

*Appliance Standards Awareness Project
American Council for an Energy Efficient Economy*

May 17, 2019

Ms. Lucy deButts
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U.S. Department of Energy,
Building Technologies Office,
Mailstop EE-5B
1000 Independence Avenue SW
Washington, DC 20585-0121

Subject: Docket Number EERE-2017-BT-TP-0005/(RIN) 1904-AD67
 Test Procedure for Fluorescent Lamp Ballasts

Dear Ms. Debutts:

Thank you for the opportunity to comment on the U.S. Department of Energy (DOE) notice of proposed rulemaking and request for comment on the test procedure for fluorescent lamp ballasts.

With the rapid evolution of lamp and ballast technology and lighting controls, fluorescent lighting has expanded into market niches formerly dominated by other lighting technologies. Solid state lighting is now beginning to claim market share from all other lighting technologies, but fluorescent lighting is well-established and still competitive with solid state lighting on a lifecycle cost basis for some important applications. We believe that it could take many years for lighting markets to shift entirely to solid state technologies, and for the hundreds of millions of fluorescent luminaires currently in service to be replaced. As a result, the market for fluorescent lamps and ballasts will persist well into the future, and fluorescent lighting technology will continue to evolve. We support DOE's efforts to update and improve both test procedures and standards for fluorescent ballasts and related lighting technology.

DOE should provide a test procedure for measuring the performance of dimming ballasts at light outputs less than full light output.

We commend DOE for addressing the need to upgrade the fluorescent ballast test procedure so that it provides accurate results for dimming ballasts operated at less than 100% light output. Energy efficiency ratings for fluorescent ballasts capable of dimming should reflect both the light level output at which a ballast must provide cathode power to sustain lamp ignition, and the efficiency of the ballast in performing its primary function of illuminating the lamp. Cathode heating in dimmable fluorescent lamps is necessary at some, but not all output levels less than full light output. We are concerned that DOE's proposed use of the new ballast efficiency metric

(BE) does not meet this objective because BE does not specifically measure cathode power at any light output levels less than 100%.

We recommend that DOE review the comments submitted by the California Energy Commission to this docket and revise the proposal to use BE to address their concerns.

DOE should update references to industry standards if, based on DOE expert review, they are appropriate.

We support efforts to keep product test procedures current with progress in technology and industry. We support DOE's proposal to update fluorescent ballast test procedures to reference the most current industry standards if the updates improve the accuracy of the test procedures and avoid biasing the results. While we are not aware of any such problems with the updates proposed, we encourage DOE's experts to carefully review the proposed updates to ensure they are consistent with providing representative results.

DOE should only provide a second stabilization option for measuring ballast luminous efficiency if it provides statistically identical test results to the existing stabilization option.

DOE's proposal to add a second stabilization option using elevated temperatures would reduce test time and costs for ballast manufacturers that already have the necessary equipment to implement the new option. However, introducing a second stabilization method in the test procedure runs the risk of increasing the variability of results across all ballasts tested and may make it more difficult to compare test results for different ballasts. We recommend that DOE address such risks more completely in its final rule than it has in the NOPR. If the Department cannot demonstrate that the two options for ballast stabilization are able to provide statistically identical results, we suggest that DOE remove the proposed addition of a second stabilization option.

This NOPR also proposes to remove the requirement that fluorescent ballasts achieve stable operating conditions within one hour of operation. DOE's rationale for this change (presented at FR 9923) is that the current requirement forces a restart of the test procedure when a ballast takes more than one hour to reach stabilization. We are concerned that the proposed change could result in test data being collected before ballasts achieve stable operating conditions. We request that DOE reevaluate the proposed change to assess the potential impact on test results and make any additional changes necessary to ensure that ballast test results require stable ballast operation and are representative of actual performance.

DOE should reconsider the test procedure for measuring standby mode energy consumption.

In this NOPR DOE states that "DOE has tentatively determined that the specific lamps to which the ballast is connected do not affect standby mode energy" (FR 9921). We request that DOE either provide technical support for this determination and its applicability to all fluorescent ballasts or delete the proposal to remove the requirement that standby mode be tested with the fluorescent ballast attached to an appropriate reference lamp.

This NOPR references comments submitted by the CA IOUs to the framework document for the fluorescent ballast ECS rulemaking (FR 9921) suggesting that fluorescent ballasts which

incorporate communication and control capabilities be tested with the ballasts connected to a network and with communication and control capabilities enabled. We support the recommendation of the CA IOUs. We also appreciate DOE's efforts to gather more information on this topic through the September 17, 2018 RFI on the emerging smart technology appliance and equipment market. We suggest that in the standby mode portion of the fluorescent ballast test procedure DOE reference the active mode test procedure sections pertaining to instrumentation and connection of lamps.

DOE should acknowledge and address the loophole in the federal GSFL standard.

A loophole in the federal energy efficiency standards for general service fluorescent lamps (GSFLs) has significantly reduced the expected energy savings from the standards. The definition of GSFL in statute exempts lamps with color rendering index (CRI) of 87 or greater and was supposed to allow the continued sale of small numbers of expensive T12 diameter lamps used in limited applications. Instead, in 2018 millions of inexpensive T12 linear fluorescent lamps were sold in the US, all of which had a CRI of 87 or higher and were significantly less efficient than standards-compliant GSFL. Manufacturers also sell exempt, inefficient, high CRI T8 lamps that are priced to compete with standards-compliant T8 GSFL.

Unlike T12 lamps, T12 ballasts are technically capable of complying with the relevant federal standards, and the continued sale of T12 linear fluorescent lamps has created a continuing market for T12 fluorescent ballasts. The result is that seven years after inefficient T12 fluorescent lighting technology was expected to exit the US market it is still possible to purchase complete, new, inefficient T12 fluorescent lighting systems. Before finalizing changes to the fluorescent ballast test procedure, we strongly suggest that the DOE carefully investigate the proposed changes and make sure that they at least avoid further exacerbating the effects of the GSFL standard loophole and ideally help to reduce its negative effects.

Thank you for considering these comments.

Sincerely,



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