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NATIONAL ENERGY MANAGEMENT INSTITUTE COMMITTEE

CERTIFICATION MANUAL

FOR NONRESIDENTIAL MECHANICAL ACCEPTANCE TEST TECHNICIAN
AND EMPLOYERS UNDER CALIFORNIA CODE OF REGULATIONS TITLE
24, PART 1, SECTIONS 10-102 AND 10-103.2, AS WELL AS PART
6, SECTIONS 120.5

VERSION 200401

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1 Introduction

1.1 Definitions, Abbreviations and Acronyms

Certain terms, abbreviations and acronyms are defined in this section and are applicable to all sections of this manual.

- ANSIAmerican National Standards Institute
- Appealrequest by applicant, candidate, or certified person for reconsideration of any decision made by the NEMIC ATTCP related to their desired certification status, per ISO 17024, Section 3.19
- ATEAcceptance Test Employer, also see Mechanical Acceptance Test Employer (MATE), a specific type of Acceptance Test Employer. An individual who through certification has met the CCR requirements for conducting oversight of Acceptance Test work.
- ATTAcceptance Test Technician, also see Mechanical Acceptance Test Technician (MATT), a specific type of Acceptance Test Technician. An individual who through certification has met the CCR requirements for performing Acceptance Test work.
- ATTCP.....Acceptance Test Technician Certification Provider, here NEMIC
- Board.....ATTCP Review Board
- Certificate of CompletionCertificates of attendance or participation are provided to individuals, here Acceptance Test Employer or Acceptance Test Technician, who have attended or participated in classes, courses, or other education/ training programs or events.
- Certification.....In the context of this manual it always refers to the NEMIC Acceptance Test Employer or Acceptance Test Technician certification
- CCRCalifornia Code of Regulations
- Complaint.....expression of dissatisfaction, other than an appeal, by any individual or organization to the NEMIC ATTCP, relating to the activities of a certified person, where a response is expected, per ISO 17024, Section 3.20
- Data Registry.....Web service with a user interface and database maintained by a Registration Provider that complies with the applicable requirements in the Title 24 Reference Joint Appendix JA7 and provides for registration of residential or nonresidential compliance documentation used for demonstrating compliance with California Code of Regulations Part 6.
- DatabaseBody of information and information system provided by NEMIC to meet the Data Registry requirements of Title 24 Reference Joint Appendix JA7.
- EmployerNEMIC certified Acceptance Test Employer (ATE, MATE)
- HVAC.....Heating, ventilating and air-conditioning
- ICB.....International Certification Board, a function of NEMIC
- ISOInternational Standards Organizations

Introduction

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| ITI | International Training Institute |
| JATC..... | Joint Apprenticeship Training Center |
| Manual | This document in its entirety. |
| MATE | Mechanical Acceptance Test Employer, an Acceptance Test Employer certified by the ATTCP to meet Mechanical Acceptance Test Employer requirements. |
| MATT | Mechanical Acceptance Test Technician, an Acceptance Test Technician certified by the ATTCP to perform Mechanical Acceptance Tests. |
| NEMI | National Energy Management Institute |
| NEMIC..... | National Energy Management Institute Committee |
| Responsible | |
| Person | A person who is eligible under Division 3 of the Business Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on the Acceptance Tests. Distinct from and not to be confused with ATE or MATE. |
| Signatory | |
| Employer..... | An employer signed to a collective bargaining agreement with a SMART local union requiring contributions to NEMIC. |
| SMACNA | Sheet Metal and Air Conditioning Contractors' National Association |
| SMART | International Association of Sheet Metal, Air, Rail, and Transportation Workers (SMART) |
| SME | Subject matter expert |
| Standards..... | California Building Energy Efficiency Standards |
| TAB..... | Testing, adjusting and balancing |
| TABB..... | Testing, Adjusting and Balancing Bureau, a committee of NEMIC |
| Technician..... | NEMIC certified Acceptance Test Technician (ATT) or Mechanical Acceptance Test Technician (MATT) |

1.2 Purpose and Overview

NEMIC is joint labor management trust, which is tax exempt under Code Section 501(c)(6). SMART and SMACNA each appoint an equal number of the NEMIC trustees. NEMIC operates as a Mechanical Acceptance Test Technician & Employer Certification Provider within the meaning of CCR Title 24, Part 1, Sections 10-102 and 10-103.2, as well as Part 6, Sections 120.5.

This Manual describes the process to become a certified technician or employer under those regulations. Certified technician status is available to technicians who qualify under Section 2 of this Manual. Certified employer status is available to employers that qualify under Section 3 of this Manual. Any questions regarding the certification process should be directed to NEMIC. Contact information is provided in Section 1.5.

1.3 Amendments and Interpretation

NEMIC may at any time amend any part of this Manual, procedures, proficiency requirements, application forms, lists, or other items to which this Manual refers. An amendment may change certification requirements, and may affect current certifications, renewals and/or new applications for certification.

NEMIC alone will interpret and administer its procedures, including those set forth in this Manual. NEMIC may waive or modify any requirement at any time. NEMIC's decisions are not subject to review. NEMIC will notify existing certification holders of any and all modifications made to the certification requirements.

NEMIC may at any time adopt, change, or delete rules and guidelines for the NEMIC's internal processes with respect to various certification-related activities, and/or set standards for the certification process.

1.4 The Meaning of Certification

Certification is third party verification to the public that the technician or the employer has met NEMIC's standards of certification. The purpose of NEMIC's certification is to demonstrate, by assessment of defined competencies, that NEMIC certified technicians are knowledgeable and skilled professionals able to execute mechanical acceptance tests as mandated by the Standards.

1.5 Contact Information

ATTCP Administrator
National Energy Management Institute Committee
8403 Arlington Blvd, Suite 100
Fairfax, VA 22031

Email: administrator@attcp.org

Tel.: (703) 739-7100

Fax: (703) 683-7651

2 General Rules

2.1 Exam and Certification Fees

The NEMIC ATTCP sets a schedule of exam and certification fees. For an up-to-date fee schedule, visit the ATTCP website at www.attcp.org.

2.2 Duration of Certification

2.2.1 Acceptance Test Employer Certification

The NEMIC ATE Certifications have no expiration date. Rather, the Certifications remain valid until the Certification holder has been notified by the ATTCP that the Certification must be renewed.

2.2.2 Acceptance Test Technician Certification

NEMIC provides two levels of MATT certifications.

To be certified as MATT Level 1, a candidate must meet the Eligibility requirements in Section 3.3.1 and the Certification requirements in Section 3.5.1. The MATT Level 1 Certification has no expiration date. Rather, the Certification remains valid until the Certification holder has been notified by the ATTCP that the Certification must be renewed.

To be certified as MATT Level 2, a candidate must meet the Eligibility requirements in Section 3.3.2 and the Certification requirements in Section 3.5.2, which includes maintaining certification as a TABB Technician. The MATT Level 2 Certification has no expiration date. Rather, it is valid until

- a) The TABB Technician Certification expires; **OR**
- b) The MATT Level 2 Certification expires due to non-renewal when required by changes in the Standards.

2.3 Renewal of Certification

The ATTCP will issue a renewal notice to all Certification holders, i.e., ATTs and ATEs, after the CEC has revised pertinent sections of the Standards, i.e., mandates that relate to the mechanical acceptance tests. Upon notification that the Certification must be renewed, the Certification holders have 90 days to satisfy renewal requirements.

At time of renewal the applicant must meet all qualifications and requirements as for initial Certification.

2.4 Suspension or Withdrawal of Certification

The ATTCP reserves the right to suspend or withdraw the certification for any of the following reasons:

- Violation as defined in Section 2.7.
- A false or incomplete statement in the application for Certification or renewal of Certification, or otherwise in the application or renewal process.
- Failure to meet eligibility requirements.

If the ATTCP has reason to believe that any of the circumstances listed above existed when considering an application for renewal of the Certification, ATTCP reserves the right to deny the renewal of Certification.

2.5 Certification-Related Appeal Procedures

2.5.1 Definitions for Purpose of this Section

ATTCP Review **Board** (Board) is a committee set up by the ATTCP Administrator to investigate a Complaint or an Appeal. The Board consists of four (4) members: two ICB/TABB-certified supervisors and two ICB/TABB-certified contractors (employers). None of the Board members works or has a business in California. Findings of the Board on an Appeal are final and binding on all parties.

Appellant the applicant or technician filing the **Appeal**

Decision The written decision of the ATTCP on any or all parts of an Appeal.

Hearing A meeting of the ATTCP with the **Appellant** to render a decision on the **Appeal**.

Appeal request by applicant, candidate, or certified person for reconsideration of any decision made by the NEMIC ATTCP related to their desired certification status, per ISO 17024, Section 3.19. Appeals are either Exam-Related Appeals or General Appeals

Exam-Related Appeal(s) Appeal by an applicant (including an applicant for renewal who is required to take any ATTCP exam which are in any manner related to the ATTCP exam, such as objections to physical or other arrangements at the exam location, the manner in which the exam was delivered and/or conducted, any exam question, or any other matter that can be corrected or addressed at the time of the exam, if known to the exam proctor. Any objection to the manner in which an exam is scored is not a **Exam-Related Appeal**.

General Appeal(s) Appeal by an **Appellant** other than an **Exam-Related Appeal**. **General Appeals** may include, for example, objections about the conduct of any ATTCP representative or objections to an ATTCP decision (e.g. a decision as to certification, or otherwise). Thus, an **Appeal** is made by someone who seeks or holds an ATTCP certification concerning ATTCP actions or omissions.

Report Written document resulting from an investigation conducted in response to an **Appeal**.

2.5.2 Exclusivity

By submitting an application for ATTCP certification each applicant agrees that any Appeal will be resolved solely in accordance with the procedures herein.

2.5.3 General Rules on Required Deliveries and Time Limits for the Same

In the following rules, certain items, such as an **Appeal**, must be in writing.

Whenever there is a time limit within which a document must be physically delivered to the ATTCP, the requirement will be met by any of the following:

- The document has been delivered in person or by a commercial courier service, such as United Parcel Service by the due date; or
- The document has been delivered by the U.S. Postal Service using certified mail and it is postmarked by the due date.

Electronic submission of an **Appeal** or any other document requested by the ATTCP is not permitted except upon prior written approval by the ATTCP Administrator.

2.5.4 Time Limits on Appeals

Appeals that are not made within the following time limits will not be considered and will be dismissed.

- An **Exam-Related Appeal** must be made to the exam proctor or any other ATTCP personnel or representative at the exam site. If an applicant makes an **Exam-Related Appeal** at the exam site and it is not addressed and resolved there, the applicant must submit the **Exam-Related Appeal** in writing to the ATTCP within ten (10) business days after the exam date. Proctors are only allowed to resolve issues that are not related to the content of the exam, e.g., room conditions, missing exam items, etc.
- A **General Appeal** must be asserted in writing within ten (10) business days after the Appellant first knows of the basis for the **Appeal**.
- The **General Appeal** must state in writing, in reasonable detail, the basis for the **Appeal** including any relevant facts, and must be signed by the Appellant.

2.5.5 ATTCP Procedures for Resolution of Appeals

The ATTCP will resolve any **Appeal** in accordance with the following procedures. ATTCP reserves the right to modify any of these procedures at any time. The ATTCP will notify any materially affected party of such a modification in a timely manner but no later than ten business days after the modification becomes effective.

The ATTCP Administrator or a designated representative of the ATTCP Administrator will act for ATTCP on all matters concerning Appeals, including the conduct of a hearing, unless the ATTCP Review Board determines otherwise.

2.5.5.1 Exam-Related Appeals

The proctor who oversees an exam is authorized to resolve any Exam-Related Appeals

2.5.5.2 General Appeals

Figure 1 on the following page outlines the basic procedure.

1. **Initial Submittal of Appeal:** The Appellant must submit the General Appeal in writing to the ATTCP Administrator within ten business days after the Appellant first knows of the basis for the Appeal (see Section 2.5.4.) The written Appeal must be mailed to the ATTCP Administrator at the address stated in Section 1.5. The written Appeal should be labeled “NOTICE OF APPEAL”
2. **Initial Review of Appeal:** The ATTCP Administrator will review the Appeal to determine if it merits investigation or further action. An ATTCP representative may contact the Appellant to clarify any aspects of the written Appeal or to obtain further information. The ATTCP Administrator will review the Appeal within 14 days of its receipt.
3. **Administrative Hearing.** If an Appeal is not dismissed after the initial review, the ATTCP Administrator may call an informal hearing with the Appellant.
4. **Decision.** If the Administrator determines that no further review is warranted, the decision will be reported to the Appellant in writing.
5. **Reconsideration.** The Appellant may submit the Appeal for reconsideration by the Board.
6. **Submittal of Appeal for Reconsideration.** To be considered timely, the Appellant must submit the Appeal within ten days of being notified by the ATTCP Administrator of the ATTCP decision that no further review was warranted in the ATTCP’s opinion.
7. **Review by the ATTCP Board.** The ATTCP Board will review the Appeal within thirty days after receiving the Appeal from the ATTCP Administrator
8. **Board Hearing.** A hearing may be called by the Board to resolve questions of fact. The hearing may be held in a face-to-face meeting with the Appellant or electronically as a teleconference. The meeting date, time and the format of the hearing are solely determined by the Board.
9. **Board Decision.** The Board will report its decision in writing to the Appellant no later than 45 days after receiving the Appeal from the ATTCP Administrator. The decisions of the ATTCP Review Board are final and binding.

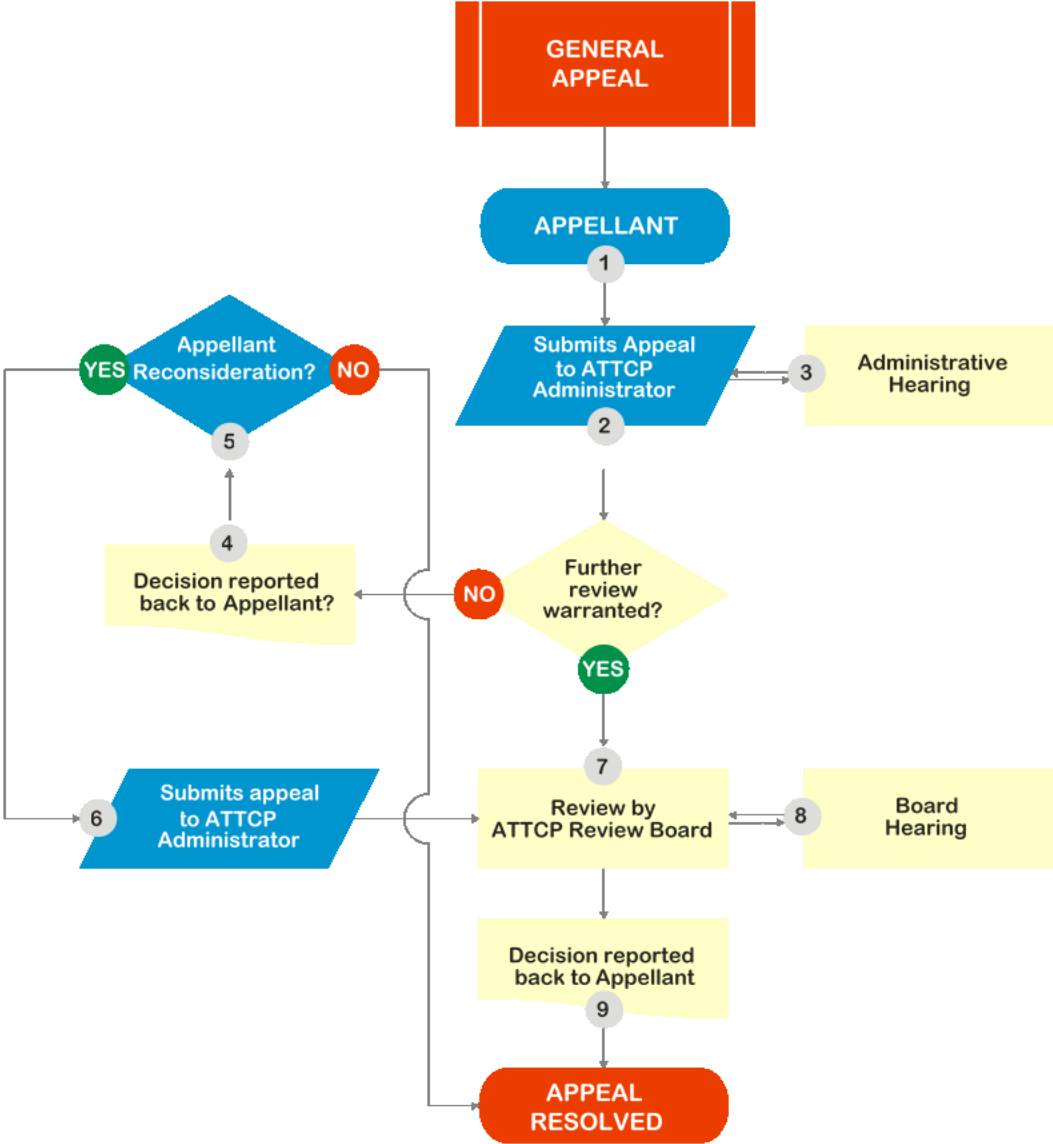


Figure 1. The basic process of resolving a General Appeal by the ATTCP

2.6 ATTCP Procedures for Resolution of Complaints

The ATTCP will resolve all **Complaints** in accordance with the following procedures. ATTCP reserves the right to modify these procedures at any time. The ATTCP Administrator will notify any materially affected party of such a modification in a timely manner but no later than ten business days after the modification becomes effective

The ATTCP Administrator or the designated representative of the ATTCP Administrator will act for the ATTCP on all matters concerning **Complaints**, including the conduct of a hearing, unless the ATTCP Review Board determines otherwise.

2.6.1 Definitions for the Purpose of the Sections Pertaining to Complaints

- Claimant The person making a **Complaint**.
- Complaint..... Any **Complaint** of dissatisfaction, other than an appeal, by any individual or organization to the NEMIC ATTCP, relating to the activities of a certified person, where a response is expected, per ISO 17024 Section 3.20.
- Decision..... The written decision of the ATTCP on any or all parts of any Complaint.
- Hearing A meeting of the ATTCP with the parties to Complaint to render a decision on the Complaint.
- Investigation..... A fact finding mission by a representative or investigator of the ATTCP to the physical location where the actions that form the basis of the Complaint occurred.
- Party to a Complaint The Claimant and any Subject.
- Report Written document resulting from an investigation conducted in response to a Complaint.
- Subject An ATE(s) or ATT(s) whose work, conduct, or other action or omission is the subject of a Complaint.

2.6.2 Exclusivity

By submitting an application for ATTCP certification each applicant agrees that any **Complaint** will be resolved solely in accordance with the procedures as stated in this Manual.

2.6.3 General Rules on Required Deliveries and Time Limits for the Same

Complaints must be in writing, (i.e., printed or legibly handwritten) and delivered in accordance with Section 2.5.3 above.

2.6.4 Time Limits on Complaints

Complaints that are not made within the following time limits will not be considered and will be dismissed:

- A Complaint must be made in writing within ten business days after the Claimant first knows of the basis for the Complaint.

General Rules

The Complaint must state in writing, in reasonable detail, the basis including the supporting facts, the names of all of the subjects to the Complaint, and be signed by the Claimant.

Figure 2 on the following page outlines the basic process.

General Rules

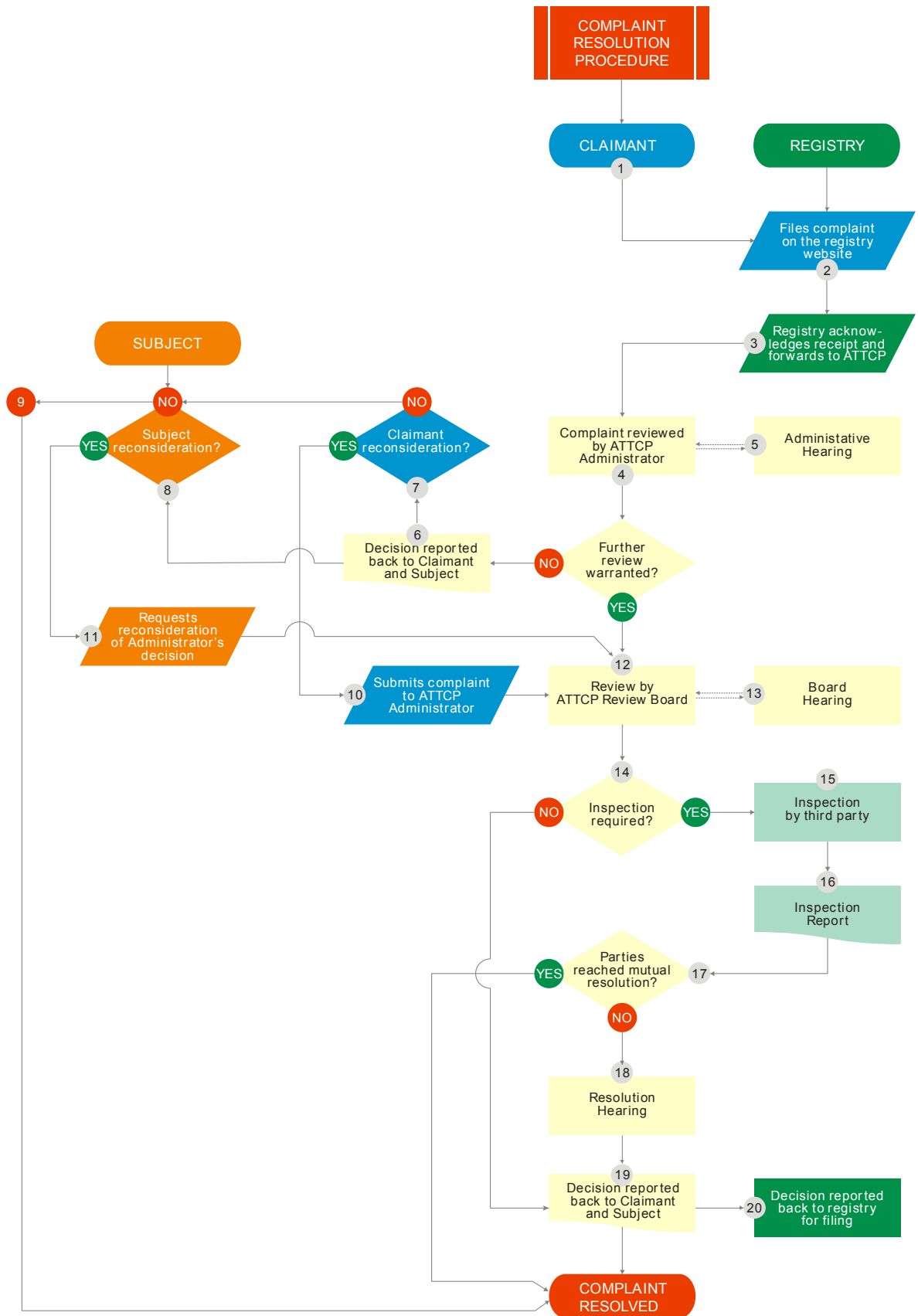


Figure 2. The basic process of resolving a Complaint by the ATTCP

General Rules

1. **Initial Submittal of Complaint:** The Claimant must file the Complaint on the Registry website within ten business days after the Claimant first knows of the basis for the Complaint (see Section 2.6.4 above). If the Registry website at the time of filing of the Complaint is not be fully operational, the Claimant shall file the Complaint in writing with the ATTCP Administrator. The written claim must be mailed to the ATTCP Administrator at the address stated Section 1.5 of this Manual. The Complaint will not be considered submitted if it is filed electronically. The written claim should be labeled "NOTICE OF COMPLAINT."
2. **Registry Receipt Acknowledgement.** The Registry will notify the Claimant of the receipt of the Complaint and make a record of it. In case of Complaint filed with the ATTCP Administrator as set forth in Step 1 above, the ATTCP Administrator will acknowledge the receipt of the Complaint in writing with five business days of receiving it.
3. **Complaint Forwarded to ATTCP.** The Registry will forward the Complaint to the ATTCP Administrator.
4. **Initial Review of Complaint:** The ATTCP Administrator will review the Complaint to determine if it merits investigation or further action. The ATTCP representative may contact the Claimant to clarify any aspects of the Complaint or to obtain further information. The ATTCP Administrator will review the Complaint within ten business days after its receipt.
5. **Administrative Hearing.** If a Complaint is not dismissed after the initial review, the ATTCP Administrator may call an informal hearing with the Claimant and/or Subject.
6. **Decision.** If the Administrator determines that no further review is warranted, the decision will be reported back to the Claimant and the Subject in writing.
7. **Reconsideration by Claimant or Subject(s).** The Claimant or Subject(s) may request reconsideration by the Board of the ATTCP the Administrator's decision on the Complaint within ten business days after the Claimant or Subject was notified by the ATTCP Administrator of the ATTCP decision that no further review was warranted in the ATTCP's opinion.
8. If neither party timely requests a reconsideration of the ATTCP's Administrator's findings, the Complaint is considered resolved and the ATTCP Administrator's decision is considered final and binding.
9. **Review by the ATTCP Board.** The ATTCP Board will review the Request for Reconsideration within 30 days after submission by the Claimant or Subject.
10. **Board Hearing.** A hearing may be called by the Board to resolve questions of fact. The hearing may be held in a face-to-face meeting or electronically as a teleconference with the Claimant and/or Subject. A hearing may be called for any of the following purposes:
 - To determine if any or all of the Complaint can be resolved to the satisfaction of the Claimant and the Subject without need for an investigation or another hearing;
 - To determine if questions of fact can be resolved without need for investigation and/or another hearing;
 - To determine if the scope of the investigation can be agreed upon or narrowed; and/or

General Rules

- If a hearing is to occur, to determine the place, date and time of the hearing; establish the amount of time allotted for the hearing; establish the number of witnesses and/or exhibits that will be permitted at the hearing; determine what evidence must be submitted in advance of the hearing (and set the time limit for doing so); determine if written statements of position should be submitted in advance of the hearing (and the time limit for doing so); and determine specific procedures and rules for a fair and efficient conduct of the hearing.
 - To determine any other matters that may expedite the resolution of the Complaint.
- 11. Determination of Inspection.** The Board will determine if an inspection of the worksite is warranted.
- 12. Inspection by Third Party.** If there will be an inspection, ATTCP will designate one or more investigators. The investigators shall contact the Claimant and any Subject. The investigator may inspect (or have inspected by a designated representative) the work to which the Complaint pertains. Reasonable notice of the date and time of any work site inspection shall be given both to the Claimant and Subject(s). They shall have an opportunity to be present at the inspection. The investigator may terminate the inspection if either the Claimant or Subject(s) interfere in any detrimental manner with the inspection. The investigator will prepare and submit a Report of the investigation to the ATTCP Administrator, including reasons for any termination of an inspection.
- 13. Inspection Report.** ATTCP reserves the right not to release any portion, or all of the Report to the Claimant and/or to the Subject(s). Generally, the ATTCP will release to those persons all pertinent provisions of the Report. However, the ATTCP will not release any or all portions of the report if, for example, the ATTCP believes that such a release may jeopardize confidential information or trade secrets or may constitute publication of possibly defamatory statements.
- 14. Mutual Resolution.** Following receipt of the Report, ATTCP shall give the Claimant and the Subject an opportunity to agree on a resolution. Any such resolution shall be documented in writing and signed by both parties. Their respective signatures constitute an acknowledgement that the Complaint has been resolved and no further action must be taken by the Claimant.
- 15. Resolution Hearing:** Absent an agreement, the ATTCP shall conduct a hearing on the Complaint.
- The hearing will be held at a place of the ATTCP's choice.
 - At the hearing, the Claimant and Subject(s) may state their respective positions and present evidence.
 - Upon request, the Claimant and Subject(s) and any witness may participate in the hearing by telephonic or video conference, if the ATTCP determines that practical arrangements can be made for telephonic or video conferencing.
 - The ATTCP may record the hearing.
 - The ATTCP shall determine who may participate in a hearing.
 - The ATTCP shall determine all questions of procedure at the hearing. It may require witnesses to testify under oath administered by any duly qualified person. ATTCP shall determine the order of proceeding. The ATTCP may limit the scope of witness

General Rules

testimony, determine the permissible witnesses, and the time allotted for testimony or statements by the Claimant and Subject(s).

Evidence: The ATTCP reserves the right to solely determine the materiality and relevance of evidence. The ATTCP may accept evidentiary statements by affidavit at its discretion and require that any evidence submitted by affidavit be provided in advance of any hearing.

Waiver of Rules: A party who participates in any conference or attends a hearing and fails to object at the time of an action or omission, shall have permanently waived any and all objection to the action or omission in question.

General Principles: The ATTCP shall seek to ensure that investigations and hearings are conducted fairly and impartially, and in a manner that gives the Claimant and Subject(s) a reasonable opportunity to state their positions and to present relevant and material evidence in support thereof. All proceedings (including informal interviews or questions, conferences, investigations, and hearings) are to proceed in a civil and respectful manner. Anyone who attempts to offer defamatory or insulting testimony; or disrupts or hinders any such proceeding, may be excluded from further participation in the proceedings. The ATTCP may set time limits for a party to submit written statements of position, evidence or other material prior to or after a hearing, may require one or more pre-hearing conferences to settle procedural or other questions in advance of a hearing, and may reopen a hearing to consider further evidence or other information. Any decision by the ATTCP on procedural questions with respect to an investigation, hearing, or any other proceeding shall be final, conclusive, and binding to all parties participating in the matter which is under investigation and may not be challenged.

16. Board Decision. The Board will report its decision in writing to the Claimant no later than 45 days after receiving the Appeal from the ATTCP Administrator. The decisions of the ATTCP Review Board are final and binding.

17. Filing with the Registry. A copy of the final findings by the Board shall be forwarded to the Registry.

2.7 ATTCP Decisions and Sanctions

The ATTCP may assess reasonable costs and expenses in connection with proceedings on any Appeal, Complaint, or Request for Review (including a reasonable allocation of general overhead costs of the ATTCP), as follows:

- Against the Subject of a Complaint if the ATTCP finds the Subject to have been at fault or to have acted in a manner inconsistent with the ATTCP standards, or
- Against any person whom the ATTCP determines made or pursued an Appeal, Complaint, or Request for Reconsideration without merit and in bad faith.

Any assessment under the preceding provisions may be made without regard to whether ATTCP takes any other action, or imposes any sanction, against or with respect to any person against whom costs and expenses are assessed. Any such assessment shall be paid on demand by the person against whom it is made. That person shall also pay all costs of collection of any such assessment, including reasonable attorney's fees. ATTCP shall have the right to recover any such assessment and all such costs of collection in an action in any court of competent jurisdiction, and ATTCP's costs in connection with any such action, including ATTCP's reasonable attorney's fees, also shall be paid by the person, as additional costs of collection.

General Rules

Sanctions that the ATTCP may impose (in addition to an assessment of costs and expenses as stated above) may include one or more of the following:

- Written (formal) reprimand or warning;
- Withdrawal of the Subject's ATTCP certification ("decertification") with the right to re-apply for certification after a period of time as set forth by the ATTCP.
- Permanent decertification.

By applying for ATTCP certification applicants agree to pay any assessment of costs, expenses, and sanctions if they are a subject of a Complaint and there is final ruling upholding the Complaint or they bring a Complaint, Appeal, or Request for Reconsideration without merit or in bad faith.

3 The Certification Process and Requirements for Technicians

3.1 Purpose

This Section 3 describes the processes by which the ATTCP will certify Acceptance Test Technicians, the qualifications for eligibility for certification, and specifies the areas of knowledge, skills, and ability required of a NEMIC-certified Acceptance Test Technician.

A NEMIC certified ATT is one who has:

- Met the qualifications and completed the general application requirements as described in this Section.
- Passed the Certification Exams as set forth in this Section.

3.2 Scope

A NEMIC Certified Mechanical Acceptance Test Technician is one who is knowledgeable about Mechanical Acceptance Testing as required by the Standards. The MATT performs the acceptance verification reported on the Certificate of Acceptance (Field Technician).

3.2.1 MATT Level 1 Scope

A NEMIC-certified MATT Level 1 performs the work described above for the Mechanical Systems Acceptance Tests listed in Section 10-103.2(b)1.B of the Standards.

For clarification, for the 2016 Standards the MATT Level 1 Scope includes the following eight (8) Mechanical Acceptance Tests:

- i. NA7.5.1 Outdoor Air Ventilation Systems
- ii. NA7.5.2 Constant Volume, Single Zone Unitary Air Conditioners and Heat Pumps
- iii. NA7.5.4 Air Economizer Controls
- iv. NA7.5.5 Demand Control Ventilation Systems
- v. NA7.5.6 Supply Variable Flow Controls
- vi. NA7.5.7, NA7.5.9 Hydronic System Variable Flow Controls
- vii. NA7.5.10 Automatic Demand Shed Controls

Beginning with the 2019 Standards, the NA7.5.17 Occupied Standby Acceptance will also be included as part of the MATT Level 1 scope. The MATT Level 1 scope will otherwise concur with any changes to Section 10-103.2(b)1.B of the Standards after 2019.

3.2.2 MATT Level 2 Scope

A NEMIC-certified MATT Level 2 performs the work described above for all the Mechanical Systems Acceptance Tests listed in section 120.5 of the Standards, including Duct Leakage Testing as referenced in Nonresidential Appendix NA1.9.

For clarification, for the 2016 Standards the MATT Level 2 scope includes the following (18) Mechanical Acceptance Tests:

1. NA7.5.1 Outdoor air ventilation systems (MATT Level 1 & 2)

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2. NA7.5.2 Constant-Volume, Single Zone Unitary Air Conditioners and Heat Pumps (MATT Level 1 & 2)
3. NA7.5.3 Duct Systems as required by the Standards (MATT Level 2 only)
4. NA7.5.4 Air Economizer Controls (MATT Level 1 & 2)
5. NA7.5.5 Demand Control Ventilation Systems as required by the Standards (MATT Level 1 & 2)
6. NA7.5.6 Supply Variable Flow controls (MATT Level 1 & 2)
7. NA7.5.7, NA7.5.9 Hydronic System Variable Flow Controls (MATT Level 1 & 2)
8. NA7.5.7 Boiler and/or Chiller Isolation (MATT Level 1 & 2)
9. NA7.5.8 Hydronic Systems Supply Temperature Reset Controls (MATT Level 2 only)
10. NA7.5.10 Automatic Demand Shed Controls (MATT Level 1 & 2)
11. NA7.5.11 Fault Detection and Diagnostics (FDD) for Air Handling Units and Zone Terminal Units
(MATT Level 2 only)
12. NA7.5.12 Automatic Fault Detection and Diagnostics (FDD) for Air Handling Units and Zone Terminal Units (MATT Level 2 only)
13. NA7.5.13 Distributed Energy Storage DX AC Systems (MATT Level 2 only)
14. NA7.5.14 Thermal Energy Storage (TES) Systems (MATT Level 2 only)
15. NA7.5.15 Supply Air Temperature Reset Controls (MATT Level 2 only)
16. NA7.5.16 Water-cooled Chillers served by Cooling Towers with Condenser Water Reset Controls
(MATT Level 2 only)
17. Part 6 as applicable Energy Management Controls System (MATT Level 2 only)

Beginning with the 2019 Standards, MATT Level 2 scope will also include:

18. NA7.5.17 Occupant Sensing Zone Controls (MATT Level 1 and 2)

Beginning with the 2019 Standards, Item 3. NA7.5.3 Duct Systems as required by the Standards (MATT Level 2 only) will include Duct Leakage Test Verification services normally provided by a Home Energy Rating System (HERS) rater. Item 17. Energy Management Controls Systems will be tested according to NA7.7.2 The MATT Level 2 scope will otherwise concur with any changes to Section 10-120.5 of the Standards after 2019.

3.3 Eligibility

3.3.1 MATT Level 1 Eligibility

Technicians who wish to become certified by NEMIC as MATT Level 1 must have a minimum of three years of professional experience and expertise in mechanical controls and systems, as determined by NEMIC, and meet **one** of the following three criteria:

1. Applicant is currently enrolled in a state-approved SMART apprenticeship program and has passed a written qualification examination.

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- The qualification examination is designed to show that the Applicant's professional experience has provided them with the knowledge base required to perform the Mechanical Systems Acceptance Tests listed in Section 10-103.2(b)1.B of the Standards; **OR**
- 2. Applicant has attained SMART journey person status and has passed a written qualification examination.
 - The qualification examination is designed to show that the Applicant's professional experience has provided them with the knowledge base required to perform the Mechanical Systems Acceptance Tests listed in Section 10-103.2(b)1.B of the Standards; **OR**
- 3. Applicant is an ICB-certified TABB Technician with at least three years of relevant professional experience and expertise in mechanical controls and systems. The Qualification Exam is not required for an ICB-certified TABB Technician because the process to become TABB certified verifies the relevant professional experience. More information about the requirements to become an ICB-certified TABB Technician can be found at the www.icbcertified.org website under the Resources section, within the Certification Manual for Technicians.

In addition, all applicants for MATT Level 1 certification must meet both of the following requirements:

1. Be an individual with respect to whom contributions are payable to the NEMIC; and
2. Hold an ITI certificate of completion of having received training on mechanical acceptance testing mandates and procedures as specified by the latest version of the Standards as they pertain to the MATT Level 1 scope in Section 3.2.1 and identified in MATT Level 1 Knowledge Base (Sections 6.1, 6.2, 6.2.1, and 6.3.).

3.3.2 MATT Level 2 Eligibility

Technicians who wish to become certified by NEMIC as Mechanical Acceptance Test Technicians (MATT) Level 2 must have a minimum of three years of professional experience and expertise in mechanical controls and systems, as determined by NEMIC, and meet all three of the following requirements:

1. Be an ICB-certified TABB Technician; (More information about the requirements to become an ICB-certified TABB Technician can be found at the www.icbcertified.org website under the Resources section, within the Certification Manual for Technicians.)
2. Be an individual with respect to whom contributions are payable to the NEMIC; and
3. Hold an ITI certificate of completion of having received training on mechanical acceptance testing mandates and procedures as specified by the latest version of the California Building Energy Efficiency Standards as they pertain to the MATT Level 2 scope in Section 3.2.2 and identified in MATT Level 2 Knowledge Base (Sections 6.1, 6.2, 6.2.2, and 6.3.).

3.4 Application Process for Acceptance Test Technicians

1. Applicant completes the ATT application online.

2. Upon submission the ATTCP will verify the eligibility of the applicant to be certified.
3. The applicant is notified of ATTCP action, including any request for additional documentation.
 - a. If approved, the applicant will be notified in writing or by electronic communications.
 - b. If not approved, the applicant will be notified in writing or by electronic communications. The applicant may appeal this decision as specified in Section 2.5.5.2.

3.5 Certification Exams for Acceptance Test Technicians

3.5.1 MATT Level 1 Exam

The MATT Level 1 Certification Exam consists of a written test designed to assess the knowledge and skills required to perform the Mechanical Acceptance Tests identified in the California Building Energy Efficiency Standards as they pertain to the MATT Level 1 scope in Section 3.2.1 and identified in MATT Level 1 Knowledge Base in Sections 6.1, 6.2, 6.2.1, and 6.3., with practical skills competence verified by NEMIC.

For clarification, for the 2016 Standards the MATT Level 1 Scope includes the following eight (8) Mechanical Acceptance Tests:

- i. NA7.5.1 Outdoor Air Ventilation Systems
- ii. NA7.5.2 Constant Volume, Single Zone Unitary Air Conditioners and Heat Pumps
- iii. NA7.5.4 Air Economizer Controls
- iv. NA7.5.5 Demand Control Ventilation Systems
- v. NA7.5.6 Supply Variable Flow Controls
- vi. NA7.5.7, NA7.5.9 Hydronic System Variable Flow Controls
- vii. NA7.5.10 Automatic Demand Shed Controls

Beginning with the 2019 Standards, the NA7.5.17 Occupied Standby Acceptance will also be included as part of the MATT Level 1 scope. The MATT Level 1 scope will otherwise concur with any changes to Section 10-103.2(b)1.B of the Standards after 2019.

3.5.2 MATT Level 2 Exam

The MATT Level 2 Certification Exam consists of a written test designed to assess the knowledge and skills required to perform the Mechanical Acceptance Tests identified in the California Building Energy Efficiency Standards as they pertain to the MATT Level 2 scope in Section 3.2.2 and identified in MATT Level 2 Knowledge Base in Sections 6.1, 6.2, 6.2.2, and 6.3, with practical skills competence verified by NEMIC.

For clarification, for the 2016 Standards the MATT Level 2 scope includes the following (18) Mechanical Acceptance Tests:

1. NA7.5.1 Outdoor air ventilation systems (MATT Level 1 & 2)
2. NA7.5.2 Constant-Volume, Single Zone Unitary Air Conditioners and Heat Pumps (MATT Level 1 & 2)
3. NA7.5.3 Duct Systems as required by the Standards (MATT Level 2 only)

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4. NA7.5.4 Air Economizer Controls (MATT Level 1 & 2)
5. NA7.5.5 Demand Control Ventilation Systems as required by the Standards (MATT Level 1 & 2)
6. NA7.5.6 Supply Variable Flow controls (MATT Level 1 & 2)
7. NA7.5.7, NA7.5.9 Hydronic System Variable Flow Controls (MATT Level 1 & 2)
8. NA7.5.7 Boiler and/or Chiller Isolation (MATT Level 1 & 2)
9. NA7.5.8 Hydronic Systems Supply Temperature Reset Controls (MATT Level 2 only)
10. NA7.5.10 Automatic Demand Shed Controls (MATT Level 1 & 2)
11. NA7.5.11 Fault Detection and Diagnostics (FDD) for Air Handling Units and Zone Terminal Units
(MATT Level 2 only)
12. NA7.5.12 Automatic Fault Detection and Diagnostics (FDD) for Air Handling Units and Zone Terminal Units (MATT Level 2 only)
13. NA7.5.13 Distributed Energy Storage DXAC Systems (MATT Level 2 only)
14. NA7.5.14 Thermal Energy Storage (TES) Systems (MATT Level 2 only)
15. NA7.5.15 Supply Air Temperature Reset Controls (MATT Level 2 only)
16. NA7.5.16 Water-cooled Chillers served by Cooling Towers with Condenser Water Reset Controls
(MATT Level 2 only)
17. Part 6 as applicable Energy Management Controls System (MATT Level 2 only)

Beginning with the 2019 Standards, MATT Level 2 scope will also include:

18. NA7.5.17 Occupant Sensing Zone Controls (MATT Level 1 and 2)

Beginning with the 2019 Standards, Item 3. NA7.5.3 Duct Systems as required by the Standards (MATT Level 2 only) will include Duct Leakage Test Verification services normally provided by a Home Energy Rating System (HERS) rater. Item 17. Energy Management Controls Systems will be tested according to NA7.7.2 The MATT Level 2 scope will otherwise concur with any changes to Section 10-120.5 of the Standards after 2019

3.5.3 Taking an Acceptance Test Technician Certification Exam

To be eligible to test, an applicant must have written notification of eligibility from the ATTCP per Section 3.4.

1. Upon receiving such written notification, the applicant's exam session is scheduled with the ATTCP.
2. The exam will be administered by an ATTCP-designated proctor at one of the sites designated by the ATTCP.
3. The exam will be in either electronic or written format, must be completed in a single sitting in a designated room, and within the specified time limit.
4. If the exam is in electronic format the exam score results will be displayed to the candidate upon its completion.
5. If the exam is in written format:

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- ✓ It will be distributed by the proctor; once completed it will be returned to the ATTCP for scoring.
- ✓ The ATTCP will notify the applicant of exam results in writing or by electronic communications.

The applicant may use:

- ✓ Any reference materials deemed appropriate by the ATTCP.

3.5.4 Scoring the Certification Exam

The ATTCP scores the test and determines whether the applicant has a passing score.

- If the applicant passes the certification exam, the ATTCP will issue certification documents as described in Section 3.6; or
- If the applicant fails the certification exam, the ATTCP will notify the applicant and the applicant may retake the exam in accordance with Section 3.5.2.

3.5.5 Time Limits on Examination and Re-Examination

The certification exam must be passed within one year from ATTCP approval of the application, or the applicant must re-apply.

An applicant who fails the certification exam may apply for re-examination in a manner specified by ATTCP but may re-take the exam only after a waiting period of at least 30 calendar days.

3.6 Certification Documents

Upon certification of an applicant, the ATTCP will issue the following:

A certificate including:

- Date of certification
- The name of the Technician
- The Technician's individualized certification number

Upon certification, Technician certification status will be made publicly available as required by the Standard, and per NEMIC Information Release Policy.

3.7 Decertification

The ATTCP may withdraw the certification of any ATT for one or more of the following reasons:

- Falsification of data and reports.
- Failure to maintain eligibility.
- Failure to meet the Code of Conduct
- Stops working for a Signatory Employer and works for an employer that is not a Signatory Employer.
- Failure to pass the quality assurance audit per Section 5.
- Other cause as determined by the ATTCP.

3.8 Technician Certification Obligations and Code of Conduct

A NEMIC-certified ATT must comply with the following obligations and Code of Conduct as a requirement for maintaining certification. Violations of the Code of Conduct or failure to meet any of the following obligations are grounds for suspension, withdrawal or non-renewal of certification.

To maintain ATTCP certification the ATT shall

- a) Adhere to the NEMIC ATTCP Code of Conduct for Technicians;
- b) Adhere to any and all ATTCP protocols and regulations;
- c) Adhere to all mandates of the CCR Title 24, particularly as they pertain to acceptance testing;
- d) Meet all applicable registration, insurance, licensing, and bonding State or local mandates and regulations;
- e) Maintain proof of registration, insurance, licensing, and bonding that meet any and all State or local mandates and regulations; and
- f) Perform Acceptance Test work only when employed by a Signatory Employer.

3.9 Appeals

An applicant (“appellant”) who believes they have been improperly considered ineligible, object to any ATTCP exam or certification decision, or ATTCP withdrawal of their certification, may file a Complaint as stated in Section 2.5.5.

3.10 Renewal of Certification

To renew an ATT certification, the following documents are required:

- Completed online renewal application;
- A current NEMIC ATT certification; and
- ITI certificate of completion of having received training on acceptance testing mandates and procedures as specified by the latest version of the Standards.

The certification holder must also meet all other requirements as stated by NEMIC in the notice of Renewal.

3.11 Standards of Proficiency for Acceptance Test Technicians

An NEMIC Certified ATT must be proficient in all the categories of the *Knowledge Base for California Title 24 Acceptance Test Technicians*, as demonstrated by passing the certification test. The *Knowledge Base for California Title 24 Acceptance Test Technicians* is found in Section 6 of this Manual.

4 The Certification Process and Requirements for Employers

4.1 Purpose

This Section 4 describes the processes by which the ATTCP will certify ATEs and sets forth the qualifications for eligibility for certification and specifies the areas of knowledge, skills, and ability required of a NEMIC-certified ATE.

A NEMIC-certified ATE is one who has:

- Met the qualifications and completed the general application requirements as described in Section 4.4.
- Passed the Exam as set forth in this Section 4.5.

4.2 Scope

4.2.1 Mechanical Acceptance Test Employer (MATE)

The role of the MATE is to understand the responsibilities of an employer performing Mechanical Acceptance Test work with NEMIC-certified MATTs. In addition, the MATE is responsible for registering the contractor on the NEMIC ATTCP database.

An employer may have multiple individuals certified as MATEs on staff; however, only one MATE registers the employer on the NEMIC ATTCP database. Each NEMIC-certified MATE registered on the database must also have at least one NEMIC-certified MATT on staff.

For clarification, the MATE may also be the Responsible Person as defined by the Standards, but only if eligible under Division 3 of the Business and Profession Code in the applicable classification. The NEMIC ATTCP does not assess qualifications of any individual to become or bear the responsibilities of the Responsible Person as defined by the Standards.

4.3 Eligibility

To be eligible for the ATE certification, the applicant must:

- Be a Signatory Employer and current with all financial obligations under its collective bargaining agreement; and
- Hold a NEMI certificate of completion of having received training on acceptance testing mandates and procedures as specified by the latest version of the California Building Energy Efficiency Standards.

4.4 Application

1. Applicant must complete the ATE application online.
2. Upon submission the ATTCP will verify the eligibility of the applicant to be certified.
3. The applicant is notified of ATTCP action, including any request for additional documentation.
 - a. If approved, the applicant will be notified in writing or by electronic communications.

- b. If not approved, the applicant will be notified in writing or by electronic communications. The applicant may appeal this decision as specified in Section 2.5.5.2.

4.5 Certification Exam

The certification exam consists of a written test. The exam is designed to assess the knowledge, skills, and ability of an individual regarding the responsibilities of an employer performing Acceptance Test work with NEMIC-certified ATTs.

Applicants may not take the exam until they have been notified that they are eligible to be certified per Section 4.3.

1. Upon receiving written notification by ATTCP that the applicant has met the eligibility requirements, the applicant exam session is scheduled with the ATTCP.
2. The exam will be administered by an ATTCP-designated proctor at one of the sites designated by the ATTCP.
3. The exam will be either electronic or written format, must be completed in one sitting in a designated room, and within the specified time limit.
4. If the exam is in electronic format the exam score will be displayed to the candidate upon completion of the exam.
5. If the exam is in written format:
 - ✓ It will be distributed by the proctor; once completed it will be returned to the ATTCP for scoring.
 - ✓ The ATTCP will notify the applicant of exam results in writing or by electronic communications.

Applicants may use:

- ✓ Any reference materials deemed appropriate by the ATTCP.

4.5.1 Scoring the Certification Exam

The ATTCP scores the exam and determines whether the score is passing.

- If the applicant passes the certification exam, the ATTCP will issue certification documents as described in Section 4.4; or
- If the applicant fails the certification exam, the ATTCP will notify the applicant. The applicant may retake the exam in accordance with Section 4.5.2.

4.5.2 Time Limits on Examination and Re-Examination

The certification exam must be passed within one year of ATTCP approval of the application, or the applicant must re-apply.

An applicant who fails the certification exam may apply for re-examination in a manner specified by ATTCP but may re-take the exam only after a waiting period of at least thirty calendar days.

4.6 Certification Documents

Upon certification, the ATTCP will issue the following:

A certificate including:

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- Date of certification
- The name and business address of the Employer
- The Employer's individualized certification number

Upon certification, Employer certification status will be made publicly available as required by the Standard, and per NEMIC Information Release Policy.

4.7 Employer Certification Obligations and Code of Conduct

A NEMIC-certified ATE must comply with the following obligations and Code of Conduct to maintain certification. Violations of the Code of Conduct or failure to meet any of the following obligations are grounds for suspension, withdrawal or non-renewal of certification.

To maintain NEMIC ATTCP certification the NEMIC-certified ATE shall:

- a) Adhere to the NEMIC ATTCP Code of Conduct for Employers;
- b) Adhere to any and all NEMIC ATTCP protocols and regulations;
- c) Adhere to all mandates of the CCR Title 24, particularly as they pertain to acceptance testing;
- d) Meet all applicable registration, insurance, licensing, and bonding mandates and regulations;
- e) Maintain proof of registration, insurance, licensing, and bonding that meet any and all mandates and regulations;
- f) Warrant that at least one employer executive officer has completed the NEMIC Acceptance Test Employer course and has passed the NEMIC Acceptance Test Employer Certification Exam. If the officer ceases work for the employer, another employer executive officer will need to take the NEMIC Acceptance Test Employer course and pass the NEMIC Acceptance Test Employer Certification Exam within 90 days of that change of employment;
- g) For every project where a certified ATT is required, the ATE shall submit all Acceptance Tests to the mandated Registry through the NEMIC Database. Copies of those documents shall be maintained for a minimum of five years;
- h) Submit records or financial data that substantiate ATTCP-related work to NEMIC upon request;
- i) Notify NEMIC within 48 hours if its contractor's license or business license has been revoked or suspended; and
- j) Notify NEMIC within 48 hours if the employer or any official or executive of the employer has been found guilty of a felony in the court of law or has been found liable in a civil litigation.

Code of Conduct of the National Energy Management Institute Committee Operating as the Acceptance Test Technician and Employer Certification Provider

All technicians and employers certified by National Energy Management Institute Committee under California Code of Regulations Title 24 Part 1, Sections 10-102 and 10-103.2 are expected to practice their professions consistent with the standards and procedures applicable to the certification, and the highest quality.

NEMIC-certified Acceptance Test Technicians:

- Will perform their work in an orderly, systematic, well-documented and repeatable manner.
- Will document all findings in an accurate and professional manner so that building code officials can review a comprehensive and chronological history of the procedures followed.
- Will not make any statements that cannot be substantiated and verified by field measurements or observations.
- Will meet standards and procedures set by NEMIC as the Acceptance Test Technician and Employer Certification Provider, and adhere to all rules, regulations and obligations of the NEMIC Certification program.
- Will work in a professional manner to ensure their own safety and the safety of their coworkers while respecting the property of the building owner and its representatives.
- Will observe proper protocol when noting contract or installation deficiencies, errors, or omissions by others.

NEMIC-certified Acceptance Test Employers:

- Will employ enough NEMIC-certified Acceptance Test Technicians to meet the scope of its business operations.
- Will perform all mechanical acceptance tests only by NEMIC-certified Mechanical Acceptance Test Technicians.
- Will ensure that any and all projects involving work in the area of this certification are performed in accordance with standards and procedures as mandated by the California Code of Regulations Title 24 and, if applicable, as adopted by local Authorities Having Jurisdiction.

Will maintain valid calibrations of all diagnostic equipment and instruments.

4.8 Decertification

The ATTCP may withdraw the certification of any ATE for one or more of the following reasons:

- Falsification of data and reports.
- Failure to maintain eligibility.
- Failure to meet the Code of Conduct.
- Failure to meet certification obligations.
- Is no longer a Signatory Employer.
- Failure to pass the quality assurance audit per Section 5.

Other cause as determined by the ATTCP.

4.9 Renewal of the Certification

To renew the ATE certification, the following documents are required:

- Completed online renewal application; and
- NEMI certificate of completion of having received training on acceptance testing mandates and procedures as specified by the latest version of the Standards.

The certification holder must also meet all other requirements as stated by NEMIC in the notice of Renewal.

4.10 Standards of Proficiency for Acceptance Test Employers

An NEMIC-certified ATE must be proficient in all the categories of the Knowledge Base for California Title 24 Acceptance Test Employers, as demonstrated by passing the certification test. The *Knowledge Base for California Title 24 Acceptance Test Employers* is found in Section 7.

5 NEMIC ATTCP Quality Assurance Program

This section addresses CCR Title 24 Part 1 Section 10-103.2 (c)3F, i.e., documents how the NEMIC certification business practices include quality assurance, independent oversight, and accountability measures such as third party oversight of the certification processes and procedures, visits to building sites where certified technicians are completing acceptance tests, certification process evaluations, building department surveys to determine acceptance testing effectiveness, and expert review of the training curricula developed for Title 24, Part 6 Building Energy Efficiency Standards, Section 120.5.

Summary of NEMIC Method of Compliance

5.1 Scope

All NEMIC ATTCP-certified ATEs and ATTs must participate in the NEMIC ATTCP Quality Assurance Program (QAP). NEMIC has hired an independent third party, ICF Inc., to administer the QAP.

5.2 Conformance to NEMIC ATTCP Code of Conduct

Technicians and employers certified by NEMIC under CCR Title 24 Part 1, Sections 10-102 and 10-103.2 are expected to practice their profession consistent with the procedures applicable to the certification, and the highest quality, and to adhere to the NEMIC ATTCP *Code of Conduct* at all times (see Section 4.7 above, *Employer Certification Obligations and Code of Conduct*).

All NEMIC ATTCP-certified ATTs must maintain their NEMIC ATT certifications at all times. Additionally, NEMIC MATT Level 2 Certificants must maintain their ICB TABB Technician certification at all times. Failure to maintain the MATT Level 1 certification shall result in immediate loss of the NEMIC MATT Level 1 Certification. Failure to maintain both the NEMIC MATT Level 2 and ICB TABB Technician certification shall result in immediate loss of the NEMIC ATTCP MATT Level 2 certification. The ATT must adhere to the *Technician Certification Obligations and Code of Conduct* as described in Section 3.8, at all times.

NEMIC ATTCP-certified ATEs must maintain a system of quality controls governing their operations. These are the procedures ATEs put in place that help them ensure the delivery of quality services to customers. These procedures include clearly established protocols and best practices for the work. NEMIC ATTCP certified ATEs must adhere to the following policies and procedures.

5.3 Employ NEMIC-Certified Acceptance Test Technicians

NEMIC ATTCP-certified ATEs agree to employ NEMIC-certified ATTs in quantity and designation for the scope of the business operation at each location sufficient to conduct testing to the Standards and to sign off on certificates of completion. NEMIC ATTCP-certified ATEs agree to use only NEMIC-certified ATTs for acceptance testing.

5.4 Equipment

NEMIC-certified ATTs must ensure that they have the necessary serviceable, calibrated tools, equipment and instruments available for conducting mechanical acceptance testing work. NEMIC-certified ATTs are required to provide diagnostic equipment, and instrument calibration records upon request. NEMIC does not mandate the purchase or ownership of any specific piece or brand of tool, equipment or instrument for purposes of certification. NEMIC may request and review an employer's tool and equipment inventory to determine whether the employer has the capability to be certified for mechanical acceptance testing as mandated by the Standards based on the tools, equipment, and instruments in the inventory.

5.5 Disclosure of Information

To verify the scope of the employer's work, NEMIC ATTCP-certified ATEs will, upon request, provide NEMIC with access to certain records or data that substantiate ATT findings.

Based on the program parameters, a percentage of projects, chosen randomly, will receive either a document "desk" audit, or an on-site, in-person, quality-assurance audit. Each review will be based upon the following fee structure.

Table 5.1 ICF Audit Fee Structure

| Type of Audit | Fee Paid to ICF |
|------------------------------------------------|-----------------|
| For Each Quality Assurance Desk Audit | \$300 |
| Per On-Site, In Person Quality Assurance Audit | \$950 |

Desk Audit Process and On-Site Audit Process are described in **Section 5.10 Random Audit Sampling Process**.

5.6 General Appeals

All objections with regard to the NEMIC QAP will be resolved according to the procedures set forth in Section 2.5 *Certification-Related Appeal Procedures*. All appeals will be categorized as General Appeals.

5.7 Audit Sampling Background

NEMIC and ICF have designed a quality assurance “audit” program utilizing best practices around a “quality assurance audit model.” NEMIC follows the guidelines established by the American Institute of CPA’s (AICPA) in the “*Audit Sampling Considerations of Circular A-133 Compliance Audits*” to address sampling size in an audit environment.

For new programs, it is recommended the audit program require a 98 percent confidence level at first to ensure that any issues with noncompliance are identified and addressed at the outset. Because the NEMIC QAP is a new program that will initially consist entirely of newly certified MATTs, ICF has set a goal of conducting enough quality assurance audits during the first 3 years of the program to have a 98% confidence level that all acceptance test assessments are done correctly. As the program matures and the NEMIC ATTCP-certified MATT workforce becomes more experienced, these quality assurance visits will decrease to a 95% confidence level in years 3-5 and then a 90% confidence level when the program is established in year 5 and beyond. The confidence levels for the program are described in the table below.

Table 5.2 Confidence Levels of the NEMIC QAP

| Time Period | Confidence Level |
|----------------------|------------------|
| 2016/2019 Code | 98% |
| 2022 Code and Beyond | 95% |

NEMIC, in its role as a mechanical ATTCP, will conduct two types of audits : a desk audit and an on-site quality assurance audit. Table 3 shows the type and frequency of audits to be conducted under the NEMIC QAP.

Table 5.3. Type and Frequency of Audits to Be Conducted Under the NEMIC QAP

| Time Period | Confidence Level | % of Projects Audited* | Desk Audits | On-Site Audits |
|----------------------------|------------------|------------------------|-------------|----------------|
| 2016/2019 Code Cycle | 98% | 4% | 3% | 1% |
| 2022 Code Cycle and Beyond | 95% | 2% | 1% | 1% |

*the actual number of projects audited will depend on the total number of projects, identified by the audit sampling process. NEMIC anticipates a minimum pool of 8,000 projects in the course of a year based on the number of CALCTP audits conducted in 2017.

A more detailed description of the reasoning and specific formulas used for determining sampling is available from the NEMIC ATTCP upon request.

5.8 Failed Audit Item versus a Failed Acceptance Test

A “failed Audit Item” constitutes a category of failure on the part of the ATT, such as:

Failure to ensure appropriate documentation is available and complete.

Failure to conduct all elements of a construction inspection .

Failure to verify equipment information is posted.

Failure to verify installed mechanical controls are certified to the CEC.

A “Failed Acceptance Test” occurs when at least one of the Threshold Specifications is not met during the testing and inspection process (Acceptance Testing). “Threshold Specifications” are the specific pass/fail criteria for each mechanical control device or system requiring Acceptance Testing. A detailed description of failed audit items and Failed Acceptance Test forms are available from the NEMIC ATTCP upon request.

5.9 Auditor Qualifications

All audits, desk and on-site, will be performed by NEMIC-certified ATTs.

5.10 Random Audit Sampling Process

If a n ATT fails either a desk quality assurance audit or an on-site-quality assurance audit, the NEMIC ATTCP-certified ATT will receive additional quality assurance oversight. ATTs who fail a quality assurance audit will receive scrutiny as listed in Table 5.4.

Table 5.4 Results of Audit Failure

| Result | Action That Will Be Taken |
|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Minor infraction | Warning issued (ATE and ATT) |
| Failed either a desk or on-site quality assurance audit | Targeted retraining and re-examination (ATE or ATT) |
| Failed a second desk or on-site quality assurance audit | Decertification (ATE or ATT) with the option to reinstate certification with the successful completion of the full training and examination requirements. |

Desk Audit Process

- 1) The third-party auditor will have access through a defined auditor user role to the NEMIC ATTCP project database.
- 2) On a weekly basis, the third-party auditor will run a report on all projects completed to date and projects completed from the past week.
- 3) If an ATT is due for an audit, the third-party auditor will randomly select a project with forms completed by the ATT. The auditor will review the NRCC forms and project documentation to assure compliance with the approved project plans.
- 4) A notification will be sent to the ATT and ATE explaining that the desk audit has been conducted, with the desk audit fee to be paid by the employer of the ATT and ATE regardless of the audit outcome.

On-Site Audit Process

- 1) The third-party auditor will have access through a defined auditor user role to the NEMIC ATTCP project database.
- 2) On a weekly basis, the third-party auditor will run a report on all projects completed to date, projects completed from the past week, and projects anticipated to be in progress .
- 3) No later than one week prior to the on-site audit, the third-party auditor will send a notification to the ATT and ATE that it is due for an audit, to confirm the status of the anticipated project and that an on-site audit will be conducted. The ATT and/or ATE must notify the third-party auditor of any corrections to anticipated project within two days of the on-site audit notification.
- 4) The on-site audit will be performed at the same time as the ATT performs the acceptance testing, including review of the NRCC forms and project documentation to ensure compliance with the approved plans.

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- 5) Failure by the ATE to provide the auditor with correct anticipated project dates will be reported as a failed audit. For example, it constitutes a failed audit if the auditor arrives at the project site at the scheduled date and time and the ATT is not present. The ATE and the ATT are jointly and severely liable for the fee for an on-site audit regardless of the audit outcome.

The NEMIC ATTCP reporting process of the on-site audits will be as follows:

- 1) The auditor will send a completed electronic copy of the audit results to the ATE and ATT and the NEMIC ATTCP.
2) The auditor will track the results of all audits in an audit database maintained by the auditor and share with the NEMIC ATTCP all data required for its annual report to the CEC.
3) The auditor will keep electronic copies of the audit findings and reports for a period of five years.
4) NEMIC maintains separately a project database of all accounts, for both MATTs and MATEs, including any pertinent project documentation. Copies of completed projects, completed mechanical acceptance tests, i.e., NRCA-MEC-X forms are kept for a minimum of five years.

5.11 Identifying Features of Acceptance Test Forms Completed on the NEMIC ATTCP Project Database

All acceptance test forms that are completed through the NEMIC ATTCP Project Database shall have the following identifying features:

- 1) A watermark of the NEMIC acronym, name, and logo centered in the background of each page of each form; and
2) The logo of ICB/TABB, included at the bottom of each page of each form.

The identifying features are unique and exclusive to the acceptance test forms completed through the NEMIC ATTCP Project Database, shall be applied to all acceptance test forms completed through the Database, and shall not be utilized for any acceptance test forms except those completed by NEMIC-certified ATTs and ATEs.

A sample form with stated identifying features is shown here:

STATE OF CALIFORNIA OUTDOOR AIR ACCEPTANCE CERTIFICATE OF ACCEPTANCE. Includes fields for Name, Address, City, State, ZIP, and Compliance Results. Section A: Construction Inspection details various checks like ductwork, fan, and damper control.

STATE OF CALIFORNIA OUTDOOR AIR ACCEPTANCE CERTIFICATE OF ACCEPTANCE. Section B: Functional Testing. Includes a table with columns for Step, Description, and Pass/Fail status. Steps include ductwork leakage, fan speed, and damper control.

STATE OF CALIFORNIA OUTDOOR AIR ACCEPTANCE CERTIFICATE OF ACCEPTANCE. Section C: Documentation Author's Declaration Statement. Includes fields for Name, Title, Signature, and Date. Section D: Field Technician's Declaration Statement.

5.12 Individual Acceptance Test On-site Audit Pass/Fail Criteria

The on-site audit pass/fail criteria are derived from the Appendix NA7.5 Mechanical Systems Acceptance Tests within the Reference Appendices for the Building Energy Efficiency Standard under which the project was permitted.

The pass/fail criteria of the On-site Audit are applied to two aspects of on-site work: Construction Inspection and Functional Test. For each Mechanical Acceptance Test, the instrumentation, methods, and steps to performing the Construction Inspection and Functional Test are listed in detail in the Standards. To pass the On-site Audit, NEMIC-

certified MATTs must correctly perform each of the steps for both the **Construction Inspection** and the **Functional Test** with the correct methods and instrumentation.

1. **Construction Inspection Audit Failure** occurs when:
 - a. Correct instrumentation is not used
 - b. Correct methods are not engaged
 - c. Not all steps are correctly followed
2. **Functional Test Audit Failure** occurs when
 - a. The MATT fails to correctly follow one or more steps

The failure to properly execute either the **Construction Inspection** or the **Functional Test** constitutes failure of the **On-site Audit**. A detailed description of failed audit items and failed acceptance test per mechanical acceptance test forms are available from the NEMIC ATTCP upon request.

5.13 Desk Audit Pass/Fail Criteria

The purpose of the desk audit is to verify that the individual acceptance test form has been completed correctly.

The ATT fails a desk audit if

1. **Project Information** on top of each page of the NRCA-MCH documents is incomplete or missing.
2. **Construction Inspection** information is missing or incomplete, i.e., the appropriate boxes have not been checked or pertinent information has not been provided.
3. **Functional Inspection** information is missing or incomplete, i.e., the appropriate boxes have not been checked or pertinent information has not been provided.
4. If applicable, **Testing Calculations and Results** information is missing or incomplete, i.e., the appropriate boxes have not been checked or pertinent information has not been provided.
5. **Evaluation** information is missing or incomplete.
6. The **Documentation Author's Declaration Statement** has not been completed or information is missing.
7. The **Field Technician's Declaration Statement** has not been completed or information is missing.
8. The **Responsible Person's Declaration Statement** has not been completed or information is missing.

6 Knowledge Base for California Title 24 Mechanical Acceptance Test Technicians

6.1 Reference Materials

- SMACNA HVAC Systems Application
- SMACNA HVAC Systems Testing, Adjusting and Balancing
- SMACNA TAB Procedural Guide
- SMACNA HVAC Air Duct Leakage Test Manual
- SMACNA HVAC Systems Duct Design
- California Code of Regulation Title 24 Part 1 Section 10-102, 10-103 and 10-103.2 as well as well as Part 6 section 120.5
- Current and immediately preceding California Energy Codes
- Current and immediately preceding Nonresidential Appendix NA 7 – Installation and Acceptance Requirements for Nonresidential Buildings and Covered Processes including Mechanical Systems Compliance Forms and Mechanical Systems Acceptance Forms, with additional sections and forms as referenced and required for Mechanical Acceptance Testing.
- Current and immediately preceding Nonresidential Compliance Manual Section 13, Acceptance Requirements, including all sections as referenced and required for Mechanical Acceptance Testing.

6.2 Mechanical Acceptance Test Technician (MATT) Levels 1 and 2

The Mechanical Acceptance Test Technician must be knowledgeable about

- Current and immediately preceding California Code of Regulation Title 24 Part 1 Section 10-102 and 10-103.2 as well as well as Part 6 section 120.5
- Current and immediately preceding California Energy Code
- Current and immediately preceding Nonresidential Compliance Manual Section 13, Acceptance Requirements

6.2.1 MATT Level 1

The MATT Level 1 Knowledge Base includes the Mechanical Systems Acceptance Tests listed in Section 10-103.2(b)1.B of the current and immediately preceding Building Energy Efficiency Standards. Beginning with the 2019 California Energy Code, MATT Level 1 will also include NA7.5.17 Occupied Standby Acceptance.

For clarification, for the 2016 Standards the MATT Level 1 Scope includes the following eight (8) Mechanical Acceptance Tests:

- i. NA7.5.1 Outdoor Air Ventilation Systems
- ii. NA7.5.2 Constant Volume, Single Zone Unitary Air Conditioners and Heat Pumps
- iii. NA7.5.4 Air Economizer Controls
- iv. NA7.5.5 Demand Control Ventilation Systems
- v. NA7.5.6 Supply Variable Flow Controls
- vi. NA7.5.7, NA7.5.9 Hydronic System Variable Flow Controls
- vii. NA7.5.10 Automatic Demand Shed Controls

Beginning with the 2019 Standards, the NA7.5.17 Occupied Standby Acceptance will also be included as part of the MATT Level 1 scope. The MATT Level 1 scope will otherwise concur with any changes to Section 10-103.2(b)1.B of the Standards after 2019.

6.2.2 MATT Level 2

The Level 2 MATT Knowledge Base includes all the Mechanical Systems Acceptance Tests listed in section 120.5 of the current and immediately preceding Building Energy Efficiency Standards, including Duct Leakage Testing as referenced in Nonresidential Appendix NA1.9.

For clarification, for the 2016 Standards the MATT Level 2 scope includes the following (18) Mechanical Acceptance Tests:

1. NA7.5.1 Outdoor air ventilation systems (MATT Level 1 & 2)
2. NA7.5.2 Constant-Volume, Single Zone Unitary Air Conditioners and Heat Pumps (MATT Level 1 & 2)
3. NA7.5.3 Duct Systems as required by the Standards (MATT Level 2 only)
4. NA7.5.4 Air Economizer Controls (MATT Level 1 & 2)
5. NA7.5.5 Demand Control Ventilation Systems as required by the Standards (MATT Level 1 & 2)
6. NA7.5.6 Supply Variable Flow controls (MATT Level 1 & 2)
7. NA7.5.7, NA7.5.9 Hydronic System Variable Flow Controls (MATT Level 1 & 2)
8. NA7.5.7 Boiler and/or Chiller Isolation (MATT Level 1 & 2)
9. NA7.5.8 Hydronic Systems Supply Temperature Reset Controls (MATT Level 2 only)
10. NA7.5.10 Automatic Demand Shed Controls (MATT Level 1 & 2)
11. NA7.5.11 Fault Detection and Diagnostics (FDD) for Air Handling Units and Zone Terminal Units (MATT Level 2 only)
12. NA7.5.12 Automatic Fault Detection and Diagnostics (FDD) for Air Handling Units and Zone Terminal Units (MATT Level 2 only)
13. NA7.5.13 Distributed Energy Storage DX AC Systems (MATT Level 2 only)
14. NA7.5.14 Thermal Energy Storage (TES) Systems (MATT Level 2 only)
15. NA7.5.15 Supply Air Temperature Reset Controls (MATT Level 2 only)
16. NA7.5.16 Water-cooled Chillers served by Cooling Towers with Condenser Water Reset Controls (MATT Level 2 only)
17. Part 6 as applicable Energy Management Controls System (MATT Level 2 only)

Beginning with the 2019 Standards, MATT Level 2 scope will also include:

18. NA7.5.17 Occupant Sensing Zone Controls (MATT Level 1 and 2)

Beginning with the 2019 Standards, Item 3. NA7.5.3 Duct Systems as required by the Standards (MATT Level 2 only) will include Duct Leakage Test Verification services normally provided by a Home Energy Rating System (HERS) rater. Item 17. Energy Management Controls Systems will be tested according to NA7.7.2 The MATT Level 2 scope will otherwise concur with any changes to Section 10-120.5 of the Standards after 2019.

6.3 MATT Curricula

6.3.1 MATT (Level 1 & 2) Curricula

The Mechanical Acceptance Test Technician must know the purpose of these tests, the use of proper instrumentation to execute them, the conditions under which these tests need to be performed, and the acceptance criteria and potential issues when doing these tests. Specifically, the MATT must know how to perform:

- Construction inspection for each system included with each test;
- Identification of control methods for each tested system;
- Functional testing of required aspects of each tested system; and
- Completion of the pertinent Certificate of Acceptance for each tested system.

Scope of training curricula for MATTs includes, but is not limited to, the analysis, theory, and practical application of the domains as identified in the current and immediately preceding CCR Title 24 Part 1, Section 10-103.2(c)3.B.i as they correspond to the mechanical acceptance tests within each of the scopes of MATT Level 1 and MATT Level 2 as identified in Section 6.2.

6.3.2 MATT Level 1 Curricula

The MATT Level 1 Curricula for the 2016 and 2019 Standards include:

- i. Constant volume system controls
- ii. Variable volume system controls
- iii. Air-side economizers
- iv. Demand controlled ventilation with CO₂sensors
- v. Demand controlled ventilation with occupancy sensors
- vi. Automatic demand shed controls
- vii. Hydronic valve leakage
- viii. Hydronic system variable flow controls
- ix. Outdoor air ventilation systems
- x. Supply fan variable flow controls
- xi. Boiler and chiller isolation controls
- xii. Building Energy Efficiency Standards mechanical acceptance testing procedures
- xiii. Building Energy Efficiency Standards acceptance testing compliance documentation for mechanical systems.

The MATT Level 1 Curricula will otherwise correspond to domains as identified in Section 10-103.2(c)3.B.i of the Standards and relating to the mechanical acceptance tests identified in Section 6.2.1 above for any changes to the Standards after 2019.

6.3.3 MATT Level 2 Curricula

The MATT Level 2 Curricula for the 2016 and 2019 Standards include:

- a. Constant volume system controls (MATT Level 1 & 2)
- b. Variable volume system controls (MATT Level 1 & 2)
- c. Air-side economizers (MATT Level 1 & 2)
- d. Air distribution system (MATT Level 2 only)
- e. Demand controlled ventilation with CO₂sensors (MATT Level 1 & 2)
- f. Demand controlled ventilation with occupancy sensors (MATT Level 1 & 2)
- g. Automatic demand shed controls (MATT Level 1 & 2)
- h. Hydronic valve leakage (MATT Level 1 & 2)
- i. Hydronic system variable flow controls (MATT Level 1 & 2)
- j. Supply air temperature reset controls (MATT Level 1 & 2)
- k. Condenser water temperature reset controls (MATT Level 2 only)
- l. Outdoor air ventilation systems (MATT Level 1 & 2)

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- m. Supply fan variable flow controls (MATT Level 1 & 2)
- n. Boiler and chiller isolation controls (MATT Level 1 & 2)
- o. Fault detection and diagnostics for packaged direct-expansion units (MATT Level 2 only)
- p. Automatic fault detection and diagnostics for air handling units and zone terminal units (MATT Level 2 only)
- q. Distributed energy storage direct-expansion air conditioning systems (MATT Level 2 only)
- r. Thermal energy storage systems (MATT Level 2 only)
- s. Building Energy Efficiency Standards mechanical acceptance testing procedures (MATT Level 1 & 2)
- t. Building Energy Efficiency Standards acceptance testing compliance documentation for mechanical systems. (MATT Level 1 & 2)

The MATT Level 2 Curricula will otherwise correspond to domains as identified in Section 10-103.2(c)3.B.i of the Standards and relating to the mechanical acceptance tests identified in Section 6.2.2 above for any changes to the Standards after 2019.

7 Knowledge Base for California Title 24 Acceptance Test Employers

7.1 Reference Materials

- SMACNA HVAC Systems Application
- SMACNA HVAC Systems Testing, Adjusting and Balancing
- SMACNA TAB Procedural Guide
- SMACNA HVAC Air Duct Leakage Test Manual
- SMACNA HVAC Systems Duct Design
- Current and immediately preceding CCR Title 24 Part 1 Section 10-102, 10-103 and 10-103.2 as well as well as Part 6 section 120.5
- Current and immediately preceding California Energy Code
- Current and immediately preceding Nonresidential Appendix NA 7 – Installation and Acceptance Requirements for Nonresidential Buildings and Covered Processes including Mechanical Systems Compliance Forms and Mechanical Systems Acceptance Forms, with additional sections and forms as referenced and required for Mechanical Acceptance Testing.
- Current and immediately preceding Nonresidential Compliance Manual Section 13. Acceptance Requirements, including all sections as referenced and required for Mechanical Acceptance Testing.

7.2 Mechanical Acceptance Test Employer (MATE)

The Mechanical Acceptance Test Employer must be knowledgeable about

- Current and immediately preceding CCR Title 24 Part 1 Section 10-102 and 10-103.2 as well as well as Part 6 section 120.5
- Current and immediately preceding California Energy Code
- Current and immediately preceding Nonresidential Appendix NA 7 – Installation and Acceptance Requirements for Nonresidential Buildings and Covered Processes including Mechanical Systems Compliance Forms and Mechanical Systems Acceptance Forms, with additional sections and forms as referenced and required for Mechanical Acceptance Testing.

7.3 MATE Curricula

The MATE must be knowledgeable about the construction inspection, functional testing and acceptance criteria of the mechanical systems acceptance tests according to the current and immediately preceding Nonresidential Appendix NA 7.5, with additional sections and forms as referenced and required for Mechanical Acceptance Testing.