



July 10, 2008

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US Environmental Protection Agency  
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1200 Pennsylvania Avenue, NW  
Washington, DC 20460

Richard Karney  
US Department of Energy  
1000 Independence Avenue SW, EE2J  
Washington, DC 20585

Dear Mr. Baker and Mr. Karney:

The Consortium for Energy Efficiency (CEE) respectfully submits the following comments in response to the technical amendment to the ENERGY STAR Residential Light Fixture (RLF) Specification, version 4.2, released on June 2, 2008. We are submitting these comments because the review process used to develop version 4.2 did not consider the program interests that we represent. These comments call for the suspension of the ENERGY STAR Residential Light Fixture Specification, version 4.2, until the matters described in this letter are resolved. However, CEE's interest is in having an effective ENERGY STAR lighting program that includes Solid State Lighting (SSL), and therefore our comments are not limited to version 4.2 of the RLF Specification. CEE's previous comments that address incorporation of SSL light sources into the ENERGY STAR Program stand and are supplemented by this communication.

CEE is the national organization of energy efficiency program administrators, whose members are responsible for ratepayer-funded efficiency programs in 32 states and 4 Canadian provinces. CEE member programs are the primary vehicle for delivering energy efficiency to more than 50% of the U.S. population and more than 67% of Canadians. In 2007, CEE members' budgets represented over 90 percent of the total \$3.7 billion in state- and province-authorized program budgets. This figure is expected to grow to near \$4 billion for 2008. In short, CEE represents the groups that are actively working to make ENERGY STAR the relevant platform for energy efficiency across North America.

The following comments, which were developed by the CEE Lighting Committee (Committee), are supported by the organizations listed below.

### **General Comments**

As stated in past comments, energy efficiency programs fully support the ENERGY STAR Program, as it plays a valuable role in differentiating energy efficient products and services that they support locally. For ENERGY STAR to effectively play this role, we believe it is critical that there is consistency across products and services regardless of the managing agency or agencies. CEE members need the ENERGY STAR Program to develop and convey consistent messages to stakeholders and to speak with one voice.

There are now conflicting specifications for ENERGY STAR lighting. Announcements include a SSL specification for specified tasks ("Category A"), general illumination products ("Category B") scheduled to take effect in 2011, revised "Category A"

(proposed for seven applications that could be construed as general illumination or decorative in nature), and version 4.2 of the RLF Specification. CEE seeks explanation as to how the recent announcement, version 4.2 of the RLF Specification, is complementary to the program, when the effective date and compliance requirements differ from the others. Further, CEE seeks the evidence to warrant the proposed expansion of “Category A” products, including demonstrated evidence of suitable product performance for those applications proposed for inclusion.

We believe that having conflicting and/or premature ENERGY STAR specifications for SSL products presents mixed market messages and hinders the effectiveness of efficiency programs. Again, we request the suspension of the RLF Specification, version 4.2.

### **Technical Comments**

The following technical comments are intended to communicate CEE member needs with regard to an ENERGY STAR lighting specification that accommodates the emergence of solid state light sources. As we have indicated in previous comments, member programs require consistency from ENERGY STAR and we seek a lighting specification that fully addresses the technical considerations outlined below.

#### Program Scope

It is CEE’s understanding that the strength of LEDs is in their focused and directional nature. Because such applications are limited, and the operating circumstances more conducive to available performance tests, it is reasonable for the ENERGY STAR program to accommodate these applications (e.g. applications such as those included in “Category A”). We have seen no evidence supporting the statements that accompany version 4.2 -- that now is the appropriate time to begin including decorative SSL products in the program.

To eliminate ambiguity in the program, we recommend that ENERGY STAR develop a clear and precise definition that outlines which applications meet the “directionality” criteria (including original “Category A” applications as well as others such as those included in the expanded “Category A” announcement if suitable evidence exists to support readiness) so that all stakeholders understand what is, and is not, covered at this point in time.

#### Efficacy

In the near term, CEE believes that luminaire efficacy should be used for all SSL light fixtures. We believe this is a sound approach given our recommendation to limit the current scope to specific task/functional fixture types for applications that take advantage of the light source’s directionality feature. This will help create a level playing field (versus CFL or other light sources) with respect to delivered lumens per watt. In past comments, CEE has stated that luminaire efficacy may not be feasible or meaningful for purely decorative products, and we look to ENERGY STAR to engage all stakeholders in determining the appropriate time to include decorative products in the program, as well as deciding on an appropriate method for measuring efficacy that ensures efficient performance while not overly-burdening manufacturers.

Further, CEE urges ENERGY STAR to establish a level playing field for fluorescent, SSL and other light sources in terms of efficacy. Though we understand that technical differences between sources may require different test methods, we believe it is critical to the integrity of the ENERGY STAR brand that a customer purchasing a qualified light fixture receives equivalent performance and energy savings regardless of the light source used by the manufacturer.

#### Minimum Light Output

As shown in the third-party testing reports made available by the CALiPER program, the amount of light produced by currently available SSL fixtures is often less than the manufacturers' claims. In fact, over half of the CALiPER tested products don't meet minimum light output requirement for the relevant application set forth in the (Category A) ENERGY STAR specification. Given this problem, CEE supports the inclusion of minimum light output requirements within the ENERGY STAR (Category A) specification at this time. As we stated with efficacy, at such time when all stakeholders agree that more decorative products should be included under the specification, the question of minimum light output should be addressed for such applications as well.

#### Correlated Color Temperature

CEE believes that correlated color temperature (CCT) is an important factor in acceptance of light sources by residential consumers. For instance, during a recent CEE meeting on color, an ENERGY STAR representative indicated that approximately 90% of qualified CFLs have a CCT of 2700K, indicating a strong consumer preference for warmer colors. We have no reason to believe that this consumer preference will differ for SSL products. Therefore, we recommend ENERGY STAR require residential products to perform within a narrow range of CCT values, specifically between 2700K and 3500K. While we have heard anecdotal evidence that color is a less critical performance aspect for outdoor applications, we believe that consumer acceptance will be greatest if the smaller CCT range we recommend is applied to outdoor fixtures as well.

#### Test Procedures

CEE has commented in the past that finalized, standardized, industry-accepted test procedures are a prerequisite for inclusion as a basis for the ENERGY STAR program. We believe that the use of test procedures developed by industry organizations such as the Illuminating Engineering Society of North America (IESNA), the American National Standards Institute (ANSI), the National Institute of Standards and Technology (NIST), and Underwriters Laboratories (UL) provides credibility to the program and helps to ensure consistent and repeatable test outcomes.

We also support the use of industry-accepted procedures because of their relationship to third-party testing by National Voluntary Laboratory Accreditation Program (NVLAP) certified laboratories. Third party testing for ENERGY STAR qualification is an important piece of quality assurance for the program and it is our understanding that laboratories can become NVLAP accredited only for industry-standard test procedures.

Lastly, we note that both the EPA and DOE specifications for SSL reference the LM-80 test procedure. CEE understands that the final version of this procedure, currently under development by IESNA, may not enable extrapolation from lumen depreciation over the first 6,000 hours to lumen depreciation at 70% of initial lumens, or L<sub>70</sub>. We believe that prediction of L<sub>70</sub> is an important factor in communicating to the consumer about useful life of the fixture. Therefore, if the final LM-80 procedure will not serve as a predictor of L<sub>70</sub>, we encourage ENERGY STAR to engage industry and efficiency program stakeholders in developing an enhanced or alternative predictive procedure.

Thank you for your consideration of these comments. Please contact CEE Senior Program Manager Rebecca Foster at (617) 589-3949 ext. 207 with any questions.

Sincerely,



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Executive Director

CC: Kathleen Hogan, EPA  
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Jim Brodrick, DOE

### **Supporting Organizations**

Avista Utilities  
California Energy Commission  
Cape Light Compact  
Efficiency Maine  
Efficiency Vermont  
Energy Trust of Oregon  
Lighting Design Lab  
Long Island Power Authority  
National Grid  
Nevada Power/Sierra Pacific Power  
New Jersey Clean Energy Program  
New York State Energy Research and Development Authority  
Northeast Energy Efficiency Partnerships  
Northwest Energy Efficiency Alliance  
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Pacific Gas & Electric  
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Wisconsin Focus on Energy