IBEW/NECA California State Labor Management Cooperation Committee Comments on NLCAA Application for Approval as a Lighting Control Acceptance Test Certification Provider

July 31, 2014

SENT VIA EMAIL

Robert Oglesby
Executive Director
California Energy Commission
1516 Ninth Street, MS 39
Sacramento, CA 95814-5512
Rob.Oglesby@energy.ca.gov

Tav Commins
California Energy Commission
1516 Ninth Street
Sacramento, California 95814
Tav.Commins@energy.ca.gov

Subject: NLCAA Application for Approval as a Lighting Control Acceptance Test Technician Certification Provider

Director Oglesby and Mr. Commins:

The following comments are submitted on behalf of the California State Labor Management Cooperation Committee for the International Brotherhood of Electrical Workers and the National Electrical Contractors Association ("LMCC") regarding the National Lighting Contractors Association of America's (NLCAA) application for approval as a lighting control acceptance test technician certification provider. The LMCC is very interested in ensuring the success and effectiveness of the new certification requirements for lighting control acceptance test technicians. Properly installed and functioning advanced lighting controls are an essential component to meeting California's energy efficiency goals. Lighting accounts for almost 40% of a commercial building's electrical use. This is double the energy used for cooling. Lighting control acceptance tests performed by trained and experienced technicians will ensure that advanced lighting controls are installed and operating correctly so they can achieve their desired energy saving potential.

Certification for Lighting Control Acceptance Test Technicians was enacted by the Commission in response to testimony that training, certification and quality control of acceptance test technicians were needed to make the Commission's acceptance test requirements meaningful, reliable and cost-effective. Training and quality control oversight of certified technicians is the responsibility of the acceptance test technician certification provider. In order to ensure the success of this new program, it is essential that the Commission ensure that a provider

demonstrates that it has the experience and capability to run a quality certification program and that its certification program requirements and oversight are sufficiently rigorous and reliable.

We have reviewed NLCAA's application materials and have identified four areas that either appear deficient or require additional information: (1) inadequate evidence of NLCAA's experience and qualifications to be a certification provider; (2) substandard prequalification requirements; (3) inadequate, unverified testing procedures; and (4) vague and inadequate quality assurance audit requirements. Because NLCAA has not demonstrated it has the experience, reputation or qualifications to be a reliable and capable certification Provider or that the program it proposes will be adequate to ensure the success and effectiveness of the new certification requirements for Lighting Control Acceptance Test Technicians, we oppose approval of its application.

I. NLCAA APPLICATION FAILS TO DEMONSTRATE THAT THE ORGANIZATION HAS THE EXPERIENCE, QUALIFICATIONS AND REPUTATION TO ENSURE SUCCESS

When the Commission adopted its lighting control acceptance test technician certification requirements, it prequalified CALCTP as a certification provider based upon CALCTP's history, experience and reputation as an organization that already provided high quality training and certification of lighting control installers.

The Commission is now proposing to also approve NLCAA as a certification provider. NLCAA is not an organization with a history or reputation. It was formed in 2013 to train lighting control technicians, but is not an approved apprenticeship program for lighting control technicians. NLCAA's program has not been vetted by any utilities, lighting control manufacturers, or lighting control technology experts. In contrast, CALCTP has seven years of experience training and certifying advanced lighting control installers and is overseen by an advisory board consisting of representatives of all of the major utilities, the Chancellor's Office of the Community College System and the California Lighting Technology Center-UC Davis. Similarly, the organizations that were prequalified as providers for mechanical acceptance test technician certification, TABB, NEBB and AABC, each have national reputations and many years of experience running certification programs for mechanical testing, adjusting and balancing professionals.

Moreover, NLCAA's application fails to demonstrate that it has the knowledge, experience and ability to run a quality and reliable acceptance test certification program. For example, their application fails to demonstrate that their tests have been properly validated for content, reliability and lack of bias. They are proposing to train persons with professions or degrees that have no relation to lighting control or electrical systems. And they are proposing a much lower standard of random quality assurance audits than CALCTP, despite lacking the reputation, experience and background that CALCTP brings as a certification provider.

In order to ensure the success and reliability of the certification program, the Commission should only approve certification providers that have demonstrated sufficient experience, reputation and success in running similar programs. NLCAA lacks these qualities.

II. SUBSTANDARD PREQUALIFICATION REQUIREMENTS

NLCAA's proposed prequalification requirements are inconsistent with the requirements set forth in the Commission's regulations because: (A) the application fails to demonstrate that all applicants will meet the Commission's regulatory requirement to have at least three years of *verifiable* professional experience and expertise in lighting controls and electrical systems; and (B) they propose unilaterally expanding the professional industry groups eligible for certification. LMCC supports strong prequalification requirements because highly qualified applicants with a pre-existing background in lighting controls and systems will ensure the success of the new certification requirements.

A. NLCAA Fails to Ensure Applicants Will Have Three years of Verifiable Professional Experience and Expertise in Lighting Controls

The Commission's regulations limit eligibility for certification to "persons who have at least three years of verifiable experience and expertise in lighting controls and electrical systems." (Section 10-103-A, subd. (c)(3)(B)(iii).) The NLCAA application fails to comply with this requirement by: (1) accepting generalized experience in "indoor lighting" and "outdoor lighting" rather than lighting controls; and (2) failing to set forth any procedures for verifying the required experience and expertise in lighting controls and electrical systems.

The Commission's regulations clearly require three years of verifiable experience and expertise in lighting controls. Generalized experience in "indoor lighting" and "outdoor lighting," however, could simply include the installation and maintenance of light fixtures, rather than any experience with lighting controls and systems. Light fixtures don't fall under the definition of lighting controls in Section 100.1 of the Energy Code.

Given that the NLCAA is primarily a nonresidential lighting technician training school, the Commission should take care to ensure that the three years of verifiable experience and expertise in lighting controls required by NLCAA actually consists of lighting controls and systems and not just light fixtures. California regulatory requirements for certification as a nonresidential lighting technician require 2000 hours of apprenticeship or experience in installing, troubleshooting and repairing "lighting fixtures," not lighting controls or systems. (Cal. Code Regs., tit. 8, § 191.1 (a)(2).) Accordingly, nonresidential lighting technician applicants would likely have three years of experience in "indoor lighting" and "outdoor lighting," but would not necessarily have three years of experience in lighting controls and systems.

The NLCAA application should be amended to clarify that all applicants, including nonresidential lighting technicians, must demonstrate three years of verifiable experience and expertise in lighting controls as that term is defined by Section 100.1 of the Energy Code.

In addition, NLCAA provides no procedures for verifying work experience. The NLCAA application should set forth how this experience will be verified. The application should ensure that applicants are required to provide verification letters from employers or other evidence to verify their work experience claim.

B. Application Improperly Expands the List of Qualified Professionals to Professions with No Connection to Lighting Control Systems

The application unilaterally expands prequalification requirements to include: (1) nonresidential lighting technicians; (2) BS and MS degrees in areas unrelated to lighting control systems, including geology and philosophy; and (3) military veterans with ratings in radio, aircraft communication, radar systems and other non-lighting control related systems.

Currently, the Commission regulations only recognizes the following professions as providing *verifiable* professional experience and expertise in designing, installing, testing, adjusting or balancing advanced lighting controls systems: (1) electrical contractors; (2) certified general electricians; (3) professional engineers; (4) controls installation and startup contractors; and (5) certified commissioning professionals. (Section 10-103-A, subd. (b)(2).)

The Commission should not approve expansion of these other identified professions without holding stakeholder meetings to assess the likelihood of other proposed professional designations providing similar verifiable professional experience and expertise. At a minimum, if NLCAA wishes to expand the list of qualified professionals, it should be required to provide evidence that the proposed professional degrees or certifications would provide some assurance that the applicant was capable of successfully understanding and implementing the acceptance test certification training. No such evidence is provided in the application.

NLCAA's intent to certify other, less-qualified professionals than identified in the Commission's regulations heightens the importance of requiring its application to provide a detailed explanation of how the verifiable, professional lighting control experience and expertise requirement will be interpreted, verified and enforced.

Finally, NLCAA's application fails to identify what professional commissioning agent certifications it will accept and fails to define who qualifies as controls installation and startup contractor. Because there is no industry wide definition for a commissioning agent, the application should set forth how NLCAA will determine who is a qualified certified commissioning professional. Similarly, there is no industry wide definition of a controls installation and startup contractor. The State of California does not recognize a controls installation and startup contractor category. In order to ensure that NLCAA will not arbitrarily enforce the prequalification requirements, its application should set forth how it will determine what applicants qualify under these categories.

III. INADEQUATE TESTING PROCEDURES

The NLCAA application fails to demonstrate that its testing procedures are sufficient. For example, the application and the staff report do not indicate: (1) the examinations have been

validated by a test validation professional to ensure sufficient rigor, reliability and lack of bias; (2) if there are multiple versions of the tests or if the same test questions are used every time; (3) whether new test questions are continuously developed to ensure test answers are not passed around; (4) how exams are proctored or conducted; or (5) the applicant's policy for retaining test results.

It is standard industry practice to require professional certification tests to be evaluated by a test validation professional for reliability, validity and lack of bias. (See U.S. Department of Labor, Testing and Assessment: Employer's Guide to Good Practices (2000), available at http://www.onetcenter.org/dl_files/empTestAsse.pdf; see also The Standards for Educational and Psychological Testing (AERA, APA, & NCME, 1999); Institute for Credentialing Excellence, Background Information *ICE 1100* 2010 (E) –Standard for Assessment-Based Certificate Programs, at pp. 24-27, available at http://www.credentialingexcellence.org/p/cm/ld/fid=99; and ISO 17024 examination guidelines.) For example, California requires certification examinations for electricians to "be validated by an independent test validation organization." (Cal. Code Regs., tit. 8, § 291.3(b).)

Without professional test validation, NLCAA's certification testing fails to demonstrate rigorousness, security, reliability or lack of bias. Test validation is critical to ensuring a fair, reliable and valid certification process. The Commission should not approve any provider until it demonstrates its exams have been validated by a test validation professional.

Furthermore, the Commission should ensure that there is a large enough bank of questions for the tests so that each test will be different enough to reduce the chances of cheating. If NLCAA just has only one test that hasn't been developed in accordance with standard practices for ensuring exam security, rigor, reliability and lack of bias, no assurance exists that the proposed testing will provide a meaningful and fair assessment of a technician's ability to accurately perform acceptance tests. In addition, a process should be in place to continually develop and validate new test questions in order to ensure exam security and to address changes in lighting control technology and lighting control acceptance test requirements. Finally, appropriate methodology and procedures (e.g. collecting and maintaining statistical data) should be documented in order to reaffirm, at defined intervals, the fairness, validity, reliability and general performance of each examination. NLCAA's application does not indicate that they have adopted any of these standard procedures for continued exam security and validity.

IV. INADEQUATE QUALITY ASSURANCE REQUIREMENTS

NLCAA's quality assurance audit requirements are insufficiently described in the application to allow meaningful evaluation of its adequacy.

A. Failure to Describe what Errors Will Trigger Further Action

While the application states that there will be form inspections and field inspections, it fails to provide a description of what is considered an error or failed audit that triggers further action. Without such a description, it is impossible to determine if these audits have any meaning. The

LMCC urges the Commission to require revision of the application to describe what will trigger a finding that an acceptance test technician has failed a quality assurance audit.

B. Failure to Describe What Further Action Will Be Taken When A Failed Paper or On-Site Audit Occurs

The application does not describe how NLCAA will respond to unsatisfactory reviews or inspections. No remedial action is described at all for failed paper audits or scheduled field inspections. The only remedial action described in the application is that, where a random field inspection finds an error, the percentage of random field inspections for a technician will go up to just 2%, equaling just two audits randomly selected out of the next 100 jobs. Since the field inspections are randomly determined, two random audits out of the next 100 jobs means that a field technician who failed a test could potentially perform 97 jobs before the next random field inspection. This is inherently inadequate.

Because Lighting Control Acceptance Test Technicians are not required to be third party testers, a rigorous and meaningful quality assurance program by the certification provider is essential to ensuring the reliability and success of the certification program. Random field inspections should be required more frequently than once out of every 100 jobs. In addition, any failed paper audit, scheduled field inspection or random field inspection should trigger additional random field inspections within the next few jobs.

The LMCC supports the CALCTP approach to quality assurance for this program, which requires random audits at an initial rate that will provide a 95 to 98 percent confidence level at first to ensure that any initial issues with noncompliance are identified and addressed. Under this program, LMCC contractors will be subject to 6% paper audits and 6% random field inspections during the first three years of the program, dropping down to 4% paper audits and 4% random field inspections in years 4-5 and 2% paper audits and 2% random field inspections after that.

NLCAA's proposal to only require 1% random field inspections even at the beginning of the program is not supported by any evidence that this will provide a statistically reliable level or quality assurance. This number should be at least quadrupled during the first few years of the program.

For comparison, the HERS program requires random field inspections at a rate of 1% where the HERS raters are third party inspectors and inspecting all installations. However, when builders take advantage of the less rigorous Building Performance Contractor exception for Energy-Rated Homes, the number of random field inspections jumps to 5%. Because Lighting Control Acceptance Test Technicians are not required to be independent third parties from the contractor, the number of random field inspections should be closer to the level required under the Building Performance Contractor exception at least for the first few years of a Provider's certification program. As long as a Provider ensures adequate pre-qualification requirements, adequate training and sufficient quality assurance audits, there should be no need to require Lighting Control Acceptance Test Technicians to be third party.

Because quality assurance audits significantly drive up the costs for contractors, acceptance test certification providers' quality assurance programs are going to be a race to whatever bottom the Commission sets. If NLCAA provides a much less reliable, but much cheaper quality assurance program, CALCTP contractors will have to pressure CALCTP to similarly reduce the amount of random audits that it requires in order to keep their acceptance test costs down and remain competitive.

Whatever level the Commission establishes should include a higher rate of random field inspections during the first few years of the program than proposed by NLCAA and should be supported by evidence that establishes the confidence level of the program.

Finally, NLCAA should be required to provide reports on all failed paper audits and field inspections (and the resultant remedial actions) to the Commission.

V. CONCLUSION

The California State Labor Management Cooperation Committee for the International Brotherhood of Electrical Workers and the National Electrical Contractors Association thanks the Commission for the opportunity to review and comment on its lighting control acceptance test technician certification provider applications. The providers are the gatekeepers for ensuring a successful and reliable certification program. We urge the Commission to set the highest possible standards for these providers. The success of this program depends not just on the content of the curriculum, but also upon requiring qualified and experienced certification providers, high prequalification standards, rigorous and reliable tests and test procedures, and meaningful quality assurance audit requirements.

Sincerely,

Jim Wilson
Co-Chairman
NECA/IBEW Statewide LMCC
100 East Corson Street, Suite 410
Pasadena, CA 91103

Jack Buckhorn
Co-Chairman
NECA/IBEW Statewide LMCC
2525 Cleveland Avenue, Suite B
Santa Rosa, CA 95403