CALIFORNIA IBEW–NECA
LABOR MANAGEMENT COOPERATION COMMITTEE

March 4, 2015

California Energy Commission
Attn: Eli Harland
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Sacramento, CA

Re. EPIC Implementation Workshop Comments

The California IBEW-NECA Labor Management Cooperation Committee ("IBEW-NECA") represents thousands of electrical contractors, who are members of the National Electrical Contractors Association (NECA), and tens of thousands of IBEW electricians in California. IBEW-NECA submits the following comments to the California Energy Commission in reference to the EPIC Implementation Workshop held at the Commission on February 24th, 2015 with particular focus on the following three questions:

• Is there a need to invest EPIC funds in research centers or consortiums that implement multi-year programs? If so, describe why research centers or consortiums are needed and identify which topic areas they are needed in.

• If the Energy Commission invests EPIC funds in research centers or consortiums, what criteria (e.g. research complexity, successful commercialization, broad partnerships, and demonstrated need) should the Energy Commission use to competitively solicit applications that maximize benefits to IOU ratepayers?

• What is working well with the Energy Commission's implementation of EPIC and what opportunities are there to improve the implementation of EPIC?

First and foremost, IBEW-NECA strongly supports the California Lighting Technology Center (CLTC) and the Western Cooling Efficiency Center (WCEC) at UC Davis. These highly effective applied research, development, and demonstrations partnerships were

founded in large part based on smart, forward thinking, long-term Energy Commission funding decisions. IBEW-NECA applauds the Commission for those original wise decisions. The CLTC and the WCEC grew out of a close collaboration between the California Energy Commission, industry partners, and investor owned utilities to build a broad and successful research, demonstration, education and training portfolio.

IBEW-NECA has been greatly impressed with the California Lighting Technology Center's collaboration with industry and engagement in lighting education, workforce training, research and development, and codes and standards activities. IBEW-NECA has collaborated with the CLTC on numerous successful and effective advanced lighting and lighting controls energy efficiency projects.

IBEW-NECA is one of many industry stakeholders involved in the California Advanced Lighting Controls Training Program (CALCTP). The CLTC has been an invaluable partner in the formation, development, and application of curriculum that educates and trains contractors, electricians, commissioning agents, engineers and lighting company staff in the most effective installation and testing of high efficiency lighting and control technologies. About 4,000 employers and employees have been trained and certified by CALCTP to date. In addition, CALCTP, in collaboration with the CLTC, is now in the process of developing advanced lighting control education and training for the architects, engineers and designers who specify lighting controls, and the building operators and managers who keep them running over time.

Based on considerable experience with the CLTC, IBEW-NECA can say without any reservation that the CLTC is highly successful and is well valued by its sponsors and partners as a neutral third party, of great technical expertise, supporting lighting energy efficiency opportunities. The California Lighting Technology Center is appreciated by IBEW-NECA and the lighting industry as one of the best and most effective publicly owned, lighting research laboratories in the United States.

The WCEC and CLTC are nimble research organizations that also provide valuable leadership in codes and standards development, education, workforce training, and provide impartial energy efficiency technical expertise to California.

The CLTC was established in 2003 as a public-private partnership between the lighting industry, California utilities and the CEC with the purpose of accelerating the development, deployment and application of energy-efficient lighting solutions that address California's pressing need for energy efficiency and its related climate goals.

CLTC's mission is achieved by addressing California's broad educational and training needs; evolving and maintaining technical research laboratories for understanding emerging opportunities; and advancing codes and standards processes within the regulatory environment to encourage energy efficiency.

Working in partnership with designers, manufacturers, end users, utilities, government agencies, and others, CLTC commercializes energy-efficient lighting and daylighting technologies, producing new technologies, and best practices. CLTC also provides

engineering documentation, market research, lighting guides, working papers, and white papers. The center conducts technology demonstrations, and publishes reports and case studies on these projects. The center's faculty and staff develop and deliver curriculum, statewide instruction, and technical support to California's workforce, in addition to general public outreach and educational activities.

The CLTC and the WCEC have statewide reach, collaboration and impact. They are also extremely good at getting R&D concepts out of the lab and into products produced by industry.

The CLTC's accomplishments have been numerous; here are a few recent examples of their success stories:

- **Developed the Acceptance Test Technicians (ATTs) course program**. As of July 1, 2014, ATTs are an integral part of the Title 24 compliance process for projects with lighting controls measures that require code compliance.

- **Initiated the adaptive outdoor lighting program as an industry-supported collaborative for Title 24**. One of the largest energy-saving success stories in the history of the PIER program and will support substantially the Huffman bill for 25% saving statewide.

- **Created the California Quality Specification for LED Lamps as a voluntary program**. This program is now informing Title 24 and Title 20 requirements.

- **Co-authored California Advanced Lighting Controls Training Program (CALCTP).** CALCTP is a statewide initiative aimed at increasing the successful use of lighting controls in commercial buildings and industrial facilities. This program is cited as one of the most successful training workforce development efforts from the Energy Commission.

While IBEW-NECA and the lighting industry have celebrated CLTC contributions to moving California's peak load reduction and energy efficiency policies forward, changes in the CEC's funding practices have endangered this highly successful model. **The CEC's new exclusive use of competitive solicitations jeopardizes the fulfillment of the mission of the WCEC and CLTC.**

Current Situation

IBEW-NECA views the CLTC at UC Davis as entering a period of significant financial uncertainty as its long-term CEC interagency agreement is set to expire in early 2015. This previous long term interagency funding agreement has supported a variety of efforts on codes and standards development, workforce training, education and specific technical activities in support of lighting energy efficiency and peak load shaving in California. In the absence of this dedicated, broad programmatic support, the current structure and success of CLTC is threatened.

The CEC's new focus on competitive public solicitations to achieve advances in building and technology energy efficiency may be appropriate for certain types of research and services. However, an exclusive focus on competitive public solicitations, which cover a broad range of topics, can only support about 1/3 to 1/2 of CLTC's current funding needs. These competitive solicitations support very specific research proposals that are substantially outside of CLTC's original construct and mission. **IBEW-NECA strongly believes that the CEC should urgently restore interagency agreements and programmatic support for the WCEC and CLTC.** Otherwise, the current timing and lapse in funding will significantly impact the existing programs at the WCEC and CLTC. Specifically, at the CLTC, the Center cannot complete its programmatic mission in the following critical areas:

1. Codes and standards review and development
2. Laboratory maintenance and development
3. Professional education and workforce training programs
4. Demonstrations

IBEW-NECA believes these specific areas must be supported with long term programmatic funding for the following detailed reasons:

1. Codes and Standards Development Efforts

CLTC is an effective manager, leader and promulgator of advanced regulatory activity to encourage the most efficient technologies and design approaches for long-term public investment. It is vital that California have a neutral third party that can help inform the standards processes. These activities have proven to be highly effective in bringing together industry, CEC and California utilities in a roundtable format to accelerate the most effective strategies for the future. For example:

Adaptive lighting for exterior applications- this research development and demonstration program resulted in the 2013 title 24 requirement for adaptive lighting in parking area and building lighting. ***This is one of the single largest energy-saving projects in the history of the energy commissions research program and involved a broad collective effort with the lighting industry, and demonstration activities with the utilities based on programmatic funds stemming from the energy commission***.

Long term programmatic funding in this area will allow CLTC to maintain a leadership role and ensure that the best technologies and design approaches are developed and promoted for California energy codes and appliance standards. These activities provide long-term support for realization of California's energy efficiency goals.

2. Maintaining California's Lighting Laboratory

The state of California has invested approximately $15 million in the development of a broad range of laboratory capabilities and equipment for the research, measurement, and understanding of energy-efficient lighting technologies. Data and insights garnered from this publicly-owned laboratory have informed state standards, utility specifications and building design specs statewide. ***For example the last round of title 20 draft***

standards used measurement data from CLTC lab - a capability and supporting instrumentation that took ten years to build. It is vital that this laboratory not only be maintained, but also further enhanced so that California can address ongoing energy efficiency issues associated with current and future research and codes and standards developments.

3. Professional Education and Workforce Development

CLTC has played a pivotal role in development of California's Advanced Lighting Controls Training Program (CALCTP); multiple statewide training programs on Energy Efficiency Standards (Title 24) and Appliance Standards (Title 20); and numerous technology-specific education and training programs for lighting professionals and utility stakeholders. CLTC is now widely recognized as the leading institution for lighting energy-efficiency training and integration of programs and policy.

Recent legislation including Proposition 39 and various other state mandated efficiency programs have committed a significant amount of resources into relighting California buildings. Unfortunately, significant knowledge barriers exist relative to both technology and best-practice approaches for achieving optimal energy-efficiency outcomes. Significant potential exists for financial waste and poor technology and energy performance. If not addressed, this will result in California failing to meet the ambitious goals associated with many of these state-lead efficiency policies and programs.

CLTC has identified through collaboration with its utility, industry and state partners, that lighting education and training for building owners, facility manager's, decision-makers and other energy program personnel is one of the most effective, long-term approaches for ensuring that our state investment in energy efficiency produces tangible results that help achieve the ambitious goals of California. CLTC is currently in development of the Light-RITE California program focused on education for these key decision makers, however, further program development, deployment and training is now on-hold due to CLTC's current funding limitations.

Funding the CLTC will allow it to continue valuable education and workforce development activities, and launch this ambitious educational program statewide. CLTC currently has agreements with two utilities and several industry partners to co-support Light-RITE California, but it can only be realized through ongoing CEC support of the program.

4. Technology Demonstrations

One of the most successful activities associated with California's investment in lighting energy efficiency has been its support for statewide technology demonstration programs, which involve high visibility demonstrations of technologies and best-practice solutions in a wide variety of California buildings. Past demonstration facilities include K-12 schools, universities, hospitals, municipal buildings and public state buildings. Demonstration results allow CLTC to better understand how technologies actually work inside buildings and to effectively navigate future standards and regulatory behavior that would encourage the most efficient and cost-effective of these approaches. The statewide demonstrations program brought together industry partners, utility partners and state partners into an organization that worked effectively to test and assess these novel approaches. The

demonstrations program is highly valued by industry partners, codes and standards and regulatory groups, and the California electric utilities.

Investing in the CLTC and WCEC research centers with flexible, multi-year funds presents the opportunity to effectively integrate and address long-term energy efficiency issues that cannot be obtained through individual project solicitations in different activity areas and at different times.

Most urgently, IBEW-NECA encourages the Energy Commission to award and allocate funding to the WCEC and CLTC by April 1, 2014. All of the current energy efficiency related centers are currently scheduled to run out of PIER-funded IA agreements on March 31, 2014 and while not all of these centers are guaranteed to secure continued funding under EPIC, the timing of the funding will be absolutely critical to maintaining a center's capabilities (e.g. seasoned staff and students). If a funding gap were to occur due to CEC timing it would likely have long-term negative impacts to the centers, forcing them to reduce their workforces (and therefore reduce their respective capacity and expertise) in response to a financial shortfall, even if the shortfall is ultimately only temporary. We urge the CEC to avoid such adverse effects, especially for the CLTC and WCEC which focus on the loading order priorities of peak-load reduction and energy efficiency.

IBEW-NECA supports the Energy Commission's concern for advancing multiple energy saving technologies. For California to meet its energy conservation objectives, the CEC should be funding technologies that address plug load, building envelope, and other approaches beyond lighting and mechanical systems. That said, the priority and ranking of funding various technologies should be similar to the category's level of energy importance. According to California utilities, 35 - 40% of electrical load in the built environment is for lighting. 15 - 20% is for air conditioning. Lighting and a/c - California's #1 and #2 electrical loads - taken together account for 40-50% of all the electricity demand in California buildings. As a state we cannot meet our energy efficiency goals without making significant progress in these two leading and vital categories.

IBEW-NECA understands that the legislature was not completely happy with every project and program that was funded through the PIER program. It appears that the CEC has adopted, exclusively, the competitive solicitation funding model as a response to those concerns. We believe this is an over-reaction and that a one size fits all approach is not prudent, and will not be most effective.

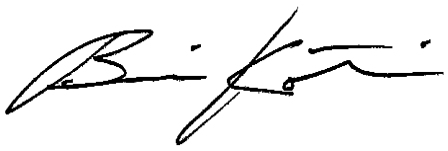
An exclusive competitive solicitation funding model that excludes long term funding and interagency agreements with the WCEC and CLTC is essentially throwing the baby out with the bath water and would do irreparable harm to California's ability to achieve its energy efficiency and peak load reduction objectives.

In conclusion, IBEW-NECA also understands that *"All EPIC activities must be designed to produce electricity ratepayer benefits. As defined by the CPUC, these benefits include greater reliability, lower costs, and increased benefits, as well as, providing environmental and economic benefits."* IBEW-NECA has had the extensive industry experience with the WCEC and CLTC and can say without reservation that the Centers have

made extremely valuable contributions to California electricity ratepayers. These benefits have included greater reliability, and lower costs as well as providing environmental and economic benefits. Most importantly, these benefits have been made possible by the original long term programmatic funding of the CLTC and WCEC. Short term, narrowly defined solicitation funding alone will undermine the CLTC and WCEC and harm California electricity ratepayers.

Your consideration of these comments is appreciated. Thank you.

Sincerely,



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California IBEW-NECA Labor Management Cooperation Committee

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