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: December 19, 2016

This memorandum memorializes a communication involving NEMA Staff and DOE staff in connection with this proceeding on December 6, 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:
Lucy deButts (DOE)
Aisha Husain (Navigant)
Andrew Shore (Navigant)
Smitha Vemuri (DOE)
Alex Boesenberg (NEMA)
Karen Willis (NEMA)
Pekka Hakkarainen (Lutron)
Steve Irving (Lutron)
Joe Parisella (OSRAM)
Guido Zucconi (OSRAM)
Sue Callahan (LEDvance)
Ed Thomas (GE)
Ernesto Mendoza (Philips)
Rick Haring (Philips)
Wally Creer (ULT)
Tom Poehlman (ULT)

The principal purpose of the meeting was to update the DOE and their consultants on the progress of development of new test procedures in ANSI Committee 82 for efficiency testing of dimming fluorescent ballasts. NEMA is the Secretariat for ASC 82. NEMA members and staff also provided an update on the status of qualification of deep dimming ballasts in the State of California to the California Energy Commission's Appliance Energy Efficiency Regulations, Title 20.

Several presentations were made for the education and awareness of attendees. The briefs are submitted to the Docket with this letter, and covered the following range of topics: a brief history of fluorescent dimming practices, overview of the common types of dimming ballast and control technology, review of CEC Title 20 ballast requirements and qualified products to date, a detailed review of the emerging ANSI test procedure and findings about complexity and

accuracy of the procedure, and thoughts on alternative test procedures which might reduce burden and improve repeatability.

To enable ballast testing at low levels of light output (i.e. the dimmed state) the new ANSI test procedure being developed relies on a multi port analyzer capable of making multiple measurements at once. While this type of meter is very capable, it is also very expensive. Because this kind of test equipment is not needed for testing newer technologies (i.e. LED), there is little or no justification in setting test procedures that will require its purchase. Furthermore, as noted in the presentations, the accuracy of this sophisticated equipment is challenged by extremely low states of current and high frequencies during measurement (i.e. low dim state). Sentitive test conditions and high degrees of variation in test results have been observed. This would not only be a challenge for certification but also for enforcement.

As the ANSI standard nears completion, committee members have begun conducting tests using the new procedure in effort to gain greater experience with it and with test conditions, and to gather data about ballast performance during test. It is hoped that this data will enable analysis to identify patterns in performance which allow for the creation of a substitute test method using some kind of compensating factor(s) or conversion metric(s). Such factors would enable simpler more reliable test conditions, along the lines of the current Federal Test Procedure. The ANSI committee invites the DOE to participate in this investigation and related discussions.

As the ASC 82 work continues, NEMA will keep the DOE apprised of their progress and findings.

It was also observed that because of the expressed desire of the CEC to update their regulations to a new, improved ballast test procedure, ASC 82 and NEMA will continue this work going forward regardless of whether the DOE identifies significant energy savings potential in dimmable ballasts or not. It is the desire of NEMA and its members to undertake this effort collaboratively so as to develop the most fair, less burdensome test methods and related standards as possible.

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
Manager, Regulatory Affairs
National Electrical Manufacturers Association