



January 20, 2006

Richard Karney  
ENERGY STAR Program Manager  
US Department of Energy  
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Dear Rich:

I would like to thank the Department of Energy (DOE) for the opportunity to submit comments on the proposed changes to the ENERGY STAR CFL criteria. The following comments are submitted by CEE in response to Draft 2 of the criteria. They were developed by the CEE Lighting Committee (Committee) and are supported by the organizations listed below.

## **HIGH PRIORITY COMMENTS**

### **1) Intent of Criteria**

As voiced at the stakeholder meeting and in previous comments, CEE believes that products meeting the ENERGY STAR CFL criteria should be the most efficient, best performing products on the market. The following comments are built upon this underlying philosophy.

As a first step in the development of a long-term strategy for the product category, CEE urges DOE to develop a vision statement for the ENERGY STAR CFL program that discusses the direction of the program. This document could help to provide a basis some larger changes to the program that may be necessary as it develops over time, and would notify industry and efficiency programs of DOE's future plans.

### **2) Elevated Temperature Testing**

CEE continues to support the proposal to consider reflector CFLs as a separate category from bare and covered CFLs. Specifically, we support the inclusion of elevated temperature testing in this specification cycle, as we believe it is an important step forward in ensuring consumer satisfaction with this product category. The addition of elevated temperature testing should not be postponed until the next specification revision. Rather, DOE should work with stakeholder groups to come to agreement on the protocol during this revision cycle.

### Scope

We support the distinction that DOE has drawn in Draft 2 between indoor and outdoor reflector testing as one way to lower costs associated with the new elevated temperature testing protocol. However, we are concerned that consumers may not grasp the distinction between lamp types

and may use “outdoor” lamps in high temperature indoor applications. As such, we suggest two modifications to the proposal.

First, we suggest the incorporation of another phrase such as, “Not intended for indoor use.” This would help to educate consumers, as the criteria may be counterintuitive; consumers may assume that the outdoor lamp would be more robust than the indoor version. Second, we recommend that DOE require a minimum font size or other demonstrably effective means to convey guidance to consumers.

### Sample Sizes

CEE continues to question the reliance on one sample for the test of initial light output at elevated temperatures and recommends that this be increased, with the reported value being the average of all samples. While we understand that current technology (mercury amalgam) behaves predictably and compliance is not likely to be a concern given the limited sample size, new technologies could arise that perform differently. As such, the sample size should vary based upon technology. For some technologies, a sample size of one may be adequate, but for others, additional samples may be required. We recommend that DOE monitor the technologies being used and modify the required sample size accordingly.

### **3) Efficacy**

CEE supported the proposed increases in efficacy in Draft 1 of the specification, and asks that DOE provide its analysis that supports lowering the proposal to Draft 2 levels. CEE believes that the levels previously proposed were appropriate and achievable and requests that DOE share its reasons and underlying analysis for decreasing them. In addition, we recommend that DOE review international specifications to see if greater alignment can be achieved. Specifically, DOE should monitor work of the International CFL Harmonization Initiative, which was an outgrowth of the 2005 Right Light Conference, and the Efficient Lighting Initiative.

### **4) Mercury**

CEE would like to thank DOE for instituting a Mercury Round Table to consider whether/how mercury should be addressed within the ENERGY STAR CFL criteria. We look forward to working with DOE and other industry stakeholders on this issue.

As stated in CEE’s previous comments, we recommend that DOE develop a component that addresses mercury within the ENERGY STAR CFL criteria to address consumer concerns and changes in public policy. This recommendation is critical given new regulations in California that require CFL recycling, labeling requirements in Washington and Vermont, and concerns in areas with large amounts hydro-power that CFLs add more mercury to the environment than incandescents given their generation mix.

### **5) Shipment Data**

As DOE is well aware, shipment data of qualified CFLs continues to be of paramount importance to efficiency programs. While state/province level data is desirable, until it is available DOE should ensure that accurate, timely national-level (US and Canada) data are both collected and made publicly available to enable stakeholders to gauge the success of their efforts to promote this product category.

## COMMENTS ON THIRD-PARTY TESTING

### **6) Goals and Objectives**

We would like to thank DOE for its ongoing commitment to development of a third-party testing program for ENERGY STAR-qualified CFLs. CEE believes that program will play an important role in demonstrating to all stakeholders that ENERGY STAR-qualified products meet consumer expectations in terms of performance and longevity.

### **7) Product Selection Committee**

While we generally support the proposed changes in number of members on the Product Selection Committee, we propose additional modifications. First, CEE encourages retailers be eligible to serve on the product selection committee, as well as distributors. We believe that retailers, like distributors, have a connection to the end consumer that makes them likely to hear of poor product performance. This group, therefore, would be a valuable addition to the panel.

To mitigate potential concerns regarding distributors and retailers acquiring sensitive insights or biasing input for favored business partners, we recommend that DOE seek participation from associations or other groups that could broadly represent retailers and distributors without the risk of providing sensitive information to individual companies. Additionally, we recommend that the Department consider adding a requirement of confidentiality to cover the Selection Committee's activities.

CEE also supports the proposed increase in length of service on the Product Selection Committee from one to two years, as it is likely to take members of this body some time to become familiar with the processes of the testing system.

### **8) Technical and Research Committee**

We also support the proposed modification to the size of the Technical and Research Committee. CEE Lighting Committee members agree with the statement made at the Stakeholder Meeting that there is no reason to prevent experts from participating, as the Committee would only provide information and recommendations to the Department, and would not vote on issues of product selection.

Additionally, we support the increase in duration of service, as technical experts should be encouraged to participate in the committee for as long as possible.

CEE requests additional clarification on one modification made to the Technical and Research Committee, which is the removal of retailer and testing labs from the list of eligible participants. We believe that participation by these organizations could provide benefit, and ask that DOE clarify its decision regarding their removal.

### **9) Timing of Product Selection**

With regard to the proposed modifications to the product nomination, selection, and procurement process, CEE supports the increase in time provided from two to four months to complete the

process. We believe that allowing two months for product procurement alone is wise given that not all products that are selected for testing will be readily available in retail stores.

However, we recommend that DOE modify the starting point of Cycle 1 so that product procurement coincides with the Change A Light campaign. Because stocking of CFLs at retail typically increases during this national promotion, the program will have the greatest likelihood of success if procurement overlaps with this event. We believe that no change is needed to the start date of Cycle 2 because procurement in this cycle already overlaps with Earth Day (another point where inventories at retail tend to increase).

### **10) Trend Data Test Reporting**

CEE is strongly opposed to the proposed \$2,500 fee for access to trend data reports from the Third Party Testing Program Administrator. The information that is proposed to be included in these reports is not valuable enough to justify such expenditure, and we question DOE's classification of this sum as a "nominal fee."

CEE urges DOE to make these reports available at no cost to all interested parties via a web site or electronic distribution vehicle. While we prefer electronic distribution of such data, we recognize that other stakeholders may prefer hard-copy reports. In this case, we are not opposed to a truly nominal fee, e.g., \$50, to cover printing, binding, and shipping costs.

### **11) Consistency with Delisting Protocols**

PEARL testing has demonstrated that there has often been a significant divergence between the performance claimed by CFL manufacturers and performance demonstrated during its laboratory testing. One of the objectives of PEARL has been to provide DOE with information with which to approach manufacturers about non-compliant products and take appropriate action.

It is our expectation that the proposed third-party testing program will fulfill the role of PEARL in the future by providing actionable information to the Department. The Committee recommends that DOE provide stakeholders with additional information on the process it will take to consider data generated through third-party testing and resolve any issues that may arise regarding continued qualification of products that perform poorly. Our request is based on past experience; we are aware that products known to have failed PEARL testing have remained on DOE's qualified products list. CEE has not received sufficient information to explain these decisions.

We recommend that DOE develop a process through which independent "auditors" have full access to test data results as well as documentation regarding DOE's decisions on delisting of failing products. To have maximum benefit, this process should enable the auditors to have timely access to records so that any recommendations could be implemented as soon as possible. We recommend that the audits be completed on at least an annual basis as a starting point, though this is not optimal in terms of ensuring timely reporting. We believe that semi-annual or quarterly timing would be preferred and most useful to all stakeholders. In addition, we request that all results be made public and that the efficiency community have the ability to nominate the independent auditor.

## **12) Number of Products Tested Annually**

We support the comment made by the Program for the Evaluation and Analysis of Residential Lighting (PEARL) regarding the need to increase the maximum number of products tested annually from any one manufacturer. We understand the need to provide a reasonable expectation to manufacturers regarding their potential expenditures on this third-party testing program, though we believe that the current limit jeopardizes DOE's ability to meet an underlying goal of the testing program: to test 20% of qualified products annually.

CEE recommends DOE reconsider this limit and provide the Testing Administrator with the flexibility to test additional products from manufacturers where large market share or a track record of poor performance might justify a basis for additional testing.

## **GENERAL COMMENTS**

### ***Responses to Draft 2***

#### **13) Improvements to Labeling of R-Lamps**

Related to the labeling of R-lamps, CEE would like to thank DOE for including the proposed requirement to show the initial lumens and wattages for both CFL and incandescent equivalents side by side in a comparison table. This is a positive first step in ensuring that consumers understand that CFLs are diffuse light sources that are not direct replacements for their incandescent spot lights. However, more steps are needed and we recommend that DOE consider adding additional graphics and language on packaging of qualified products, specifically including education on beam angle. It is our understanding that this type of labeling is used for commercial applications, and its use in the residential market may decrease consumer dissatisfaction with the light distribution of R-lamps.

#### **14) Modifications to Quality Assurance Processes**

We suggest one modification to the Quality Assurance section in Draft 2. This item appears on page 16 of the draft, under number 11A. The third bullet currently reads, "Other quality control systems or formats that are accepted industry standards." We agree that allowing for the potential development of new industry-accepted protocols is wise, but believe that this language is too vague to be actionable.

As an alternative, CEE suggests, "Other quality control systems or formats that are accepted industry standards that have been approved by DOE in advance." This modification enables DOE to review the proposed systems that manufacturers of ENERGY STAR products would use to fulfill this component of the criteria.

#### **15) Testing of Lumen Maintenance at 40% Rated Life**

CEE supported DOE's Draft 1 proposed changes to increase the consistency in lumen maintenance measurements at 40% of rated life. We believe that increased consistency in lumen output is important to consumers, though acknowledge that there must be a balance between consistency and burden on industry. Therefore, we support the change proposed by DOE to allow more variation (three samples rather than two are allowed to fall below 75% of initial lumens). However, we ask that DOE review test results to determine whether this requirement is effective in reducing variation. If this research demonstrates a need for increased stringency, we

would support tightening that allowance back to two samples in future versions of the specification.

### **16) Change in Effective Date**

CEE supports the change in effective date to October 1, 2006, as well as the language in Draft 2 that enables manufacturers to use existing test data to re-qualify existing products. However, we propose one modification, which relates to the following sentence: “Manufacturers may begin to test and submit products under Version 4.0 upon DOE’s release of the final criteria document or submit existing product test report documentation that clearly demonstrates the current product meets or exceeds all of the appropriate Version 4.0 requirements.” CEE proposes that the phrase, “from eligible/qualified testing laboratories” be added to this sentence to ensure that manufacturers are clear about the requirements associated with re-qualification.

### **17) Decrease in Run-Up Time**

We support the Department’s continuing effort to decrease allowable run-up time from three minutes to one minute for products without amalgam. In its discussions, CEE concluded that this is an important modification from the previous proposal of one minute run-up time for “bare products.”

In addition, we continue to request that DOE query the current qualified products list to determine if the three minute allowance for CFLs that use amalgam can be shortened further, perhaps to two minutes. If a majority of products already complete run-up in two minutes, DOE should seriously consider modifying the criteria accordingly. In order to fully meet consumer expectations, CEE believes that run-up time should be as quick as possible, given the limitations of the technology.

### **18) Operating Frequency and EMI**

In response to the DOE proposal to allow self-certification based on testing of one sample for operating frequency, CEE requests that DOE provide the rationale for this proposal. We believe that tight bounds around operating frequency are important to ensure that CFLs do not interfere with other products, and is wary of DOE modifying test requirements without adequate information.

In addition, we have concerns about EMI not being required when products are tested for re-qualification after 36 months. CEE urges DOE to provide information as to why this test, among all others, is not required for products seeking re-qualification.

## ***New or Unresolved Issues***

### **19) Increase in Average Rated Lifetime**

CEE members who administer efficiency programs and are familiar with new entries to market have stated that more and more “long-life” ENERGY STAR-qualified CFLs are being brought to market. We recommend that DOE review the qualifying product information submitted by manufacturers and determine, at this point in time, what percentage of products have an average rated lifetime of greater than 8,000 hours. DOE should monitor this percentage over time and identify at what point it will consider instituting an increase in rated lifetime, e.g., when three-

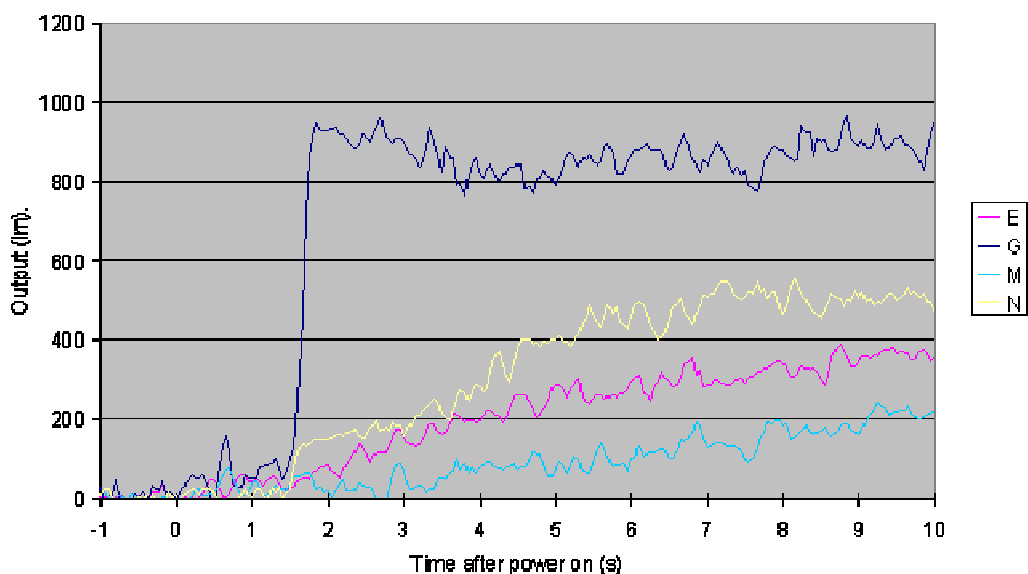
quarters of products meet 8,000 hours. CEE believes that an increase in the average rated lifetime requirements would benefit the program by providing more value to the consumer.

## 20) Definition of Starting Time

It has come to CEE's attention that there is some uncertainty among testing labs as to the definition of "full start" within the test for starting time. Testing labs do not have a definition of full start to use in their testing of starting time and are uncertain when to "stop the clock." We have provided a chart of slow start CFLs for DOE's reference, and suggest that the Department consider defining this metric to alleviate confusion. We recommend 15% or 20% of full light output as a starting point in the discussion about an appropriate definition.

### Light Output of Slow-Starting Lamps

Source: BC Hydro Testing



## 21) Prevention of Early Failures

CEE is concerned with the number of burnouts that occur in ENERGY STAR-qualified CFLs before full rated lifetime is achieved. While no independent test data is available for *full* rated lifetime, the Program for the Analysis and Evaluation of Residential Lighting (PEARL) has tested products up to 40% of rated life and has found that 34% of products tested had one or more failure. In addition, 12.8% of products had two or more failures, and 6.4% of products had three or more failures. (Under the current ENERGY STAR criteria, two failures out of ten requires the manufacturer to submit a product failure report; three failures would prevent qualification outright.) As a first step, CEE urges DOE to track early failures as part of its third party testing protocol and require that this data be reported in the summary report.

## 22) Prevention of Smoking CFLs

As in previous comments, CEE urges DOE to take steps to reduce the number of "smoking CFLs." Specifically, we ask DOE to contact the Canadian Standards Association (CSA) to discuss their research on the scope of the problem. CSA is logging incidents that involve smoking CFLs, and can provide valuable information to DOE on the size and severity of the problem. CEE

continues to urge DOE to act to prevent consumer perception that CFLs are catching fire in their homes. Lighting program managers at BC Hydro, Northeast Utilities, Tacoma Power, and Seattle City Light, among others have seen multiple problems arise as a result of this issue.

It is our understanding that over-current protection can be used to prevent CFLs from smoking upon catastrophic failure. CEE urges DOE to further investigate the technical cause of the problem and incorporate such measures that will prevent CFLs from smoking upon failure within the criteria. Additionally, we ask that DOE consider whether this issue could be addressed by the third-party testing program being incorporated within the specification. We believe that third-party testing could be a vehicle for conducting post-mortem tests on failed products that have exhibited this problem, and encourage DOE to add this topic to the list of discussion items for the Technical and Research Committee to cover.

### **23) Expansion of the Scope of the Program**

CEE continues to request that DOE consider incorporation of candelabra-base CFLs within the scope of the ENERGY STAR Program. Due to interest from industry (CEE members have received requests from manufacturers of these products to include them in their incentive programs), similarity to medium-base CFLs (which are covered), and potential energy savings (described below), we believe that expanding the scope of the Program to include these products would be beneficial to stakeholders of the Program.

In response to comments by some manufacturers that the aggregate energy savings would not justify their incorporation, we note that in the hospitality market, candelabra base products are being widely used in sconces and covered chandeliers. In these applications, the candelabra-base CFLs are often on 24 hours a day and are replacing 20-25W lamps. Though no studies have quantified these energy savings, anecdotal information from CEE members demonstrates that the savings could be significant.

In addition to considering candelabra-base CFLs now, we recommend that DOE develop a procedure for consideration of other bases (including mogul bases) and technologies. In particular, cold cathode CFLs and metal halide are gaining momentum in some markets, and we recommend that DOE monitor these technologies as they develop, incorporating them into the ENERGY STAR compact fluorescent lighting program if and when they enter the market.

### **24) Treatment of Failures in Testing**

Based on questions raised at the stakeholder meeting, CEE recommends that DOE clarify in writing how failures are to be treated in testing. For example, if samples fail during testing it is unclear whether they the sample size should be reduced and an average calculated based on the remaining number of functioning lamps or if the average should be calculated with the failures included as zeros.

### **25) Definition of Dimming**

As noted at the stakeholder meeting and in previous CEE comments, there is currently no definition of dimming performance that CFLs must meet in order to be advertised as “dimming CFLs.” We recommend that DOE rectify this by taking several steps. First, we urge DOE to set a requirement as able to dim down to a set percentage of full light output for products that are



advertised as “dimming CFLs.” It should be noted in the criteria that dimming must be achieved with a standard two-wire dimmer, unless otherwise noted on packaging.

Second, we recommend that DOE provide guidelines for manufacturers of dimming CFLs on how to communicate to consumers whether there is a conditioning period that is required of their products.

Third, we recommend that DOE begin development of a test procedure to verify the dimming claims of ENERGY STAR CFLs. Pacific Northwest National Laboratory, which has received several dimming entries in Phase II of its R-Lamp Technology Procurement, may be a useful resource in this regard.

Thank you for the opportunity to comment on the proposed changes to the ENERGY STAR CFL criteria. Questions on these comments should be directed to Rebecca Foster, Senior Program Manager, at 617-589-3949 ext. 207.

Sincerely,



Marc Hoffman  
Executive Director

**Supporting Organizations:**

BC Hydro  
Connecticut Light & Power  
Long Island Power Authority  
National Grid  
Natural Resources Defense Council  
New Jersey Clean Energy Program  
New York State Energy Research and Development Authority  
Northeast Energy Efficiency Partnerships  
Northwest Energy Efficiency Alliance  
Pacific Gas & Electric  
Sacramento Municipal Utility District  
Seattle City Light  
Wisconsin Division of Energy