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To: Richard H. Karney, P.E.
ENERGY STAR Product Manager
US Department of Energy

Re: 12/20/2006 Draft ENERGY STAR® Program Requirements for Solid State Lighting Luminaires

As the largest residential fixture manufacturer, a part of one of the world's largest lighting fixture companies, a historically strong supporter and partner of the ENERGY STAR program, and manufacturers of the first comprehensive residential LED fixture offering; Progress Lighting has a particular interest in the development of the ENERGY STAR program requirements involving Solid-State Luminaires. It is of great interest to our company and our customers that fixtures utilizing SSL technology are able to be a part of the ENERGY STAR program as soon as possible.

On behalf of Hubbell Lighting, Inc. and Progress Lighting, Inc., this document serves to outline our issues with the 12/20/2006 draft program requirements for Solid-State Lighting Luminaires.

1. We strongly are NOT in support of the ENERGY STAR Solid-State Lighting program taking a departure from the existing ENERGY STAR residential lighting fixture program in management and specification control. Apparently, the Department of Energy, which to my knowledge has never managed any part of the ENERGY STAR residential lighting fixture program, has decided to manage the ENERGY STAR program with regards to solid-state lighting fixtures. Working with DOE will require submitting products to an entire new group of personnel whom we have never worked with before for ENERGY STAR fixtures. As the ENERGY STAR qualifying process is already an extremely cumbersome and laborious process, we are certainly not looking forward to tackling new procedures with a new organization. As we already are accustomed to working with EPA through their consulting firm, ICF, we strongly would support the SSL program being managed by the same processes and personnel.

Moreover, the management by the DOE of this program and the assignment of an entirely new category and version number greatly confuses the ENERGY STAR fixture process, which is already a confusing entity. Much more ease of acceptance could be gained if the program was rolled into the next residential fixture requirements (4.1) and ENERGY STAR fixture qualification remained independent of the technology. As presented, this would make one standard for a certain type of high-efficacy (fluorescent and motion-controlled incandescent), and an entirely new standard for SSL.

It also appears that the move to the DOE along with other factors are intending on the SSL requirements to more involve commercial fixtures and no longer make ENERGY STAR fixtures primarily a residential specification. Commercial applications typically require some 277V applications and may present an entirely new set of problems regarding ENERGY STAR. In the past, the goals of the ENERGY STAR fixture programs were centered around residential fixtures as most commercial facilities already utilize efficient lighting sources whenever possible.

Note: There is a "ENERGY STAR Solid Lighting Luminaires Stakeholder Meeting" planned for February 8, 2007 in Washington, D.C. to discuss this specification. The scheduling of this meeting (during the same time as one of the biggest shows of the year for manufacturers of residential products, the International Builder's Show) will make it impossible for many residential fixture manufacturers to attend. Moreover, the comment due date for this 12/20/2006 draft of the DOE SSL specification is in the middle of the largest residential lighting show of the year (Dallas Market). These factors alone already show that DOE is out of touch with the residential sector (EPA/ICF is fully in tune with these shows and regularly attends).

2. [General] There are numerous references to luminaires specified as commercial versus residential. While a fixture may be marketed by a company that typically sells residential or commercial fixtures, we don't label the fixtures as "commercial" or "residential". Additionally, in today's market the application line between commercial and residential is increasingly blurred and many commercial projects are using residential fixtures and vice versa. We have no idea of where the fixtures will be applied. The existing ENERGY STAR fixture specification is very clear as it applies to residential fixtures only. Thus, the requirements for class B, etc. can be easily setup in the fixture. Including the commercial-type power devices will lead to SKU proliferation as two types of ENERGY STAR products (with two different types of voltages) will be required.
3. [General] There are stringent requirements for system efficacy which may prohibitively restrict many lighting fixtures. Moreover, the testing required to determine such efficacies will be very complicated and present much resistance towards the desirability of obtaining ENERGY STAR on these fixtures. As all of the LED source manufacturers already have data showing their source performance characteristics, there should be much more simple methods to meeting desired performance criteria that are similar to the lamp/ballast methodology used in 4.0 today. Essentially all that is needed from the fixture provider is the fixture efficiency and the temperature data.
4. [General] Although the CRI requirements can likely be met with upcoming technology, the required values are not in line with what is available with much of today's technology.
5. [Outdoor Luminaires] The specifications require an integral photocell for all outdoor fixtures. This requirement is consistent with ENERGY STAR 4.0 but is not consistent with California Title 24. California Title 24 has been the main catalyst for most of the recent high-efficiency fixture introductions from our company, and we decided to make all of the fixtures compliant with 4.0 as well by including an integral photocell. There have been many problems with the integral photocells in these fixtures not due to the performance of the photocell, but due to applications. There are a myriad of application situations that can make the performance of a decorative fixture with an integral photocell behave erratically, and we have found the inclusion of this integral photocell to be a major headache for manufacturers and customers alike.
6. [Warranty Requirements] As mentioned earlier, warranty requirements should not be independent of fixture designation (commercial vs residential) due to the unknown nature of the fixture application. The requirements should be the same for all fixtures.
7. [Power factor] The requirement of ≥ 0.9 is too great for these fixtures as it will likely increase size and add cost. The requirements should be in line with 4.0 specifications for CFL which are ≥ 0.5 .
8. [Electromagnetic Interference] The drivers should only be class B. Noted that this will likely limit the applications to 120V, but as mentioned earlier it is our opinion that this should only be a residential specification.
9. [Recessed Downlights] The 4" Aperture size designation should more clearly be defined as the inside diameter of the recessed housing. Additionally, recessed downlights and trims are typically sold separately where the trim may contain the LED portion or alternatively the housing can

contain the LED portion. Care should be taken here to craft the language such that it is clear what is intended to be the ENERGY STAR qualified component of the recessed system. The language should likely state that the recessed housing should be Air-Tight, and introduce the requirements separately for the trim/LED source to be used inside of that housing. Additionally, I would suggest that language is included here that prohibits the use of screw-in sockets in recessed housings that could be used to attach an incandescent source. There is much work being currently done by the California Energy Commission in this area, and I would suggest you review their draft language for California Title 24 2008 regarding LED recessed products.

Regards,

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