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CEA Letter 2 of 3_Comments on 2025 BEES - Title 24 Parts 1 and 6_Express Terms_15-day Language

CEA Comments Letter 2 of 3 - Mechanical Sections

Additional submitted attachment is included below.

June 28, 2024

California Energy Commission
Docket #24-BSTD-01
715 P Street
Sacramento, CA 95814

Re: Docket Number: 24-BSTD-01 – 2025 Building Energy Efficiency Standards, Title 24 Parts 1 and 6, Express Terms, 15-Day Language

CEA Comment Letter 2 of 3: Mechanical Sections

Dear CEC Commissioner McAllister and Staff,

Thank you for the opportunity to provide comments on the California Energy Commission's (CEC) 2025 Building Energy Efficiency Standards, Title 24 Parts 1 and 6, Express Terms, 15-Day Language (Energy Code).

The California Energy Alliance (CEA) is a leading advocacy organization for California's energy stakeholders. CEA and its Members had the opportunity to provide comment letters on the 45-Day Energy Code Language (Docket No: 24-BSTD-01, TN#s 256329, 256330, & 256331). CEA is grateful to see the CEC adopt many of the recommendations from these comments and applaud you for listening to industry stakeholders and making the necessary updates to the Energy Code to continue reducing greenhouse gas emissions by maximizing efficiency.

While the above recommendations were generally accepted, CEA would like to comment on and address continued areas of concern in the 2025 Energy Code Express Terms, 15-Day Language. CEA is submitting (3) separate comment letters to address distinct areas of the Energy Code (Lighting/Electrical Sections, Mechanical Sections, and Supplementary Sections/Reports).

The following comments and recommendations (CEA Comment Letter 2 of 3) relate to "Mechanical Sections" of the Energy Code (TN# 256847):

California Energy Alliance

1) **Sections 10-103.2(c)3Fii & iii**
   a) While we appreciate the CEC addressing how many tests the training center must be equipped to handle in the 15-Day Language (The ATTCP training facility shall be set up to allow auditing of all functional tests for which the ATT is certified.) The 15-Day Language does provide clarification ON what "1%" is based on, outside of an ATE's total projects, or provide equitable flexibility to carry out shadow audits either on-site or at a training center, depending on the specific situation. It is also unclear what an ATTCP should do if they provide both on-site audits and audits in training centers since one would require only 1% of an ATE's projects while training centers would require all of an ATTCP's ATTs be shadow audited in each code cycle. We strongly encourage the CEC to address these concerns with the proposed changes.
   b) The following underlined and strikethrough amendments to **Section 10-103.2(c)3Fii** and new language added for **iii, iv, and v** in the 2025 Energy Code, 15-Day Language aims to address these concerns:

Section 10-103.2(c)3F

"ii. By the end of each code cycle, ~~T~~the ATTCP shall review a random sample of no ~~less~~ fewer than 1 percent of each ATT's completed compliance forms in the prior code cycle. This requirement shall not apply to ATTs that have completed fewer than 20 compliance forms in the prior code cycle.

By the end of each code cycle, the ATTCP shall shadow audit each ATE. The number of shadow audits for each ATE shall be equivalent to no fewer than 1 percent of each ATE's overseen projects in the prior code cycle.

iii. The ATTCP shall perform the shadow audit by randomly selecting an ATT employed by the ATE and observing the performance of the ATT on at least five functional tests for which the ATT is certified either:

a. On the job site; or

b. At an ATTCP training facility.

iv. The shadow audit at an ATTCP training facility must replicate field conditions for installed equipment and controls in the building. The ATTCP training facility where the shadow audit is performed shall be set up to allow auditing of all functional tests for which the ATT is certified.

v. The shadow audits must be in addition to any testing used for ATT recertification."

2) **Section 140.3(a)9Cia and NA5.5**
   a) The testing should also include fundamental workforce standards for these tasks, which would include certification as an ATT.
   b) CEA recommends the following new proposed requirements to Section 140.3(a)9Cia: "An air leakage rate not exceeding 0.40 cfm/ft2 at a pressure differential of 0.3 in. of water (1.57 psf) (2.0 L/m2 at 75 Pa). when the entire building is tested, after completion of construction, performed by an ATT in accordance with NA 5, or another test method performed by an ATT and approved by the Commission; or"

3) **Section 140.4(a)3A and B**
   a) While we appreciate the CEC making several crucial changes and additions to this proposed section, we continue to have concerns about the constraints that are presented to design professionals by limiting the options for space conditioning systems. Maintaining flexibility, within reason, for designers will help keep costs down for schools with budget constraints while maintaining the intention of the Energy Code.

4) **Section 140.4(c)2B**
   a) The inclusion of ASHRAE Guideline 36 in the 15-day language necessitates the expansion of functional performance tests detailed in the existing NRCA-MCH-07A Mechanical form. These critical tests should also be performed by certified ATTs to ensure compliance with the new guidelines and maintain the highest standards of energy efficiency and system reliability.
   b) CEA recommends adding the following underlined language and create subsection **140.4(c)2Biii**:

      "B. Setpoint reset. For systems with direct digital control of individual zone boxes reporting to the central control panel:

      i. static pressure setpoints shall be reset based on the zone requiring the most pressure

      ii. Control sequences of operation for static pressure setpoint reset shall be in accordance with ASHRAE Guideline 36.

      iii. Applicable equipment and systems shall be certified as meeting the acceptance requirements for code compliance, as specified by the reference Nonresidential Appendix NA7.5.6. A certificate of acceptance shall be completed by a certified ATT and submitted to the enforcement agency that certifies that the equipment and systems meet the acceptance requirements specified in NA7.5.6."

5) **Section 140.4(d)2A**

a) CEA proposes the integration of a requirement for certified Acceptance Test Technicians (ATTs) to conduct construction inspections and functional verification of temperature resets, in conjunction with NRCA-MCH-16A. Additionally, the inclusion of ASHRAE Guideline 36 in the code necessitates the expansion of functional performance tests detailed in the existing NRCA-MCH-016A Mechanical form. These critical tests should also be performed by certified ATTs to ensure compliance with the new guidelines and maintain the highest standards of energy efficiency and system reliability.

b) CEA recommends adding the following underlined language and create subsection **140.4(d)2Avi**:

"2. Zones served by variable air-volume systems that are designed and controlled to reduce, to a minimum, the volume of reheated, recooled, or mixed air are allowed only if the controls meet all of the following requirements:

A. For each zone with direct digital controls (DDC):

i. The volume of primary air that is reheated, recooled, or mixed air supply shall not exceed the larger of:

a. 50 percent of the peak primary airflow; or

b. The design zone outdoor airflow rate as specified by Section 120.1(c)3.

ii. The volume of primary air in the deadband shall not exceed the design zone outdoor airflow rate as specified by Section 120.1(c)3.

iii. The first stage of heating consists of modulating the zone supply air temperature setpoint up to a maximum setpoint no higher than 95ºF while the airflow is maintained at the dead band flow rate.

iv. The second stage of heating consists of modulating the airflow rate from the dead band flow rate up to the heating maximum flow rate.

v. Control sequences of operation for reheat zones shall be in accordance with ASHRAE Guideline 36.

<u>vi. Applicable equipment and systems shall be certified as meeting the acceptance requirements for code compliance, as specified by the reference Nonresidential Appendix NA7.5.15. A certificate of acceptance shall be completed by a certified ATT and submitted to the enforcement agency that certifies that the equipment and systems meet the acceptance requirements specified in NA7.5.15."</u>

6) **Section 140.9(b)3**
   a) The section clearly calls out for an acceptance requirement and specifies that a certificate of acceptance be submitted to the enforcement agency.
      i) "Applicable equipment and systems shall be certified as meeting the acceptance requirements for code compliance…"
      ii) "…A certificate of acceptance shall be submitted to the enforcement agency that certifies that the equipment and systems meet the acceptance requirements specified in NA7.11"
   b) The associated acceptance forms should include a requirement for a certified Mechanical Acceptance Testing technician to perform this task to ensure that the intent of this requirement is achieved.
   c) CEA recommends adding the following underlined language to **Section 140.9(b)3**:

      "3. Kitchen exhaust system acceptance. Before an occupancy permit is granted for a commercial kitchen subject to Section 140.9(b), the following equipment and systems shall be certified, by a certified ATT, as meeting the acceptance requirements for code compliance, as specified by the Reference Nonresidential Appendix NA7. A certificate of acceptance shall be submitted to the enforcement agency that certifies that the equipment and systems meet the acceptance requirements specified in NA7.11."

7) **140.9(c)1C and NA7.16**
   a) The section clearly calls out for an acceptance requirement and specifies that a certificate of acceptance be submitted to the enforcement agency.
      i) "Applicable equipment and systems shall be certified as meeting the acceptance requirements for code compliance…"
      ii) "…A certificate of acceptance shall be submitted to the enforcement agency that certifies that the equipment and systems meet the acceptance requirements specified in NA7.16"
   b) The associated acceptance forms should include a requirement for a Mechanical Acceptance Testing Technician to perform this task to ensure that the intent of this requirement is achieved.
   c) We request that the CEC make clear in the Energy Code that this requirement must be completed by a certified Mechanical Acceptance Testing technician to ensure that its intent was achieved.
   d) CEA recommends adding the following underlined language to **Section 140.9(c)1C**:

      "C. Applicable equipment and systems shall be certified as meeting the acceptance requirements for code compliance, as specified by the

reference Nonresidential Appendix NA7.16. A certificate of acceptance shall be completed by a certified ATT and submitted to the enforcement agency that certifies that the equipment and systems meet the acceptance requirements specified in NA7.16."

8) Section 140.9(c)4B and NA7.17

a) This section clearly calls out for an acceptance requirement and specifies that a certificate of acceptance be submitted to the enforcement agency.
   i) "Applicable equipment and systems shall be certified as meeting the acceptance requirements for code compliance…"
   ii) "…A certificate of acceptance shall be submitted to the enforcement agency that certifies that the equipment and systems meet the acceptance requirements specified in NA…"

b) The associated acceptance forms should include a requirement for a Mechanical Acceptance Testing Technician to perform this task to ensure that the intent of this requirement is achieved.

c) CEA recommends adding the following underlined language and strikeout to **Section 140.9(c)4B**:

"B. Fume Hood Automatic Sash Closure Acceptance. Before an occupancy permit is granted for buildings with ~~the~~ fume hoods subject to 140.9(c)4, the equipment and systems shall be certified, by a certified ATT, as meeting the Acceptance Requirement for Code Compliance as specified by the Reference Nonresidential Appendix NA7. A Certificate of Acceptance shall be submitted to the enforcement agency that certifies that the equipment and systems meet the acceptance requirements specified in NA7.17."

9) Section 160.2(b)2Aivb2

a) The 15-Day Language does not address the unfair market advantage created by not allowing an ATT to perform sampling while allowing ECC raters that ability for the same requirement (NA1.9.1 Field Verification by the Acceptance Test Technician – "…Systems verified under this procedure are not eligible for use of the sampling procedures described in NA1.6."). As previously recommended, Compartmentalization Testing in multifamily buildings with four or more habitable stories should remain under the scope of the ATT until an equitable option for sampling can be provided.

b) CEA recommends amending **Section 160.2(b)2Aivb2** with the following strikeouts and underlined language:

"2. Compartmentalization Testing. The dwelling unit envelope leakage shall not exceed 0.3 cubic feet per minute at 50 Pa (0.2 inch water) per ft2 of dwelling unit envelope surface area as confirmed by ECC-rater field verification and diagnostic testing in accordance with the procedures specified in Reference Appendix RA3.8 or NA2.3 as applicable. In multifamily buildings with four or more habitable stories, the field verification and diagnostic testing shall ~~which requires an ECC-Rater may alternatively~~ be performed by a certified Mechanical Acceptance Test Technician according to the requirements specified in Reference Appendix NA1.9."

10) Section 160.2(b)2Biv

a) The alternative procedure provides for an unfair market advantage for HERS (ECC) testers as sampling would not be allowed by an ATT certified individual or company. Dwelling unit field verification and diagnostic testing in multifamily buildings with four or more habitable stories should remain exclusively under the scope of the ATT until an equitable option for sampling can be provided. Per NA1.9.1 Field Verification by the Acceptance Test Technician "Systems verified under this procedure are not eligible for use of the sampling procedures described in NA1.6.".

b) CEA recommends amending **Section 160.2(b)2Biv** with the following strikeouts and underlined language:

"iv. In multifamily buildings with four or more habitable stories, the field verification and diagnostic testing required in Section 160.2(b)2Bi, ii and iii ~~which requires an ECC-Rater may alternatively~~ shall be performed by a certified Mechanical Acceptance Test Technician according to the requirements specified in Reference Appendix NA1.9."

11) NA1.9.1 Field Verification by the Acceptance Test Technician

a) The 15-day language does not address the issue of market inequality. Sampling needs to be allowed for all technicians or none at all.

b) CEA recommends amending this section with the following strikeouts:

"Under this alternative procedure, when the Certificate of Compliance indicates that field verification and diagnostic testing is required as a condition for compliance with Title 24, Part 6, a certified ATT may perform the verification to satisfy the condition of compliance. ~~Systems verified under this procedure are not eligible for use of the sampling procedures described in NA1.6."~~

CEA thanks the CEC for the opportunity to submit these comments, and we look forward to answering any questions or comments regarding our recommendations to the 2025 Energy Code Express Terms, 15-Day Language.

Sincerely,

California Energy Alliance
josh.dean@caenergyalliance.org