



Ms. Brenda Edwards  
U.S. Department of Energy  
Building Technologies Program  
Mailstop EE-2J  
1000 Independence Avenue, SW.  
Washington, DC 20585-0121

Re: Preliminary Technical Support Document for General Service Lamps and Incandescent Reflector Lamps

Docket Number: **EERE-2011-BT-STD-0006**  
RIN: **1904-AC43**

Dear Ms. Edwards:

Thank you for the opportunity to comment on the recently released Preliminary Technical Support Document (PTSD) for General Service Fluorescent Lamps (GSFL) and Incandescent Reflector Lamps (IRLs). Northeast Energy Efficiency Partnerships (NEEP) and the undersigned organizations wish to raise several important issues that we urge the Department to consider before publishing a Notice of Proposed Rulemaking (NOPR).

The effort to set strong energy efficiency standards for GSFL/IRL is of paramount importance for a broad range of efficiency stakeholders in the Northeast/Mid-Atlantic states as they face some of the most aggressive energy reduction use goals in the country, and are home to consumers who live with energy costs that surpass most of the nation and that unnecessarily burden the economy. NEEP works collaboratively with a network of stakeholders that span state energy officials, efficiency program administrators, local efficiency advocates and many others. Strong energy efficiency standards for these products will sharply reduce consumption of electricity, lower peak electricity demand, significantly reduce pollution and create new economic opportunities.

NEEP and the region come to this rulemaking with a strong background of experience, having engaged this rulemaking since its launch in 2011. In addition, the region brings years of important programmatic experience working with both residential and commercial lighting incentive programs.

While we are encouraged by some of the initial findings of the PTSD (significant cost effective savings associated with GSFLs), we are concerned by others (diminutive savings associated with IRLs). Below we raise a number of important issues with the Department; issues we feel must be adequately addresses before a strong proposed rule can be developed. We encourage the Department to explore these issues in an expedited manner.

### General comments

- **DOE has appropriately maintained a schedule to complete this rulemaking by the fall of 2014.**
  - DOE is under statutory obligation under the Energy Policy Act of 1992 to complete two separate revisions to these standards. The first review was completed in 2009. Based on the lead times in the statute, the final rule for the second review is due five years after completing the initial review, and, is therefore, required in 2014.



- Demand reductions in the Northeast/Mid-Atlantic associated with higher efficiency standards for these products will provide important alleviation to capacity constraints, an important challenge faced by much of the region. The Department should quantify the economic benefits of demand reductions for this rulemaking. The Department should also quantify the economic benefits of demand reductions in all future rulemakings.

Synapse Energy Economics completed a study, [Avoided energy supply costs in New England; 2011 Report](#), which demonstrates that efficiency measures which lead to demand reductions provide a number of benefits, including;

“Avoided electric capacity costs due to the reduction in the annual quantity of electric capacity and/or demand reduction that ISO-NE requires load serving entities (LSEs) to acquire from the Forward Capacity Market (FCM) to ensure an adequate quantity of generation during hours of peak demand.”

Section 6 of the report provides forecasts of avoided capacity cost resulting from energy efficiency measures in New England. For example, it is estimated that a measure that achieves one kW reduction in capacity would be worth \$45 per kw-year in 2013 and \$125 per kw-year out to 2026. These values are based on recent and forecasted ISO-NE Forward Capacity Market auction prices. We urge the department to utilize this report as a resource to develop the economic benefits for the products in this rulemaking, and in all other standards rulemakings.

### General Service Fluorescent lamps

- DOE must work to better understand the source of discrepancy between lamp efficacies as reported by manufacturer’s catalogs and those submitted for purposes of certifying compliance with existing DOE standards (available on the certification database).
  - Although Candidate Standard Level (CSL) 1 savings appear significant for GSFL, almost a Quad of additional savings over the 2009 rule, it is difficult to gauge the accuracy of these estimates when there appear to be issues involving the consistent use of efficacy levels in the analysis. During the PTSD public workshop, a number of manufacturer representatives communicated confusion regarding the documentation and reporting of efficiency values. It appears DOE relied heavily on efficacies reported by manufacturer catalogs however during the public meeting manufacturer representatives admitted these values may differ from the values they use in certifying their products through the existing standards program. It is imperative that DOE use a consistent data set of accurate efficiencies if they hope to develop a proposed rule based on actual market conditions. It seems logical that the data set associated with the certification database should offer the Department an accurate source of information.
- High efficacy lamps do not impede control capabilities
  - Manufacturer representatives commented during the workshop that adding control functionality to a fluorescent fixture (lamp/ballast) was the next frontier of efficiency for this technology. We strongly support the evolution of controllable lamps. Regional Program administrators have not reported concerns that high efficacy fluorescent lamps sacrifice dimming capabilities.
- DOE appropriately weighed variability of Rare earth phosphor prices into analysis
  - The availability and cost of rare earth materials, essential in the manufacture of fluorescent lamps, have improved in the last year. According to DOE, the costs of



these materials may continue fluctuate going forward. Through extensive sensitivity analysis, DOE has tentatively concluded that the current Candidate Standard Levels are likely cost effective even with potential variability in rare earth phosphor prices.<sup>1</sup>

- We support the continued tracking of this market to inform any appropriate adjustments to the sensitivity analysis.
- **The Department's Manufacturer Impact Analysis should account for likely growth manufacturers are experiencing with related lighting technologies (i.e. LED lighting)**
  - Emerging technologies such as LED lighting are projected to shrink the market for fluorescent lighting throughout the years included in the analysis. Instead of simply accounting for the lost revenues associated with this decrease in GSFL sales, we suggest that the Department also factor in the benefits those same manufacturers are gaining in the growing markets related to LED and other technologies.
- **Additional Market intelligence available**
  - Vermont's Public Service Department conducted a Market Characterization study ([2011 Vermont Market Characterization and Assessment Study](#)) to establish current baselines for key products in their state's commercial sector. Fluorescent Lighting was one of the technologies researched. DOE should utilize the data collected to corroborate their assumptions.
  - Energy Efficiency Program Administrators from Efficiency Vermont and National Grid, provided commentary on several of the Department's assumptions;
    - The rated life values for the lamps DOE has identified as more efficacious substitutes (for 4-foot MBP) are low.
      - GE's reduced wattage 25/28 watt lamps and their high lumen 32 watt lamps are all rated between 40-50,000 hours (instant start, 3 hours per start).
      - Philips rates their reduced wattage 25/28 watt lamps at 32,000 hours (instant start, 3 hours per start).
      - "Extended life" lamps offer even longer rated lifetimes.
    - Some of the Ballast failure scenarios that DOE has included in their analysis are very uncommon (i.e. existing T8 program start ballast). The vast majority of existing ballasts are instant start.

### Incandescent Reflector Lamps

- **DOE must include a CSL representative of max-tech for IRLs.**
  - DOE is required to establish a CSL that represents the maximum technologically feasible level. DOE also typically evaluates the maximum commercially available level, which may be lower than the maximum technologically feasible. Representatives from California Investor-Owned Utilities (IOUs) explained during the public workshop that DOE's own certification database includes products with efficiencies well beyond the one and only CSL they have established. While we are reserving judgment for their appropriateness for standard levels, we ask that they at least be included in the analysis at this stage.
  - Based on the amount of additional room between CSL 1 and the efficacies of more efficient alternatives, DOE should consider adding at least 2 additional CSLs to analysis between CSL 1 and the maximum commercially available level.

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<sup>1</sup> Appendix\_7B\_Rare\_Earth\_Phosphor\_Availability\_and\_Pricing



In order to develop a strong and informed proposed rule that will deliver maximum cost effective savings to the country and ultimately consumers, the issues we have identified above must be considered and addressed. The Northeast/Mid-Atlantic stakeholders remain determined in assisting the Department in their effort to develop such a rule. Thank you for your consideration.

Sincerely,

Susan E. Coakley, Executive Director

**Supporting Organizations;**

Tracy Babbidge, Bureau Chief for Energy  
**Connecticut Department of Energy and Environmental Protection**

Dan Mellinger, Lighting Strategy Manager  
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Rob Sargent, Energy Program Director  
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Mark Sylvia, Commissioner  
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**Rhode Island Office of Energy Resources**

Patrick McDonnell, Director of Conservation and Load Management  
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<sup>2</sup> Supporting state chapters include: Environment Maryland, PennEnvironment, Environment New Jersey, Environment New York, Environment Connecticut, Environment Rhode Island, Environment Massachusetts, Environment New Hampshire, Environment Maine