

<b>DOCKETED</b>	
<b>Docket Number:</b>	22-BSTD-01
<b>Project Title:</b>	2025 Energy Code Pre-Rulemaking
<b>TN #:</b>	253241
<b>Document Title:</b>	Comments on 2025 Energy Code Pre-Rulemaking Express Terms Recommending Modifications
<b>Description:</b>	Comments on 2025 Energy Code Pre-Rulemaking Express Terms Recommending Modifications to Nonresidential Field Verification and Diagnostic Testing Requirements
<b>Filer:</b>	Lorrie Lele
<b>Organization:</b>	JCEEP, WSC-SMART & California Assoc. of Sheet Metal & Air Conditioning Contractors, National Assoc. and NEMIC
<b>Submitter Role:</b>	Public
<b>Submission Date:</b>	11/17/2023 4:09:19 PM
<b>Docketed Date:</b>	11/17/2023

# ADAMS BROADWELL JOSEPH & CARDOZO

A PROFESSIONAL CORPORATION

## ATTORNEYS AT LAW

601 GATEWAY BOULEVARD, SUITE 1000  
SOUTH SAN FRANCISCO, CA 94080-7037

TEL: (650) 589-1660  
FAX: (650) 589-5062  
agraf@adamsbroadwell.com

SACRAMENTO OFFICE

520 CAPITOL MALL, SUITE 350  
SACRAMENTO, CA 95814-4721

TEL: (916) 444-6201  
FAX: (916) 444-6209

ARIANA ABEDIFARD  
KEVIN T. CARMICHAEL  
CHRISTINA M. CARO  
THOMAS A. ENSLOW  
KELILAH D. FEDERMAN  
RICHARD M. FRANCO  
ANDREW J. GRAF  
TANYA A. GULESSERIAN  
DARION N. JOHNSTON  
RACHAEL E. KOSS  
AIDAN P. MARSHALL  
TARA C. RENGIFO

*Of Counsel*  
MARC D. JOSEPH  
DANIEL L. CARDOZO

November 17, 2023

### **Via Docket No. 22-BSTD-01**

California Energy Commission  
Docket Unit, MS-4  
715 P Street  
Sacramento, California 95814

Re: **Comments on 2025 Energy Code Pre-Rulemaking Express Terms  
Recommending Modifications to Nonresidential Field Verification  
and Diagnostic Testing Requirements**

Dear Commissioners and Staff:

We write on behalf of the Joint Committee on Energy and Environmental Policy, Western States Council of Sheet Metal, Air, Rail and Transportation Workers, California Association of Sheet Metal and Air Conditioning Contractors, National Association, and National Energy Management Institute Committee (collectively “the Coalition”) to request that the Commission modify the nonresidential field verification and diagnostic testing requirements as part of the 2025 update to the Building Energy Efficiency Standards (“Energy Code”).

### **I. INTRODUCTION**

On September 14, 2023, the Coalition submitted comments recommending that the Commission make the following changes to field verification and diagnostic testing requirements in nonresidential buildings and multifamily buildings with four or more stories (“high-rise multifamily”): (1) eliminate field verification requirements that are duplicative of acceptance testing, (2) remove local enforcement agency pre-approval requirements for certified acceptance test technicians (“ATTs”) to perform field verification, (3) eliminate the prohibition on

November 17, 2023

Page 2

sampling for certified ATTs performing field verification.<sup>1</sup> In addition, the Coalition opposed the proposal to change the name of field verification and diagnostic testing program to energy code compliance (“ECC”) program because the name change creates unnecessary confusion with the acceptance test program, which also perform Energy Code compliance tasks.<sup>2</sup>

On November 3, 2023, the Commission staff released the draft regulations (also called Express Terms) that would result from proposed amendments to the Energy Code and Reference Appendices.<sup>3</sup> The Express Terms make several changes to nonresidential field verification and diagnostic testing requirements; however, none of the proposed amendments substantively address the concerns raised by the Coalition. The Coalition respectfully requests that the Commission reconsider the Coalition’s recommendations because the existing regulations are redundant, unfair, and impose unnecessary costs or administrative burdens.

## II. DISCUSSION

### **A. Duct Leakage Verification for Certain Space Conditioning Systems in Nonresidential and Multifamily Buildings Is No Longer Necessary Because Acceptance Testing Is Required to Be Performed by Certified ATTs**

HERS Raters primarily perform field verification in residential buildings. Only recently, and under limited circumstances, were HERS raters required to perform field verification in nonresidential buildings and common areas in multifamily buildings. In 2005, the Commission began requiring duplicative duct leakage testing for certain nonresidential HVAC systems (first by the installer, then by a HERS Rater) to verify that the installing technician performed the correct air duct leakage testing procedure.<sup>4</sup> At the time, only HERS Raters were trained and

---

<sup>1</sup> TN #252264, Letter to California Energy Commission from Andrew J. Graf, Adams Broadwell Joseph & Cardozo re: [Comments on the 2025 Energy Code Field Verification & Diagnostic Testing and Nonresidential HVAC Efficiency Requirements Workshop](#) (Sept. 14, 2023) pp. 3-9.

<sup>2</sup> *Id.* at pp. 9-10.

<sup>3</sup> TN #252915, California Energy Commission, [Draft 2025 Energy Code Express Terms](#) (Nov. 3, 2023); TN #252914, California Energy Commission, [Draft 2025 Reference Appendices Express Terms](#) (Nov. 3, 2023).

<sup>4</sup> TN #216654, California Energy Commission, [Staff Report: Alternative Procedure to Home Energy Rating System Rater Nonresidential Duct Leakage Test Verification](#) (Mar. 2017) p. 3.

November 17, 2023

Page 3

certified by the Commission to perform duct leakage testing.<sup>5</sup> However, as of October 2021, the Energy Code requires that duct leakage testing also be performed by certified ATTs because the Commission found that the threshold for industry certification had been met.<sup>6</sup>

The Express Terms remove duct leakage verification requirements entirely from Nonresidential Appendix (“NA”) Sections NA1 and NA2 (which governs field verification and diagnostic testing for nonresidential systems and multifamily dwelling units) and place them in Section NA7 (which governs installation and acceptance requirements for nonresidential buildings and covered processes). These changes make clear that certified ATTs and HERS Raters are required to follow the same exact procedure for duct leakage testing in nonresidential buildings and systems serving multifamily common areas. Despite this, the Express Terms still require that duct leakage testing be performed by both certified ATTs and HERS Raters.

The concerns which initially prompted the Commission to require nonresidential duct leakage testing by HERS Raters are no longer present given that ATTs must perform the same exact procedure. ATTs are required to have at least 3 years of professional experience and expertise in mechanical controls and systems as well as classroom and hands-on training. They are trained, certified, and overseen by Commission-approved certification providers who provide training curricula, certification procedures, complaint resolution (including disciplinary procedures), quality assurance, and accountability measures. They must record the results of the acceptance tests with their certification providers to demonstrate compliance.

Eliminating field verification requirements for duct leakage testing would not result in any energy efficiency changes for the limited number of nonresidential and multifamily buildings that would be affected by this change given the similarities between HERS Raters and certified ATTs (i.e., training, oversight, documentation).

---

<sup>5</sup> *Id.* at pp. 1, 4.

<sup>6</sup> California Energy Commission, [Resolution No: 21-0414-08](#): Resolution of the California Energy Commission Finding Industry Certification Threshold Conditions Met Pursuant to Section 10-103.2(B) of the Building Energy Efficiency Standards Regarding Acceptance Test Technician Certification to Perform the Mechanical Systems Acceptance Tests (Apr. 14, 2021). 4003-131j

It would, however, streamline the compliance process for nonresidential and multifamily builders by eliminating duplicative testing by an independent third party, which in turn can reasonably be expected to lower costs and increase compliance. Local jurisdictions would also no longer need to track two compliance paths.

Overall, the benefits of removing redundant duct leakage testing in nonresidential and multifamily common areas far outweigh any speculative and unsubstantiated concerns that eliminating this duplicative oversight would result in increased energy use. We respectfully request that the Commission should make the following changes to the Express Terms:<sup>7</sup>

*1. Section 120.4(g)1*

New duct systems that meet the criteria in Subsections A, B, C, and D below shall be sealed to a leakage rate not to exceed 6 percent of the nominal air handler airflow rate as confirmed through ~~HERS field verification and diagnostic testing, in accordance with Reference Nonresidential Appendix NA7.5.3~~ acceptance testing specified in Section 120.5(a)3.

*2. Section 141.0(b)2Dii*

If the new ducts are an extension of an existing duct system and the combined new and existing duct system meets the criteria in Subsections 1, 2, 3, and 4 below, the duct system shall be sealed to a leakage rate not to exceed 15 percent of the nominal air handler airflow rate as confirmed through ~~HERS field verification and diagnostic testing, in accordance with the applicable procedures in Reference Nonresidential Appendix NA7.5.3~~ acceptance testing pursuant to Section 120.5(a)3:

1. The duct system does not serve a healthcare facility;
2. The duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system;
3. The space conditioning system serves less than 5,000 square feet of conditioned floor area; and

---

<sup>7</sup> Blue underline and ~~red strikethrough~~ represent the Coalition proposed additions and deletions, respectively, to Express Terms. Black underline and ~~black strikethrough~~ represent additions and deletions, respectively, to the current code as identified in the Express Terms.

4. The combined surface area of the ducts located outdoors or in unconditioned space is more than 25 percent of the total surface area of the entire duct system.

Exception 1 to Section 141.0(b)2Dii: When it is not possible to achieve the duct leakage criterion in Section 141.0(b)2Dii, then all accessible leaks shall be sealed and verified through a visual inspection and a smoke test performed by a certified ~~HERS ECC Rater~~ [mechanical acceptance test technician](#) utilizing the methods specified in Reference Nonresidential Appendix ~~NA2.1.4.2.2~~ [NA7.5.3.2.3.2.3](#).

Exception 2 to Section 141.0(b)2Dii: Duct Sealing. Existing duct systems that are extended, which are constructed, insulated or sealed with asbestos are ~~exempt from the requirements of~~ not required to comply with subsection 141.0(b)2Dii.

3. *Section 160.3(c)2Hi*

New duct systems that meet the criteria in Subsections a, b and c below or ductwork that is part of a system that meets the criteria of Section 180.2(b)2B shall be sealed to a leakage rate not to exceed 6 percent of the nominal air handler airflow rate as confirmed through ~~field verification and diagnostic testing, in accordance with the applicable procedures in Reference Nonresidential Appendixes NA1 and NA2~~[NA7.5.3 acceptance testing pursuant to Section 160.3\(d\)1Ca](#).

4. *Section 180.2(b)2Bii*

If the new ducts are an extension of an existing duct system, the combined new and existing duct system meets the criteria in Subsections I, II, and III below. The duct system shall be sealed to a leakage rate not to exceed 15 percent of the nominal air handler airflow rate as confirmed through ~~field verification and diagnostic testing, in accordance with the applicable procedures in Reference Nonresidential Appendixes NA1 and NA2~~[NA7.5.3 acceptance testing pursuant to Section 160.3\(d\)1Cb](#):

*5. Nonresidential Appendix NA7.5.3*

**Purpose and Scope**

- (a) NA 7.5.3 contains procedures for field verification and diagnostic testing
- (b) NA7.5.3 procedures are applicable to new space conditioning systems in newly constructed buildings and to new or altered spaces condition systems in existing buildings.
- (c) NA 7.5.3 procedures shall be used by installers, ATTs, and others who are required to perform field verification of air distribution systems in accordance ~~with NA1 procedures and~~ Standards §120.4(g), §141.0(b)2Dii, §160.3(c)2Hi, and §180.2(b)2Biic.
- (d) Table NA7.5.3-1 provides a summary of the duct leakage verification and diagnostic testing protocols and the compliance criteria.

**B. Certified ATTs Are Better Suited to Verify Space Conditioning Systems in High-Rise Multifamily Buildings than HERS Raters and Thus Should Be the Preferred Entity**

The Express Terms remove dwelling unit ventilation system and dwelling unit enclosure leakage acceptance testing in high-rise multifamily buildings but retain field verification and diagnostic testing requirements for these systems. The Express Terms also expressly incorporate the ATT alternative procedure for nonresidential field verification into the mandatory requirements for space conditioning systems in multifamily dwellings. These changes eliminate duplicative testing by both ATTs and HERS Raters, but do not address the unfair and unjustified barriers because ATTs are only allowed to perform these tests at the discretion of the local enforcement agency while HERS Raters are allowed to perform these tests as a matter of right. Not only should ATTs have no limitations on their ability to perform these tests, but they should also be the preferred entity to perform these tests.

The Commission should have retained acceptance testing for high-rise multifamily buildings, not the field verification and diagnostic testing requirements, because certified ATTs are better suited to verify space conditioning systems in these buildings. For starters, the HERS Raters primarily verify simpler space conditioning systems serving residential buildings, whereas ATTs typically handle more complex space conditioning systems in nonresidential buildings. Space

conditioning systems in high-rise multifamily buildings are more akin to nonresidential buildings, as evidenced by the distinction made in the Energy Code where the verification procedure used is determined by the size of the multifamily building (three stories or less versus four stories or greater).

ATTs have a greater and more comprehensive level of training and experience than HERS Raters. For example, ATTs are required to have at least three years of professional experience in mechanical controls and systems and must pass a written and practical exam. ATTs are also trained, certified, and overseen by ATTCPs, which adopt quality assurance and accountability measures to ensure ATTs maintain competency while certified. In fact, certified ATTs are currently trained to perform all field verification and diagnostic testing procedures set forth in Sections NA1 and NA2. In other words, ATTs can complete field verification and diagnostic testing for all systems subject to those procedures even if they don't already perform acceptance testing.

Lastly, as discussed in Section II.A., the concerns which initially prompted reliance on HERS Raters for verification beyond single family residences is no longer present because acceptance testing must be performed by qualified installers under supervision of ATTCPs, not untrained technicians. For all of these reasons, the Commission should revise the Express Terms to require that certified ATTs perform acceptance testing pursuant to the procedures set forth in Sections NA1 and NA2 for high-rise multifamily buildings, and eliminate the use of HERS Raters for verification in high-rise multifamily buildings (and nonresidential buildings) altogether.

In doing so, the Commission would also clearly distinguish the roles of ATTs and HERS Raters because ATTs would be responsible for verifying (via acceptance testing) systems in nonresidential buildings and high-rise multifamily buildings, while HERS Raters would be responsible for verification of systems in residential buildings and low-rise multifamily buildings. This would create a clear compliance structure that would be easier to administer by local building departments and potentially reduce costs by eliminating redundancies and improving efficiencies.

At a minimum, the Commission should remove local enforcement agency pre-approval as discussed in greater detail in Section II.C and eliminate the prohibition on sampling as discussed in Section II.D.



### **C. Local Enforcement Agency Pre-Approval of Field Verification Performed by Certified ATTs Is Unnecessary and Overly Burdensome**

The Express Terms do not make any substantive changes to the ATT alternative procedure set forth in Section NA1.9. As a result, ATTs can only perform field verification and diagnostic testing to satisfy the condition of compliance “at the discretion of the enforcement agency.” This administrative barrier adds costs and time without any significant benefits.

When the alternative procedure is used, there are no differences in the diagnostic testing that is being performed. Certified ATTs follow the same exact procedures and collect the same type of data as HERS Raters. The only difference is that the alternative procedure will record all tests performed, as opposed to recording only the sampling test under the current procedure (HERS Raters may perform sample testing, one for every seven installations).

While there are many distinctions between ATTs and HERS Raters, those dissimilarities do not necessitate an additional administrative hurdle for ATTs performing field verification. As discussed above, ATTs are better suited for field verification in nonresidential and high-rise multifamily buildings. ATTs are trained, certified, and overseen by Commission-approved certification providers. Their training specifically includes all nonresidential field verification and diagnostic testing procedures specified in Section NA2. ATTs complete the same documentation and submit it to their respective certification provider.

With all these assurances, there is no adequate justification for imposing pre-approval requirement for ATTs. If anything, the documented problems with the HERS program support imposing more lenient standards on ATTs. The Commission should make the following changes to the Express Terms:

1. *Section 160.2(b)2Aivb2*

~~Supply or exhaust ventilation with e~~ **Compartmentalization** ~~Testing.~~  
~~Continuously operating supply ventilation systems or continuously operating exhaust ventilation systems shall be allowed to be used to provide the required whole dwelling unit ventilation airflow only if~~ ~~The dwelling unit envelope leakage is~~ shall be less than or equal to 0.3 cubic feet per minute at 50 Pa (0.2 inch water) per ft<sup>2</sup> of dwelling unit envelope surface area as confirmed by ~~HERS~~ 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 which requires an ECC Rater may alternatively be performed by a certified Acceptance Test Technician ~~at the discretion of the enforcement agency~~ according to the requirements specified in Reference Appendix NA1.9.

2. *Section 160.2(b)2Biv*

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 be performed by a certified Acceptance Test Technician ~~at the discretion of the enforcement agency~~ according to the requirements specified in Reference Appendix NA1.9.

3. *Nonresidential Appendix NA1.9.1*

Under this alternative procedure, when the Certificate of Compliance indicates that ~~HERS~~ 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, ~~at the discretion of the enforcement agency. Systems verified under this procedure are not eligible for use of the sampling procedures described in NA1.6 with exception of NA2.3, field verification and diagnostic testing of multifamily dwelling unit enclosures, for which ATTs may use sampling.~~

**D. Certified ATTs Should Be Permitted to Use Sampling Procedures for Field Verification**

As discussed in Section II.C., the Express Terms do not make any substantive changes to the ATT procedure set forth in NA1.9. However, from the strikeout included in Section NA1.9, it appears the Commission considered language that would have permitted the use of sampling by ATTs for field verification and diagnostic testing of multifamily dwelling unit enclosures. While the strikeout provision is not in the current code, it demonstrates that the Commission believes ATTs could be exempt from the sampling prohibition in certain instances. Regardless, the sampling prohibition is unnecessary and fundamentally unfair for the same reasons discussed above. The Commission should revise the ATT alternative procedure as recommended in Section II.C.3.

**E. Nonresidential Appendix Sections NA1 and NA2 Should Be Revised to More Accurately Reflect the Amendments in the Express Terms**

As discussed in Section II.A., the Express Terms remove duct leakage verification requirements entirely from NA1 and NA2 and place them in NA7. In doing so, NA1 and NA2 no longer include verification, testing, and documentation procedures for nonresidential buildings. Instead, these sections only provide procedures for field verification and diagnostic testing of multifamily dwelling units. The Commission should revise these sections to better reflect the amendments proposed in the Express Terms by removing references to nonresidential projects in favor of multifamily dwelling units.

**F. Renaming the Field Verification and Diagnostic Testing Program to the Energy Code Compliance Program Would Create Unnecessary Confusion**

The Coalition continues to oppose the proposal to rename the field verification and diagnostic testing program to the ECC program for the reasons expressed in our September 14 comments. In sum, Energy Code compliance is not exclusively performed by HERS Raters through the field verification and diagnostic testing program, and modifying the name would simply cause confusion in the marketplace with no discernable benefit. The Commission should return to its original nomenclature and continue to identify program stakeholders in a manner that accurately reflects the work they perform.

**III. CONCLUSION**

The Commission should revise the Express Terms to eliminate duplicative testing requirements for nonresidential buildings and allow ATTs to perform field verification and diagnostic testing in high-rise multifamily dwelling units with the use of sampling procedures and without pre-approval from the local enforcement agency. In addition, the Commission should not rename the field verification and diagnostic program to avoid any potential confusion or implication that HERS Raters are exclusively responsible for ensuring Energy Code compliance.

November 17, 2023  
Page 11

Thank you for your consideration of these comments.

Sincerely,

A handwritten signature in blue ink, appearing to read "Andrew J. Graf". The signature is written in a cursive style with a prominent horizontal stroke at the end.

Andrew J. Graf

AJG:ljl