

California Energy Commission

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Mr. Andrew McAlister
Commissioner
California Energy Commission
1516 North Street
Sacramento, CA 95814

**Eaton's Lighting Division Comments on Adoption of 15 Day Language for 2016
Energy Efficiency Building Standards Proposed Revisions to CEC Title 24, Part 6:
2016 Lighting Alteration Provisions**

Dear Commissioner McAllister,

Eaton's Lighting Division (formerly Cooper Lighting) would like to thank you for the opportunity to provide comments on the Adoption of 15 Day Language for 2016 Energy Efficiency Building Standards Proposed Revisions to CEC Title 24, Part 6: 2016 Lighting Alteration Provisions.

Eaton is a leading diversified, global power management company that is fundamental committed to help the world to use less energy and to use energy safely. Our innovative technologies and services help customers manage electrical, hydraulic and mechanical power, safely and efficiently. In addition, these power management technologies help customers control costs and reduce their energy requirements. Eaton's Electrical Products and Services businesses are global leaders in power distribution, power quality, control and automation, power monitoring, and energy management products and services. We currently employ over 35,000 people worldwide, with over 1,600 of those residing in California. The Lighting Business serves customers in the commercial, industrial, retail, institutional, residential, utility and other markets.

Eaton has been very committed to providing solutions to support the zero net energy goals in California. We have worked with the California Energy Commission and have made large investments to develop and manufacture lighting systems that provide cost effective, energy efficient, easy to install, Title 24 compliant retrofit solutions. We remain firm in our belief that the 2013 code can be met with wireless controls that will provide significantly more energy savings than luminaire power reductions and are designed to be very cost effective. We are still concerned regarding the potential backsliding of the

code with the proposed language and question if the goal of zero net energy is realistic without the use of controls.

Eaton appreciates the simplification of the language for section 141.0; however there were elements in the language as it existed that supported the California zero net energy goals which have been modified significantly.

Please provide clarification on the time frames between luminaire alterations and luminaire component modifications are measured when considering 70 luminaires threshold for luminaire component alterations as currently published.

Eaton does not agree with the changes proposed from 40 luminaires to 70 luminaires per floor. To assure cost effective installation that drive toward zero net energy, the threshold should be low and the total of 40 should be maintained as a very minimum. If a lower value would be considered, 10% per each enclosed area would be reasonable due to the investments made by manufactures to develop cost effective solutions.

The 35% threshold under the current language does not support California goals of zero net energy. Eaton would like to propose the following for full luminaire and luminaire component alterations:

- Incandescent and halogen technology, alterations must be greater than 80%
- CLF technology, alterations must be greater than 50%
- Metal Halide technology, alterations must be greater than 70%
- Linear fluorescent T12 technology, alterations must be greater than 60%
- Linear fluorescent T8 technology, alterations must be greater than 40%
- Linear fluorescent T5 technology, alterations must be greater than 40%

Exceptions 1, 2, and 4 to Section 141.0(b)2I do not support the drive toward zero net energy. There are cost effective solutions to support these alterations and should be included. Exception 4 should be revised to 10% of an enclosed space.

Eaton recommends that under 141.0(b)2K the wiring alterations be revised from 20 luminaires to 10% per enclosed space. There are cost effective solutions to address the opportunity to drive higher energy saving measures.

Additionally, we are concerned about the process for verifying compliance. Although, you may be able to determine the energy efficiency of the newly installed product, how will you verify the actual percentage of savings without either retaining the previously installed product or reporting in some way?

Thank you for the opportunity to comment and we look forward to working with on this important initiative.

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