



Emerging Technologies Associates, Inc.



March 23, 2015

Mr. Adrian Ownby
California Energy Commission
E-mail: adrian.ownby@energy.ca.gov

Dear Mr. Ownby,

RE: Docket No. 15-BSTD-01

California Energy Commission

DOCKETED

15-BSTD-01

TN # 75509

MAR 25 2015

As an advisor to businesses, organizations and government agencies on large scale program and project manager of energy efficiency and sustainability projects throughout the U.S., I have had many requests from clients for clarification on the Lighting Sections of Title 24 2013.

There is some confusion in the marketplace on the intent of the Code and how Sections of the Code can be interpreted.

I have reviewed the 45-Day Language of California Code of Regulations (CCR), Title 24, Part 6 (also known as the California Energy Code) 2016 and would like to submit the following comment for your review and consideration.

I. CODE SECTIONS IN QUESTION:

A. "SUBCHAPTER 1 ALL OCCUPANCIES-GENERAL PROVISIONS

SECTION 100.1 – DEFINITIONS AND RULES OF CONSTRUCTION

Lighting Definition Page 23

Lighting Control, Self Contained is a unitary lighting control module that requires no additional components to be a fully functional lighting control.

Lighting Control System requires two or more components to be installed in the building to provide all of the functionality required to make up a fully functional lighting control. "

B. "SUBCHAPTER 2

SECTION 110.9 – MANDATORY REQUIREMENTS FOR LIGHTING CONTROL DEVICES AND SYSTEMS, BALLASTS, AND **LUMINAIRES**

(a) All lighting control devices and systems, ballasts, and **luminaires** subject to the requirements of Section 110.9 shall meet the following requirements"

C. "SUBCHAPTER 4 SECTION 130.0 – **LIGHTING SYSTEMS** AND EQUIPMENT, AND ELECTRICAL POWER DISTRIBUTION SYSTEMS – GENERAL

The design and installation of all lighting systems and equipment in nonresidential, hi-rise residential, hotel/motel buildings, outdoor lighting, and electrical power distribution systems within the scope of Section 100.0(a) shall comply with the applicable provisions of Sections 130.0 through 130.5. "

II. OBJECTIVE OF THE RECOMMENDATION AND COMMENTS:

- A. Eliminate the market confusion that **Luminaires** and **Lighting Control Systems** must be certified to the Commission under Title 20 Appliance Efficiency Requirements: allow end users to consider advanced lighting control systems whose performance exceed the requirements of the proposed Title 24 2016 45-day language in terms of energy savings and demand reduction with improved functionality.
- B. Allow technological advances and increased adoption of **advanced lighting control systems** that integrate lighting control systems into luminaires thereby facilitating Code compliance in many potential large nonresidential buildings.
- C. Allow manufacturers to continue to improve the performance of product designs of lighting control systems, including those integrated in luminaires at the factory: this integration reduces performance failures and installation that do not meet manufacturers'

recommendations. These improvements will help end users meet many requirements of Title 24 2016 in cost effective installations.

III. TITLE 24 2016 PROPOSED LANGUAGE:

Many stakeholders are under the impression that Luminaires and Lighting Control Systems (as defined in Section 100) must be certified to the Commission as required under Title 20. Furthermore, many have interpreted the current Title 24 2013 as requiring the certification of luminaires manufactured with lighting control system integrated right at the factory.

This confusion is caused by the fact that Section 110.9 (page 72 of Title 24 2016) is entitled: Mandatory Requirement For **and Luminaires.**

Furthermore, the first sentence of Section 110.9 (a) (page 72) states that,
All lighting control devices and systems, ballasts, **and luminaires** subject to the requirements of Section 110.9 shall meet the following requirements.

We recommend that you clarify in this 2016 update of Title 24 the following intent of the Code:

- A. For nonresidential lighting applications, the luminaire **is not required** to be certified to the Energy Commission. Lighting control systems **do not** need to be certified to the Energy Commission.
- B. On the other hand, Self-contained lighting controls, such as an occupancy or daylight sensor, **must be** certified to the Energy Commission under Title 20 Appliance Efficiency Requirements per [Section 110.9](#) of the Energy Standards, **even if** the Self-contained lighting control is integrated into the luminaire or fixture. The luminaire itself (made with integrated lighting control system) **does not need** to be certified under Title 20 Appliance Efficiency Requirements per [Section 110.9](#) of the Energy Standards.

IV. PROPOSED CLARIFICATIONS AND CHANGES TO TITLE 24 LANGUAGE:

A. I would like to recommend that you remove the word **luminaires** from the Title of Section 110.9 and first sentence of Section 110.9 (a) for the following reasons:

SECTION 110.0 already states that all systems and components must comply with either certification requirements of Title 20 and that installed systems must meet installation provisions of the SUBCHAPTER.

"SECTION 110.0 - SYSTEMS AND EQUIPMENT –

Systems, equipment, appliances and building components may be installed in a building regulated by Part 6 only if:

- a) The manufacturer has certified that the system, equipment, and appliances or building component complies with the applicable manufacturing provisions of Sections 110.1 through 110.10*
- b) The systems, equipment or building component complies with all applicable installation provisions of Section 110.1 through 110.10. "*

B. SUBCHAPTER 4 SECTION 130.0 – **LIGHTING SYSTEMS** AND EQUIPMENT, AND ELECTRICAL POWER DISTRIBUTION SYSTEMS – GENERAL

The reference to Lighting Systems having to meet all provisions of Sections 130.0 through 130.5 ensures that "**luminaires**" when removed from Section 110.9 (page 72) remain included under the provisions of Sections 130.0 -130.5.

To make this very clear and ensure compliance of all parts of a "Lighting Systems", I recommend adding a definition of what the Code defines as a "**Lighting System**".

V. BENEFITS OF PROPOSED CLARIFICATION AND CHANGE IN WORDING OF THE SECTIONS:

A. By clarifying the Lighting Sections of the Code, The Commission will continue to set a baseline for innovations in the marketplace that meet Code or even exceed Code.

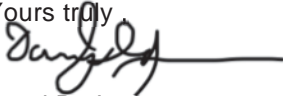
B. The changes in the wording, not the intent of the Code, will eliminate unproductive added costs and project delays caused by confusion and proliferation of interpretations of the Code. These costs have lead already to lighting projects being cancelled during the planning and design phases of these projects.

C. The new lighting control system-integrated solutions will initially require new skills in planning, designing, installing, programming, commissioning and testing lighting systems. In the long run, the solutions will facilitate programming of lighting control systems, simplify the critical commissioning step and lower other overhead as well as other direct costs associated with a lighting project requiring lighting control.

I sincerely appreciate your time in reviewing this comment and wish to thank the Commission for taking comments during the 45-day period.

I would be glad to share any additional information you might need. Have a wonderful day!

Yours truly



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President

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