MEMORANDUM

RE: Ex Parte Communications in Connection with
Docket No's EERE-2015-BT-STD-0006 and EERE-2009-BT-TP-0016
Energy Conservation Program: Energy Conservation Standards and Test Procedures for Dimming Fluorescent Ballasts

To: expartecommunications@hq.doe.gov

From: Alex Boesenberg, Manager of Regulatory Affairs
National Electrical Manufacturers Association

Date: March 8, 2016

This memorandum memorializes a communication involving NEMA Staff and DOE staff in connection with this proceeding on March 3, 2016. The National Electrical Manufacturers Association (NEMA) appreciates the opportunity to meet with the Department of Energy's staff regarding industry concerns for the Fluorescent Ballasts Rulemaking with respect to Fluorescent Dimming Ballasts.

Attendees of the meeting were as follows: John Cymbalsky (DOE), Lucy deButts (DOE), and Alex Boesenberg (NEMA).

The principal purpose of the meeting was to inform the DOE about differences between the California Energy Commission (CEC) Appliance Energy Efficiency Regulation, Title 20[1], and the DOE's regulations for Fluorescent ballasts[2], and how they compare and contrast.

The most significant difference between the two regulations is the CEC's definition of "Arc Power". The Title 20 definition from the 15-day language[3] states: ""Arc power" means the entire output power of the ballast and delivered to all attached lamps." NEMA staff and members have been informed by CEC Staff that they interpret this definition to include any power delivered to a fluorescent lamp's filaments for cathode heating, in order to sustain/encourage emissivity and to thereby prolong filament and lamp life.

The DOE's test procedure in Appendix Q (footnote 2) does not specifically define arc power, but the associated test procedure clearly examines arc power in terms of the power delivered to sustain an arc, and excludes any associated filament current.

[1] Title 20 http://www.energy.ca.gov/2015publications/CEC-400-2015-021/CEC-400-2015-021.pdf

[2] 10 CFR 430 Appendix Q for Fluorescent Lamp Ballasts http://www.ecfr.gov/cgi-bin/text-idx?SID=07f896967f673e04f898c66a6eedd56f&mc=true&node=ap10.3.430_127.q&rgn=div9

[3] The updated version of the Title 20 Regulations with this definition incorporated has not yet been published, but the 15-day Express Terms were adopted at the CEC's xxx business meeting and are considered a finished product, as it were. See page 10 or 48 http://docketpublic.energy.ca.gov/PublicDocuments/15-AAER-01/TN203715_20150220T140835_Proposed_Amendments_to_Appliance_Efficiency_Regulations.pdf

The CEC's decision to define arc power differently than the DOE ties, in part, to concerns expressed to CEC by NEMA[4] on behalf of members whose dimming ballast designs use varying amounts of filament heating current in the dimmed state. The CEC standard (footnote 3), it should be noted, examines ballast efficiency at two states of dimmed light output. Because existing dimming ballast designs historically did not concern themselves with discrete dimming states with respect to efficiency, no attempts have been made to offer optimum efficiency at those, arguably random, levels. This mismatch between regulation and existing practices presents intellectual property issues: different manufacturer's designs use different amount of filament heating to prolong lamp life and assure satisfactory visual and lifetime performance. How designs accomplish this varies greatly and is aimed at avoiding patented solutions of others while making one's ballast compatible with as many lamps as possible.

NEMA has developed and published a standard about linear fluorescent lamp dimming, NEMA LL-9[5], which was developed following a significant research study of lamp lifetime in the dimmed state. The study also examined the myriad lamp-to-ballast combinations between different manufacturers products and their lifetime performance. This standard is reflected in the dimming curve in Figure 1 of NEMA LL-9. The area below this curve represents the area where patented solutions can be avoided and compatibility optimized given the intellectual property rights. Because of this, it is not possible to identify opportunities to lower the curve farther without impacting some manufacturers more than others and raising concern about restraint of trade.

With the above considerations in mind, NEMA recommends against the DOE adopting the unmodified CEC minimum energy efficiency requirements for dimming ballasts. NEMA does not recommend setting energy efficiency requirements for dimming fluorescent ballasts in the dimmed state. If the DOE considers requirements to regulate ballast efficiency in the dimmed state, NEMA urges the DOE to examine the practiced application of filament heating current and its related intellectual property with respect to any potential minimum energy conservation standards.

NEMA and its members again thank the U.S. Department of Energy this meeting and for considering the points made therein. We look forward to working with the DOE further on this important project. If you have any questions on these comments, please contact me at 703-841-3268 or alex.boesenberg@nema.org.

Sincerely,

Alex Boesenberg
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[4] http://www.nema.org/Policy/Documents/15AAER1%20NEMA%20comments%20on%20Title%2020%2045-day%20Language%20Dimming%20Ballasts%20March%202015%20v5_1.pdf

[5] Free download http://www.nema.org/Standards/Pages/Dimming-of-T8-Fluorescent-Lighting-Systems.aspx