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December 7, 2015

Submitted via email: [docket@energy.ca.gov](mailto:docket@energy.ca.gov)

Commissioner Andrew McAllister  
California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814

**Subject: Docket No.15-AAER-06. Comments by the American Lighting Association on Proposed Regulations for Small Diameter Directional Lamps and General Service LED Lamps – Express Terms 45-Day Language**

Dear Commissioner McAllister:

The following is submitted by the American Lighting Association (ALA), a trade association with over 3,000 members that manufacture and sell lighting fixtures, lamps, components, controls and ceiling fans. The association's membership comprises manufacturers, manufacturer's representatives, retail lighting showrooms and lighting designers in the United States, Canada and the Caribbean. The ALA has 136 member companies in California. These comments reflect our member's recent experience with regard to the growing acceptance and use of LED lamps and lighting by the California residential consumer. We appreciate the opportunity to be a part of this rulemaking process.

General Comments

The 45-Day Express Terms are disappointing because of their scope which appears to try to include all possible existing and envisioned LED replacement lamp products while burdening them with tighter performance limits than are being achieved or expected in the planning horizon of most lamp manufacturers who have the capability to timely serve the California market.

The ALA feels it is more important from the energy-saving standpoint to (1) focus on the products with the highest sales volume and where there remain the highest number of sockets still filled with low-efficacy products and (2) where product performance improvements appear to be available or have already been announced. Our concern is based upon our experience with the acceptance and subsequent installation of lighting products over many decades and especially in recent years as more efficacious CFLs and now LED residential lighting products have become available. We have found that residential consumers prefer to buy a limited range of LED lamp product types for retrofit into their

homes, but appreciate, accept and positively respond to a broad choice of manufacturers, pricing and product features. They will upgrade existing sockets faster as well as better understand product ratings if they have a choice of both new and familiar products that they can compare.

The two factors that drive consumer acceptance with respect to residential lamps are (1) price and (2) quality of light. Both continue to improve with LED products so that consumers everywhere are responding enthusiastically and ever more rapidly changing to LED lighting. The ALA believes that, for maximum energy savings, new regulations should build upon this success - not by setting efficacy and performance standards which stretch technology limits and result in a limited range of approved products; but rather by standards which result in filling the many unconverted sockets with more energy efficient products that result in substantial overall energy savings. The Table K-14 efficacy requirements, we believe, are so broad and yet so tightly focused on lamp efficacy and color that the number of lamp types which will comply and be available in quantity and at acceptable price points will be very limited. From our experience, that will seriously reduce consumer choice, limit sales volume and consumer acceptance. We urge the California Energy Commission (CEC) to cast a "broader net" with respect to these two critical performance factors of efficacy and color.

Considering the timing of the implementation of this effort, we repeat from our earlier in our September 29, 2015 comments that the proposed approach to somehow balance efficacy and color rendering into some kind of total score is flawed. It is well understood in the lighting industry and by color experts around the world that CRI (Ra) when evaluating LED light sources does not reliably report what eyes sees. International efforts, now ongoing for more than 10 years, are seeking a fix or a better metric. Adding the  $R_1$  to  $R_8$  color scores as a requirement does not improve the results that you seek; it makes them worse - more complicated and still unreliable for LED light sources. If  $R_a$  is to be used by the CEC, please recognize its flaws and use it with simple CRI and efficacy trade-off values.

Additionally, with on-line sales continuing to grow and no broad enforcement of such sales on the horizon, we believe that California consumers will increasingly order unqualified lamp products from out-of-state to get what they want at lower prices. This, of course, puts local retailers, including scores of ALA retailers in California, who sell qualified products as well as invest in an increasing range of lighting training for consumers, at a significant disadvantage.

#### Which Small Diameter Directional Lamps?

The scale of lighting in residential applications is important for the acceptance of lamps and lighting fixtures, so small diameter reflector lamps are widely used in California residential interiors for general, accent, display and decorative lighting. The MR-16 and MR-11 lamps are particularly important because, as indicated by the Staff Report (TN206387), 95% of the small-diameter lamps installed in California are MR types. The ALA feels that the Small Diameter Directional Lamp regulations should be limited to these MR types and, further, to those MR types intended for general illumination, not specialty types.



### Specific Comments

We have the following comments regarding the proposed requirements in the 45-day Express Terms:

1. Section 1605.3 after table K-13, (C)(i) - Duv Requirements. The ALA has supported the "Voluntary California Quality" LED lamp requirements. We agree 90 CRI products should be an option for consumers who need exceptional color rendering for specific applications. However, 90 CRI is not necessary to incorporate into a minimum efficiency standard. We do not understand the need for the proposed, more stringent and more complicated, Duv requirements considering the absence of consumer complaints about lamp color variation and the success that Energy Star continues to have using simpler and broader Duv values.
2. "Modified Spectrum" Lamps. A related issue is that the proposed CRI, chromaticity and Duv limits will eliminate the so-called "enhanced spectrum" or "modified spectrum lamps" from the market. Is that the CEC's intent? Such products are carefully designed to appeal to a growing segment of residential lighting consumers. They continue to be successful in the market and are now available in LED versions. The ALA believes it would be a mistake to regulate these lamps out of existence. Rather, as other regulatory programs have done, an exemption for this class of products should be implemented.
3. No provision has been made in the proposed language for "warm dim" or LED lamps which emit light of a warmer tone (lower chromaticity) when dimmed although such lamp products are growing in popularity and have been judged as lighting award winners in competitions such as Lighting for Tomorrow. An exemption for this class of products should be implemented. Note: The ALA is one of the three organizers for this residential lighting products competition which has a 13-year history of recognizing innovative energy-efficient lighting products which particularly appeal to residential consumers.
4. Also, no provision has been made in the proposed language for the new LED filament lamps (also sometimes called "visible filament" lamps). Such lamps are typically made in decorative shapes. They are basically efficient because of their LED light sources, but can be outside of the usual chromaticity limits, and light distribution criteria. They are still being developed and models change frequently. The ALA asks that these lamps be exempted for this rulemaking so that manufacturers can fully develop these products.

The proposed Title 20 regulations will further slow the adoption rate of LEDs in California, which in turn will decrease the amount of potential energy savings. Without significant changes to the proposed regulations, the ALA feels the CEC will fall well short of their desired energy savings. Again, thank you for the opportunity to comment and we hope the CEC will address our concerns.

Sincerely,



Eric Jacobson, CAE  
President & CEO