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Vice President, Government Relations

June 10, 2015

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

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

California Energy Commission

**DOCKETED**

**15-BSTD-01**

TN # 75936

JUN 10 2015

**Proposed Revisions to the California Building Energy Efficiency Standards California Code of Regulations, Title 24, Part 6 and Appendices; 15-Day Language**

Dear Commissioner McAllister,

The National Electrical Manufacturers Association (NEMA) appreciates the opportunity to provide the attached comments on the California Energy Commission's Proposed Revisions to the California Building Energy Efficiency Standards California Code of Regulations, Title 24.

We also sincerely appreciate the understanding and collaborative nature of your staff as they responded to our comments to 45-day language, and the resulting improvements in the proposed regulations. Some further clarifications are still needed, which we detail on the following pages. These comments are submitted on behalf of NEMA Submetering Section and NEMA Residential and Commercial Controls Section companies.

The National Electrical Manufacturers Association (NEMA) represents nearly 400 electrical and medical imaging manufacturers. Our combined industries account for more than 400,000 American jobs and more than 7,000 facilities across the U.S. Domestic production exceeds \$117 billion per year.

Please find our detailed comments below. We look forward to working with you further on this important project. If you have any questions on these comments, please contact Alex Boesenbergh of NEMA at 703-841-3268 or [alex.boesenbergh@nema.org](mailto:alex.boesenbergh@nema.org).

Sincerely,



Kyle Pitsor  
Vice President  
NEMA Government Relations

## NEMA Comments on Proposed Revisions to the California Building Energy Efficiency Standards California Code of Regulations, Title 24

We sincerely appreciate the efforts that CEC staff and Commissioner's office put forth in working with thermostat manufacturers to clarify the language regarding the rapidly-evolving technologies for in-home networks and connectable thermostats, yet we wish to point out what appear to be conflicting sections of the JA5 document, which should not be left open to interpretation. We strongly request that the wired and wireless requirements be clearly stated and clarified or directly addressed in appropriate compliance manuals to avoid any confusion or misinterpretation between manufacturers and CEC when submitting OCSTs for compliance under the 2016 standards, and between contractors and building inspectors at the time OCSTs are installed in new residential construction. It is clearly non-optimal to have application specific technology requirements.

In reviewing the Title 24, Part 6 15-day language, in particular the Joint Appendix 5, as it regards Occupant Controlled Smart Thermostats (OCSTs), we find there is confusion and contradiction in parts of the language that leaves the requirements open to interpretation by various stakeholders, including manufacturers of these products, contractors that will install them, and building inspectors that will issue Certificates of Occupancy for compliance.

Specifically, we would like to bring your attention to the following points:

Under JA5.1 (Introduction), Footnote 1 (which we support) clearly states that "A networked system of devices which is capable of receiving and responding to demand response signals and provides equivalent functionality to an OCST as required by specified in Reference Joint Appendix JA5, including being capable of automatically initiating demand responsive control when a signal is received as specified in JA 5.3.1, shall be considered equivalent to to be an OCST. This includes, but is not limited to, systems that use a wired or wireless gateway or access point to comply with JA5.3."

We emphasize here that the language clearly provides for both "systems that use a **wired or wireless** gateway or access point to comply with 5A5.3" (emphasis added). We interpret the use of wired gateways to include Ethernet connections of such a device to a WiFi router.

However, this appears to directly conflict with language in clause JA5.3.1, which states the following:

"1. The OCST shall be capable of receiving signals that have been transmitted using a non-proprietary communications protocol. This shall include, at a minimum, one of the following:

- a. connecting to a Wi-Fi network compliant with Institute of Electrical and Electronics Engineers (IEEE) Standard 802.11, ~~and/or~~
- b. connecting to a Zigbee network compliant with IEEE Standard 802.15.4, or
- c. for nonresidential, high-rise residential, and hotel-motel buildings, connecting to an Ethernet network compliant with IEEE Standard 802.3.

Manufacturers may choose to include additional wireless or wired physical communication interfaces. "

We find this troublesome for several reasons, including but not limited to: a) Footnote 1, allowing for wired gateways, is in conflict with JA5.3.1(c) that appears to limit the use of wired/Ethernet networks to "nonresidential, high-rise residential, and hotel/motel buildings ..." only. We are not aware of any

logical basis for such a restriction on the use of Ethernet communications, and to reiterate, we find it clearly non-optimal to have application specific technology requirements for residential versus non-residential applications.

Although it is not stated anywhere, during stakeholder webinars on March 2, 2015 workshop<sup>1</sup>, regarding the transition from 2013 to 2016 standards for OCSTs, it was suggested that OCSTs certified as compliant under 2013 standards would have to go through recertification for 2016. We request that based upon the similar language and basic requirements of the standards, there's no need for manufacturers to re-certify currently compliant products for 2016. Requiring a recertification of existing products that meet every requirement under 2016 standards is costly and burdensome to manufacturers and CEC staff time as well.

Finally, in recent email communication with staff (after publication of the 15-day language), in attempting to clarify manufacturer's confusion between JA5 Footnote 1 and JA5.3.1, we asked "Will a residential network that has a bridge or gateway device connected via Ethernet to a WiFi router and communicates to the thermostat system (using any protocol) comply?" The response we received suggested that "Staff says that as long as the WiFi router is present/installed at the time of occupancy then this would meet the proposed JA-5 language. Essentially, they don't want to rely on the homeowner to provide the router but if it was present as part of the "network of devices" then JA-5 intent would be met."

This (possible) new requirement of having a WiFi router in place at the time of occupancy, which has never been discussed throughout the development of the 2016 standards, is troubling and unacceptable for these reasons:

In current 2013 standards, gateways are allowed (and required to be present at time of occupancy), but providing WiFi routers is not. There is no proof offered to back up the claims by others that this change is needed, thus the rationale is weak and we do not support it.

We see no evidence that the cost to the contractor been considered or analyzed and we request the CEC provide this analysis in accordance with California law, or strike this requirement. We note that a WiFi router would be among the most expensive components of a networked system. It is unclear if the CEC has investigated this, or if California builders have been consulted on this requirement, since it came late in the process.

The existing and proposed 2016 standard for OCSTs still make them optional as an exception to the solar-ready roof requirement for new construction only. And even in that case, nothing ever requires a homeowner to actually participate in a DR program with a utility. So adding more equipment in order to be compliant doesn't seem justifiable on the surface. At some point, if these are truly "Occupant Controlled", the homeowner has to take some responsibility in making the decision of how and when to connect to a utility program. Subscribing to an internet service and acquiring a router seems like a reasonable level of buy-in from the end-user. This is one of the reasons we proposed Ethernet for single-family residential. Logically, this implies that a homeowner will need to provide a router to choose to participate in a utility Demand Response program and for their home "network" to function,

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<sup>1</sup> [http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2015-03-02-03\\_workshop/2015-03-02\\_Standards\\_Workshop\\_Transcript\\_TN-75607.pdf](http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2015-03-02-03_workshop/2015-03-02_Standards_Workshop_Transcript_TN-75607.pdf)

but didn't go so far as to require contractors supply the router. Ultimately, this requirement would come down to enforcement by a local inspector, and it is unclear how this will be effectively implemented or enforced.

In conclusion, we oppose the 15-day language as written until such time that these important elements can be clearly and unmistakably clarified so as to avoid future misinterpretation. To clarify the language more, we respectfully request that JA5.3.1 (c) be amended to strike the word "nonresidential", so it will clearly provide for existing 2013 compliant OCSTs to be compliant with 2016 standards without resubmission, and to take whatever steps necessary in the final language and/or compliance manuals to further clarify the conflicting language referenced above.