IALD Statement on General Service Lamps NOPR

Comments on: *2016-03-17 Energy Conservation Program: Energy Conservation Standards for General Service Lamps*

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The International Association of Lighting Designers (IALD) is an internationally recognized organization dedicated solely to the concerns of independent, professional lighting designers. IALD members strive to set global standards for lighting design excellence. Lighting designers work daily with lamps, light fixtures and daylight to optimize indoor environments in order to enhance human health and productivity while realizing an architect's vision for a given space.

The IALD shares the vision of the Department of Energy and Congress to ensure that the most efficient possible light sources are used in America's built environment. In general, the comments submitted here relate to whether the proposed rule will, in fact, help make available the most efficient possible light sources to replace any obsolete sources.

Our comments cover four main points:

1. The proposed rule addresses a problem that is almost moot, because the market is addressing the issue of energy savings from lighting.

2. We believe that the energy savings achieved through implementation of the proposed rule will be marginal at best, and likely not worth the effort by all parties to adopt, adapt, and implement the rule.

3. Technology has not caught up with the proposed rule in all cases, which means that some lamp types may be removed from the market with availability of truly equivalent but more efficient alternatives.

4. There is broad confusion about exactly which lamp types would be covered and when.

Let's explore each of these issues in brief detail:

1. Market Influence

The IALD questions whether the proposed regulations calling for a new lighting standard are necessary primarily because the lighting marketplace is meeting the challenge of reduced energy use and increased efficiency standards.

The marketplace, particularly for residential lighting, is rapidly moving toward the use of LED lights. One can argue the DOE agrees with this statement. A recent DOE news release stated, "the proposal reflects current market trends in lighting technologies." The DOE points out that

General Electric is discontinuing the manufacture of coiled CFLs and further emphasizes the actions of the marketplace stating, "The National Electrical Manufacturers Association (NEMA) reported that shipments of LED lights jumped 237 percent the third quarter of 2015, compared to the same period in 2014." These examples illustrate the direction the marketplace is going without the benefits of hundreds of pages of complex regulatory language.

Moreover, recent evidence from the CBECS (Commercial Buildings Energy Consumption Survey), a DOE initiative, shows that the amount of electricity used for lighting in commercial buildings in the United States decreased by 46% from 2003 to 2012, a trend that is continuing as the market penetration of solid-state lighting increases.

2. Marginal Energy Savings

Many of the "general service" lamp types lamp types covered in the NOPR are not widely used, and the energy savings attributable to eliminating them will be minimal. We state "minimal" because the efficacy requirement of 45lpw is beyond what these lamp types are capable of at present, and solid-state alternatives are not available for many of the covered types. In addition, it is not at all clear that there are sufficient economic incentives for manufacturers to develop and produce solid-state versions of many of these lamp types, as their numbers are relatively small.

3. Maintain Availability of All Lighting Tools, Using Presently Available Technology

The IALD is always concerned when appliance or component-level regulations threaten to remove available products from the marketplace. The result of such requirements is often that the set of available design options is reduced, and problems that might be solved efficiently and simply are now addressed with inferior solutions.

Technology also appears to limit the availability of replacement devices of similar color, brightness, color rendering ability, shape, or performance. Specifically, LED lighting is frequently very difficult to dim satisfactorily, and there are not satisfactory LED equivalents for three-way (reading) lamps. Spaces and applications are complex and require higher light levels at certain times and lower levels at other times. Newer technologies such as LED do not provide the dimming range of traditional incandescent lamps, or even halogen lamps, and are ill-adapted to such variable situations. A dimmed halogen saves energy, has pleasing color characteristics, and is a proven technology.

It is not clear from the NOPR that regulatory specialists at DOE have identified readily available alternatives for all the covered types. Assuming that present rates of technological progress will continue for two more years, and thus assuming that appropriate products will be available, is risky at best. Until replacement technologies that are completely functional are available, products should not be included in the set of products covered by these proposed rules. Global experience with compact fluorescent lamps shows what can happen when inadequate replacement technologies are mandated by regulation: consumers and professionals are united in their distaste for these ugly, poorly performing products, and many opportunities to save energy have been missed because these products are so inadequate that people don't want to use them!

4. Confusion Reigns

The current version of the proposed rule is unclear about exactly which lamp types would be covered and why they were selected for inclusion. Indeed, the NOPR appears to broaden the definition of "general service lamps" beyond what is present in EISA 2007. Why?

We recognize that the Department of Energy has been prevented from carrying out all the requirements of EISA 2007 by the Burgess amendment and similar congressionally mandated constraints on the Department's ability to measure the impact of previous regulations related to lamp efficacy. However, the proposed rule is a classic case of "a solution in search of a problem." To date, the rule has created confusion and misunderstanding by broadening the scope of covered products and going beyond readily available technology.

Good alternatives are evolving as we speak; the best lighting meets the four "rights": right place, right time, right amount, right equipment. Competent designers can ensure the four rights, and energy codes are increasingly focused on use of controls and daylight in order to minimize the use of electrical energy in lighting. As noted above, the IALD believes progress in lighting energy use over the past few decades has been spectacular, and over the past few years that progress has been phenomenal. To continue to save energy at the amazing rate lighting has done for the past decade, IALD recommends the following:

1. Greatly narrow or abandon the proposed rule, and use the resources instead to:
2. Focus on the human skills needed to implement existing energy codes and related systems-level approaches to the use of energy for lighting;
3. Continue to support research and development, while allowing market forces to propel the market penetration of evolving lighting technologies that are ready for use.