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Application for Acceptance Test Technician Certification Provider for Non-Residential Mechanical Acceptance Test Technicians and Employers
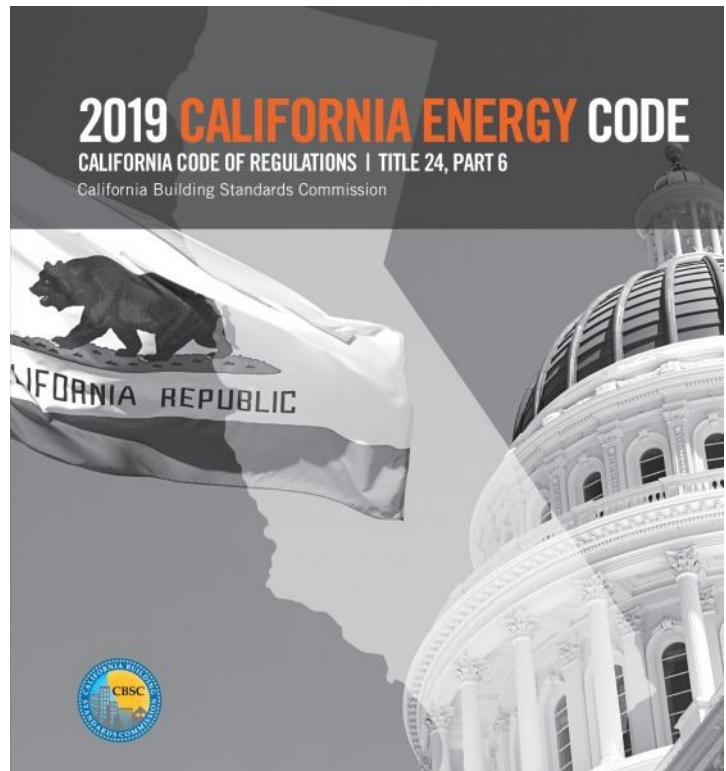
2019 CALIFORNIA ENERGY CODE
CALIFORNIA CODE OF REGULATIONS | TITLE 24, PART 6
California Building Standards Commission

Submitted by:	REVISED	Mr. Aaron Stockwell
The California State Pipe Trades Council	September 15, 2021	Executive Director

Introduction

The California State Pipe Trades Council represents thousands of HVACR technicians, plumbers and pipe fitters in local unions across the state. These highly skilled workers are capable of meeting and exceeding the challenges of our growing state. The California State Pipe Trades Council is affiliated with the United Association which trains and represents the pipe fitting industry.

The United Association (UA) has been training qualified pipe tradesmen and women longer than anyone else in the industry, and currently has over 300,000 members across the United States and Canada. The UA premier training programs available in the industry today, including five-year apprenticeship programs, extensive journeyman training, a comprehensive, five-year instructor training program, and numerous certification programs. We help our signatory contractors grow their market share by identifying new opportunities, providing support and connecting them to the safest, most skilled and most highly trained workforce in the industry.

Statement of Purpose

This submission to the California Energy Commission by the UA Locals in the California State Pipe Trades Council will demonstrate how the UA HVACR Technician and UA Signatory Employers exceed the minimum Building Energy Efficiency Standard to become an "ACCEPTANCE TEST TECHNICIAN PROVIDER".

Training and certification requirements were introduced in the 2013/2016 Building Energy Efficiency Standards, to address the low historical effectiveness of testing of nonresidential building systems, due to construction trades not being uniformly familiar with equipment and methods used to conduct acceptance tests. Acceptance Tests ensure code compliance and promote optimization of efficiency and performance for nonresidential buildings. They serve to determine whether specific building components, equipment, systems, and interfaces between systems conform to criteria set forth in the 2019/2021 Building Energy Efficiency Standards.

Timeline

Upon review and approval of the Mechanical Acceptance Test Technician Provider program offered by the California State Pipe Trades Council update of the Certified Acceptance Test Technician Provider the program will continue to provide training and certification for all acceptance tests listed in §120.5 of the Energy Code and comply with the rest of the requirements within the Energy Code including Part 6 of the Nonresidential Appendix.

At the present time the United Association has 192 certified ATTs and 136 ATE's certified in the state. More UA HVAC Technicians will continue to be certified in the UA Local Training Centers as courses are completed.

Existing ATE's will take the recertification exam specific to new or modified element updates to the Building Energy Efficiency Standards. Currently, six of the California UA Locals are providing training. The twenty remaining locals will be utilizing these six facilities to certify ATEs for their respective Locals Employer training and updates for the new code changes will occur simultaneously with technician training.

The attached submission delivers the required information to receive approval for the Mechanical Acceptance Test Technician Certification Provider under the 2019/ 2021 California Energy Code of Regulations Title 24 Part 6.

California Training Centers Providing Title 24 Mechanical Acceptance Test Technician Certification

The following six local unions in the state of California, who represent HVACR Service Technicians, and who are affiliated with the United Association, have previously demonstrated the ability to become a Mechanical Acceptance Test Technician Certification Provider under Title 24, Part 6, §10-103-B of the 2019/ 2020 Building Energy Efficiency Standards:

Local 38, San Francisco
Local 38, Santa Rosa
Local 250, Gardena
Local 342, Oakland
Local 393, San Jose
Local 447, Sacramento

The remaining twenty local unions may apply to demonstrate the ability to become a Mechanical Acceptance Test Certification Provider when they are able to provide the prescribed minimum requirements to certify ATTs in their facility.

Local 62, Monterey-Santa Cruz
Local 78, Los Angeles
Local 114, Santa Barbara
Local 159, Martinez
Local 230, San Diego
Local 246, Fresno
Local 343, Vallejo
Local 345, Los Angeles

Local 364, Colton
Local 398, Pomona
Local 442, Modesto
Local 467, Burlingame
Local 483, San Francisco
Local 582, Santa Ana
Local 709, Whittier
Local 761, Burbank
Local 355, Burlingame
Local 228, Marysville
Local 403, San Luis Obispo
Local 484, Ventura

Technician Training and Certification Procedure

UA locals approved by the California State Pipe Trades Council will offer training and certification to UA members in good standing. To be approved a local must have certified UA Instructors and mechanical equipment available for hands-on training. The Title 24 Certification Course will include the following elements:

1. Minimum 40 hours of classroom instruction and hands-on equipment labs.

2. Theoretical training on the content of the 2019/2021 Building Energy Efficiency Standards.

3. Hands-on instruction for appropriate understanding of the physical testing of the mechanical equipment.

4. One instructor to fifteen trainees for classroom instruction.

5. Two instructors to fifteen trainees for lab/hands-on instruction.

6. Written and practical hands-on testing to demonstrate competence of each participant.

7. Continued education will be mandatory and apply only to future updates to the Building Efficiency Energy Standards.

Mechanical Acceptance Test Technician Eligibility

To be eligible for certification the UA member must be a journey worker who has satisfied one of the following indicators of professional experience and expertise:

A. Successfully completed the UA Apprenticeship program, passed the United Association HVACR Star Exam, and completed the following courses:

- GPRO – Green Professional Trades Training: A course designed to teach the people who build, renovate, and maintain buildings the principles of sustainability combined with knowledge of high-performance mechanical systems.
- Start, Test & Balance: A course designed to acquire the general knowledge and theory that is needed to properly use testing and measuring instruments in order to apply proper procedures to test, balance, and adjust mechanical systems.
- Energy Auditing Practices: A course designed to increase the skills and knowledge of the technician in order to improve the energy efficiency of any building without sacrificing comfort, health, or safety.

Satisfactory completion of the pre-requisite courses is defined as a passing score on each of the final exams. The curriculum for these three prerequisite courses has not changed since our previous submission to the CEC.

B.   (1) Successfully completed the UA HVACR apprenticeship program; and (2) UA HVAC Star Exam; and (3) completed and passed the ATTCP prequalification challenge exam.

C.   (1) Documented at least eight years of experience installing mechanical controls and systems, including at least three years as a UA journeyperson; and (2) successfully completed the UA HVAC Star Exam; and (3) completed and passed the ATTCP prequalification challenge exam.

United Association Instructor Training Program

The United Association has a continuing interest in the quality of our members' job performance. The ability to create quality craftsmanship comes from good teaching. The purpose of the Instructor Training Program (ITP) is to improve teaching techniques, diversify mechanical skills, and enhance knowledge of the scientific and technical elements of the trade.

The ITP is designed to:

- Increase UA instructors' proficiency of instructional techniques and materials
- Acquaint instructors with the philosophy and principles of education, especially trade, industrial, and technical education
- Provide learning experiences in the principles and the fundamentals of the applied knowledge subjects
- Expand the understanding of our instructors in the technical aspects of the crafts and convey information to the instructors about the latest industry developments

The title of *Certified UA Instructor* will be conferred on those who satisfactorily complete 200 hundred hours of course work. The ITP takes place annually at Washtenaw Community College in Ann Arbor, MI. Curriculum is reviewed and approved by the University of Michigan. In addition, The Ohio State University has developed a *Weld Engineering Certificate* program and Ferris State University offers an *Advanced HVACR Certificate* program.

Employer Training and Certification Procedure

Each signatory contractor must agree to the following:

1. Comply with California Code of Regulations 2019/2021 Title 24 and adhere to any future regulations adopted by the California Energy Commission pertaining to Title 24.

2. Conform to the terms of the "Certification Handbook for Contractors and Technicians" by NITC.

3. Participate in the ESCO Quality Assurance Program.

4. Employ UA HVACR Technicians.

5. Utilize only UA Acceptance Test Technicians for the purpose of executing the Certificate of Acceptance forms published by the California Energy Commission.

6. Train administrators on proper handling and processing of each Certificate of Acceptance.

7. Submit all Certificate of Acceptance forms within 48 hours of completion to a data base approved by the California Energy Commission and in compliance with Appendix JA-7 of the Building Energy Efficiency Standards.

8. Adhere and conform to industry standard acceptable business practices.

9. Attend minimum 4 hours training or update program by the California State Pipe Trades Council.

10. Existing ATEs will be provided with a webinar using the 2019 California State Pipe Trades Council ATE Training Manual to update them on the 2019/2021 requirements.

The applicants shall provide proof of registration, licensing, and bonding that meet all state and local requirements. In addition, employers of UA Acceptance Test Technicians shall have an Employer Identification Number and maintain applicable local business licenses and tax certificates. In accordance with state specific requirements, ATT employers shall carry appropriate liability insurance and worker's compensation insurance. Documentation shall be provided upon request.

Every Acceptance Test Technician Employer must ensure they have the necessary serviceable, calibrated tools, equipment and instruments available for conducting mechanical acceptance testing work. All Acceptance Test Technician Employers are required to provide diagnostic equipment and instrument calibration records upon request.

Furthermore, ATT Employers shall maintain an Injury and Illness Prevention Program and a Code of Safe Practices which meet the minimum state requirements. Documentation shall be provided upon request.

Quality Assurance and Accountability

Independent oversight of the certification processes and procedures to be administered by National Inspection Testing Certification (NITC) and ESCO Institute (ESCO) according to the current California Building Energy Efficiency Standards §10-103-B(c)3F.

NITC:
NITC to ensure all certification processes and procedures described in the "Certification Handbook for Contractors & Technicians" are followed.

NITC Field Implementation to include but is not limited to the following:

1. Pre-qualify UA HVACR technicians prior to participation in the certification course and certification exam.

2. Pre-qualify UA signatory contractors prior to participation in the certification course and certification exam.

3. Proctor Mechanical Acceptance Test Technician Certification Exam.

4. Proctor Employer Acceptance Test Certification Exam.

5. Issue unique number to the Acceptance Test Technician.

6. List certified UA HVACR technician and UA signatory employers in NITC website.

7. Provide annual report to the California State Pipe Trades Council

ABOUT NITC:
National Inspection Testing and Certification, Inc. (NITC) tests and certifies personnel in the Plumbing, Piping, HVACR and a number of other related industries. During the 1990's NITC was created as a separate entity from P.I.P.E. (www.pipe.org) for the specific purpose of maintaining a separation between the Certification of individuals in the Piping Industry, and the training of such individuals.

NITC offers a large number of personnel certifications that include Journey and Mastery Level Plumbing and Mechanical, Medical Gas, IAPMO Voluntary Plumbing and Mechanical Inspectors, assorted City, County and State government-required certifications as well as many others. A list of the certifications most frequently requested can be found NITC's web site at http://www.nationalitc.com/NITCService.cfm?GO=CERTLIST.

NITC accepts applications and issues certifications to qualifying candidates without regard to membership in any trade, association, union, etc., and complies with Federal and State ADA regulations. View additional detailed information in NITC's Rules and Procedures document found on our web site at http://www.nationalitc.com/PDF/NEWS_WI7.2-06_RulesandProcedures.pdf and in the many Examination Candidate Bulletins provided for each Certification.

NITC QUALITY SYSTEM(S):

NITC is ISO 9001:2008 certified and also has three certification schemes accredited under the rigorous ANSI/ISO/IEC Standard 17024 for bodies operating certification of persons.

NITC EXPERIENCE AND INFRASTRUCTURE:
NITC is thoroughly experienced in the business of testing including job task analysis, exam blueprint development, test item development and banking as well as delivery via computer, paper/pencil, and "hands-on" (practical). The infrastructure necessary to accomplish this range of activities is in place, thoroughly tested, and efficiently run by an internal staff of 13 long-term employees with an average of 9 years at NITC.

Proctor agreements acceptable to both ANSI and ISO auditors are currently in place throughout the United States for all types of testing including "hands-on". Threat assessments are updated annually to identify actions that may need to be taken on any risks to the security of data.

A list of entities related to NITC's testing and certification activities is shown in the table below. In addition to any contractor agreements in place, each entity has signed Confidentiality and/or Non-disclosure agreements filed with NITC.

Name of related entity	Relationship to NITC	Description
NITC Scheme Committee	NITC's body of volunteer subject matter experts	NITC's Scheme Committee oversees certification scheme maintenance and updating.
TesTrac, Inc.	Subcontractor - the delivery arm of NITC for computer-based examinations	TesTrac is a world leader in online testing and is serving more than 50 clients in high stakes testing including PSI, WorkKeys, GED, colleges and universities, and states and other governmental agencies.
PSI	Subcontractor - provides sites and proctors for delivery of NITC's certification and recertification exams	TestTrac, Inc. contracts with PSI Services, LLC to provide for proctored computer-based delivery of NITC's certification and certain recertification examinations at any of more than 500 PSI sites throughout the United States. PSI staff schedule NITC's exam sessions from a centralized call center, manage candidate testing sessions at each site, report results to candidates immediately after testing is concluded. At no time does the exam content reside on their computer equipment. PSI proctors are furnished with a password which, when paired with the TestTrac password provided to the candidate, allows the test to activate from TestTrac's site.

Vintage Communications	Subcontractor for support of computers, digital media, copy machines	Vintage Communications out of Napa California provides secure remote as well as on-site support for all of NITC's computers, digital media and storage, and copy machines.
West Coast Analytics	Subcontractor for Psychometric Services	West Coast Analytics provides a yearly analysis and detailed psychometric reports for select NITC certification examinations. Data sent to West Coast for such reports does not normally identify candidates or provide access to test questions.

Integrated Software	Subcontractor for NITC's database of certifications	NITC manages its database of certification holders including names, addresses, dates of expiration and examination history through Integrated's "Certification Manager" software. Examination history includes such things as where they took their exam, what score they received, who proctored the exam and who taught the required course. Integrated Software has the answer key for examinations, however they do not have the exam questions.

NITC EXPERIENCE WITH PRACTICAL EXAMINATIONS:
NITC is thoroughly experienced in the business of practical "hands-on" testing. As an example, Medical Gas Installers and Instructors are required to pass a brazing test as part of their certification. Details (with photos) for how this operation is handled including preparation, materials, oversight (proctoring), testing, and packing and shipping results, can be found at this link: http://www.nationalitc.com/PDF/NITC_BrazeInstructions.pdf

Another method of practical testing commonly employed by NITC involves analyzing and decisions-making using schematics and/or drawings, such as is done with Medical Gas Verifier testing.

NITC MANAGEMENT OF CERTIFICATION PROGRAMS:
NITC manages its database of over 10,000 certification holders -- including names, addresses, dates of expiration and examination history -- through Integrated Software's "Certification Manager" software. This database is searchable on NITC's web site at https://nationalitc.net/map/stateCerts.html .

Examination history includes such things as where they took their exam, what score they received, who proctored the exam and who taught the required course. Prompted by the Certification Manager software, NITC is able to send out expiration notices and renewal reminders on schedule to help certification holders maintain their credentials in good standing.

Integrated Software's access to internal data is limited to only that information which NITC supplies to them. They have the answer key for examinations; however, they do not have the exam questions.

NITC maintains memberships or affiliations with these trades and testing organization:
- National Association of State Contractors Licensing Associations (NASCLA) www.nascla.org
- American Society of Safety Engineers (ASSE) www.asse-plumbing.org
- National Fire Protection Association (NFPA) www.nfpa.org
- American Welding Society (AWS) www.aws.org
- ASME (formerly American Society of Mechanical Engineers) www.asme.org

- The International Association of Plumbing and Mechanical Officials (IAPMO) www.iapmo.org

ESCO INSTITUTE:
ESCO to ensure all audit processes and procedures described in the "CSPTC Audit Appendix" are followed.

ESCO Field Implementation includes, but is not limited to, the following:

1. Paper Audit of Acceptance Test Employers (ATEs)
2. Complaint Generated Audits of ATEs
3. Onsite Audits of ATEs
4. QAI Credentialing Process
5. Maintaining online ATE Registration and Procedures

ABOUT ESCO:

The ESCO Institute was originally established as the Educational Standards Co. It became the ESCO Institute in 1993. The ESCO Institute established the first online testing portal for HVACR educators and trainers and currently hosts more than 230 online exams in both open book and proctored format. They conduct more than 100,000 exams per year.

ESCO is the industry's largest provider of EPA Section 608 certification testing.

Over the last 27 years, ESCO Institute has grown tremendously, enhancing its mission and expanding its services to include the development and publishing of training manuals, curriculum packages, assessment exams, specialty training packages, and custom publishing solutions for the HVACR and building science fields.

See Appendix A for the 2019 NITC Handbook.
See Appendix B for the 2020 ESCO CSPTC Audit Appendix.

Organizational Structures

California State Pipe Trades Council   http://calpipes.org/

United Association   http://ua.org/