National Lighting Contractors Association of America
3301 East Hill Street, #406 | Signal Hill | California | 90755

7 November 2014

Joan Walter, AICP
Manager, Standards Implementation Office
California Energy Commission
1516 Ninth Street, MS-26
Sacramento, CA 95814

Dear Joan:

Thank you for forwarding a copy of the comments pertaining to NLCAA's application for approval as a Lighting Control Acceptance Test Certification Provider. NLCAA welcomes feedback and remains dedicated to working with CEC in order to comply with CEC's requirements for certification.

In reading through the document we find that many of the issues raised are simply repeats to those raised and responded to by NLCAA last time but with more verbiage tacked on by LMCC this time through. We are once again making a good faith effort to respond to each of the issues but feel that it is important to express our concern with the tone of the letter purporting violations of industry standards. NLCAA is also concerned about the time being consumed in yet another round of LMCC issues. This delay impacts both NLCAA and those non-union contractors counting on us to continue training their resources. Our past efforts got us to the brink of certification but were subsequently derailed by issues raised by an organization that views NLCAA as competition. NLCAA simply wishes to move forward in an objective manner towards our goal of CEC certification as an Acceptance Test Technician Certification Provider to serve all qualified applicants be they union or non-union.

We feel that we have been professional and complete in our application process with CEC. We welcome feedback and will continue do what is required to comply with the CEC's requirements. As mentioned above, we have listed our responses to this latest series of issues raised and look forward to resolving them to the satisfaction of the CEC.

Summary of Unaddressed Comments:
(1) Inadequate Testing Procedures
• NLCAA has failed to follow standard industry practices and Federal guidelines for validating tests for rigor, reliability and lack of bias.

NLCAA Response:
NLCAA is approved by the State of California Division of Labor Standards Enforcement to teach and train Nonresidential Lighting Technicians. As a state approved training resource, NLCAA does indeed follow industry practices for training Nonresidential Lighting Technicians. Moreover, our tests are administered by seasoned professionals with theoretical, practical, and hands-on experience in the field directly relating to testing material. NLCAA takes issue with the

assessment that we have failed to follow standards in an industry that our staff of seasoned professionals comes from.

• NLCAA has failed to follow standard industry practices for exam security and maintenance by failing to develop multiple versions of the certification test or to set forth a process for continually assessing, updated and changing certification test questions.

NLCAA Response:
NLCAA has multiple versions of tests supplemented by a large pool of questions that are routinely reviewed, updated and or changed to remain relevant as a testing element. To do otherwise would not make sense to anyone with experience in our industry. NLCAA views this alleged failure on our part as baseless and incorrect.

• NLCAA fails to demonstrate independent oversight of its certification processes and procedures, such as review by psychometricians or other professional certification process assessors or organizations.

NLCAA Response:
As stated earlier, NLCAA is approved by the State of California Division of Labor Standards Enforcement to teach and train Nonresidential Lighting Technicians. The NLCAA staff is comprised of industry proven professionals with many years of training technicians in both electrical and lighting technology. NLCAA training material has been used successfully for many years to train electricians to understand their trade and title 24 requirements in order to obtain and maintain their certification in advanced lighting controls.

• NLCAA violates the regulations by not including practical hands-on testing.

NLCAA Response:
The NLCAA final examination requires hands on testing procedures as well as the respective form completions required per the mandatory requirements for automatic shut off controls, automatic daylight controls, demand response, and review of outdoor lighting controls.

(2) Substandard Prequalification Requirements
• The ATTCP regulations require programs to be limited to persons who have "at least three years of *verifiable* professional experience and expertise in lighting controls and electrical systems." NLCAA provides no procedures for verifying the work experience claimed by applicants in their applications.

NLCAA Response:
NLCAA requires at least three years of verifiable professional experience and expertise in lighting controls and electrical systems. NLCAA follows the same protocol as most industry requesting agencies where written proof of experience is required from all applicants.

• NLCAA proposes expanding the list of qualified professionals set forth by the Commission in Section 10-103-A, subd. (b)(2) to include persons with degrees or with backgrounds in professions that have no relationship to lighting controls and electrical systems, including persons with degrees in geology or philosophy.

NLCAA Response:
NLCAA does not propose 'expanding" any list. As stated above NLCAA requires written proof of verifiable professional experience and expertise in lighting controls and electrical systems.

(3) Vague and Inadequate Quality Assurance Field Audit Requirements
• NLCAA fails to disclose what would constitute a failed field audit. Without such a description it is impossible to determine if the audits have any meaning.
• The remedial action described for a failed random field inspection is wholly inadequate. Simply increases the rate of random field inspections to 2% (up from 1%) of the next 100 jobs. This means a field technician who failed a test could potentially perform 97 jobs before the next random field inspection.
• NLCAA fails to provide any evidence that its proposed 1% random field inspections will provide a statistically reliable level of quality assurance.

NLCAA Response:
NLCAA quality assurance starts with the contractor's first acceptance test requiring both employer and test technician to complete a quality assurance questionnaire which addresses failed tests. The NLCAA testing software which requires pictures of equipment tested can and will be reviewed as a desk audit. Random field audits will be performed as per our application.

(4) Failure to Demonstrate Experience, Reputations or Background Demonstrating the Knowledge, Experience and Ability to Run a Quality and Reliable Acceptance Test Certification Program
• NLCAA is a brand new organization with no history or reputation to suggest it has the knowledge, experience and ability to run a quality and reliable ATTCP program.
• The lack of experience applicant has in operating certification programs is underscored by its failure to follow standard industry practices for developing a certification program, failure to provide for verification procedures for applicant qualifications, and failure to recognize the need to create multiple versions of tests.
As a result of the failure to address any of these previously raised concerns, the NLCAA application remains inadequate and does not ensure the success and effectiveness of the new certification requirements for Lighting Control Acceptance Test Technicians. The LMCC urges the Commission to require NLCAA to address these issues before approval of its application.

NLCAA Response:

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NLCAA is once again submitting a listing of our senior management team's qualifications below. A review of this list shows that the team is experienced in all aspects of training, implementing, and testing of advanced lighting systems including field resources that are qualified to install and test these systems. Please note that the NLCAA senior management team members are all experienced CALCTP trainers. Now that IBEW and NECA view NLCAA as "competition" they have now decertified our team as a CALCTP certified site. Our team remains very well qualified to educate, train and certify licensed union and non-union C-10 electrical contractors, state-certified general electricians in the proper programming, testing, installation, commissioning and maintenance of advanced lighting control systems. NLCAA's goal is to increase the use of lighting controls in commercial buildings and help California conserve energy. This allegation of failing to demonstrate experience is baseless and does an injustice to all electricians and other qualified individuals who may not belong to the IBWEW or NECA and are seeking work as Lighting Control Acceptance Test Technicians.

NLCAA Senior Management List:

- Jack Yapp Senior Vice President has over 45 years of experience in control and automation systems and is a retired member from Local 11 IBEW. As owner of Quality Electrical Controls and Engineering (QECE) designed and installed controls and automation systems for Honeywell Controls, Johnson Controls, Barber Coleman Controls, Powers Regulator, Beckman Instruments, Pacific Telephone and Telegraph, General Telephone, and Litton Industries. QECE not only designed the controls system but implemented installation of building automation systems control mechanical as well as lighting. Additionally, Jack developed a patent on an energy saving Chiller Optimizer in 1980. Jack has been attending energy saving courses given by Southern California Edison and San Diego Gas & Electric for the past 16+ years, has completed and received the certificate from the Edison Lighting Academy, taught the CALCTP 50 hour training course, CALCTP System course, and CALCTP-AT acceptance test certification course for both employer and technician. Jack has also provided the 32 hours of continuous education for general electrician classification on Title 24 Part 6 since 2005.
- Rick Des Lauriers President of R & R Controls, Inc., a local controls contracting company that he started in San Diego 20 years ago. Rick has over 35 years of experience in designing and installing building automation, energy management systems and lighting control systems all over Southern California. He served as chair for the ASHRAE Distinguished Lecturer program and is a past chapter president for the local San Diego chapter of ASHRAE. Rick is also a CALCTP certified employer.
- Rob Pieroth President of Positive Energy a commercial lighting contractor. Rob has 26 years in the energy efficiency field and started his business in Los Angeles 22 years ago. Positive Energy has numerous advanced lighting control systems installations throughout California. A partial list of customers include AT&T, Cal State Dominguez Hills University, Eli Lilly, Hewlett Packard, Intel, Linkedin, Merck, Toyota, and the University of California Santa Barbara. Rob is also a CALCTP employer.

- Temistocles Caal is president of Caal Electrical Contractors, Inc. Electrical Contractor, Certified General Electrician, Certified Lighting Consultant, LEED AP BD+C, Certified CALCTP Acceptance Test Technician. Temistocles has firsthand experience and strong knowledge in managing, performing, and overseeing comprehensive energy efficiency audits, lighting, lighting control & building control retrofits and energy efficient lighting & electrical upgrade solutions for residential, commercial and industrial projects.

NLCAA feels that we have worked long and hard to comply with the CEC qualifications for certification as a Lighting Control Acceptance Test Technician Certification Provider and will address any areas of concern the CEC may have regarding NLCAA's application.

I. RIGOROUS AND RELIABLE ACCEPTANCE TEST TECHNICIAN CERTIFICATION PROGRAMS ARE CRITICAL TO ENSURING THE RELIABILITY AND INTEGRITY OF ACCEPTANCE TESTS

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 is capable of operating and overseeing a certification program and demonstrates that its program is sufficiently rigorous and reliable.

High quality certification programs are particularly important for non-residential acceptance test technicians because, unlike HERS raters, acceptance test technicians are not required to be third party. Because of timing and cost restraints, the LMCC strongly supports allowing contractors to use their own employees to perform acceptance tests. Under the CEC acceptance test certification regulations, the integrity and reliability of these acceptance tests is assured by the training and oversight of the ATTCP.

NLCAA Response:

The NLCAA team began a comprehensive review of the 2013 Title 24 Part 6 Compliance Manual, Building Energy Efficiency Standards, and Nonresidential Appendices as soon as it was available. NLCAA subsequently developed our training courses from this comprehensive review of the Standards. NLCAA's goal throughout this process was to provide solutions to the Commission's 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". NLCAA developed innovative, application specific, software that incorporates lighting calculation algorithms and standards requirements that are

designed into the software to eliminate testing errors and misinterpretations of the standards requirements. The software also makes the oversight task much easier to administer and to provide required documentation for building certification.

II. THE FAILURE TO VALIDATE TEST FOR RIGOR, RELIABILITY AND LACK OF BIAS IS CONTRARY TO STANDARD INDUSTRY PRACTICES AND VIOLATES TITLE 24, PART 1, § 10-103-A, SUBD. (c)(3)(F)

It is standard industry practice to require professional certification tests to be validated. 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); see also U.S. Department of Labor, Testing and Assessment: an Employer's Guide to Good Practices (2000), available at http://www.onetcenter.org/dl_files/empTestAsse.pdf .) The ISO/IEC 17024 Standard, which is expressly recognized in the CEC regulations, also requires tests and test procedures to be professionally evaluated for reliability, validity and lack of bias.

The Response to Comments states that Commission staff have "validated and ensured that NLCAA's test development and test criteria are sufficiently rigorous, will ensure reliable results, and do not indicate bias exists." It does not appear, however, that any pilot testing or statistical analysis was performed to support this "validation." Merely reading through proposed test questions is not sufficient to validate tests for reliability, rigor and lack of bias. Given the complexity of the statistical analysis used to validate tests, meaningful validation requires the use of qualified, professional psychometricians or other professionals with training and experience in test development, validation and administration.

NLCAA Response:

As stated earlier NLCAA derived all test material directly from the Building Energy Efficiency Standards, Nonresidential Appendices, and Compliance Manual. NLCAA believes that the acceptance test technician must be equipped with sufficient understanding of the Standards sufficiently so that when conducting Acceptance Testing they can revert to the Standards. The techniques used in developing the training courses are the same as that employed by our training staff throughout their long careers in training electrical and lighting technicians including our long track record as CALCTP certified trainers. Furthermore, our curriculum has been approved by the by the State of California Labor and Standards Enforcement. NLCAA's listing as school #174 can be found at the following link:

https://www.dir.ca.gov/dlse/ecu/ListOfApprovedSchoolsDetail.html#174

It is interesting to note that school #175 IBEW-NECA/Los Angeles Unified School District – Clearly states: Open to IBEW signatory contractors only. The same restriction to IBEW signatory appears throughout the list of schools whenever they are run by IBEW-NECA.

The Response to comments claims that Section 10-103-A(c) does not require training materials to be reviewed or approved by a test validation professional. Section 10-103-A(c), however, requires an ATTCP application to demonstrate that its certification and testing procedures include quality assurance, independent oversight and certification process evaluations. (Title 24, Part 1, § 10-103-A, subd. (c)(3)(F).) The regulations expressly cite the ISO/IEC 17024 standard

for certification bodies as demonstrating such independent oversight. (*Id.*) While review and approval by a test validation professional is not specifically called out in this regulation, there is no question that it falls within a reasonable interpretation of what this regulation requires. Moreover, it is not clear on what other basis staff has concluded that the certification testing procedures have demonstrated quality assurance, independent oversight and certification process evaluations.

NLCAA Response:
NLCAA training material has been and will continue to be reviewed by third party evaluators who are experts in the field. Our most recent reviews have been conducted by:

Mr. Gary Flamm:
With 26 years of experience in the energy efficiency field, Mr. Flamm's primary focus on lighting energy efficiency policy, including serving as the lighting subject matter expert in developing the California Title 24 lighting Building Energy Efficiency Standards and the Title 20 Appliance Efficiency Regulations from 2001 until 2014.

Mr. Rick Miller Richard N. Miller, P.E., LC, LEED® AP – President and Founder of RNM Engineering
With more than 30 years of architectural/electrical engineering project experience, Mr. Miller has provided lighting and electrical engineering services for commercial, industrial, and governmental facilities having designed power, lighting, control and fire alarm and security systems. He founded RNM Engineering in 2002 after an engineering and management career at several major US architectural engineering firms including HOK and Teng & Associates.

Mr. Miller has a keen interest in lighting design and control. His solutions to energy-conscious lighting have included daylighting, occupancy sensors, time-of-day programming, and dimming. He has taught lighting design at the Pacific Energy Center and at the Chicago Lighting Institute and he has produced decorative and utilitarian award-winning lighting designs. He also presents seminars on current electrical, energy and lighting issues.

Mr. Bernardo Torres Electrical Contractor.
Owner of Advance Lighting and Electric, a CALCTP employer and Acceptance Test Technician, Wyotech Electrical Instructor, Certified Electrician, Graduated from Bosco Tech with an emphasis in electronics and computers has been installing and repairing EMS and Lightings control panels for over 7 years.

A key component of to certification exam evaluations is to conduct pilot testing and to have test assessment professionals (i.e., psychometricians) statistically analyze the test results to ensure reliability, validity and lack of bias. Such evaluations identify poor-quality questions that may not otherwise be readily evident, ensures reliability by checking response option frequency and other measurements of consistency, and ensures validity and rigor by evaluating question difficulty and justifying passing scores and performance standards. If a large percentage of the candidates answer a particular question correctly, it suggests that the item is too easy or is written in a way that allows people who do not know the training content to answer correctly. For items with a difficulty score of greater than .90% (90% of respondents answered the item

correctly) or lower than .40 (40% or less of the respondents answer the item correctly), the item should be rewritten. Tests for reliability or consistency of a test look for a high level of internal consistence (e.g. Cronbach's alpha greater than .70) when testing across a set of related KSA clusters. Calculating the reliability of a test can be complicated and general requires access to statistical software, such as SAS or SPSS. Pilot testing and statistical analysis are also necessary to ensure lack of bias in certification
exams.

NLCAA Response:
NLCAA routinely reviews the results and efficacy of all final examinations to ensure that students can demonstrate a thorough working knowledge of the subject at hand. All students are also required to demonstrate hands on success as part of lab exercises and operational efficiency on NLCAA acceptance testing software. An integral part of our review includes question efficacy ratings and screening for outliers. This is the same methodology that we have employed since our earliest beginnings and throughout our entire teaching experience including our time teaching advanced lighting in support of the CALCTP initiative.

Certification exams are considered an employment selection procedure and are thereby governed by the Federal laws, rules and regulations regarding the use of selection tests (e.g., Civil Rights Act of 1964, The Equal Employment Opportunity Act of 1972, The Uniform Guidelines on Employee Selection Procedures). These Federal laws prohibit employment practices which discriminate on grounds of race, color, religion, sex and national origin. Under Federal regulations, the use of any selection procedure which has an adverse impact on the employment opportunities of any race, sex, or ethnic group will be considered discriminatory unless the procedure has been validated in accordance with the Uniform Guidelines on Employee Selection Procedures. (Equal Employment opportunity Commission, Civil Service Commission, Department of Labor & Department of Justice, *Uniform Guidelines on Employee Selection Procedures* (1978) Federal Register, 43(166), 38290-38315.)

NLCAA Response:
NLCAA follows all State and Federal regulations and has been approved by the by the State of California Labor and Standards Enforcement.

In addition, to the initial testing and statistical review of certification exams, standard industry practice also requires multiple test versions, continuing statistical review of exams and the ongoing development of new questions to identify any previously unidentified problem questions and to ensure exam security. In its response to comments, however, staff confirmed that NLCAA did not provide any evidence that it had multiple versions of its exam or a sufficient bank of questions to ensure exam validity. Staff also confirmed that the application did not provide any evidence of procedures for continued evaluation of the exams for security, reliability or difficulty. In other words, NLCAA has only one test that hasn't been developed in accordance with standard practices for ensuring exam security, rigor, reliability and lack of bias and no procedures are in place to detect if exam answers have been shared with students. Without such procedures, no assurance exists that the proposed testing will provide a meaningful and fair

assessment of a technician's ability to accurately perform acceptance tests.
The Response to Comments states that that Section 10-103-A(c) does not require multiple versions of tests or any procedures to ensure continuing exam security or reliability. Such a statement is based on an extremely narrow reading of the Commission's regulations, a reading that ignores the clear intent of these regulations. Section 10-103-A(c) requires an ATTCP application to demonstrate that its certification and testing procedures include quality assurance, independent oversight and certification process evaluations. (Title 24, Part 1, § 10-103-A, subd. (c)(3)(F).) Without multiple versions of tests and procedures to ensure continuing exam security, validity and reliability, it is unclear how the NLCAA certification testing procedures have demonstrated quality assurance, independent oversight and certification process evaluations.

NLCAA Response:
NLCAA has stated and restates that there are multiple versions of our exams which includes a bank of 150 questions

III. NLCAA'S PREQUALIFICATION REQUIREMENTS ARE INCONSISTENT WITH SECTIONS 10-103-A (b)(2) & (c)(3)(B)(iii)
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. NLCAA's proposed prequalification requirements, however, are inconsistent with the requirements set forth in the Commission's regulations for two reasons. First, the ATTCP regulations requires programs to be limited to persons who have "at least three years of *verifiable* professional experience and expertise in lighting controls and electrical systems." (Section 10-103-A, subd. (c)(3)(B)(iii).) NLCAA, however, provides no procedures for verifying the work experience claimed by applicants in their applications and fails to sufficiently define what constitutes an applicable lighting control. Instead, NLCAA permits applicants to self-verify their experience by simply describing it in their application. The application does not require applicants to provide any verification letters from employers or other evidence to verify their professional experience claim.

NLCAA Response:
NLCAA not only requires a letter from the employers, but requires either, contractor's license number, or State of California Certified General Electrician certification number, or Certified Commissioning certificate, or Control Installation and Startup contractor letter verifying the years of experience

The Response to Comments states that NLCAA will review all candidate applications to ensure the applicant is qualified, but this review simply consists of reading the candidates own description of his or her experience. No verification procedures are provided.
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. As demonstrated by California regulatory requirements for certification as a nonresidential lighting technician, nonresidential lighting technicians generally maintain, install, troubleshoot and repair "lighting fixtures," not lighting controls or systems. (Cal. Code Regs., tit. 8, § 191.1 (a)(2).) A light fixture is a lamp or lamps and ballasting together with the

parts designed to distribute the light, position and protect the lamps, and connect the lamps to the power supply. Lighting fixtures are not lighting controls or systems. 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.

NLCAA Response:
NLCAA nonresidential lighting curriculum is the only State recognized curriculum. NLCAA curriculum covers all items in 10-103A(c) B including 46 hours of hands on advance lighting controls. The curriculums consist of 184 hours of training safety, lighting technology, lighting controls, and compliance with Title 24 Part 6 lighting controls.

Second, NLCAA proposes expanding the list of qualified professionals set forth by the Commission in Section 10-103-A, subd. (b)(2) to include persons with degrees or with backgrounds in professions that have no relationship to lighting controls and electrical systems. Currently, the Commission regulations expressly recognize 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 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.
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.
Furthermore, 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.

NLCAA Response:
NLCAA views the need for Lighting Control Acceptance Testers as a critical element towards the successful deployment of advanced lighting controls in California. We encourage any technical professional that meets the verifiable requirements as stated in the Commission requirements to consider pursuing certification as an LCATT. The NLCAA prequalification listing is targeted at encouraging relevant professionals to consider certification as an LCATT. Regarding our reference to military veterans, most of the senior members of the NLCAA team are Military Veterans who received training from the United States Navy and feel that many recent veterans would be able to meet the verifiable experience requirement. NLCAA has simply stated that it will train applicants provided that these individual meet the required three years of verifiable professional experience and expertise in lighting controls and electrical systems.

IV. NLCAA'S QUALITY ASSURANCE REQUIREMENTS ARE INADEQUATE AND INCONSISTENT WITH THE REQUIREMENTS OF SECTION 10-103-A (c)(1), (c)(2) & (c)(3)(F)

NLCAA's quality assurance field audit requirements are insufficiently described in the application to allow meaningful evaluation of its adequacy. The ATTCP regulations require the application to explain how ATTCP's organizational structure and procedures include independent oversight, quality assurance, supervision and support of the acceptance test training and certification processes. (Title 24, Part 1, § 10-103-A, subd. (c)(1).) They also require a description of how the ATTCP's certification business practices include quality assurance, independent oversight and accountability measures, such as, independent oversight of the certification processes and procedures, visits to building sites where certified technicians are completing acceptance tests, and certification process evaluations. (Title 24, Part 1, § 10-103-A, subd. (c)(3)(F).)

NLCAA Response:
NLCAA spells out the quality assurance approach in detail including the items referred to above in pages 20-30 of our application. NLCAA will clarify or enhance any area that the CEC deems in need of clarification or enhancement.

A. Failure to Describe what Errors Will Trigger Further Action

While the application states that quality assurance will include field inspections, it fails to provide a description of what is considered an error or failed audit that triggers further action. The Staff Response states that Section 10-103-A(c) does not contain a specific requirement to define what constitutes a failed audit or what errors would trigger further action. But 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.

NLCAA Response:
NLCAA address compliant and failed procedures in pages 20-23 of our application. NLCAA will clarify or enhance any area that the CEC deems in need of clarification or enhancement.

B. Failure to Describe What Further Action Will Be Taken When a Failed 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 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. This is inherently inadequate. 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.

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 8 should be required more frequently than once out of every 100 jobs. Any failed paper audit or field audit should trigger additional random field inspections within the next few jobs.

The Response to Comments claims that the NLCAA application requires NLCAA to submit to itself a complaint form and to begin a formal complaint process upon the failure of a field inspection, but this procedure is nowhere in the application provided to the public. Furthermore, the Response to Comments fails to respond to the comments regarding the inherent inadequacy of allowing a field technician who failed a test to potentially perform 97 jobs before the next random field inspection.

NLCAA Response:

NLCAA address compliant and failed procedures in pages 20-23 of our application. NLCAA will clarify or enhance any area that the CEC deems in need of clarification or enhancement.

C. NLCAA's Proposed 1% Random Field Inspection Rate Lowers the Bar for Quality Assurance and Has Not Been Demonstrated to Provide a Statistically Reliable Level of Quality Assurance

NLCAA's proposed 1% random field inspection rate sets a much lower rate for quality assurance inspections than proposed by other ATTCP applicants and has not been demonstrated to provide a statistically reliable level of quality assurance. 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.

The Response to Comments states that the regulations do not require a specific number or random quality assurance audits, but fails to acknowledge that the sufficiency of any ATTCP's quality assurance program is up to the discretion of the Commission under the current regulations.
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.

NLCAA Response:
NLCAA random form reviews in Page 26 and 27 of our application can be adjusted to accommodate a lower number of jobs as suggested. NLCAA will adjust the rations to the satisfaction of the CEC.

V. 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

NLCAA Response:
NLCAA has answered the experience issue at length in past correspondence and in this response. Please refer to the earlier section of this response to:
(4) Failure to Demonstrate Experience, Reputations or Background Demonstrating the Knowledge, Experience and Ability to Run a Quality and Reliable Acceptance Test Certification Program

Yours truly,

Vice President of Training
310-890-0878