



Department of Energy
Washington, DC 20585

August 13, 2007

Mr. Alex Baker
ENERGY STAR Lighting Program Manager
US Environmental Protection Agency
1310 L Street, Suite 933
Washington, DC 20005

Dear Alex,

Thank you very much for the opportunity to provide comments on the final draft revision to the ENERGY STAR Residential Light Fixture Program Requirements.

We appreciate the efforts made to create parallel qualification requirements for GU-24 based lamps shipped with fixtures and those drafted in the program requirements for compact fluorescent lamps.

We continue to have concerns about the Accelerated Life Test (ALT) and its applicability to integral GU-24 based lamps. The Lighting Research Center (LRC) authored *Accelerated Life Testing – Final Report* dated November 6, 2006, indicates the study scope was "... to develop an accelerated life test (ALT) for ballasts used in residential light fixtures." Integral GU-24 lamps were added only after the study was largely completed. Further, the study, by its own admission, leaves open its applicability to integral GU-24 lamps and proposes follow-on study. To date DOE is unaware of a completed, statistically relevant study validating ALT for integral GU-24 lamps. In lieu of such a study DOE questions releasing final criteria without convincing evidence of applicability.

Moreover, DOE is concerned that this test procedure has not been vetted with independent third-party testing labs which will be tasked with administering it. The test procedure should not be incorporated into ENERGY STAR criteria until it has been reviewed by independent test labs, including some form of repeatability and reproducibility testing (gauge R&R) and round-robin testing.

The opening paragraph of the LRC report states, "It is important to note that a proposed ALT is not intended to predict ballast life in the field." DOE appreciates the past efforts by EPA to ensure high quality and high performance products for consumers as evidenced by in-situ luminaire testing requirements within the RLF. We question the lack of life testing requirements simulating elevated temperature operation for lamps subjected to this environment in the field. The issues with respect to recessed downlights (the largest segment of the residential market) are well-understood, based on years of laboratory and field experience. This experience tells us that room temperature (25°C) life testing and ALT, which is "not intended to predict life," will be inadequate to ensure performance of integral GU-24 based lamps in the field. DOE believes full

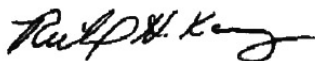
life testing at elevated temperature is appropriate and warranted. DOE recommends EPA adopt DOE's Elevated Temperature Life Test procedure.

DOE has extensive experience with the challenges of the integral reflector CFL (R-CFL). Through this experience and testing we understand the limitations of integral CFL technology in recessed downlights and we recognize the performance thresholds established for bare lamps are unreasonable when applied to covered lamps, especially R-CFLs. The EPA criteria attempt to address the disparity by reducing rated life to 8000 hours but maintaining the 1000-hour lumen maintenance and lumen maintenance at 40% of rated life the same for all lamps. Integral GU-24 lamps, when installed in-situ, will not deliver the lumen maintenance required in the draft EPA document. In addition, light output will be reduced by 10-20%, compared to the lamps' performance in open air. It is for these reasons that DOE requires in-situ testing and reduces the thresholds to be commensurate with the technology. Failure to recognize the technical challenges will lead to end-user dissatisfaction, ultimately exposing the ENERGY STAR brand. DOE strongly recommends EPA adopt test procedures that subject the lamps to the environment for which they are intended.

DOE believes the proposed Accelerated Life/Stress Test requirement as stated will lead to significant manipulation by manufacturers. Manufacturers are given the option of testing either 5 or 10 samples and then given the option of testing 2880 cycles @ 60°C or 720 cycles @ 80°C; four possible permutations. Given the competitiveness of the market, it is highly likely manufacturers will test a single model under all four permutations and then only submit the singular successful result to EPA. DOE questions whether lamps test under the four possible procedures are equivalent as the test data does not support this finding.

DOE plans to issue the final draft revision of the CFL program requirements shortly. These requirements will reflect the in-field performance issues identified above. Thank you for your consideration of our comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard H. Karney". The signature is fluid and cursive, written in a professional style.

Richard H. Karney, P.E.
ENERGY STAR Product Manager