

DOCKETED

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Project Title:	2025 Energy Code Rulemaking
TN #:	256848
Document Title:	Notice of 15-Day Comment Period, 2025 Building Energy Efficiency Standards and Reference Appendices
Description:	This is the notice of proposed changes to the 2025 Building Energy Efficiency Standards and Reference Appendices, and 15-day public comment period.
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CEC-057 (Revised 1/21)



Notice of Availability

15-DAY PUBLIC COMMENT PERIOD

PROPOSED REVISIONS TO THE Building Energy Efficiency Standards California Code of Regulations (CCR), Title 24, Part 6, and Part 1, Chapter 10

California Energy Commission Docket No. 24-BSTD-01

On March 29, 2024, the California Energy Commission (CEC) published the Notice of Proposed Action (NOPA) with proposed amendments to the Building Energy Efficiency Standards contained in the California Code of Regulations (CCR), Title 24, Part 6 (also known as the California Energy Code) and associated administrative regulations in Title 24, Part 1, Chapter 10 (collectively called the Express Terms). The CEC made all the documents available for a 45-day public comment period ending May 13, 2024, and held three lead commissioner public hearings on April 16, 17, and 18, 2024.

Based on comments received during the 45-day comment period and the lead commissioner public hearings, the CEC is proposing changes to the original proposed Express Terms, and the public is invited to submit written comments during a 15-day comment period from June 13 through June 28, 2024. **Any interested person may submit written comments to the CEC for consideration on or prior to June 28, 2024.** The CEC appreciates receiving written comments at the earliest possible date. Comments submitted outside this comment period are considered untimely. CEC may, but is not required to, respond to untimely comments.

Written and oral comments, attachments, and associated contact information (including address, phone number, and email address) will become part of the public record of this proceeding with access available via any internet search engine.

The CEC encourages use of its electronic commenting system. Visit the e-commenting page at <https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=24-BSTD-01> which links to the comment page for this docket. Enter your contact information and a comment title describing the subject of your comment(s). Comments may be included in the "Comment Text" box or attached as a downloadable, searchable document consistent with 20 California Code of Regulations Section 1208.1. The maximum files size allowed is 10 MB.

Written comments may also be submitted by email. Include docket number 24-BSTD-01 in the subject line and email to docket@energy.ca.gov.

A paper copy may be sent to:

California Energy Commission
Docket Unit
Docket No.24-BSTD-01
715 P Street, MS-4
Sacramento, CA 95814

The 15-day proposed language and related documents are available for review on the CEC website at <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2025-building-energy-efficiency>.

New deletions and additions to the proposed language are shown in double ~~strike through~~ to indicate deletions and double underline to indicate additions.

In the Final Statement of Reasons, staff will respond to all comments received on the record during the comment periods. The Administrative Procedure Act requires that staff respond to comments received regarding all noticed changes. Therefore, staff will only address comments received during this 15-day comment period that are responsive to this notice, documents added to the record, or the changes detailed in the proposed 15-day language at the above-referenced website.

CEC Contact: If you are unable to access the website and would like a copy of the rulemaking documents mailed or emailed to you, or if you have any questions, please contact Tajanee Ford-Whalen at tajanee.ford-whelan@energy.ca.gov. For all questions related to the Building Energy Efficiency Standards, please reach out to our Energy Standards Hotline at (800) 772-3300.

Summary of Proposed Amendments

A list of the proposed modifications has been added to the end of this document in the table titled Summary of Amendments. These amendments do not change implementation of the regulation in any way that affects the conclusions of the environmental analysis because the modifications consist primarily of provision clarifications that do not alter implementation or compliance with the regulations. Therefore, no additional environmental analysis or recirculation of the analysis is required. Additional amendments correcting grammar, punctuation and spelling have been made throughout the proposed changes. These changes are non-substantive.

Additional Documents Incorporated by Reference

The existing Energy Code incorporates a number of industry test standards by reference. The amendments proposed for the 2025 Energy Code include updates to these standards as needed to maintain currency. The following documents are in addition to those identified in the Notice of Proposed Action and are being incorporated by reference into the Energy Code. These documents are available from the CEC upon request (please reach out to CEC contact above) or are otherwise reasonably accessible from commonly available sources.

Illuminating Engineering Society

ANSI/IES LM-65-20, Approved Method: Live Testing of Single-Based Fluorescent Lamps

ANSI/IES LM-66-20-(R2023) Approved Method: Electrical and Photometric Measurements of Single-Based Fluorescent Lamps an American National Standard

ANSI/IES LM-79-19, Optical and Electrical Measurements of Solid State Lighting Products

ANSI/IES LM-1-20 Lighting Science: Nomenclature and Definitions for Illuminating Engineering

ANSI/IES TM-15-20 Technical Memorandum: Luminaire Classification System for Outdoor Luminaires an American National Standard

OpenADR Alliance

OpenADR 3.0 Specification, 2023

Air-Conditioning, Heating and Refrigeration Institute

AHRI 310/380-2017 Packaged terminal air-conditioning and heat pumps

ANSI/AHRI Standard 365 (I-P) 2009 Standard for Performance Rating of Commercial and Industrial Unitary Air-Conditioning Condensing Units

ANSI/AHRI 390-2021 (I-P) 2021 Standard for Performance Rating of Single Package Vertical Air-conditioners And Heat Pumps

Ansi/AHRI 400 (I-P) 2015 Standard for Performance Rating of Liquid to Liquid Heat Exchangers

AHRI Standard 430-2020 (I-P) 202 Standard for Performance Rating of Central Station Air-handling Unit Supply Fans

AHRI Standard 440 (I-P) 2019 Standard for Performance Rating of Fan-coil Units

ANSI/AHRI Standard 460 2005 Standard for Performance Rating of Remote Mechanical-Draft Air-Cooled Refrigerant Condensers

AHRI Standard 680 (I-P) 2017 Standard for Performance Rating of Residential Air Filter Equipment

AHRI Standard 920 (I-P) with Addendum 1 2020 Standard for Performance Rating of Direct Expansion-Dedicated Outdoor Air System Units

AHRI Standard 1230-2023 (I-P) 2023 Standard for Performance Rating of Variable Refrigerant Flow (VRF) Multi-split Air-conditioning and Heat Pump Equipment

AHRI Standard 1250 2020 Standard for Performance Rating of Walk-in Coolers and Freezers

Association of Home Appliance Manufacturers

AHAM HRH-2 Jan. 23, 2020 Residential Kitchen Range Hood Performance Test Procedures

AHAM RKRH-CPPG-2022 Residential Kitchen Range Hood Certification Program Procedure Guide (2022) Version 3.1

American National Standards Institute

ANSI/AMCA Standard 208-18 Calculation of the Fan Energy Index

ANSI/AMCA Standard 210-16/ASHRAE Standard 51-16 Laboratory Methods of Testing Fans for Certified Aerodynamic Performance Rating

ANSI/AMCA Standard 500-D-18 Laboratory Methods of Testing Dampers for Rating

ANSI/ASABE S640 JUL2017 (R2022) Quantities and Units of Electromagnetic Radiation for Plants (Photosynthetic Organisms)

ANSI/CTA-2045-B:2021 Wiring Devices – Dimensional Specifications

ANSI C82.6-2015 (R2020) American National Standard for Lamp Ballasts – Ballasts for High-Intensity Discharge Lamps – Methods of Measurement

ANSI Z21.40.4a-1998 (R2022)/CGA 2.94a-M98 (R2022) Performance Testing and Rating of Gas-Fired, Air-Conditioning and Heat Pump Appliances

ANSI Z21.47-2021/CSA 2.3:21 Gas-Fired Central Furnaces

ANSI Z83.8-2016/CSA 2.6-2016 (R2021) Gas Unit Heater, Gas Packaged Heaters, Gas Utility Heaters and Gas-Fired Duct Furnaces (2016)

ANSI/APSP/ICC 5-2011 American National Standard for Residential Inground Swimming Pools (2011 w/Addendum A)

American Society of Heating, Refrigerating and Air-Conditioning Engineers (National Publications)

ANSI/ASHRAE Standard 52.2-2017 Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size

ANSI/ASHRAE Standard 193-2010 (RA 2014) Method of Test for Determining the Airtightness of HVAC Equipment

American Society of Heating, Refrigerating and Air-Conditioning Engineers (Regional Publication)

ASHRAE Climatic Data for Region x Arizona, California, Hawaii, Nevada, Publication SPCDX, 1982, ISBN #20002196 and Supplement, 1994, ISBN #20002596

American Society of Mechanical Engineers

ASME A112.18.1-2018/CSA B125.1-18 Plumbing Supply Fittings

American Society for Testing and Materials / ASTM International

ASTM C177-19e1 Standard Test Method for Steady-State Heat Flu Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus

ASTM C272/C272M-18 Standard Test Method for Water Absorption of Core Materials for Sandwich Constructions

ASTM D1003-21 Standard Test Methods for Haze and Luminous Transmittance of Transparent Plastics

ASTM D1653-13(2021) Standard Test Methods for Water Vapor Transmission of Organic Coating Films

ASTM D1863/D1863M-05(2018 Standard Specification for Mineral Aggregate Used on Built-Up Roofs

ASTM 2370-16(2021 Standard Test Method for Tensile Properties of Organic Coatings

ASTM D2824/D2824M-18 Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Nonfibered, and Fibered without Asbestos

ASTM D3468/D3468M-99(2020) Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing

ASTM D4798/D4798M-11(2021) Standard Practice for Accelerated Weathering Test Conditions and Procedures for Bituminous Materials (Xenon-Arc Method)

ASTM D6083/D6083M-21 Standard Specification for Liquid-Applied Acrylic Coating Used in Roofing

ASTM E96/E96M-22ae1 Standard Test Methods for Gravimetric Determination of Water Vapor Transmission of Materials

ASTM E283/E283M-19 Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen

ASTM E408-13(2019) Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques

ASTM E779-19 Standard Test Method for Determining Air Leakage Rate by Fan Pressurization

ASTM E903-20 Standard Test Method for Solar Absorptance, Reflectance, and Transmittance of Materials Using Integrating Spheres

ASTM E972-96(2021) Standard Test Method for Solar Photometric Transmittance of Sheet Materials Using Sunlight

ASTM E3087-18 Standard Test Method for Measuring Capture Efficiency of Domestic Range Hoods

Certifying Organization

CIE 13.3-1995 Method of Measuring and Specifying Color Rendering Properties of Light Sources

CIE 015-2018 Technical Report: Colorimetry, 4th Edition

Cooling Technology Institute

CTI ATC-105 (19) Acceptance Test Code for Cooling Towers

CTI ATC-105DS (18) Acceptance Test Code for Dry Fluid Coolers

CTI ATC105S (11) Acceptance Test Code for Closed-Circuit Cooling Towers

CTI ATC-106 (11) Acceptance Test Code for Mechanical Draft Evaporative Vapor Condensers

CTI STD-201-RS (17) Standard for the Certification of Water Cooling Tower Thermal Performance

Home Ventilating Institute

HVI Publication 915-2020 HVI Loudness Testing and Rating Procedure

HVI Publication 916-2020 HVI Airflow Test Procedure

HVI Publication 915-2020 HVI Product Performance Certification Procedure Including Verification And Challenge

International Organization for Standardization

ISO 5801:2017 Fans- Performance testing using standardized airways

ISO 13256-1:1998 (RA 2012) Water-Source Heat Pumps-Testing and Rating for Performance- Part 1: Water-to-Air and Brine-to-Air Heat Pumps

ISO 13256-2:1998 (RA2012) Water-Source Heat Pumps-Testing and rating for Performance-Part2: Water-to-Water Brine-to-Water Heat Pumps

ISO/IEC 17025:2017 General Criteria for the Competence of Testing and Calibration Laboratories

National Electrical Manufacturers Association

NEMA SSL 7A-2015 (R2021) Phase Cut Dimming for Solid State Lighting: Basic Compatibility

SAE International

SAE J1772 201710 SAE Electric Vehicle and Plug in Hybrid Electric Vehicle Conductive Charge Coupler

Underwriters Laboratories / UL

UL 181-2013 (R2021) Standard for Safety Factory Made Air Ducts and Connectors

UL 181A-2013 (R2021) Standard for Safety Closure Systems for Use with Rigid Air Ducts

UL181B-2013 (R2021) Standard for Safety Closure Systems for Use with Flexible Air Ducts and Air Connectors

UL 723-2018 (R2023) Standard for Safety Test for Surface Burning Characteristics of Building Materials

UL 727-2018 Standard for Safety Oil-Fired Central Furnaces

UL 731-2018 (R2021) Standard for Safety Oil-Fired Unit Heaters

UL 1077-2015 (R2021) Standard for Safety Supplementary Protectors for Use in Electrical Equipment

UL 1574-2004 (R2023) Standard for Safety Track Lighting Systems

UL 8750-2015 (R2022) Standard for Safety Light Emitting Diode (LED) Equipment for Use in Lighting Products

Additional Documents Relied Upon

The following documents are being added to the record for this rulemaking in anticipation of referencing them in the Final Statement of Reasons.

2025 Peak Cooling Energy Calculation Update

2025 Nonresidential Multi-Zone HVAC System Supplement

Staff Supplement to 2025 CASE Measure Proposal for Controlled Environment Horticulture

Staff Supplement to 2025 CASE Measure Proposal for Commercial Kitchens

Staff Supplement to 2025 CASE Measure Proposal for Cooling Towers

Staff Supplement to 2025 CASE Measure Proposal for Daylighting

Staff Supplement to 2025 CASE Measure Proposal for Laboratories

Staff Supplement to 2025 CASE Measure Proposal for Multifamily Envelope

Staff Supplement to 2025 CASE Measure Proposal for Multifamily Indoor Air Quality

Staff Supplement to 2025 CASE Measure Proposal for Multifamily Restructuring

Staff Supplement to 2025 CASE Measure Proposal for Nonresidential Envelope

Staff Supplement to 2025 CASE Measure Proposal for Nonresidential HVAC Controls – Guideline 36

Staff Supplement to 2025 CASE Measure Proposal for Nonresidential Space Heating

Staff Supplement to 2025 CASE Measure Proposal for Process Load Pipe Insulation

Staff Supplement to 2025 CASE Measure Proposal for Refrigeration

Staff Supplement to 2025 CASE Measure Proposal for Residential HRV/ERV

Staff Supplement to 2025 CASE Measure Proposal for Residential HVAC Performance

Staff Supplement to 2025 CASE Measure Proposal for Residential IAQ

Staff Supplement to 2025 CASE Measure Proposal for Single-Family Envelope

Staff Supplement to 2025 CASE Measure Proposal for Swimming Pool & Spa Heating

Section Number Amended	Summary of Amendments
10-102	Removed definition for ACM APPROVAL MANUALS. Alternative Calculation Methods Approval process is now described in Sections 10-109 and 10-116.
10-102	In the definition for EXECUTIVE DIRECTOR, capitalized the "E" and "D" in Executive Director.
10-102	In REFERENCE APPENDICES definition, removed reference to ACM Approval Manuals.
10-102	Updated the definition of "Verified ECC-Rater" to "Exemplary ECC-Rater."
10-103.1(c)3Fiiib	Added "for which the ATT is certified" for clarity in Section 10-103.1(c)3Fiiib.
10-103.2(c)3Fiiib	Added "for which the ATT is certified" for clarity in Section 10-103.2(c)3Fiiib.
10-103.3(a)	Added "residential" to clarify the scope of the Energy Code Compliance Program.
10-103.3(b)1Avii	Added the following language: "The Consumer Information Form shall be developed by the ECC-Provider, and the Commission may request to review and provide recommendations."
10-103.3(d)1Bii	Removed "in person" from Section 10-103.3(d)1Bii.
10-103.3(d)2Diii	Replaced "Verified-Active" with "Exemplary-Active" in Section 10-103.3(d)2Diii.
10-103.3(d)4Fiv	Replaced "Verified-Active" with "Exemplary-Active" in Section 10-103.3(d)4Fiv.
10-103.3(d)5Ci	Replaced "seventh sample group used in a single residential development" with "100 dwelling units or single family residences (or both in combination) in a single development constructed by a single developer that make use of the sample-group provisions (Building Energy Efficiency Standards Reference Appendix RA 2.6)."
10-103.3(d)5Cif	Replaced "seventh sample group used in a single residential development" with "100 dwelling units or single family residences (or both in combination) in a single development constructed by a single developer that make use of the sample-group provisions (Building Energy Efficiency Standards Reference Appendix RA 2.6)." Added "Nothing in this provision shall require that any dwelling unit in any sample-group remain open beyond the requirements in Building Energy Efficiency Standards Reference Appendix RA 2.6. These onsite audits shall comply with the following:"
10-103.3(d)5Cif(i)	Removed "in the same sample group being tested" from Section 10-103.3(d)5Cif(i).

10-103.3(d)5Cif(iii)	Added Section 10-103.3(d)5Cif(iii): "At the discretion of an ECC-Provider, this onsite audit may also be used to satisfy the requirements for an onsite audit as required by Section 10-103.3(d)5Ci (Onsite Audits) or, if applicable, Section 10-103.3(d)5Cii (Shadow Audits) for an ECC-Rater."
10-103.3(d)5Cif(iv)	Added Section 10-103.3(d)5Cif(iv): "A failed onsite audit of the tested dwelling unit shall constitute a failed onsite audit for the ECC-Rater. A failed onsite audit of either the tested or untested dwelling unit shall be recorded in the ECC-Provider's quality assurance database (Section 10-103.3(d)9B). A failed onsite audit of either the tested or untested dwelling unit shall be reported to the developer, ECC-Rater, and ECC-Rater Company as soon as is possible. Failed onsite audits of dwelling units within a sample- group shall not be deemed to fail or impact in any way the compliance status of the sample-group."
10-103.3(d)5Cig	Added "at the discretion of the ECC-Provider" to Section 10-103.3(d)5Cig.
10-103.3(d)5Ciia	Replaced "on the day of the audit" with "for scheduling purposes" in Section 10-103.3(d)5Ciia.
10-103.3(d)9Biiib	Added "Exemplary" to Section 10-103.3(d)9Biiib.
10-103.3(d)9Biiic	Added Section 10-103.3(d)9Biiic: "Current ECC-Provider pricing assigned to the ECC-Rater or ECC-Rater Company for the costs and services for Field Verification and Diagnostic Testing registration including any Quality Assurance fees."
10-103.3(d)10B	Revised Section 10-103.3(d)10B to the following: "ECC-Providers shall maintain a system that allows the Commission to readily search and query compliance documents, quality assurance data, ECC-Rater and ECC-Rater Company information collected in accordance with ECC-Provider responsibilities (Section 10-103.3(d)). The Commission shall be able to search and query the information stored on the ECC-Provider's system in a way that is not substantially limited compared to the ability of the ECC-Provider."
10-103.3(d)10C	Added to Section 10-103.3(d)10C "that is substantially different compared to the ability of the ECC-Provider."
10-103.3(d)10D	Added to Section 10-103.3(d)10D "at a minimum by calendar year or designated code cycle."
10-103.3(d)11A	Added to Section 10-103.3(d)11A "Requests for data shall be limited to information needed to confirm compliance with and/or assess the ECC program."
10-103.3(d)11Giie	Added Section 10-103.3(d)11Giie: "Current ECC-Provider pricing assigned to the ECC-Rater Company for the costs and services for Field Verification and Diagnostic Testing registration, including any Quality Assurance Fees."

10-103.3(d)12A	Added to Section 10-103.3(d)12A: "Requests for data shall be limited to information needed to confirm compliance with, assess the Section 10-103.3 ECC Program, or both."
10-103.3(f)1B	Added to Section 10-103.3(f)1B: "A principal of an ECC-Rater Company is defined as a senior management-level employee and is not limited to an owner or shareholder of the ECC-Rater Company."
10-109(c)1D	Revised Alternative Calculation Method Reference Manual as follows: "The Energy Commission shall publish a reference manual, Alternative Calculation Method Reference Manual, that specifies the standard design, documents the calculations and methods used by the compliance software to model building performance, calculates LSC and Source Energy, and determines building compliance with the Building Energy Efficiency Standards."
10-109(h)	Added a header "Alternative Procedures or Protocols" to Section 10-109(h). Replaced "the Alternative Calculation Method Approval Manuals" with "Section 10-109(c), 10-116."
10-109(i)	Removed capitalization from "and" in "Data Registries And Related External Digital Data Sources, And Electronic Document Repositories"
10 -110	Added Section 10-116 to the list of sections included in the title of Section 10-110, as well as in Section 10-110(a).
100.0(b)	Reworded "Air-to-Water Heat Pump" definition to change from "and/or" to list of items, or both.
Table 100.0-A	Added five rows for "Demand Responsive Controls" to Table 100.0-A listing the applicable sections for mandatory, prescriptive, additions & alterations requirements for the demand responsive (DR) controls including DR control thermostats, DR Zonal HVAC Controls, DR Lighting Controls, DR Electronic Message Center, and DR Controlled Receptacles.
Table 100.0-A	Added references to mandatory, prescriptive, additions & alterations requirements for indoor and outdoor signs in multifamily buildings.
Table 100.0-A	For consistency, added "Sign" sections to Table 100.0-A to account for requirements for multifamily buildings.
100.1	Shortened the name of the term "IES LM-79" (was IES LM-79-19) in the definition section, Section 100.1. "IES LM-79" is used throughout the code as a shorthand description for ANSI/IES LM-79-19. The change is necessary to ensure clarity and consistency of the language used in the 2025 Energy Code.
100.1(b)	Added a definition of SIMULTANEOUS MECHANICAL HEAT RECOVERY for better clarity.
100.1(b)	Updated definition for AHRI 210/240 to AHRI 210/240-2023. 45-day language Appendix included updated reference.
100.1(b)	Removed definition for ALTERNATIVE CALCULATION METHODS (ACM) APPROVAL MANUAL. Alternative Calculation Methods Approval process is now described in Sections 10-109 and 10-116.

100.1(b)	In MODELING ASSUMPTIONS definition, replaced "the Alternative Calculation Method (ACM) Approval Manuals" with "Section 10-109 and 10-116."
100.1(b)	In PROPOSED DESIGN BUILDING definition, replaced "the Alternative Calculation Method (ACM) Approval Manuals" with "Section 10-109 and 10-116."
100.1(b)	Removed reference to ACM Approval Manuals from Definitions. Alternative Calculation Methods Approval process is now described in Sections 10-109 and 10-116.
100.1(b)	In STANDARD DESIGN BUILDING definition, replaced "the Alternative Calculation Method Approval Manuals" with "Section 10-109 and 10-116."
100.1(b)	Added a new definition for Warehouse Building
100.1(b)	Removed "80 percent of the floor area" from the definitions for the following new nonresidential building types: Events & Exhibits Building, Religious Worship Building and Sports & Recreation Building
100.1(b)	Removed the word "OCCUPANCY" from the defined term NONRESIDENTIAL BUILDING OCCUPANCY TYPES. Also, removed the preliminary definition of NONRESIDENTIAL BUILDING OCCUPANCY TYPES.
100.1(b)	Included definition for AHRI 1250 - AHRI 1250 is the Air-Conditioning, Heating, and Refrigeration Institute document titled "2020 Standard for Performance Rating of Walk-in Coolers and Freezers." 2020 (AHRI Standard 1250-2020).
100.1(b)	Within LIGHTING definitions, deleted the defined term Automatic Daylighting Controls. Added defined term Daylight Responsive Control. This update reflects the terms used in Section 130.1(d).
100.1(b)	Within LIGHTING definitions, revised the definition of Multilevel Lighting Control to improve clarity. Specifically, replaced the word "level" with "intensity" and deleted the words "across multiple levels."
100.1(b)	Added "or switchboard" to the definition for BESS READY INTERCONNECTION EQUIPMENT. Added "/SWITCHBOARD" to the defined term BESS READY PANELBOARD and added "or switchboard" and "or a switchboard" to the definition of BESS READY PANELBOARD/SWITCHBOARD.
100.1(b)	Added a definition for COMPARTMENTALIZATION.
100.1(b)	Revised the AIR-TO-WATER HEAT PUMP (AWHP) definition to clarify that AWHP can be used to meet space conditioning loads, domestic hot water heating loads, or both.
100.1(b)	Added definition for EXECUTIVE DIRECTOR.
100.1(b)	Moved definition for PROGRAMMING LIBRARY from LIGHTING definitions to Section 100.1(b) to expand applicability of the defined term beyond lighting.

100.1(b)	Modified definition for MULTIPLE ZONE SYSTEM to improve clarity. Added "(or multi-zone system)," "a space conditioning" and "conditions."
100.1(b)	Added definition for OPENADR 3.0, Baseline Profile to support revisions in Section 110.12(a)1A and 110.12(a)1B.
100.1(b)	Modified definition for VIRTUAL END NODE to include reference to OpenADR 3.0, Baseline Profile to support revisions in Section 110.12(a)1A and 110.12(a)1B.
110.2(b)	Restructured Section 110.2(b) to be applicable to single-family buildings, multifamily buildings, and nonresidential buildings. Specifically, updated the title to "Controls for heat pumps with supplementary heaters." In the introductory text, listed the requirements for single-family residential buildings, nonresidential, and multifamily buildings. Also added a reference to Section 150.0(i)2 for heat pumps with supplementary heaters in single-family residential buildings.
Section 110.2(b), Exception 3	Removed Exception 3 to Section 110.2(b) as part of restructuring of the controls for heat pumps with supplementary heaters.
Section 110.4(c), Exception 1	To increase clarity to Exception 1 to Section 110.4(c), added the reference "20 CCR Section 1605.3(g)(7)" to the portable electric spa Appliance Efficiency Regulation.
Section 110.4(c), Exception 5	In Exception 5 to Section 110.4(c), the term "inadequate solar access" was expanded to "inadequate Solar Access Roof Area (SARA) as specified in Section 150.1(c)14" for clarity.
110.2(b)2	To increase clarity in Section 110.2(b)2, replaced "compression" with "heat pump."
110.2(e)	For consistency, in Section 110.2(e), replaced "open and closed cooling tower" with "open and closed-circuit cooling tower."
110.2(e)	To increase clarity in Section 110.2(e), replaced "local water supply" with "local water supply conditions."
110.2(e)2	For consistency, in Section 110.2(e)2, used "cycles of concentration achievable" and "maximum achievable cycles of concentration."
110.2(e)2I	In Section 110.2(e)2I to improve readability, restructured the layout of the equation for the Langelier saturation index (LSI), including description of the variables included in the equation.
110.3(c)7	To improve clarify of Section 110.3(c)7, updated the header to "Air-Source Heat Pump Water Heaters (HPWHs).
110.3(c)7A	To align with header of Section 110.3(c)7, removed "air-source" from Section 110.3(c)7A. To align with terms used elsewhere, replaced "cutout" with "cut-off." Clarified that "Backup heat may be internal or external to the HPWH." Added the word "heating" before "Winter Median of Extremes."
110.3(c)7B	Move option 4 to option 1. Additional cleanup to clarify intent of the option is to provide an option that meet or exceed the level of performance provided by 110.3(c)7B2-B4

Note to 110.3(c)7B	Added the following note to Section 110.3(c)7B to highlight design considerations: "Ducting only the inlet or the exhaust across the pressure boundary could interfere with balanced ventilation systems. This should be considered when specifying HPWH location and ventilation method."
110.3(c)7B1	Added Ventilation Requirement 1. "Installed using a method provided by the manufacturer to meet or exceed the level of performance provided by the ventilation requirements of Section 110.3(c)7B2 through Section 110.3(c)B4." A similar requirement was previously Ventilation Requirement 5.
110.3(c)7B2	In Section 110.3(c)7B2, changed the requirement for installation space volume to "not less than the greater of 100 cubic feet per kBtu per hour of compressor capacity, or the minimum volume provided by the manufacturer for this method;" from "equal to the greater of 100 cubic feet per kBtu per hour of compressor capacity, or the minimum volume provided by the manufacturer for this method;"
110.3(c)7B3	In Section 110.3(c)7B3, added "the" to increase clarity.
110.3(c)7B3i	Changed reference from 110.3(c)7B1 to 110.3(c)7B2 for internal consistency.
110.3(c)7B3ii	In Section 110.3(c)7B3ii, clarified that "NFA" means "Net Free Area."
110.3(c)7B3ii	In Section 110.3(c)7B3ii, clarified the requirements for permanent openings.
110.3(c)7B4i	In Section 110.3(c)7B4i, updated reference to Section 110.3(c)7B2 from Section 110.3(c)7B1.
110.3(c)7B4iv	In Section 110.3(c)7B4iv, clarified the requirements for the installation space where only the HPWH inlet or outlet is ducted.
110.3(c)7B4v	In Section 110.3(c)7B4v, clarified the requirements for airflow where the HPWH inlet and outlet ducts both terminate within the same pressure boundary.
110.3(c)7B5	Removed Ventilation Requirement 5. "Installed using a method certified by the manufacturer to meet the ventilation requirements of 110.3(c)7B." A similar requirement was added as Ventilation Requirement 1.
110.4(b)2	Revised pool cover requirement to apply only to pools which are heated by gas or electric heating systems.
110.4(c)	In Section 110.4(c), added option 4 for combination solar pool heating system and heat pump pool heater without additional supplementary heater. Also added option 5 to provide an alternative system approved by the Executive Director if shown to be energy equivalent. In Section 110.4(c), revised the description to requirements to "one of the sizing requirements of 1 through 5 below" from "1, 2, or 3 below."
110.4(c)1B	In Section 110.4(c)1B, removed "or," which is no longer needed with restructured section.
110.4(c)2	In Section 110.4(c)2, removed the requirement that "The control for the heat pump pool heater shall meet the requirements in section 110.2(b)." Also replaced "backup" with "supplementary" to align with terms used in other sections.

Table 110.2-A-1	In Table 110.2-A-1, corrected the recirculating water parameter "Total alkalinity as CaCO3 (ppm) excluding galvanized steel" by removing "2," which is not applicable.
Table 110.2-F	In Table 110.2-F, updated the test procedure for VRF Air Conditioners, Air Cooled, <65,000 Btu/h. Specifically, revised to "AHRI 1230 before 01/01/2023 AHRI 210/240 on or after 01/01/2023."
Table 110.2-G	In Table 110.2-G, reverted to the 2022 EER metrics for VRF Water Source (Cooling mode); updated IEER requirement with "Federal Minimum."
Table 110.2-G	In Table 110.2-G, reverted to a Minimum Efficiency of 2.05 COP for VRF Air Cooled (Heating mode), \geq 135,000 Btu/h (cooling capacity), 17F db / 15F wb outdoor air. Also removed "Federal Minimum."
Table 110.2-G	In Table 110.2-G, updated the test procedure for VRF Air Cooled (cooling mode), <65,000 Btu/h. Specifically, revised to "AHRI 1230 before 01/01/2023 AHRI 210/240 on or after 01/01/2023."
Table 110.2-G	In Table 110.2-G, updated the test procedure for VRF Air Cooled (heating mode), <65,000 Btu/h. Specifically, revised to "AHRI 1230 before 01/01/2023 AHRI 210/240 on or after 01/01/2023."
Table 110.2-H	Removed "Footnote to TABLE 110.2H".
110.4(c)2 and 110.4(d)	Added a new Section 110.4(d) defining requirements for controls for heat pump pool heaters with supplementary heating. Remove reference to 110.2 from heat pump pool heater option in 110.4(c)2.
110.4(c)4	In response to stakeholder feedback, in Section 110.4(c)4, added option 4 for combination solar pool heating system and heat pump pool heater without additional backup.
110.4(c)5	To offer additional design flexibility, in Section 110.4(c)5, added option 5 to provide an alternative system approved by the Executive Director if shown to be energy equivalent.
110.9(b)2	Replaced the term "automatic daylighting") with "daylight responsive" in Section 110.9(b)2.
110.12(a)1	Based on comments from stakeholders regarding demand responsive controls, added reference to OpenADR 3.0, Baseline Profile. Also replaced "by the manufacturer" with "to the Energy Commission" to clarify that the manufacturer is required to certify to the Commission.
120.1(c)	Added exception to Section 120.1(c)1 for evaporative coolers.
120.1(d)5A	Removed examples of space conditioning zones subject to the requirements of Section 120.1(d)5A.
120.5(a)19	Added cooling tower requirements to Section 120.5(a) - "19. Conductivity controls and overflow alarms for open and closed-circuit cooling towers shall be tested according to NA 7.5.18."
120.6	In Section 120.6, updated reference to the Section to reference Sections 120.6(a) through 120.6(k) to reflect additional mandatory requirements.
120.6	In Section 120.6, added reference to Sections 110.2 and 120.3.

Table 120.6-A-2	In Table 120.6-A-2, replaced all instances of the term "state" with "static".
120.6(a)4A, Exception 2	Corrected section reference for Exception and updated Exception as follows: "Exception 2 to Section 120.6(a)4A: Condensing units that are components of walk-in coolers or walk-in freezers within the scope of the Appliance Efficiency Regulations."
120.6(a)4B, Exception 1	Updated Exception as follows: "Exception 1 to Section 120.6(a)4B: Condensing units that are components of walk-in coolers or walk-in freezers within the scope of Appliance Efficiency Regulations."
120.6(a)4C, Exception 2	Corrected section reference for Exception and updated Exception as follows: "Exception 2 to Section 120.6(a)4C: Condensing units that are components of walk-in coolers or walk-in freezers within the scope of the Appliance Efficiency Regulations."
120.6(a)4G, Exception 2	Corrected section reference for Exception and updated as follows: "Exception 2 to Section 120.6(a)4G: Condensing units that are components of walk-in coolers or walk-in freezers within the scope of the Appliance Efficiency Regulations."
120.6(a)4H, Exception 2	Corrected section reference for Exception and updated as follows: "Exception 2 to Section 120.6(a)4H: Condensing units that are components of walk-in coolers or walk-in freezers within the scope of the Appliance Efficiency Regulations."
120.6(c)4	Replaced the British pound symbol (£) with the less than or equal to symbol (\leq). Section 120.6(c)4 now reads: CO concentration at all sensors is maintained at \leq 25 ppm or less at all times.
120.6(k)1b	Updated 120.6(k)1b to clarify that "The electrical service panel shall have a minimum capacity of 800 connected amps."
120.6(k), Exception 2	Added a second exception for Section 120.6(k) for all-electric commercial kitchens.
120.6(k)2	Updated 120.6(k)2 to clarify that requirement is for "The electrical service panel" and not only the "Main electrical service panel."
120.7(d)	Added an Exception to Section 120.7(d) to address exterior vertical fenestration assemblies installed in buildings in designated Fire Hazard Severity Zones or Wildland-Urban Interface (WUI) Fire Areas as designated by the local enforcement agency.
120.7(e)	Modified Section 120.7(e) requirement to clarify that the requirements only apply to newly constructed buildings, and not additions/alterations.
120.7(e), Exception 4	Added language to clarify that 120.7(e) - Exception 4 applies to revolving doors installed where a public entrance to a newly constructed building is required.
120.7(e), Exception 8	Added 120.7(e) - Exception 8 for buildings that are approved by the local planning department prior to the effective date of the Standards.
130.1(a)	Deleted the word "indoor" in Section 130.1(a) to improve conciseness. Replaced "provide" with "be provided with."

130.1(a) Exception	Clarified the Exception for egress lighting. Added "during a normal power failure" to Exception to Section 130.1(a) and rearranged the wording as "The egress lighting controls shall not be accessible by unauthorized personnel during a normal power failure."
130.1(a)2	Reworded Section 130.1(a)2 to clarify that the manual controls be located either where the controlled lighting or the status of the controlled lighting can be seen when operating the controls. Specifically, added "the" preceding "status". Removed "display" after "status".
130.1(b)	Replaced "provide" with "be provided" in Section 130.1(b).
130.1(b), Exception 5	Removed Exception 5 to Section 130.1(b).
130.1(c)5	Reworded Section 130.1(c)5 to increase clarity. Specifically, removed "are required for specified offices, multipurpose rooms, classrooms, conference rooms and restrooms" and converted existing text of "Occupant sensing controls" into a header for the subsection. Also removed restrooms from requirements for areas not required to have multilevel lighting controls.
130.1(c)6	Revised Section 130.1(c)6 to clarify the areas for which the requirements apply by rewording the section.
130.1(c)6Eiii.	Replaced "space" with "zone" in the term "separately controlled space" in Section 130.1(c)6E to align with usage of the term in other related sections.
130.1(d)2Biii, Exception	Added the word "segment" succeeding "the luminaire" to clarify the Exception to Section 130.1(d)2Biii.
130.1(d)2F	Updated the first sentence of Section 130.1(d)2F with the term "daylight responsive controls". Changed "decreasing" to "decrease". Deleted the second sentence.
130.2(c)2B	Removed the word "partially" preceding "reducing" from Section 130.2(c)2B for clarity.
130.2(c)3B	Removed the word "partially" preceding "reducing" from Section 130.2(c)3B for clarity.
130.4(a)3	Replaced "Automatic daylight" with "Daylight responsive" in Section 130.4(a)3 to align with the "daylight responsive" term used in other Sections.
130.5(d)2	Replaced the term "multiple receptacle" with "multiple-receptacle outlet" to Section 130.5(d)2 to increase clarity.
140.1	In Section 140.1, replaced "the Alternative Calculation Methods Approval Manual" with "Section 10-109(c) and Section 10-116."
Table 140.3-B	In Table 140.3-B, replaced "Glazed Doors" with "Fenestration."
140.3(a)9Cib	Corrected applicable NA sections from "NA5.2 to NA5.7" to "NA5.2-NA5.9."
140.4(a)1, Exception 1	For consistency with the 2025 Energy Code, replaced "TDV energy" with "LSC" in Exception 1 to Section 140.4(a)1.
140.4(a)2	Removed language related to "all other system types."

140.4(a)3	In header of Section 140.4(a)3 removed second "zone" after "Multi-zone." Also removed duplicative "Multizone" at the start of the introduction of this section.
140.4(a)3Ai	As part of restructuring of Section 140.4(a)3 to clarify all requirements relevant to systems complying with this section, in Section 140.4(a)3Ai, added requirement that variable refrigerant flow (VRF) heat pump system shall incorporate refrigerant-loop heat recovery and add "to all zones served by the space-conditioning system" to help clarify DOAS provided ventilation.
140.4(a)3Aii	As part of restructuring of Section 140.4(a)3 to clarify all requirements relevant to systems complying with this section, in Section 140.4(a)3Aii, clarifies that, "the space conditioning system shall be four-pipe fan coil terminal units with a DOAS providing ventilation to all zones served by the space-conditioning system." Also adds requirement to this option that indoor fans must meet the requirements of Section 140.4(a)3D.
140.4(a)3Aii	As part of restructuring of Section 140.4(a)3 to clarify all requirements relevant to systems complying with this section, in Section 140.4(a)3Aii, clarified that, "the space conditioning system shall be four-pipe fan coil terminal units with a DOAS providing ventilation to all zones served by the space-conditioning system." Also added a reference to indoor fans requirements in 140.4(a)3D.
140.4(a)3Aiii	As part of restructuring of Section 140.4(a)3 to clarify all requirements relevant to systems complying with this section, in Section 140.4(a)3Aiii, added design water temperature limits for AWHPs, removed requirement for ventilation systems to include DCV in all zones. Clarified that ventilation systems serving space-conditioned zones shall be equipped with a heat recovery system and expanded hydronic recirculated-air heating systems requirements from CZ 16 to CZs 2 through 4 and 6 through 16.
140.4(a)3Aii	As part of restructuring of Section 140.4(a)3 to clarify all requirements relevant to systems complying with this section, in Section 140.4(a)3Aii, clarified that, "Indoor fans shall meet the requirements of Section 140.4(a)3D."
140.4(a)3Aiii	Added the following statement to clarify the efficiency requirement for 140.4(a)3Aiii . "that complies with Section 140.4(a)3C with a design leaving water temperature no greater than 105 °F."
140.4(a)3Aiii	Added the following statement to clarify that 140.4(a)3Aiii does not apply to climate zone 1 and 5; "A hydronic recirculated-air heating system complying with Section 140.4(a)3F shall be used in climate zones 2 through 4 and 6 through 16."
140.4(a)3B	As part of restructuring of Section 140.4(a)3 to clarify all requirements relevant to systems complying with this section, in Section 140.4(a)3B, clarified that DOAS shall provide ventilation "to all zones served by the space-conditioning system" and clarified that indoor fans shall meet requirements of Section 140.4(a)3D.

140.4(a)3B	As part of restructuring of Section 140.4(a)3 to clarify all requirements relevant to systems complying with this section, in Section 140.4(a)3B, clarified that, " Indoor fans shall meet the requirements of Section 140.4(a)3D. "
140.4(a)3C	Restructured Section 140.4(a)3C to increase readability and clarity. The previously paragraph was revised to a list consisting of 140.4(a)3Ci; 140.4(a)3Cii; 140.4(a)3Ciii; 140.4(a)3Civ to list clarified requirements of the AWHP design.
140.4(a)3Civ	140.4(a)3Civ changed to list requirements of the AWHP sizing relating to specific systems listed in Section 140.4(a)3ii and 140.4(a)3B; added 140.4(a)3Civ.b.I through VI to address the AWHP sizing requirements for 140.4(a)3Aiii based on climate zone.
140.4(a)3D	As part of restructuring of Section 140.4(a)3 to clarify all requirements relevant to systems complying with this section, in Section 140.4(a)3D, listed the fan power requirements for 66 percent and 33 percent airflow, and reorganized text for clarity.
140.4(a)3E	As part of restructuring of Section 140.4(a)3 to clarify all requirements relevant to systems complying with this section, in Section 140.4(a)3E, listed the requirements previously provided in paragraph form for DOAS heating and cooling.
140.4(a)3E, Exception	As part of restructuring of Section 140.4(a)3 to clarify all requirements relevant to systems complying with this section, removed Exception to Section 140.4(a)3E. These requirements were incorporated into Section 140.4(a)3E.
140.4(a)3F	As part of restructuring of Section 140.4(a)3 to clarify all requirements relevant to systems complying with this section, in Section 140.4(a)3F, listed the requirements for Hydronic Recirculated Air Heating Systems.
140.4(a)3G	In Section 140.4(a)3G, added option for alternative systems approved by the Executive Director if shown to be energy equivalent with systems specified in Section 140.4(a)3.
140.4(b)2Cii	Modified language to refer to Table 141.0-E-1 and removed duplicative language that described table requirements.
140.4(e)1, Exception 2	For consistency with the 2025 Energy Code, replaced "TDV energy" with "LSC" in Exception 2 to Section 140.4(e)1.
140.4(e)1, Exception 8	As part of restructuring of Section 140.4(a)3 to clarify all requirements relevant to systems complying with this section, added Exception 8 to Section 140.4(e)1 for systems complying with Sections 140.4(a)3Ai, 140.4(a)3Aii, or 140.4(a)3B.
140.4(g), Exception 7	As part of restructuring of Section 140.4(a)3 to clarify all requirements relevant to systems complying with that section, added Exception 7 to Section 140.4(g) for supplemental electric resistance heating systems complying with Section 140.4(a)3C.

140.4(p)1, Exception	As part of restructuring of Section 140.4(a)3 to clarify all requirements relevant to systems complying with that section, added Exception to Section 140.4(p)1 for DOAS complying with Section 140.4(a)3E.
140.4(q)	In Section 140.4(q), added requirement that fan systems complying with Section 140.4(a)3 include an exhaust air heat recovery system that meets the requirements of Section 140.4(q).
140.4(r)3	In Section 140.4(r)3, clarified that JA18 is a "Reference Joint Appendix."
140.4(r)3, Exception	Relocated Exception 1 to Section 140.4(r)3 directly below Section 140.4(r)3 instead of below as previously provided in Exception 2 to Section 140.4(r). Also clarified requirements added to Exception to Section 140.4(r)3 for non-programmable (configurable-only) controllers for zone terminal units to clarify that these controllers shall follow applicable ASHRAE Guideline 36 zone sequences but are not subject to certification requirements.
140.4(s)	Indenting subtext to assign section lettering to replace bullet points. Including 'or' statements after listed criteria for lesser than requirements.
140.4(s)1A&B	Reworded Section 140.4(s)1A to increase clarity. Restructured format to add subsections for clarity. Specifically edited the introduction to "Simultaneous mechanical heat recovery is required for newly constructed buildings ..." Also, in definition of SWHCAP, clarified example to "instant hot water systems for emergency eyewash stations."
140.4(s)2A	Restructured Section 140.4(s)2A to clarify that heat recovery systems for service water heating shall have the capacity to transfer the smaller of two options: Option A - 30% of the peak heat rejection of the cooling system; or Option B - 30% of SWHCAP.
Table 140.6-C	In Table 140.6-C, added Allowed Lighting Power Density for General Lighting requirements of: - 0.75 W/ft ² for Wall and Floor Displays in "Convention, Conference, Multipurpose and Meeting Area;" - 0.45 W/ft ² for Wall and Floor Displays, as well as General Lighting in the enclosed space of ceiling height > 10' in "Dining Areas" in "Bar/Lounge and Fine Dining;" - 0.70 W/ft ² for Wall Displays in "Lobby, Main Entry;" - 1.00 W/ft ² for Wall and Floor Displays, as well as General Lighting in the enclosed space of ceiling height > 10' in "Retail Sales Area, Grocery Sales"; - 0.95 W/ft ² for Wall and Floor Displays, Valuable Display Case, as well as General Lighting in the enclosed space of ceiling height > 10' in "Retail Sales Area, Retail Merchandise Sales." Removed row for "Office Area" with Primary Function Area "NA," since lighting power density for "Office Area" fully specified in other rows, specifically rows for "Office Area" > 250 square feet, and ≤ 250 square feet.

Table 140.6-C	Replaced the "NA" entry in Table 140.6-C with the LPD values. This is to clarify the "NA" that was entered in an earlier effort for meeting the ADA document compliance requirement.
140.9(c)1	To increase clarity of Section 140.9(c)1, added "user-defined airflow" to Sections 140.9(c)1Ai and 140.9(c)1Bi.
140.10(a)	In Section 140.10(a) for increased clarity, replaced "constitute at least 80 percent of the floor area of the building" with "at least 80 percent of the floor area of the building serves." And minor grammar clean up.
Table 140.10-A	In Table 140.10-A, added "Medical Office Building/Clinic" to building type "Office, Financial Institution, Unleased Tenant Space."
140.10(a), Exception 2	In Section 140.10(a), Exception 2, replaced "size" with "capacity" in reference to PV system capacity.
Table 140.10-B	In Table 140.10-B, added "Medical Office Building/Clinic" to building type "Office, Financial Institution, Unleased Tenant Space."
140.10-A - Equation	Changed "size" in title of equation to "capacity."
140.10(a), Exception 5	To increase clarity of Section 140.10(a), Exception 5, reworded section. Specifically, removed "individual" and added "tenant."
Table 140.10-B	Added a footnote to Table 140.10-B to indicate that "NR = Not Required."
140.10(a)2C	140.10(a) 2.C, 170.2(g): Changed the structure of writing to avoid confusion "Roof area that is otherwise not available due to compliance with: i. Other state building code requirements, or ii. Local building code requirements if local building code requirements are confirmed by the Executive Director."
140.10(b)	For consistency with formatting of other sections, capitalized the first letter of each word in the term, "Battery Energy Storage System" in the header of Section 140.10(b). Also, updated reference to Section 140.10(a) from Section 140.4(a).
140.10(b), Exception 1	In Section 140.10(b), Exception 1, replaced "size" with "capacity" in reference to PV system capacity.
140.10(b), Exception 2	Reworded Section 140.10(b), Exception 2, for clarity. Also, updated "rated capacity" to "rated usable energy capacity," and added references to Equations 140.10-B and 140.10-C.
140.10(b), Exception 3	Limited applicability of Section 140.10(b), Exception 3, to energy capacity. Specifically removed "and power capacity."
140.10-B, Equation	In the header for Equation 140.10-B in Section 140.10(b), replaced "rated energy capacity" with "minimum rated usable energy capacity."
140.10-C, Equation	In the header for Equation 140.10-C in Section 140.10(b), replaced "rated energy capacity, SARA-adjusted" with "minimum rated usable energy capacity, SARA-adjusted."
140.10-D, Equation	In the header for Equation 140.10-D in Section 140.10(b), replaced "rated power capacity" with "minimum rated power capacity."

141.0(a)2Bii	For consistency with the 2025 Energy Code, replaced "TDV energy" with "LSC" in Section 141.0(a)2Bii.
141.0(b)2C, Exception 6	Added Exception 6 to Section 141.0(b)2C for single package air-cooled commercial unitary air conditioner or heat pump with cooling capacity less than 54,000 Btu/h.
141.0(b)2Ciii	Deleted Section 141.0(b)2Ciii to not duplicate the requirements specified in Table 141.0-E-1.
141.0(b)2I	Deleted "and 130.1(c)1D" - the reference to Section 131.0(c)1D - 130.1(c)1D was removed during the 2022 cycle update.
141.0(b)2Q	In Section 141.0(b)2Q, to be consistent with other sections, replaced references to Section NA2.4 and NA2.4.7 with references to NA5.1 and NA5.7, respectively.
Table 141.0-E-1	Updated Table 141.0-E-1 with new or replacement single zone air conditioner or heat pump requirements for Retail and grocery and Office, financial institution in Climate Zones 2 and 14; as well as Library in Climate Zone 2. Specifically, these building types in the applicable Climate Zone have no requirement.
Table 141.0-E-1	Updated notes in Table 141.0-E-1 as follows: - SZAC means Single Zone Air Conditioner with furnace, or Dual Fuel Heat Pump; - SZAC1 means Single Zone Air Conditioner with furnace, or Dual Fuel Heat Pump + Economizer; - SZAC2 means Single Zone Air Conditioner with furnace + Economizer + Variable Speed Fan, or Dual Fuel Heat Pump + Economizer + Variable Speed Fan. Also, removed SZAC3 and SZHP1; and added "or dual fuel heat pumps" to note describing variable speed fan requirements.
141.0(b)3A, Exception 1	Updated reference to table from "Table 141.0-E" to "Table 141.0-E-2."
Table 141.0-E	Updated table number to "Table 141.0-E-2."
Table 141.0-F	In Table 141.0-F, to be consistent with other sections, replaced "Daylighting Controls" with "Daylight Responsive Controls."
Table 141.0-F	Changed "daylighting" to daylight responsive" in the Table. This it to align the usage of the word to the changes of the term "Daylight Responsive Controls" in Section 130.1(d).
150.0(a)1, Exception 1.iii	In item iii of Exception 1 to Section 150.0(a)1, added ductless space conditioning systems.
150.0(c)5	In Section 150.0(c)5, updated terminology for "Masonry/Mass walls" to reflect industry usage.
150.0(h)1	In Section 150.0(h)1, removed parentheses from "the total load for all rooms combined that are served by the central equipment" to align with other sections.

150.0(h)2B	Deleted references to The SMACNA Residential Comfort System Installation Standards Manual, the ASHRAE Equipment Volume, and the Applications Volume. These Volumes do not include outdoor design conditions.
150.0(h)7, Exception 1	In Section 150.0(h)7, added Exception 1 to the supplementary heating control requirements for buildings with a conditioned floor area less than 500 square feet, and for buildings of any size in Climate Zones 7 and 15. Exception 1 allows heat pumps with supplementary heaters to have controls that meet either of two options - Option A and Option B.
150.0(h)5Biii	In Section 150.0(h)5Biii, removed language that incorrectly stated that there is no limit on minimum capacity for heat pump space heating.
150.0(h)7, Exceptions 2 & 3	In Section 150.0(h)7, replaced exceptions from supplementary heating control configuration for buildings in Climate Zones 7 and 15, and for buildings with a conditioned floor space less than 500 square feet added with Exception 1, which specified supplementary heating control requirements for these buildings.
150.0(h)6	In Section 150.0(h)6, clarified that the requirement is applicable to heat pumps equipped with "an installer adjustable" defrost delay timer.
150.0(i)2	In Section 150.0(i)2, replaced the reference to Section 150.0(i)A with a reference to Section 150.0(i)1.
150.0(i)2, Exception 1	Added Exception 1 to Section 150.0(i)2 for systems compliant with Exception 1 to Section 150.0(h)7.
150.0(i)2B and C, Exception 1	Added applicability of Section 150.0(i)2A to Exception 1. Also updated the reference to Section 150.0(h)7 from Section 150.0(h)9.
150.0(k)3C	Deleted the sentence, "no controls shall bypass ..." from Section 150.0(k)3C. Removed the section numbering "C".
150.0(m)1Bi, Exception 1	Renumbered Exception 1 to Section 150.0(m)1Bi.
150.0(m)1Bi, Exception 2	Added Exception 2 to Section 150.0(m)1Bi for duct systems located in unvented attics.
150.0(m)1Bii	To increase clarity, reworded Exception 2 to Section 150.0(m)1Bii.
150.0(m)12Biib	Replaced the British pound symbol (£) with the less than or equal to symbol (\leq). Section 150.0(m)12Biib now reads: $V_{\text{face}} = \text{air filter face velocity} \leq 150, \text{ ft/min.}$
150.0(m)13C, Exception 1	To increase readability, added the word "that" as follows: "Multispeed or variable speed compressor systems that incorporate controls ..."
150.0, Note	In the note in Section 150.0, extended list of requirements to Sections 150.0(a) through 150.0(v). The list of requirements was through 150.0(r).

150.0(o), Exception	In Exception to Section 150.0(o), replaced reference to ASHRAE 62.2 Section 6.5.2 with reference to ASHRAE 62.2 Section 6.1.3 to reflect numbering in updated version of ASHRAE 62.2.
150.0(o)1C	Reworded Section 150.0(0)1C for clarity. Added whole-dwelling unit mechanical ventilation requirements for vertically-attached single-family dwelling units such as duplexes and triplexes.
150.0(o)1Ci,ii, iii	Restructured equations in Sections 150.0(o)1Ci, ii, iii to increase readability.
150.0(q), Exception 3	Added Exception 3 to Section 150.0(q) to address fenestration installed in buildings in designated Fire Hazard Severity Zones or Wildland-Urban Interface (WUI) Fire Areas as designated by the local enforcement agency.
150.1(b)	In Section 150.1(b), replaced "the Residential ACM Approval Manual" with "Section 10-109(c) and Section 10-116."
150.1(c)3A, Exception 1	In Exception 1 to Section 150.1(c)3A, revised exception Climate Zone 5 only from Climate Zones 5 through 10 and Climate Zone 15.
150.1(c)9B	Section 150.1(c)9B was reworded to increase clarity.
150.1(c)14, Equation 150.1-C	In Section 150.1(c)14, reverted Equation 150.1-C to match Equation 150.1-C in the 2022 Energy Code. Specifically, removed the EER2 adjustment factor and the EER2 adjustment factor coefficient.
150.1(c)14Biii	Restructured Section 150.1(c)14Biii to increase readability.
150.1(c)15	Moved Section 150.1(c)15 in front of table for clarity.
Table 150.1-A	In Table 150.1-A, renamed requirement to increase readability as follows: "FID required if HRV/ERV systems installed - 150.1(c)15."
Table 150.1-A	In Table 150.1-A, renamed requirement for consistent formatting as follows: "Water Heating - 150.1(c)8." Specifically, removed "Section."
Table 150.1-A	In Table 150.1-A, named the "Roof Deck Insulation for Cathedral Ceilings" "Option C" and moved the row below "Option C Ceiling Insulation for vented attics."
Table 150.1-A	In Table 150.1-A, added "Masonry" walls to "Above Grade Mass Wall Interior" and "Above Grade Mass Wall Exterior." Also added reference to footnote 6.
Table 150.1-A	In Table 150.1-A, replaced reference to footnote 11 with reference to footnote 12 for "Fenestration - Maximum U factor."
Table 150.1-A	In Table 150.1-A, replaced footnote 8 reference to footnote 9 because of renumbering of footnotes, and added reference to footnote 16 for "Space Cooling - Whole-house fan."

Table 150.1-C	Reverted Table 150.1-C to match Table 150.1-C in the 2022 Energy Code. Specifically, the title for Table 150.1-C is "Table 150.1-C CFA and Dwelling Unit Adjustment Factors." The column headings are "A - CFA" and "B - Dwelling Units," and all factors by Climate Zone match the factors in the 2022 Energy Code.
150.2(a)1Ei	In Section 150.2(a)1Ei, added supplemental heating requirements and updated reference to Section 150.0(h).
150.2(a)1Eii	Reworded Section 150.2Eii to increase clarity.
150.2(a)1Eii, Exception 1	Added Exception 1 to Section 150.2(a)1Eii for ductless space-conditioning systems.
150.2(a)1Eii, Exception 2	Added Exception 2 to Section 150.2(a)1Eii for variable-speed and multi-speed systems when the maximum system capacity specified falls between two available system capacities.
150.2(b)1Aiii	Restructured Section 150.2(b)Aiii to convert Exception to Section 150.2(b)1Aii to a requirement.
150.2(b)1A, Exception 1	Changed "adds" to "increases" for clarity.
150.2(b)2, Note 3	In Section 150.2(b)2, Note 3, replaced "the Residential ACM Approval Manual" with "Section 10-109(c) and Section 10-116."
150.2(b)2B	Clarified to require ECC-Rater without the need for ED approval.
150.2(b)1Fii and iii	Revised "Climate Zones 2, 8, 9, 10, 11, 12, 13, 14 and 15" to say "Climate Zones 2 and 8 through 15" for clarity and other clarifying changes.
150.2(b)1Mib	In Section 150.2(b)1Mib, replaced reference to ASHRAE 62.2 Section 7.2 with reference to ASHRAE 62.2 Section 7.3 to reflect numbering in updated version of ASHRAE 62.2.
160.1(b)	In Section 160.1(b), reverted the area-weighted average U-factor for metal-framed wall insulation to 0.151 from 0.148.
160.1(e), Exception	Added an Exception to Section 160.1(e) to address fenestration, including skylights, installed in buildings in designated Fire Hazard Severity Zones or Wildland-Urban Interface (WUI) Fire Areas as designated by the local enforcement agency.
160.2(b)2, Exception	In Exception to Section 160.2(b)2, changed Section reference 6.5.2 to 6.1.3 to reflect numbering in updated version of ASHRAE 62.2.
160.2(b)2, Exception	In Exception to Section 160.2(b)2, added ASHRAE 2022-62.2 Section 4.2 to the list of sections not required for compliance. Section 160.2(b)2Aivb covers ventilation system type instead.

160.2(b)2Aivb, Subsection 2	Replaced "dwelling unit envelope leakage" with "air leakage rate" in compartmentalization testing requirements.
160.2(b)2Avif	In Section 160.2(b)2Avif, replaced reference to ASHRAE 62.2 Section 7.2 with reference to ASHRAE 62.2 Section 7.3 to reflect numbering in updated version of ASHRAE 62.2.
160.2(b)2Aviii	Replaced reference to ASHRAE 62.2 Section 7.2 with reference to ASHRAE 62.2 Section 7.3 to reflect numbering in updated version of ASHRAE 62.2.
160.2(b)2C, Exception	Exception to 160.2(b)2C applies to Climate Zone 6, not Climate Zone 7.
160.2(c)8	Corrected definition for Class 1 Air to align with definition in ASHRAE 62.1 - 2022. Specifically, replaced "significant" with "low" in describing contaminant concentration and sensory-irritation intensity.
Table 160.2-E	In Table 160.2-E, to align with changes made in Table 150.0-E, removed the following compliance criteria options: (1) "or a capacity of 5 ACH" for enclosed or non-enclosed kitchens; (2) "Other kitchen exhaust fans, including downdraft: 300 cfm (150L/s)" for Non-enclosed Kitchens.
160.3(a)2Hviii	In Section 160.3(a)2Hviii, changed "by" to "to" as in "The FDD system shall be certified to the Energy Commission."
160.3(b)1, Exception	Added an Exception to Section 160.3(b)1 that allows block loads to be used for system sizing for additions.
160.3(b)2	In Section 160.3(b)2, removed reference to the ASHRAE Handbook Equipment and Application Volumes and the SMACNA Residential Comfort System Installation Standards Manual as they do not apply.
160.3(b)7B and 8B	In Sections 160.3(b) 7B and 8B, replaced "CF2R" with "Certificate of Installation" to increase clarity.
160.3(d)2A	Removed "in multifamily buildings with four or more habitable stories," and added "subject to Section 160.2(b)2C".
160.4(e)	In Section 160.4(e), updated list of applicable requirements to "1 through 3 below" from "1 through 4 below."
160.4(e)1	Changed numbering to roman numerals.
160.4(e)3A	In Section 160.4(e)3A replaced "re-installable" with "able to be reinstalled."

160.4(e)4	Removed Section 160.4(e)4 requiring field verification of insulation for hot water pipes and plumbing appurtenances. This requirement was moved to Section 170.2(d)2E.
160.4(e)1H	Updated the subsection numbering to align with the rest of the Energy Code.
160.5(a)3C	Deleted the sentence, "no controls shall bypass ..." from Section 160.5(a)3C. This change is to mirror the text of the multilevel lighting controls in the residential section.
160.5(b)4A	Deleted "enclosed" from Section 160.5(b)4A. Replaced "provide" with "be provided with". This change is to mirror the text of the manual lighting controls in the nonresidential section.
160.5(b)4A ii	Deleted the word "enclosed" preceding "space" from Section 160.5(b)4A ii. Replaced the words "status display" with "the status" to improve clarity. This change is to mirror the text of the manual lighting controls in the nonresidential section.
160.5(b)4A, Exception	Replaced "area" with "space" to Exception to Section 160.5(b)4A.
160.5(b)4A, Exception	Clarified the Exception for egress lighting. Added "during a normal power failure" to Exception ii to Section 160.5(b)4A and rearranged the wording as "The egress lighting controls shall not be accessible by unauthorized personnel during a normal power failure." This change is to mirror the text of the multilevel lighting controls in the nonresidential section. Also replaced "accessible" with "controllable" to more accurately describe the intent of this exception.
160.5(b)4B	Added "with a size of", "and" to the first sentence of Section 160.5(b)4B. Replaced "provide" with "be provided with" in the first sentence and deleted "to achieve illuminance uniformity" from the second sentence. This change is to mirror the text of the multilevel lighting controls in the nonresidential section.
160.5(b)4B, Exception 1	Replaced the word "enclosed" with "indoor" in Exception 1 to Section 160.5(b)4B. This change is to mirror the text of the multilevel lighting controls in the nonresidential section.
160.5(b)4Cv	Converted "Occupant sensing controls." to a header for Section 160.5(b)4Cv. Removed "are required for specified offices, multipurpose rooms, conference rooms and restrooms." Deleted "and in restrooms" from the sentence "In areas not required by Section 160.5(b)4B to have multi-level lighting controls". This change is to mirror the text of the multilevel lighting controls in the nonresidential section.
160.5(b)4Cvi	Converted "Full or partial OFF occupant sensing controls." to a header for Section 160.5(b)4Cvi. Clarified the space types required for "full or partial OFF occupant sensing controls" with the following edits. Added "parking garages, parking areas, loading areas, and unloading areas, the" and "lighting shall meet" to the first sentence. Also deleted "are required", "areas shall meet the" and "below". Added a colon to the end of the sentence.

160.5(b)4Cvib, Exception	Added "b" to the end of the section numbering for clarity and consistency. Specifically, added "b" to the end of "Exception to Section 160.5(b)4Cvi" so that the exception be read to apply to the correct subsection 160.5(b)4Cvib.
160.5(b)4Cvic.iii	Replaced "space" with "zone" in the term "separately controlled space" in Section 160.5(b)4Cvic.iii to align with usage of the term in other related sections.
160.5(b)4Dviii	Modified language for internal consistency with nonresidential changes in Section 130.1(d)2C.
160.5(b)4D7viic, Exception	Changed exception numbering from "7" to "vii" for consistency.
160.5(b)4Dxi (was 160.5(b)4Dxia)	Changed "daylighting" to daylight responsive" in Section 160.5(b)4Dxia (now 160.5(b)4Dxi). Deleted the subsection numbering "a". This change is to mirror the text of the multilevel lighting controls in the nonresidential section.
160.5(b)4Dxib	Deleted the entire subsection of Section 160.5(b)4Dxib. Removed the subsection numbering "b".
160.5(b)4D, Exception 6	Revised the language of Exception 6 to Section 160.5(b)4D to match to the language of the Nonresidential section (Exception 6 to Section 130.1(d)) for clarity and consistency.
160.5(c)2Bii	Delete the word, "partially", from Section 160.5(c)2Bii to increase clarity. This change is to mirror the text of the multilevel lighting controls in the nonresidential section.
160.5(c)2Cii	Deleted "partially" preceding "reducing" from Section 160.5(c)2Bii and Cii to increase clarity. This change is to mirror the text of the multilevel lighting controls in the nonresidential section.
160.5(e)1C	Changed "Automatic daylight" to "Daylight responsive" in 160.5(e)1C. This update is to align with the new term "daylight responsive controls" being used in Section 130.1(d). This change is to mirror the text of the multilevel lighting controls in the nonresidential section.
160.6(d)2	Replaced the term "multiple receptacle" with "multiple-receptacle outlet" to Section 160.6(d)2 to increase clarity.
160.6(e)	Added ", including demand responsive controls for controlled receptacles" for internal consistency with nonresidential requirements.
160.9(a)	In Section 160.9(a), updated section reference to Sections 160.9(b) through (f), from Sections 160.9(a) through (e) to reflect shifting of sections.
160.9(e)	In Section 160.9(e), clarified that requirements are "for each gas or propane water heater."

160.9(e)	Removed the reference to Section 160.9(f), which is for central systems, whereas Section 160.9(e) is for systems serving individual dwelling units.
160.9(e)4B	Restructured Section 160.9(e)4B to increase clarity.
160.9(e)4C	Restructured Section 160.9(e)4C to increase clarity.
160.9(f)	Reworded the preamble of Section 160.9(f) to say "shall meet the following requirements"
170.2(a)3Aii, Exception 4	Removed "that are three or few habitable stories" from Exception 4 to Section 170.2(a)3Aii.
170.2(c)2C	In Section 170.2(c)2C, removed reference to the ASHRAE Handbook, Equipment and Applications Volumes. These Volumes do not include outdoor design conditions.
170.2(d)2Bii	Updated the numbering of options for minimum solar savings fraction from "a & b" to "i and ii".
170.2(d)2C	Removed the word "distribution" to remove the limitation on the type of piping included in this standard.
170.2(d)2E	Added a requirement that insulation of hot water pipes and plumbing appurtenances be field verified and updated subsequent subsection numbering.
170.2(e)	Removed "170.2V" from Exception 3 to Section 170.2(e)7 as it does not apply.
170.2(e)1	In Section 170.2(e)1, updated the reference to "Item i" with a reference to "Item A".
170.2(e)2B iii.e	Revised the reference in Section 170.2(e)2B iii.e to "Section 170.2(e)2B" (was "Section 170.2(e)1Aii").
170.2(e)2B vi	Revised the reference in Section 170.2(e)2B vi to "Section 170.2(e)2B" (was "Section 170.2(e)1Aii").
170.2(f)	In Section 170.2(f) for increased clarity, replaced ", building's (Solar Access Roof Area)" with "or the total Solar Access Roof Area."
Section 170.2(f), Equation 170.2-C	In Section 170.2(f), reverted Equation 170.2-C to match Equation 170.2-C in the 2022 Energy Code. Specifically, removed the EER2 adjustment factor and the EER2 adjustment factor coefficient.
Section 170.2(h), Equation 170.2-E	In the header for Equation 170.2-E in Section 170.2(h), replaced "rated energy capacity" with "minimum rated usable energy capacity."
Section 170.2(h), Equation 170.2-F	In the header for Equation 170.2-F in Section 170.2(h), replaced "rated energy capacity" with "minimum rated usable energy capacity."

Section 170.2(h), Equation 170.2-G	In the header for Equation 170.2-G in Section 170.2(h), replaced "rated power capacity" with "minimum rated power capacity."
170.2(g)	In Section 170.2(g) for increased clarity, replaced "constitute at least 80 percent of the floor area of the building" with "at least 80 percent of the floor area of the building serves."
170.2(g)2Ci	In Section 170.2(g)2Ci, replaced "and" with "or" to indicate that SARA does not include roof area that is not available due to state building code requirements or local building code requirements.
170.2(g), Exception 2	In 170.2(g), Exception 2, replaced "size" with "capacity" in reference to PV system capacity.
170.2(g), Exception 5	In 170.2(g), Exception 5, replaced "High-rise" with "with more than three habitable stories."
Section 170.2(g), Equation 170.2-D	Changed "size" in title of equation to "capacity." Removed "min" from "kW _{PVdc} , min" for consistency.
170.2(h), Exception 1	In 170.2(h), Exception 1, replaced "size" with "capacity" in reference to "PV system capacity".
170.2(h), Exception 2	In Section 170.2(h), Exception 2, updated "rated capacity" to "minimum rated usable energy capacity."
170.2(h), Equation 170.2-E	In Section 170.2(h), Equation 170.2-E, corrected the reference from "140.10-A" to "170.2-D" in the definition of kW _{PVdc} .
170.2(h), Equation 170.2-F	In Section 170.2(h), Equation 170.2-F, corrected the reference from "140.10-A" to "170.2-D" in the definition of kW _{PVdc} .
Table 170.2-A	In Table 170.2-A, removed reference to footnote #5 from building component "Walls - Mass Light" as it does not apply.
Table 170.2-A	Added footnote #11 to Table 170.2-A which references the requirements for Option D.

Table 170.2-M	Replaced the "NA" entry in Table 170.2-M with the LPD values. This is to clarify the "NA" that was entered in an earlier effort for meeting the ADA document compliance requirement.
Table 170.2-T	Reverted Table 170.2-T to match Table 170.2-T in the 2022 Energy Code. Specifically, the title for Table 170.2-T is "TABLE 170.2-T CFA AND DWELLING UNIT ADJUSTMENT FACTORS." The column headings are "A - CFA" and "B - DWELLING UNITS," and all factors by Climate Zone match the factors in the 2022 Energy Code.
Table 170.2-U	In Table 170.2-U, added "Medical Office Building/Clinic" to building type "Office, Financial Institution, Unleased Tenant Space."
Table 170.2-V	In Table 170.2-V, added "Medical Office Building/Clinic" to building type "Office, Financial Institution, Unleased Tenant Space."
Table 170.2-V	Added a footnote to Table 170.2-V defining "NR = Not Required."
180.2(b)1C	In Section 180.2(b)1C, added specific references to "Items i and ii."
180.2(b)1Ci	In Section 180.2(b)1Ci, deleted the term "products" from after the term "fenestration."
180.2(b)1Cii	In Section 180.2(b)1Cii, clarified that fenestration refers to "vertical fenestration." Replaced reference to Section 170.2(a) with reference to Section 170.2(a)3. Removed "U-factor" from Exception 1 to Section 180.2(b)1Cii, as it does not apply.
180.2(b)2Aivb	To improve readability of Section 180.2(b)2Aivb, replaced list of applicable Climate Zones with "2, and 8 through 15."
180.2(b)2Bi, Exception 3	In Exception 3 to Section 180.2(b)2Bi, added the word "not" to clarify that the Exception applies to single package air-cooled commercial unitary ACs or HPs with cooling capacity less than 54,000 Btu/h.
180.2(b)4Bivc	In Section 180.2(b)4Bivc, deleted "and 160.5(b)4Cid" - the reference to Section 160.5(b)4Cid - as it does not apply.
180.2(c), Notes	In Section 180.2(c), replaced "the applicable Residential or Nonresidential ACM Approval Manual" with "Section 10-109(c) and Section 10-116."
180.2(c)2	Clarified to require ECC-Rater without the need for ED approval.
Table 180.2-B	In Table 180.2-B, changed Skylights RSHGC for CZ16 to NA to match proposed edits, and discussion during Lead Commissioner Hearings in May 2024.
Table 180.2-B	Added the term SHGC and Minimum VT to the title of Table 180.2-B for consistency.

Table 180.2-B	In Table 180.2-B, for Skylights changed RSHGC to SHGC.
Table 180.2-B	In Table 180.2-B, reverted U-factor requirement for "All Other Windows and Glazed Doors" in Climate Zone 15 to U=0.30 from U=0.28.
Table 180.2-E	Changed "daylighting" to daylight responsive" in the Table. This it to align the usage of the word to the changes of the term "Daylight Responsive Controls" in Section 130.1(d). Additionally, deleted extra "1" in the reference to 110.12(b) for "Demand Responsive Controls".
Appendix 1-A	In Appendix 1-A, added ANSI/IES LM-65-20-(R2023) Approved Method: Life Testing of Single-Based Fluorescent Lamps.
Appendix 1-A	In Appendix 1-A, added AHRI Standard 1250 (I-P/2020): Performance Rating of Walk-in Coolers and Freezers.
Appendix 1-A	In Appendix 1-1, updated address for Cooling Technology Institute to "3845 Cypress Creek Parkway, Suite 420 ". Updated PO Box address to "PO Box 681807; Houston, TX 77268."
Appendix 1-A	Updated various document titles based on referenced documents.
Appendix 1-B	In Appendix 1-B, removed reference to Alternative Calculation Method (ACM) Approval Manual. The Alternative Calculation Methods Approval process is now described in Sections 10-109 and 10-116.
JA1	Removed "and not defined in Title 24, Part 6" from introduction to Appendix JA1 - Definitions.
JA1	Added IES LM-65 Illuminating Engineering Society document titled "Approved Method: Life Testing of Single-Based Fluorescent Lamps".
JA1	Removed the number "12" in front of ANSI C78.377 in Appendix JA1 - Definitions.
JA1	Added a definition for ASHRAE GUIDELINE 36.
JA1	Updated the reference for ASHRAE STANDARD 62.2 from ASHRAE Standard 62.2-2019 to 62.2-2022.
JA1	Added a definition for COMPARTMENTALIZATION.
JA1	Added a definition for PROGRAMMING LIBRARY.
JA1	Definition of California Flexible Installation (CFI) was modified for clarity and consistency.
JA1	Definition of "TDV Energy" was removed.
JA5.3	Deleted the requirement for OCST to have termination labeling to adhere to the NEMA standards (NEMA DC3-2013). This is to increase flexibility for compliance.

JA6.1	JA6.1 specified fault indicator display requirements for refrigerant charge in space conditioning equipment. These requirements were removed in the 2025 update, and JA6.1 has been removed for consistency.
JA8.5	Removed the reference to the ENERGY STAR Lamps program and replaced it with a reference to a new Section JA8.9, Elevated Temperature Life Test (ETLT) Method. Removed the reference to ENERGY STAR's rated life test for luminaires.
JA8.7.2, 3, 4 and JA8.8.2, 3, 4, 5.1	Removed the reference to 2019 "-19" from the IES LM-79 reference, which is defined in JA1.
JA8.9	Added a new Section JA8.9 specifying setup and measurement requirements for the Elevated Temperature Life Test.
JA12.2	Revised the definition for Compliance Cycling Capacity to clarify that the compliance cycling capacity identified at commissioning is consistent with the compliance cycling capacity specified on the Certificate of Compliance. Also updated the reference in the Reserve Level definition from JA12.3.3 to JA12.3.3.1(e).
JA12.3.3	Restructured the Control Requirements section to include General Control Requirements that are applicable to all control strategies, and Strategy Specific Requirements. An introductory paragraph was also added that summarizes but does not add any requirements of the reorganized section.
JA12.3.3.1	Added a header "General Control Requirements" for Section JA12.3.3.1.
JA12.3.3.1(a)	Added a header "Remote Capability" for Section JA12.3.3.1. Added the general control requirement that the BESS shall have the capability of "remotely switching between control strategies."
JA12.3.3.1(b)	Added Section JA12.3.3.1(b): "Charging Behavior" to specify how BESS shall charge when combined with an on-site solar photovoltaic system; from the grid; and in anticipation of severe weather, Public Safety Power Shutoff events, or demand response signals. This change is made to clarify requirements based on public comments.
JA12.3.3.1(c)	Added a header "Discharge Behavior" for Section JA12.3.3.1 (c). Also replaced "flexibility" with "response," and "local utility" with "load serving entity" for consistent usage of these terms.
JA12.3.3.1(d)	Added a reference to JA12.3.3.2 and deleted "The BESS also shall have the capability to remotely switch to the other control strategies."
JA12.4	Changed the header of JA12.4 from "Control Strategies" to "Strategy Specific Requirements," and renumbered to Section JA12.3.3.2. Added the following introductory text: "BESS shall be installed and commissioned to meet one of the following control strategies below."
JA12.4.1	Renumbered to JA12.3.3.2.1. Revised to increase clarity and removed "default operation mode."

JA12.4.2	Renumbered to JA12.3.3.2.2. Revised to increase clarity and removed "default operation mode."
JA12.4.3	Renumbered to JA12.3.3.2.3. Revised to increase clarity; removed "by default;" clarified the reference for demand response control requirements; and, replaced "local utility" with "load serving entity" for consistent usage of these terms.
JA12.4.4	Renumbered to JA12.3.3.2.4. Revised to increase clarity; removed "by default;" replaced "at the onset of" with "during the;" replaced "flexibility" with "response;" clarified the reference for demand response control requirements; and, replaced "local utility" with "load serving entity" for consistent usage of these terms.
JA12.4.5	Removed Section JA12.4.5 Price Optimization Control.
JA12.4.6	Renumbered to JA12.3.3.2.5 and updated with the new numbering the referenced sections.
JA12.5	Removed Section JA12.5 System Labeling.
JA12.6	Renumbered to JA12.4. Clarified that the local enforcement agency shall verify that the control strategy and the compliance cycling capacity at final inspection shall be the control strategy and compliance cycling capacity that was used in the Certificate of Compliance. Deleted reference to JA12.5 System Labeling.
JA12.7(a)	Added new requirement in 2025 for "compliance cycling capacity" and removed "other characteristics addressed in JA12.3.2" to increase clarity.
JA12.7(b)	Added "certified for use" and updated the reference from JA12.4 to JA12.3.3.1(e).
JA17 - Title	Renamed Appendix JA17 to clarify that the requirements are applicable to ventilation system Fault Indication Displays (FIDs). Specifically, removed "Heat/Energy Recovery" and "HRV/ERV"; and replaced "Indicator" with "Indication" in the title.
JA17.1 - Introduction	Added to the introduction balanced and supply-only ventilation systems that require fault indication displays under Section 150.0(o)1Civa1 and Section 160.2(b)2Axia1.
JA18.1	Removed date reference for ASHRAE Guideline 36 because it is a defined term that includes the appropriate reference date.
JA18.2	Replaced reference to JA15 with reference to JA18.3.
JA18.4	Replaced reference to Table JA15.3-1 with reference to Table JA18.4.-1.
JA18.5	Replaced reference to 120.2(i) with reference to 140.4(r) and removed duplicate "as". Updated Table title and replaced "Model Name" with "Product Line;" added column for "Guideline 36 Version;" and "Model Number" with "Library Version," referring to certified Guideline 36 programming libraries.

NA1.8	In Section NA1.8, removed the option for group-sampling for alterations to align with Energy Code Compliance program requirements in Section 10-103.3.
Table NA1-1	In Table NA1-1, replaced measure title "Building Envelope Air Leakage" with "Dwelling unit Compartmentalization"
NA2.3	Updated the title of Section NA2.3 to include "Compartmentalization" as follows: NA2.3 Field Verification and Diagnostic Testing of Multifamily Dwelling Unit Compartmentalization.
NA2.3.1	Revised introduction to Section NA2.3.1 to clarify that the purpose of the diagnostic testing is to measure and determine compliance with multifamily dwelling unit compartmentalization requirements.
NA2.3.3	In Section NA2.3.3, removed the note defining compartmentalization boundary area. A definition, COMPARTMENTALIZATION, has been added to JA1 instead.
NA7.6.1	Updated the term in NA7.6.1 to "daylight responsive controls" for the existing term "automatic daylighting controls" that was used in the 2022 Code. This update is to align with the new term "daylight responsive controls" being used in Section 130.1(d).
NA7.6.1.1(b)	Updated the term in NA7.6.1.1(b) to "daylight responsive controls" for the existing term "automatic daylighting controls" that was used in the 2022 Code. This update is to align with the new term "daylight responsive controls" being used in Section 130.1(d).
NA7.6.1.1(c)	Updated the term in NA7.6.1.1(c) to "daylight responsive controls" for the existing term "automatic daylighting controls" that was used in the 2022 Code. This update is to align with the new term "daylight responsive controls" being used in Section 130.1(d).
NA7.6.1.4(b)2	Updated the term in NA7.6.1.4(b)2 to "daylight responsive controls" for the existing term "automatic daylighting controls" that was used in the 2022 Code. This update is to align with the new term "daylight responsive controls" being used in Section 130.1(d).
NA7.6.1.5(b)2	Updated the term in NA7.6.1.5(b)2 to "daylight responsive controls" for the existing term "automatic daylighting controls" that was used in the 2022 Code. This update is to align with the new term "daylight responsive controls" being used in Section 130.1(d).
RA2.8	In Section RA2.8, removed the option for group-sampling for alterations to align with Energy Code Compliance program requirements in Section 10-103.3.
Table RA2-1	In Table RA2-1, removed "Installation of Fault Indicator Display" from summary of measures requiring field verification and diagnostic testing since this requirement has been removed in the 2025 update.

Table RA2-1	In Table RA2-1, updated measure title to "Building Envelope Air Leakage and Dwelling Unit Compartmentalization" from "Building Envelope Air Leakage" to reflect new requirement for field verification of compartmentalization in multifamily dwelling units.
Table RA2-1	In Table RA2-1, updated description for "Building Envelope Air Leakage and Dwelling Unit Compartmentalization" to clarify that compliance credit can be taken for reduced building envelope air leakage in single-family homes; with field verification of compartmentalization required in multifamily dwelling units equipped with balanced or supply only ventilation systems.
RA3.2.3.1.5	In Section RA3.2.3.1.5, removed "either" since only one option for verification exists, specifically through on-site observation.
RA3.4.2	Removed Section RA3.4.2 "Fault Indicator Display (FID) Verification Procedure" since this requirement has been proposed for removal in the 2025 update.
RA3.8.3	In Section RA3.8.3, removed the note defining compartmentalization boundary area. A definition, COMPARTMENTALIZATION, has been added to JA1 instead.