Value LEDs’

Since ‘value LEDs’ have not been tested and verified to meet the ENERGY STAR criteria, their promotion through regulated energy efficiency programs raises concerns around quality assurance, transparency, efficacy, and free-ridership.

Quality Assurance: ENERGY STAR criteria are designed to provide a quality consumer experience, ensuring that energy efficiency comes with no sacrifice of performance or features—avoiding the pitfalls associated with the early consumer experiences with CFLs. All ENERGY STAR certified products are independently certified based on testing in EPA recognized laboratories and a sample of products is verified “off-the-shelf” annually. From an efficiency program perspective, this reduces key uncertainties regarding whether products are delivering on energy performance. As such, these measures result in high levels of consumer appreciation; ENERGY STAR-labeled light bulbs receive statistically higher satisfaction ratings compared to non-qualified bulbs.⁸ Furthermore, given the fact that the specifications are developed through a public stakeholder process, ENERGY STAR criteria are also designed with other market realities in mind including product availability, product cost, consumer payback, and efficiency program needs such as product lifetime requirements. **These assurance measures are not available for so-called ‘value LEDs’.**

Transparency: ENERGY STAR specifications are negotiated in a public process creating a level playing field for all manufacturers to design products to meet the specification and market accordingly. In so doing, ENERGY STAR does not arbitrarily pick winners and losers based on perceived reputation, but rather relies on data from the third party certification and verification process to determine eligibility. AEG’s Comprehensive Resource Analysis Compliance Filing suggests thresholds and recommendations for consideration of lamps outside of ENERGY STAR Certification, however **those thresholds have not been vetted in an open stakeholder process, nor do they have third^d party testing of randomly assigned product samples.** In addition to the concern that manufacturers could cherry pick specific lightbulbs that meet these thresholds and only submit the testing reports from products that pass, **the lack of transparency in the product selection process could leave NJ’s Clean Energy Program subject to disputes or potential legal ramifications from manufacturers who were not included in the program.** ENERGY STAR’s open process eliminates the concern from this.

Efficiency: The new ENERGY STAR Lamps 2.0 specification has many quality attributes, including a significant increase in efficacy. It is for this reason that no current CFLs will meet the new higher specification. EPA’s analysis found an 8.5 percent efficacy increase for the version 2.0 products. In that case, efficiency programs will be able to claim more savings and a greater delta Watt for LEDs that meet version 2.0. **This underscores the value of waiting for those products to hit the market in July, rather than embracing ‘value LEDs’.** Furthermore, the efficacy levels suggested by AEG’s compliance filing is 70lpw, where the ENERGY STAR Lamps 2.0 criteria sets

⁷ Presentation from EPA Staff Daniel Cronin, MEEA Energy Solutions Conference, Feb 25, 2016 (*Emphasis Added.*)
<http://www.mwalliance.org/conference/sites/default/files/Cronin%20slides.pdf>

⁸ United States Environmental Protection Agency. National Awareness of ENERGY STAR for 2015: Analysis of CEE Household Survey. Available at: <https://www.energystar.gov/awareness>

efficacy at 80lpw for most products*. Thus, the efficacy levels NJ is proposing is 14% lower than that set by ENERGY STAR.⁹

Free-ridership and Attribution: Lastly, while it may seem attractive to support non-ENERGY STAR LEDs because of their considerable sales volume and low price points, , such characteristics also suggest that the value LED market is working well without efficiency program incentives. ***Thus program promotions of widely available, less efficient value LEDs could likely result in high levels of free-ridership, as people are already buying these products, regardless of whether program administrators promote them through incentive offerings.***

Conversely, since the more efficient ENERGY STAR version 2.0 lamps are expected to be slightly more expensive than the non-ENERGY STAR lamps currently on the shelves, the savings impact of a program incentive to bring the cost of ENERGY STAR products down to the level of the non-ENERGY STAR LED or halogen, would be even greater. The new ENERGY STAR 2.0 Specification would not exist if not for concerned efficiency stakeholders, including efficiency program administrators, and thus a strong argument exists for high levels of attribution for products that meet ENERGY STAR 2.0.

CONCLUSION

NEEP commends the Board for its efforts to advance energy efficiency s in New Jersey with the latest iteration of its Comprehensive Resource Analysis. Please accept these comments in the spirit they are intended: to aid the Board, and ultimately New Jersey ratepayers, in securing a more affordable, reliable, cleaner and sustainable energy future.

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⁹ ENERGY STAR Lamps 2.0 sets at 70lpw minimum for products with a color rendering index (CRI) greater than 90, but no “value” products that have entered the market have reached that high of a CRI. As such, assuming 80lpw to be the appropriate ENERGY STAR minimum for most bulbs is accurate.