



KYLE PITSOR

Vice President, Government Relations

February 22, 2018

Online via: <https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=17-BSTD-02>

Mr. Payam Bozorgchami
California Energy Commission
Dockets Office, MS-4
Re: Docket No. 17-BSTD-02
1516 Ninth Street
Sacramento, CA 95814-5512

NEMA Comments on CEC Title 24 45-Day Language Docket 17-BSTD-02

Dear Mr. Bozorgchami,

As the leading trade association representing the manufacturers of electrical and medical imaging equipment, the National Electrical Manufacturers Association (NEMA) provides the attached comments in response to CEC Title 24 45-day language issued January 18, 2018. These comments are submitted on behalf of NEMA Lighting Systems Division Member companies.

The National Electrical Manufacturers Association (NEMA) represents nearly 350 electrical equipment and medical imaging manufacturers that make safe, reliable, and efficient products and systems. Our combined industries account for 360,000 American jobs in more than 7,000 facilities covering every state. Our industry produces \$106 billion shipments of electrical equipment and medical imaging technologies per year with \$36 billion exports. Please find our detailed comments attached.

Our Member companies count on your careful consideration and we look forward to an outcome that meets their expectations. If you have any questions on these comments, please contact Alex Boesenberg of NEMA at 703-841-3268 or alex.boesenberg@nema.org.

Sincerely,

A handwritten signature in black ink that reads "Kyle Pitsor". The signature is written in a cursive, flowing style.

Kyle Pitsor
Vice President, Government Relations

NEMA Response to Comments on Title 24 45-Day Language

NEMA's editorial changes to existing and proposed regulatory language are shown in ~~strikeout~~ and double underline. Single underline text indicates additions from CEC staff in the 45-day Express Terms.

1. Section 110.9: NEMA supports moving the Lighting Controls requirements back into Title 24 from Title 20 with the caveat that these same requirements must be removed from Title 20 to prevent confusion and potential conflict if/when changes were ever made to one and not the other.
2. Section 110.12 (a) Mandatory Requirements for Demand Management: Although NEMA agrees with CEC's effort to list OpenADR standards in attempt to clarify the method for which the demand control signal must conform, we do not agree with paragraph 2 as written, which would limit the communication protocol used by the system within the building. How the demand response signal is propagated or transmitted within a given building system after the internet web service signal is received by the OpenADR Virtual End Node (VEN) should be the decision of the building owner and the manufacturer providing the system. Additionally, the list in paragraph (a)2 is a mix of communication protocols and physical layers and is missing other open communication protocols used in the building industry.
NEMA recommendation: Modify 110.12(a)1 and strike draft paragraph 110.12(a)2.

“(a) Demand responsive controls.

1. All demand responsive controls shall be capable of communicating with an OpenADR 2.0a or OpenADR 2.0b Virtual End Node (VEN), as specified under Clause 11, Conformance, in the applicable OpenADR 2.0 Specification.
- ~~2. All demand responsive controls shall be capable of using one or more of the following for communications that occur within the building: Wi-Fi, ZigBee, BACnet, Ethernet, or hard wiring.~~
3. When communications are disabled or unavailable, all demand responsive controls shall continue to perform all other control functions provided by the control.”

3. Section 110.12(c) Demand Responsive Lighting Controls: This clause can be improved to clarify that the 15 percent reduction in lighting power is a requirement only for compliance with the acceptance testing to prove capability but not a specific mandatory reduction level. NEMA proposes the CEC replace the word “compliance” with “acceptance testing” as shown below:
“(c) Demand Responsive Lighting Controls. Nonresidential buildings larger than 10,000 square feet shall be capable of automatically reducing lighting power in response to a Demand Response Signal. For acceptance testing compliance, the building shall demonstrate that the control is capable of reducing power in controlled spaces by reducing the lighting power by a minimum of 15 percent below the total installed lighting power. General lighting shall be reduced in a manner consistent with the uniform level of illumination requirements in TABLE 130.1-A.”
4. Section 130.0(c)4 – Luminaire Classification of Power: These changes (shown in ~~strike out~~/underline) should be made for clarity:

“4. For inseparable SSL luminaires, the maximum rated wattage shall be the maximum rated input wattage of the SSL luminaire as specified in Section 130.0(c)1 when tested in accordance with UL 1598, 2108, 8750, or IES LM-79.”

5. Section 130.0(c)6 - Luminaire classification and power: The additions to (c)1-6 can be further improved to incorporate recent additions to ASHRAE 90.1 with respect to new modular Power over Ethernet (PoE) systems. NEMA proposes the CEC harmonize with ASHRAE Addendum AH¹ which states:

“For systems that also provide power to equipment other than lighting, the wattage shall be the labeled maximum wattage of the system power supply reduced by the wattage of the non-lighting equipment connected to the system.”

NEMA proposes this text be added as a new item 130.0(c)6C and the proposed item 6C from the 45-day express terms be re-designated as item 6D.

6. Section 130.1(a) Manual Area Controls: Exception 1 to Section 130.1(a)2 should not be restricted to only the space types listed in the current Title 24 Standard, and should be applied more broadly to spaces appropriately determined by the building architect, designing professionals and Authority Having Jurisdiction (AHJ). There are other space types where remotely mounted and annunciated lighting controls are well applied for security and safety. Additional application spaces are libraries, warehouse aisles, exercise gyms, lobbies, child care facilities, locker rooms, dressing rooms, labs, etc.

NEMA proposal: Remove the specific list of space types in this exception and allow remotely-located manual area control devices with annunciation for safety and security reasons as determined by the building designers and in agreement with the AHJ.

Proposed language:

“EXCEPTION 1 to Section 130.1(a)2: ~~For psychiatric and secure areas in healthcare facilities, malls and atria, auditorium areas, retail merchandise sales areas, wholesale showroom areas, commercial and industrial storage areas, general commercial and industrial work areas, convention centers, and arenas, reasons of safety and security the manual area control may instead be located so that a person using the control can see the lights or area controlled by that control, or visually signal or display the current state of the controlled lighting.~~”

7. Section 130.1(c)4 Shut-OFF Controls: NEMA agrees with the CEC Staff Supplement TN222482_for_Nonresidential_Indoor_Lighting_Controls which indicates the CEC will include a Manual-ON option for areas using automatic time-switch Shut-OFF control. We agree with this action.
8. Section 130.1(d) Automatic Daylighting Controls: NEMA agrees with the CEC addition of this exception to further clarify proper applicability of automatic daylighting controls. Additional clarity may still be possible, such as more clearly explaining the term “overhang rise” in Exception 2 to Section 130.1(d)

¹

[https://osr.ashrae.org/sitepages/showdoc2.aspx/ListItem/Public%20Review%20Draft%20Standards/ItemID/1845/IsAttachment/N/90.1ah\(2016\)_1stPPRDraft+1-29-18.pdf](https://osr.ashrae.org/sitepages/showdoc2.aspx/ListItem/Public%20Review%20Draft%20Standards/ItemID/1845/IsAttachment/N/90.1ah(2016)_1stPPRDraft+1-29-18.pdf)

9. Section 130.1(f)4 – Control Interactions. NEMA supports these additions to the requirements for controls interactions, which we believe will clarify this topic and improve compliance. We do recommend one change should be made, as indicated below:
“4. The multi-level lighting control shall permit the demand responsive control to increase or decrease adjust the lighting during a demand response event and to return it to the level set by the multilevel control after the event.”
10. Section 130.2(c)3 Controls for Outdoor Lighting
 The 45-day express terms removed the 1500 W maximum zone requirements for luminaires controlled by motion sensing. We request that the CEC Staff rationale for removal of this provision be provided, as we were unable to find the rationale in the CEC Staff Supplements on Outdoor Lighting Controls.
11. Joint Appendix 8, JA8: JA8.3.6 / 8.5 Elevated Temperature Life Test / Marking: We commend the Energy Commission on its decision to remove the elevated temperature test from JA8.3.6 in favor of alignment with ENERGY STAR requirements and adherence to the ENERGY STAR Lamps Specification Version 2.1.
12. Joint Appendix 8, JA8: JA8.4.2 Power Factor: “Rated Wattage” and “Nominal Wattage” are common industry terms.
 NEMA proposes that CEC change the wording “nominal rated wattage” in this section to “rated wattage” for clarity and alignment with industry practice.
 Additionally, we note that the ENERGY STAR program allows a power factor of 0.7 for most lamps, and 0.6 for small lamps <10W.
 NEMA proposes the CEC align the power factor requirements of JA8 with the ENERGY STAR Lamps program.
13. Joint Appendix 8, JA8: JA8.4.4 Color Rendering: NEMA continues to oppose² mandatory 90 CRI requirements and R9>50 for all low-rise residential applications as well as in the Title 20 Appliance Standards.
14. Joint Appendix 8, JA8: JA8.4.6 Dimming, Reduced Flicker Operation and Audible Noise: Proposed change shown below:
 (c) Light source in combination with specified control shall provide “reduced flicker operation” when tested at ~~100 percent and 20 percent of full light output~~ as specified in JA10, where reduced flicker operation is defined as having percent amplitude modulation (percent flicker) less than 30 percent at frequencies 200Hz or below, ~~tested according to the requirements in Joint Appendix JA-10.~~
 Rationale: Consistency. Table JA8 uses the words “or below” with respect to values to be reported.

2

<http://www.nema.org/Policy/Documents/15BSTD01%20NEMA%20Lighting%20Division%20comments%20on%20T24%202016%20Building%20Standards%2015-day%2010June2015%20v2.pdf>

15. Alternate Approach to JA8 Qualification: NEMA notes that California Title 24 requirements for lamps and luminaires continue to move closer to ENERGY STAR and/or Title 20 requirements. As there are now very few performance differences, and no meaningful energy-use differences, in a product complying with these multiple standards NEMA requests the CEC consider simplifying the Title 24 compliance approach. We recommend that a new Section be added titled "Alternative Approaches" that provides a simplified path to compliance for High Efficiency Lamps and Luminaires.

Alternative JA8 Approaches:

Alternative 1: LED lamps that are certified as ENERGY STAR Lamps can qualify as an alternative to lamps that comply with JA8 requirements. In addition, LED lamps that are certified as meeting the California Title 20 appliance standards can qualify as an alternative to lamps that comply with Appendix JA8 requirements.

Alternative 2: LED Luminaires that are certified as ENERGY STAR Luminaires can qualify alternative to luminaires that comply with JA8 requirements.

The JA8 reporting requirements can be simplified to a confirmation that the lamp or luminaire certified to and listed in the ENERGY STAR qualified products list.

16. Joint Appendix 8 &10: Regarding use of NEMA 77-2017 as alternative test method to JA10: We refer the CEC to our detailed comments on this appendix filed separately.