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Additional submitted attachment is included below.

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June 21, 2018

The Honorable Andrew McAllister
Commissioner
California Energy Commission
Dockets Office, MS-4
Re: Docket No. 18-IEPR-07
1516 Ninth Street
Sacramento, CA 95814-5512

Re: IBEW-NECA LMCC Comments on July 7 Workshop re SB 350 Goal of
Doubling of Energy Efficiency

Dear Commissioner McAllister:

I am writing on behalf of the California State Labor Management Cooperation Committee for the International Brotherhood of Electrical Workers and the National Electrical Contractors Association ("LMCC") to submit comments in response to the June 7, 2018 California Energy Commission workshop addressing strategies for meeting the SB 350 goal of doubling statewide energy efficiency savings by January 1, 2030. The IBEW-NECA LMCC represents over 1,000 contractors and over 30,000 electricians throughout California. These contractors and electricians are the backbone of California's indoor and outdoor building focused electrical energy efficiency industry.

I. INTRODUCTION

The IBEW-NECA LMCC has long recognized that achieving greater energy efficiency requires both high standards and high quality installation practices. Deep retrofits of lighting systems, for example, are an essential component to meeting California's energy efficiency goals. Lighting systems alone account for 35-40% of a commercial building's electrical use, roughly double the energy used for

cooling.¹ Energy efficiency, however, cannot be achieved by poorly designed or installed lighting systems. Improper installation has been identified as a critical variable affecting the difference between expected and actual savings. The IBEW-NECA LMCC has been and continues to be strongly committed to workforce education, training and certification efforts that enable the quality workmanship necessary to ensure that lighting and other electrical systems function properly and provide the energy efficiency savings expected by regulators and customers.

Lighting Controls are a critical tool for reducing lighting loads and increasing energy efficiency. Lighting controls “can provide an additional 25-50% savings over even the more efficient lighting technology.”² In addition, advanced lighting controls are demand-response capable, which both increases their energy savings potential and provides the grid-management capabilities necessary to ensure grid stability as we increase our use of solar, wind and other weather dependent energy sources.

Accordingly, increasing the installation of advanced lighting controls in non-residential buildings is critical to meeting both the SB 350 energy efficiency goals and the SB 350 goals to increase reliance on renewable energy while maintaining grid stability through, among other strategies, increasing demand response capabilities. However, there are several barriers that need to be addressed in order to achieve the potential energy efficiency savings and demand response capability that lighting controls offer.

II. ENERGY EFFICIENCY PROGRAMS SHOULD REQUIRE APPROPRIATE TRAINING AND CERTIFICATION FOR INSTALLERS OF LIGHTING CONTROLS

The installation of advanced lighting controls requires special training and skills in order to ensure that their potential savings are achieved. Workforce standards are required to ensure lighting control measures achieve these savings. One post-installation evaluation found that automatic day-lighting controls failed to

¹ Pacific Gas and Electric Company (U 39-M), San Diego Gas & Electric Company (U 902-M), and Southern California Edison Company’s (U 338-E) Statewide Lighting Market Transformation Report (June 1, 2016), R.13-11-005, at p. 15.

² Id. at 12.

perform as expected in 7 out of 7 tests, and occupancy sensors failed to perform as expected in 2 out of 3 tests.³

Because installation of advanced lighting controls requires training beyond what is required for a general electrician license, the Energy Commission, CPUC and industry stakeholders joined together to create the CALCTP training and certification program for lighting control installers. When lighting controls were installed by technicians who had obtained lighting control installation training and certification from CALCTP, IOU-funded studies found significant energy savings and increased cost effectiveness. Evidence from six pilot studies demonstrated not only increased energy savings, but also actual customer cost savings in the range of 10-30% for the installation of advanced lighting controls by a CALCTP-certified contractor versus a non-certified contractor.⁴ Greater savings like these will be critically important for the state to achieve its goal of doubling energy efficiency by 2030.

In order to ensure that these savings are actually achieved, energy efficiency programs should require lighting controls to be installed by CALCTP-certified installers. Without such a requirement, the state's investment of public and ratepayer funds to create this certification will be wasted.

III. ENERGY EFFICIENCY PROGRAMS NEED TO ELIMINATE CURRENT POLICIES THAT ARE A BARRIER TO INCREASING LIGHTING CONTROLS IN EXISTING BUILDINGS

In order to unlock the potential energy savings that lighting controls provide, energy efficiency programs need to focus on increasing lighting controls in existing buildings rather than subsidizing measures that discourages installation of these systems. Currently, more than two thirds of existing commercial buildings still rely entirely on manual lighting controls and less than 1% of existing commercial buildings have advanced lighting controls that are demand-response capable.⁵

³ See Donald Vial Center for Employment in the Green Economy, Workforce Issues and Energy Efficiency Programs: A Plan for California's Utilities (2014) at pp. 32-34, 47 and Appendix 2B [available at <http://laborcenter.berkeley.edu/workforce-issues-and-energy-efficiency-programs-a-plan-for-californias-utilities/>].

⁴ See Donald Vial Center for Employment in the Green Economy, Workforce Issues and Energy Efficiency Programs: A Plan for California's Utilities (2014) at pp. 32-34, 47 and Appendix 2B [available at <http://laborcenter.berkeley.edu/workforce-issues-and-energy-efficiency-programs-a-plan-for-californias-utilities/>].

⁵ Navigant, AB802 Technical Analysis: Potential Savings Analysis (Prepared for California Public Utilities Commission) (2016), p. D-8, Table 19.

The low rate of advanced lighting controls in existing buildings can be directly linked to the utilities policy of focusing their energy efficiency lighting programs almost exclusively on light bulb and light fixture changeouts. The longstanding policy of providing almost all lighting incentives to the installation of more efficient light bulbs has had the unintended effect of delaying installation of demand-response-capable advanced lighting controls in existing buildings due to the various compliance pathways currently provided by Title 24.

While Title 24 requires advanced lighting controls in new non-residential buildings, Title 24 provides existing buildings numerous compliance options and exceptions that allow lighting retrofits to avoid the lighting control and demand-response requirements if they use high-efficiency LED lights. Title 24 requires lighting alterations in existing buildings to meet maximum lighting power density (“LPD”) requirements (i.e., watts per square foot) and install applicable automatic shutoff, area, multi-level, daylighting and demand-response controls.⁶ Title 24, however, provides an alternative compliance pathway for existing building lighting alterations that exempts alterations from having to include demand-response-capable advanced lighting controls (e.g., multi-level, daylighting and demand-response controls). This lighting control exemption applies if either: (1) the alteration results in an LPD of 85% or less of the maximum allowed for the function area or if the altered or modified luminaires collectively have at least 35% lower rated power than the existing luminaires, or 50% lower if the altered or modified light is located in a retail, commercial or hotel/motel space. Generally, the only way for an alteration to result in an LPD of 85% or less or to reduce power from existing luminaires by 50% or more is to install high efficiency LEDs.

By providing incentives for high efficiency LEDs instead of providing incentives for the installation of advanced lighting controls, the utility lighting technology incentive program is thus inadvertently discouraging existing building owners from taking compliance pathways that provide lighting control and demand-response capabilities. As a result, 99% of existing buildings still do not have demand-response-capable lighting controls.

IV. TITLE 24 CODE COMPLIANCE MUST BE ADDRESSED

⁶ 24 C.C.R. pt. 6 §§ 141.0(b)I, (b)K, (b)J & Table 141.o-E.

In order to meet SB 350's energy efficiency objectives, there needs to be increased compliance with Title 24 lighting control and acceptance testing requirements. A review of the Acceptance Test Technician Certification Provider 2017 annual acceptance test reports to the CEC shows that, in many California jurisdictions, contractors are not complying with Title 24 lighting control acceptance test verification requirements at all. In addition, the LMCC hears from its contractors all the time that buildings they work on don't have the lighting controls required under code.

V. CONCLUSION

The IBEW-NECA LMCC supports SB 350's energy efficiency and demand response goals. Because lighting is a major part of California's electrical load, lighting controls will play a critical part in meeting these goals. However, this requires increasing code compliance, ensuring installation by properly trained personnel and requiring current utility energy efficiency lighting programs to begin shifting from a bulb change-out approach to a lighting system approach.

Sincerely,

A handwritten signature in blue ink that reads "Thomas A. Enslow". The signature is fluid and cursive, with a long horizontal stroke at the end.

Thomas A. Enslow

TAE:lj1