DOCKETED

Docket Number:	15-AAER-06
Project Title:	Small Diameter Directional LED Lamps and General Purpose LED Lamps
TN #:	209856
Document Title:	NRDC Comments: Comments on Revised 15 Day Language for LED GSL and Small Diameter Reflector Lamps
Description:	N/A
Filer:	System
Organization:	NRDC
Submitter Role:	Public
Submission Date:	1/26/2016 4:15:50 PM
Docketed Date:	1/26/2016

Comment Received From: NRDC
Submitted On: 1/26/2016
Docket Number: 15-AAER-06

Comments on Revised 15 Day Language for LED GSL and Small Diameter Reflector Lamps

Additional submitted attachment is included below.

Supplemental NRDC Comments on Proposed Title 20 Efficiency Standards for Small Diameter Directional Lamps and General Service LED Lamps – Revised 15 Day Language

Submitted by: Noah Horowitz
Director – Center for Energy Efficiency Standards
Natural Resources Defense Council (NRDC)
nhorowitz@nrdc.org

January 22, 2016

Enclosed are comments from the Natural Resources Defense Council (NRDC) on the CEC's revised 15 day language. NRDC has been an active participant throughout the CEC's Title 20 proceeding to adopt regulations for small diameter directional lamps and general service LED lamps. Our comments below supplement oral and written comments we previously submitted to the docket.

1. **NRDC continues to strongly support adoption of the proposed standards for small diameter directional lamps.** -These products are currently not regulated by either CA or DOE, and savings of up to 85% will be achieved by these standards.

2. **NRDC recommends CEC modify the requirements for decorative LED lamps greater than 150 lumens.** Decorative lamps are those lamps that often have a candelabra base and/or have a flame shape enclosure. These lamps are typically placed in chandeliers and sconces. Due to their small size/form factor, it is harder to achieve the same efficacies as bigger, more common bulbs such as the A lamps. A review of the CEC data base shows that decorative lamps typically have a lower efficacy of around 10 lumen per watt (LPW) compared to general service lamps of similar brightness.

Halogen decorative lamps use 4 to 5 times more energy than equivalent LEDs do and also have a lower first cost. In addition, lamps with candelabra shape or bases are currently allowed under EISA to consume up to 40 and 60W, respectively. As such it's critical that there be sufficient availability of decorative LED lamps in California and that they can compete with halogens should they continue to remain on the market as it is still not clear how these lamps will be treated under Tier 2 of the federal lighting standards which are under development by DOE.

To address this concern, we recommend CEC either extend the effective date of this portion of the standard by one year, to January 1, 2019, or reduce the required compliance score for these products by 10 points, to reflect their 10 LPW lower efficacy.

3. **NRDC recognizes the various positions that exist amongst stakeholders regarding color rendering and appreciates the compromises that CEC has made to date.** – NRDC has stated throughout this proceeding their support that some minimum requirement should be set around color rendering and there seems to be consensus that a color rendering index (CRI) between 80 and 90 would be appropriate. In the absence of hard evidence or data that consumers have not been happy with lamps that have CRI of 80 (the value currently set by ENERGY STAR), or conversely that consumers will be dissatisfied unless the lamp has a CRI of 90 or higher, we have not been able to support efforts to set CRI at levels much above 80. *That is because the higher CRI lamps use more power and are more expensive*.

As a compromise to the various positions and concerns that have been expressed, we believe the CEC has come up with a structure that works, which includes setting the minimum CRI at 82 (and not 90) and providing a sliding scale that allows lamps with higher CRI to have lower efficacy levels. It is unclear at this time what path manufacturers will need to take in order to achieve the CEC's compliance score, which is a blended formula of efficacy and CRI. If it requires manufacturers to have to shift to CRI 90 or higher lamps, this might not be the optimal outcome for California or the environment.

If the CEC is able to continue to evaluate this issue or modify its proposal, we suggest CEC take a closer look at its requirement for R8 of at least 0.72 as it has the effect of requiring bulbs to have an overall CRI of 84 or higher, and further constrain LED designs.

NOAH HOROWITZ
Director - Center for
Energy Efficiency Standards
nhorowitz@nrdc.org