BACKGROUNDER | JULY 2019

2021 ICC National Model Codes: Group B Development Update

The International Code Council (ICC) publishes more than a dozen national model building codes and standards. These codes are updated every three years and are divided into two groups (Group A and Group B) to stagger the code development process.

Work began on the Group B codes in January 2019, and ICC recently completed the Committee Action Hearings on the covered codes. This document summarizes the most prominent issues of concern for the apartment industry during this code cycle.

Final Public Comment Hearings will be held in October 2019 and will determine what is included in the 2021 code editions, which are published in 2020.

About NMHC

Based in Washington, DC, the National Multifamily Housing Council (NMHC) is a national association representing the interests of the larger and most prominent apartment firms in the U.S. NMHC's members are the principal officers of firms engaged in all aspects of the apartment industry, including ownership, development, management and financing. NMHC advocates on behalf of rental housing, conducts apartment-related research, encourages the exchange of strategic business information and promotes the desirability of apartment living. Nearly one-third of Americans rent their housing, and almost 15 percent live in an apartment (buildings with five or more units). For more information, contact NMHC at 202/974-2300, email the Council at info@nmhc.org or visit NMHC's website at www.nmhc.org.

About NAA

The National Apartment Association (NAA) serves as the leading voice and preeminent resource through advocacy, education and collaboration on behalf of the rental housing industry. As a federation of nearly 160 affiliates, NAA encompasses over 82,000 members representing more than 9.7 million apartment homes globally. NAA believes that rental housing is a valuable partner in every community that emphasizes integrity, accountability, collaboration, community responsibility, inclusivity and innovation. To learn more, visit www.naahq.org.

This document includes technical analysis and commentary provided by Newport Partners/Ventures, LLC.

Overview

The International Code Council (ICC) family of codes and standards provides minimum requirements for all facets of multifamily construction, including structural and mechanical systems, energy efficiency, plumbing, fire safety, accessibility and sustainability, and often serve as the basis for code requirements adopted at the state and local levels. Updated every three years, development of the 2021 ICC national model building codes began in early 2018. NMHC and NAA actively participate in the code development process, where we work to improve existing code provisions and oppose unnecessary escalations in costs or impractical technical provisions.

ICC divides its code development into two groups – Group A and Group B – and considers changes on a staggered basis. ICC completed work on the Group A codes in 2018 and is currently focused on the Group B codes. They have completed the first major phase of the Group B cycle—the Committee Action Hearings. Actions taken during these hearings form the basis of the Final Public Comment Hearings in October 2019. Those hearings will determine the items included in the 2021 code editions, which are published in 2020. The codes of greatest significance for multifamily construction during the Group B cycle include the International Energy Conservation Code (IECC) and the International Existing Building Code (IEBC). More information on the ICC code development process, including the entire timeline for Group B codes, can be found at https://bit.ly/2sxLRyn.

This document summarizes the most prominent issues of concern to the apartment industry during this code cycle and indicates areas of continuing interest. Significant proposals and those of particularized interest for multifamily properties are detailed in the tables below. Importantly, these provisions will continue to evolve throughout the code cycle and should not be considered final until the new code editions are published. Also, this document does not capture all the changes impacting apartment construction. Building professionals and property owners should consult the final codes directly for a full explanation of relevant code requirements.

Energy Performance Requirements

The apartment industry supports cost-effective and technologically feasible improvements to building energy performance. However, numerous proposed changes to the national model building codes fail to address the unique nature of multifamily design and construction and can add significant costs and technical impediments to apartment development and renovation. These compliance costs and challenges can directly impact housing affordability and exacerbate rental housing shortages in communities nationwide.

Efforts to significantly increase the energy efficiency requirements of the International Energy Conservation Code (IECC) began with the 2009 edition, which included new and significantly altered provisions over previous code versions. The 2012 edition of the IECC incorporated even more aggressive changes and considerable administrative differences compared to the 2009 code. Collectively, these codes established energy efficiency requirements that were 30 percent more stringent than previous levels. To gain an understanding of the effects of these changes in the multifamily sector, NMHC and NAA commissioned a study examining the costs, benefits and practical limitations of the 2009 and 2012 IECC editions - *Impact of the 2009 and 2012 International Energy Conservation Code in Multifamily Buildings*.

Despite these recent increases in building efficiency requirements, the 2015 and 2018 IECC editions added additional stringency and expanded the building features and technologies covered under the IECC. Of concern, the proposed changes to the 2021 IECC continue this push for more aggressive building efficiency increases without comprehensive consideration of the multifamily cost impacts, acceptance of products and practices in residential construction and broader policy implications. Taken together, these proposals would significantly impact the overall design and construction of multifamily properties.

NMHC and NAA strongly opposed a number of onerous and impractical energy proposals and worked with code representatives and our industry partners to advance technically feasible and cost-beneficial measures.

Within the residential code section, several problematic and costly proposals were disapproved, including: 1) several high-priced proposals that would have changed day-to-day operational equipment like thermostats, lighting and water heating equipment; 2) a large and costly bloc of proposals from energy efficiency advocates that would have raised performance levels of virtually all building envelope components (windows, walls, insulation); 3) proposals to increase efficiency testing requirements or change mechanical ventilation provisions; and 4) items requiring installation of non-commercially viable or impractical equipment for electric vehicles and renewable energy.

Within the commercial code section, disapprovals included: 1) items to redefine or substantially reorganize the energy code; 2) installation of renewable energy equipment; and 3) certain changes to ventilation requirements. Additionally, several proposals were modified, or can be modified, to remedy significant multifamily concerns – including proposals related to air sealing and testing that now provide more workable compliance options for multifamily projects.

Despite these successes, some apartment industry-opposed proposals were advanced to the next phase of code development. In particular, we remain concerned by numerous, incremental increases in building envelope efficiency that collectively raise construction costs without providing a cost-effective benefit.

Existing Building Code Provisions

The International Existing Building Code (IEBC) provides requirements for the rehabilitation of existing buildings and establishes compliance conditions for fire protection, structural features, accessibility and life safety. While the ICC updated fire protection and accessibility measures for new construction during the Group A cycle, we are concerned about numerous proposals to extend onerous or unnecessary requirements to building renovations.

Notable Items – Disapproved and Withdrawn

RE 8 – Programmable Thermostats – Required programmable and communicating (WiFi) primary thermostats.

RE 24 – Fenestration U-Factors – Increased fenestration U-factor stringency in all Climate Zones resulting in limited product choice.

RE 29 – Wall Insulation – Increased stringency of prescriptive R-values for wood-frame walls in specific, high-construction Climate Zones (Zones 4 – 5).

RE 32 – Slab Insulation – Increased stringency of prescriptive R-values for slab insulation in specific, high-construction Climate Zones (Zones 3 – 5).

RE 33 / RE 36 – Ceiling Insulation – Increased ceiling insulation requirements.

RE 94 – Air Leakage Testing – Required additional blower door testing related to garages.

RE 116 – Duct Leakage Testing – Increased requirements for duct leakage testing and changed exceptions.

RE 126 – Water Heating Requirements – Imposed onerous and costly water heating equipment requirements. Specified equipment types not commonly used in multifamily or required additional measures to utilize typical equipment.

RE 131 / RE 140 / RE 141 / RE 142 – Mechanical Ventilation – Changed mechanical ventilation requirements and imposed new testing provisions.

RE 145 – High-Efficiency Lighting – Imposed high-efficacy lighting requirements for all permanent lighting (min. 70 lumens per watt) and required dimmers or occupancy sensors for all permanently installed fixtures with limited exceptions.

RE 146 – Electric Vehicle Readiness – Imposed electric vehicle-ready parking requirements - at least two percent of parking spaces.

RE 147 – Electric Appliance Readiness – Required dedicated receptacle where there are gas or propane water heaters, cooking equipment or dryers within 3' of each appliance. Also imposed unnecessary space requirements – must include 3'x3' space for a future electric water heater.

RE 157 – Compliance Testing/Sampling Options – Eliminated testing options and reduced flexibility by removing batch sampling for stacked multifamily units.

RE 190 – Preference for Renewable Energy – Increased compliance stringency and changed calculation to penalize buildings without renewable energy.

RE 206 / RE 207 / RE 209 – Energy Performance Requirements – Increased energy performance levels and added compliance requirements.

CE 28 – Categorization of Apartment Buildings – Significantly changed categorization of apartments and would move all multifamily (R-2) buildings to the Commercial Energy Code. Industry preference has long been to maintain existing categorization split between residential and commercial codes, as it more closely aligns with typical apartment design and construction.

CE 49 – Performance Efficiency Path – Increased stringency of Performance-Based Compliance – required five percent increase in efficiency.

CE 53 / CE 263 – On-site Renewable Energy Equipment – Required renewable energy equipment equivalent without proper consideration of cost-benefit for apartment construction or implementation concerns.

CE 70 / CE 81 – Thermal Envelope – CE 70 increased stringency of prescriptive U-factor requirements for swinging doors. CE 81 required concrete slab floors that penetrate envelope (e.g., balconies) to have thermal breaks, without recognizing the uncertainty of current thermal bridging standards.

CE 100 – Air Barrier Testing – Required onerous air barrier/leakage testing compared to similar proposals. Third-party testing required for every assembly.

CE 109 – Ventilation Requirements – Changed multifamily ventilation requirements and eliminated use of outdoor air duct to return side of air handler, which would limit typical product/equipment configuration choice.

CE 110 – Mechanical Systems Monitoring – Required fault detection system for mechanical systems in large buildings to monitor system performance and identify faults.

CE 219 / CE 220 / CE 229 – Prescriptive Compliance Options – Revised prescriptive options to require compliance with two efficiency packages out of eight options. Majority of proposed options are not practical for typical multifamily construction, raising serious compliance questions for apartments.

EB84 / EB 85 – Occupancy Requirements/Fire Alarm – Required seemingly excessive fire alarm systems in typical multifamily Level 2 alteration.

Notable Items – Approved as Modified

CE 96 – Air Leakage Testing – Changes blower door test method and provides a sampling protocol for eight units or more; after the initial seven, test 20% of remaining units. If one unit fails, test another 20%.

CE 99 – Air Barrier Inspection – Requires potentially onerous review of construction documents, inspection of air barrier installation during installation and final commissioning report by registered design professional.

CE 215 – Energy Monitoring – Original proposal required impractical energy monitoring in new buildings larger than 25,000 square feet, with limited equipment and space exceptions. Modification exempts R-2 occupancies.

CE 217 – Electric Vehicle (EV) Readiness – Requires percentage of parking to be EV-ready spaces and EV-capable spaces.

CE 218 / CE 226 – Prescriptive Compliance Path – Substantially changes prescriptive compliance path by increasing efficiency levels and could seriously impair the simplicity and viability of the Prescriptive option for apartments. Proposal relies on products and systems that are not practical compliance options for multifamily buildings.

EB 83 – Automatic Sprinkler Systems – Imposes new sprinkler requirements in work areas but impact differs between Level 2 versus Level 3 alterations (where sprinklers would be typical feature).

Notable Items – Approved

RE 35 – Fenestration – Increases stringency of U-factors in Climate Zones 2 – 4.

RE 112 / RE 117 – Duct Testing – RE 112 requires onerous duct leakage testing for all ductwork even when completely inside the building envelope. Proposal fails to properly address multifamily buildings, which have numerous duct systems, and fails to provide a sampling protocol. Also fails to address multifamily central HVAC systems that cannot be tested with typical residential-scale equipment. RE 117 similarly requires all ducts to be tested without appropriate accommodation for multifamily buildings.

CE 61 / CE 63 – Insulation – CE 61 increases required roof insulation for attics, and CE 63 increases wall insulation for metal, metal-framed and wood-framed buildings. Both provisions are part of a package of proposals to align values with ASHRAE 90.1-2016.

CE 66 - Floors - Increases R-value requirements for mass floors in Zones 4 and up, increases requirements for frame floors in Zone 6 and increases prescriptive U-factor table. Part of package of proposals to increase efficiency tables per ASHRAE 90.1-2016.

CE 68 / CE 69 - Slab Insulation - Increases efficiency requirements for unheated slab insulation in Zones 3 and up and increases prescriptive U-factor table in selected climate zones. Part of package of proposals to increase efficiency tables per ASHRAE 90.1-2016.

CE 84 / CE 85 - Fenestration - Increases stringency of U-factors and/or SHGC in all climate zones by as much as 25 percent for fixed and operable vertical fenestration, entrance doors and skylights. Aligns values with ASHRAE 90.1-2019, with largest impacts to Climate Zones 7 and 8.

EB 95 - Emergency Responder Radio Coverage - Requires emergency responder radio coverage in buildings undergoing a Level 3 alteration or complete change of occupancy. Note that practice is already common in Level 3 alterations.

2021 Code Proposals
Multifamily Priority Proposals

Favorable	Item of Benefit for Apartment Construction
Neutral	Item of Interest for Apartment Construction
Moderate	Unfavorable Item for Apartment Construction
Significant	Item with Significant Cost or Design Impacts for Apartment Construction

International Existing Building Code

Approved Proposals

PROPOSAL #	TYPE OF CHANGE	IMPACT	CODE SECTION & ANALYSIS
EB8-19	Deletion	Neutral	**301.5, 305.2 Accessibility for Existing Buildings:** Deletes reference to 2009 A117.1. Mostly editorial and reflects industry collaboration to clarify requirements.
EB12-19	New Requirement	Moderate	**302.5.2 Replacement of Exterior Wall Covering and Exterior Wall Envelope:** Supported by ICC FCAC in response to high-rise fires involving combustible cladding, requires materials and methods used to replace exterior wall coverings to comply with Chapters 14 and 26 of IBC. May impact product choice or availability.
EB27-19	Revision / New Requirement	Moderate	**305.4.2 Complete Change of Occupancy:** Deletes existing accessibility exception at change of occupancy and requires several accessible entrance and parking features.
EB34-19	Revision / Clarification	Favorable	**305.8.2 Accessible Route:** Requires accessible routes in existing buildings be minimum width of 36" versus 48" per 2017 A117.1.
EB36-19	Clarification / Editorial	Favorable	**305.9 Historic Buildings:** Aligns exceptions allowed for in historic buildings and existing buildings.
EB37-19	Clarification / Editorial	Favorable	**305.9 Historic Buildings:** Makes formatting changes to help ensure that accessibility provisions for existing buildings apply to historic buildings where feasible.
EB54-19	Adds Exception	Favorable	**503.4 Existing Structural Elements Carrying Lateral Load:** Adds exceptions to clarify when structural review or added anchorage is not needed when rooftop equipment is added or changed.

EB63-19	Revision and Reorganization	Neutral	**PART I — IEBC: 505.2, 505.3, 505.3.1 (New), 505.4, 702.4, 702.5 , 702.5.1 (New), 701.4; IRC: R310.2.5, AJ102.4.3, AJ102.4.3.1 (New), AJ102.4.4PART II — IRC®: R310.6 (New), R310.2.5 (New), SECTION AJ102 (New), AJ102.4 (New), AJ102.4.3 (New), AJ102.4.3.1 (New), AJ102.4.4(New):** Reorganizes existing provisions related to replacement windows, opening control devices, and/or fall prevention devices. Addresses replacement windows for emergency escape and rescue. Reorganizes to align with IRC and adds Appendix AJ Compliance for window replacement.
EB71-19	Clarification / Editorial	Favorable	**105.2, 603.1, 704.2 (New), 801.3 (New) Work Exempt from Permit:** Clarifies that system installations (e.g., mechanical, windows, accessibility) should not trigger work area requirements in Level 2 alterations.
EB79-19	Revision / New Requirement	Moderate	**802.4 Interior Finish:** Revises language to finish and trim in exits and corridors that must be treated with fire retardant coating to comply with requirements of IBC.
EB83-19	New Requirement	Moderate	**803.2.4, 904.1.4, 904.1.5, 904.1.6 Other Required Automatic Sprinkler Systems:** Imposes new sprinkler requirements in work areas. Note impact differences between Level 2 versus Level 3 alterations (where sprinklers would be typical feature).
EB95-19	New Requirement	Moderate	**908.1, 1010.2 Emergency Responder Radio Coverage:** Requires emergency responder radio coverage in buildings undergoing a Level 3 alteration or complete change of occupancy. Note that practice is already common in Level 3 alteration.

Disapproved and Withdrawn Proposals

PROPOSAL #	TYPE OF CHANGE	IMPACT	CODE SECTION & ANALYSIS
EB13-19	New Requirement	Significant	**302.5.2 (New) High Rise Buildings**: Where exterior wall envelope is added or replaced in bldg. where floor level exceeds 75' above fire dept. access, automatic sprinkler system shall be installed throughout building. Very restrictive requirement.
EB17-19	Revision	Moderate	**301.1, 302.1, 503.1 Compliance Methods:** Includes contradictions concerning existing materials and hazard determinations.
EB33-19	Deletes Requirement	Favorable	**305.8.2 Elevators:** Deletes language requiring that altered elements of elevators comply with ASME 17.1 and A117.1, noting compliance may not be feasible for existing elevators.
EB80-19	Revision	Favorable	**803.4.4 Smoke Alarms Replacement:** In Group R occupancies, allows single station smoke alarms to be replaced with 10-year battery powered smoke alarm.
EB82-19	Revision / Limits Requirement	Favorable	**803.2.2 Groups:** Clarifies when sprinklers are required during Level 2 alteration. If there is not adequate municipal water supply and existing vertical piping to the work area, smoke detection system is allowed.
EB84-19	New Requirement	Significant	**803.4.1, 803.4.1.1, 803.4.1.2 Occupancy Requirements/Fire Alarm:** Likely excessive in typical multifamily Level 2 alteration. If building does not have fire alarm system, requires fire alarm control panel with annunciator. Subsequent work areas required must be connected to this main control panel.

EB85-19	New Requirement	Significant	**803.4.1 Fire Alarm:** Likely excessive in typical multifamily Level 2 alteration. Requires audio/visual alarm unit in work area and in common area of the floor or fire area and be connected to existing fire alarm in building.

International Energy Conservation Code – Residential

Approved Proposals

PROPOSAL #	TYPE OF CHANGE	IMPACT	CODE SECTION & ANALYSIS
BUILDING ENVELOPE			
RE27-19	Revision	Neutral	**Table R402.1.2, Insulation and Fenestration:** Adds prescriptive R-value options for wood-frame walls which are cavity-only insulation or are exterior foam-only approaches. Does not change existing R-values.
CE42-19	Revision / Editorial	Neutral	**Numerous:** Much of this proposal is re-formatting and eliminating the terms "Mandatory" and "Prescriptive". For the Performance Path, does increase stringency: Proposed design must have an annual energy cost that is less than or equal to 85% of the reference design. The Residential IECC Part 2 proposal does not add the language regarding cost of proposed design "less than 85%" of cost of reference design. Leaves it simply as "less than."
CE54-19	Revision	Favorable	**C401.2 Application:** Adds option for R-2 and residential buildings in Tropical Zone CZ-0 and less than 2,400 ft above sea level that have no cooling or very minimal cooling. Low-cost option for compliance with Energy Code, seemingly to offer a code compliance option for very low-cost recovery housing in Puerto Rico.
RE34-19	Increases Requirement	Significant	**Table 402.1.2 Prescriptive R-values:** Removes option in Climate Zones 5 - 8 allowing alternative insulation levels where insulation fills the entire framing cavity at not less than R-19.
RE35-19	Increases Requirement	Significant	**Table 402.1.2 Fenestration U-factors:** Increases stringency of U-factors in Climate Zones 2 - 4 to 0.35, 0.30, 0.30 respectively (from 0.40, 0.32, 0.32).
RE41-19	Adds Exception	Favorable	**Table 402.1.2 Prescriptive R-values:** Adds a narrow exception for windows installed at high elevations and in windborne debris regions, which slightly eases maximum fenestration U-factors in Climate Zones 4 Marine and 5 – 8.
RE52-19	Eliminates Exception/ Increases Requirement	Moderate to Neutral	**R402.2.7 Wall Insulation:** Removes provision for partially sheathed walls and allowance for reduced thickness of exterior rigid insulation, but likely to have limited impact in typical multifamily construction.
AIR LEAKAGE			
RE88-19	Revision	Favorable	**R402.4.1.2 Air Leakage Testing:** Simplifies testing protocol and improves metric for blower door testing to 0.3 cfm/sf for multifamily in all climate zones.

RE92-19	Revision	Favorable	**R402.4.1.2 Air Leakage Testing:** Changes metric for blower door testing to 0.28 cfm/sf in Zones 1 - 2; to 0.17 in Zones 3 - 8. Points to IRC for mechanical ventilation requirements. More stringent than RE88 and RE91, but more achievable than current requirements.
RE96-19	Revision	Favorable	**402.4 Air Leakage Testing:** Revises and improves air leakage testing thresholds, but RE88 and RE91 are preferable.
RE102-19	Revision	Favorable	**402.4.1.2.1 Multi-Unit Buildings:** Provides flexibility for multifamily buildings and clarifies that multi-unit buildings can be tested as single zone, multiple zone or individual dwelling units.
RE103-19	New Requirement	Moderate	**402.4.6 Outlet Boxes:** Requires electrical boxes and communications boxes to be tested according to NEMA OS 4 for air leakage. Air leakage rate not greater than 2.0 cfm.
MECHANICAL SYSTEMS AND VENTILATION			
RE105-19	Revision	Neutral	**R402.5 Max Fenestration U-Factor and SHGC:** Reduced max U-factors to 0.40 in CZ 4 and 5; to 0.35 in CZ 5-8; max SHGC to 0.40 in CZ 1-3.
RE112-19	New Requirement	Significant	**R403.3.3 Duct Testing:** Requires onerous duct leakage testing for all ductwork even when completely inside the building envelope. Sets threshold at 8 cfm per 100sf floor area. Proposal fails to properly address multifamily buildings, which have numerous duct systems, and fails to provide a sampling protocol. Also fails to address multifamily central HVAC systems that cannot be tested with typical residential-scale equipment.
RE115-19	Revision	Neutral	**R403.3 Duct Testing:** Maintains exception for ducts located entirely within conditioned space, but where testing is required, sets threshold at 8 cfm per 100 sf floor area.
RE117-19	New Requirement	Significant	**R403.3.3 Duct Testing:** See RE112 requiring all ducts to be tested without appropriate accommodation for multifamily buildings.
RE118-19	Clarification	Favorable	**R403.3.3 Duct Testing:** Eliminates confusion and clarifies that all discrete mechanical ventilation ducts are exempted from air leakage test requirements.
RE119-19	Revision	Favorable	**R403.3.3 Duct Testing:** Provides that duct leakage test can be total leakage or leakage to outside and maintains current maximum threshold of 4.0 cfm per 100sf floor area for both.
RE130-19	Revision	Moderate	**R403.6.2 Testing:** Requires a flow rate test on the whole-dwelling ventilation system. Code official can require approved third party. Exception for range hoods with at least 6" ducts and no more than one elbow. Studies have documented very low actual flow rates for installed systems.
RE132-19	Revision / Clarification	Neutral	**R403.6, R303.4 Mechanical Ventilation:** Provides clarification on mechanical ventilation requirements for buildings and dwelling units.
RE133-19	New Requirement	Moderate to Neutral	**C403.8.5, Table R403.6.1 Mechanical Ventilation:** Raises whole house mechanical ventilation fan efficacy levels to align with Energy Star levels. However, new efficiency levels are readily achievable with typical products.

RE134-19	New Requirement	Moderate	**R403.6.1 Mechanical Ventilation:** Adds fan efficacy requirement for central air handlers used for whole house mechanical ventilation. 1.2 cfm/watt. Uncertain cost-benefit for multifamily construction.
RE139-19	New Requirement	Significant to Moderate	**R403.6.1 Mechanical Ventilation:** Requires a heat recovery (HRV) or energy recovery (ERV) ventilation system in Climate Zones 7 and 8 only. Limited geographic impact, but can constitute notable added cost in some situations. See RE131.
ELECTRICAL POWER AND LIGHTING			
RE148-19	Revision / New Requirement	Moderate	**R404.1.1 Exterior Lighting:** Requires exterior lighting for R-2 buildings to comply with Section C405 of the IECC-Commercial (with exception for fixtures controlled by motion sensors). However, compliant equipment is becoming readily available and costs are decreasing.
RE149-19	New Requirement	Moderate	**R404.2 Exterior Lighting Controls:** Requires building mounted exterior lighting to have daylight and motion controls, which raises safety and security implications for multi-family buildings. Proposal was subsequently modified to accommodate multifamily, including an exception in part. Important to ensure that multifamily modifications remain intact.
PERFORMANCE PATH AND ERI PATH			
RE150-19	Revision	Favorable	**R406.2 ERI Path:** Provides additional flexibility for the thermal envelope minimums within the ERI compliance path, and allows builders and designers to utilize the most cost-effective options.
RE210-19	Revision / Enforcement	Moderate to Neutral	**R407 New Pathway to Zero, ERI Compliance Alternative:** Creates an alternative compliance path for jurisdictions seeking to achieve zero net energy buildings by 2042. Although optional at this time, implications for multifamily construction are unclear and would likely result in cost increases.
RE217-19	Revision	Favorable	**R503.1.1, C503.1 Alterations:** In reroofing situations, creates an exception to address constructability concerns when installing roof insulation where existing roof conditions do not allow for the full thickness of insulation required by Table R402.1.2 or Table R402.1.4.

Disapproved and Withdrawn Proposals

Proposal #	Type of Change	Impact	Code Section & Analysis
RE8-19	New Requirement	Moderate	**R403.1.1 Programmable Thermostat:** Requires programmable and communicating (WiFi) primary thermostat.
RE17-19	Revision	Neutral	**R407: Compliance / New text:** Adds optional compliance path - Simplified Equivalent Compliance Alternative Approach, but likely of limited use for most multifamily.

RE24-19	Increases Requirement	Significant	**Table R402.1.2/Table R402.1.4 Insulation and Fenestration:** Increases fenestration U-factor stringency. Climate Zone 1 from NR to 0.40; Zones 2 - 3 from 0.32 to 0.30; Zones 5 - 8 from 0.30 to 0.27, resulting in limited product choice.
RE29-19	Increases Requirement	Significant	**Table R402.1.2 Insulation:** Increases stringency of prescriptive R-values for wood-frame walls in Climate Zones 4 - 5 from R-20 or R-13+R5 to R-20+R-5 or R-13+R-10.
RE31-19	Revision / Adds Option	Favorable	**Table 402.1.2 Prescriptive R-values:** Limited to zones 6 - 8: Adds option for above-grade wood frame wall insulation, in a cavity-only configuration, to be R-23 with additional envelope and window requirements.
RE32-19	Increases Requirement	Significant	**Table 402.1.2 Prescriptive R-values:** In Climate Zones 3 – 5: Increases slab insulation. Zone 3 - None to R-10, 2'; Zones 4 - 5- same R value but increases insulation depth from 2' to 4'.
RE33-19	Increases Requirement	Significant	**Table 402.1.2 Prescriptive R-values:** In Climate Zones 2 – 3: Increases ceiling insulation from R-38 to R-49. Also, changes U-factor table accordingly.
RE36-19	Increases Requirement	Significant	**Table 402.1.2 Prescriptive R-values:** In Climate Zones 4 – 8: Increases ceiling insulation from R-49 to R-60. Allows R-49 if full coverage over exterior walls, and changes U-factor table accordingly.
RE37-19	Increases Requirement	Neutral	**Table 402.1.2 Prescriptive R-values:** In Climate Zones 5 and Marine 4: Changes SHGC from NR to 0.40, but typical multifamily products meet these requirements.
RE39-19	Revision / Adds Option	Favorable	**Table 402.1.2 Prescriptive R-values:** See RE31. Limited to Zones 6 - 8: Adds option for above-grade wood frame wall insulation - cavity only - R-23. Would also have to have U-0.28 windows and R-60 attic (or R-49 full coverage).
RE40-19	Revision / Adds Option	Favorable	**Table 402.1.2 Prescriptive R-values:** Adds footnote to wood frame wall assemblies in Climate Zones 3- 8 allowing R-18 insulation in place of R-20 if framing factor is 20% or less in 24" on center spacing.
RE43-19	Revision / Enforcement	Favorable	**R103.2, R401.2.2 Batch Sampling:** Likely decreases inspection costs and expedites testing for blower door and duct leakage by extending allowance for batch sampling to prescriptive compliance path as well as performance for stacked multifamily buildings. Inspect 5 consecutive dwelling units; then 1 in 5 units. If one fails, then inspect that one plus 3 more.
RE89-19	Revision	Favorable	**R402.4.1.2 Air Leakage Testing:** Allows visual inspection according to Table R402.4.1.1 for additions and alterations.
RE90-19	Revision	Favorable	**R402.4.1.2 Air Leakage Testing:** Improves metric for blower door testing to 0.28 cfm/sf in Zones 1 - 2; to 0.17 in Zones 3 - 8. Also specifies that each dwelling unit shall be supplied with mechanical ventilation. See RE88.
RE91-19	Revision	Favorable	**R402.4.1.2 Air Leakage Testing:** Improves metric for blower door testing to 0.30 cfm/sf for dwelling units in townhomes and apartments. More achievable and puts requirement for mechanical ventilation for dwelling units in IECC-Res rather than reference to IRC. See RE88.
RE93-19	Revision	Favorable	**R402.4.1.2 Air Leakage Testing:** Less stringent than RE92. Provides for 5 ACH50 or 0.32cfm/sf and 3 ACH50 or 0.23 cfm/sf.

RE94-19	New Requirement	Significant	**R402.4.1.2 Air Leakage Testing:** Requires additional blower door testing related to garages. Likely geographically limited given typical multifamily design, but would unnecessarily increase costs where applicable.
RE95-19	Revision	Favorable	**402.4.1.3 Sampling Options:** Provides a favorable sampling protocol for multifamily buildings. Initial testing: 3 units + Sampling 15% of dwelling units in a building. If one fails, then test 30% in that building. Then if any failures, test all units.
RE99-19	Revision	Favorable	**402.4 Air Leakage Testing:** Adds flexibility by making air leakage testing prescriptive - not mandatory, so it can be used as a compliance trade-off.
RE101-19	Adds Exception	Favorable	**402.4 Air Leakage Testing:** Adds exception to air leakage testing, which allows for a visual inspection for additions, alterations, renovations and repairs.
RE116-19	Revision / New Requirement	Significant	**R403.3.3 Duct Testing:** See RE112. Changes duct leakage test requirements and exceptions. But, includes a higher leakage allowance for smaller buildings and dwelling units.
RE121-19	Revision	Favorable	**R403.3.4.1 Sampling Options for R-2:** Same as RE95.
RE126-19	Increases Requirement	Significant	**R403.5.1 Water Heating Equipment:** Imposes onerous and costly water heating equipment requirements. Specifies equipment types not commonly used in multifamily or requires additional measures to utilize typical equipment.
RE131-19	Increases Requirement	Significant to Moderate	**R403.6 Mechanical Ventilation:** Requires a heat recovery (HRV) or energy recovery (ERV) ventilation system in Climate Zones 7 and 8 only. Limited geographic impact, but can constitute notable added cost in some situations. Performance and ERI would not require this technology. See RE139.
RE140-19	New Requirement	Moderate	**R403.6.2 Mechanical Ventilation Testing (New):** Whole house mechanical ventilation and outdoor air systems shall be tested in accord with manufacturer's instructions or with flow hood. Code official can call for a third party to do the testing. See RE130.
RE141-19	New Requirement	Moderate	**R403.6.2 Mechanical Ventilation Testing (New):** Whole house mechanical ventilation shall be tested. This proposal requires a third party to conduct the testing. Similar to RE130, but stricter due to third party testing requirement.
RE142-19	New Requirement	Moderate	**R403.6.2 Mechanical Ventilation Testing:** Requires testing of whole house mechanical ventilation by flow hood. Similar to RE130, but stricter in that all operational modes must be tested.
RE145-19	Revision / New Requirement	Significant	**R404.2 Lighting:** Increases requirements - all permanent lighting must be high efficacy - min 70 lumens per watt. For most applications (> 40 W) this moves the code from 60 up to 70 lumens/Watt. Also requires dimmer or occupancy sensor for all permanently installed fixtures except bathrooms, hallways, exterior, safety/security.
RE146-19	New Requirement	Significant	**R404.2 Electric Vehicle:** Mandatory requirement for Electric Vehicle Ready parking - at least 2% of parking spaces with 40 amp branch circuit for each terminating at NEMA 6-50 or 14-50 receptacle.
RE147-19	New Requirement	Significant	**R404.2 Electric Readiness:** Requires dedicated receptacle where there are gas or propane water heaters, cooking equipment or dryers within 3' of each appliance. Also imposes unnecessary space requirements – must include 3'x3' space for a future electric water heater.

RE152-19	Revision / Adds Options	Favorable	**405.1 Performance Path:** Offers additional measures to gain credits for performance path compliance: efficient appliances, efficient lighting, balanced ventilation, onsite renewables.
RE157-19	Revision	Significant	**405.1 Performance Path:** Removes batch sampling for stacked multifamily units. See RE43 for more favorable proposal.
RE175-19	Revision	Favorable	**405.2 Performance Path:** Adds flexibility. Includes federal minimum efficiencies for space heating, cooling, and water heating in the reference design, which provides credit for more efficient equipment. Also puts a backstop of 15% worse envelope performance than prescriptive requirements of current code for the reference design. Similar to the ERI Path but does not reference an earlier code.
RE176-19	Revision	Favorable	**405.2 Performance Path:** Same as RE175, without 15% backstop for envelope in reference design.
RE180-19	Revision	Favorable	**R405.3 Performance Path:** Eliminates annual energy cost as the metric. Uses only source energy (Btu), as the ratio of energy costs change frequently. Also recognizes differences between utility pricing.
RE182-19	Revision	Moderate to Neutral	**R406.2 ERI Path:** Limited impact today, as only applicable were renewables are used. Provides that backstop for ERI Path is prescriptive tables in 2018 IECC.
RE190-19	Revision / Increases Requirement	Moderate	**R406.2 ERI Path:** Applicable to ERI Path compliance only, but would increase stringency and penalize buildings without renewable energy by including renewables in the calculation.
RE191-19	Revision / Increases Requirement	Moderate	**Table R406.4 ERI Path:** Reduces required ERI scores to between 54 and 58 for all climate zones, resulting in 6-7% more stringency.
RE192-19	Revision / Increases Requirement	Moderate	**Table R406.4 ERI Path:** Makes ERI Path more stringent, requiring scores between 51 and 55 (previously ranged from 57 to 62). Baseline of 100 is 2006 IECC.
RE193-19	Revision / Increases Requirement	Moderate	**Table R406.2 ERI Path:** Increases stringency by moving backstop for ERI compliance path from 2009 IECC to 2012 IECC.
RE206-19	Revision / Increases Requirement	Significant	**R401.2 Additional Energy Efficiency:** Adds additional compliance requirements and increases energy efficiency performance levels.
RE207-19	Revision / Increases Requirement	Significant	**R401.2 Additional Energy Efficiency:** Same as RE206, but with more stringent target efficiencies.
RE209-19	Revision / Increases Requirement	Significant	**R401.2 Additional Energy Efficiency:** Similar to RE206 and adds new compliance requirements. Requires selection of one from multiple options.

RE223-19	Adds Appendix	Significant	**Appendix - Zero Energy Residential Buildings:** Adds Appendix for Zero Energy Buildings. While optional for a jurisdiction to adopt at this time, implications for multifamily construction are not well-articulated and raises questions of cost-effectiveness and constructability.
RE224-19	Revision / Enforcement	Significant	**Appendix - Stretch Code:** Optional appendix, but would require new residential buildings or those undergoing renovation to comply with ASHRAE 90.2 – a standard that is rarely used in residential code compliance.

International Energy Conservation Code - Commercial

Approved Proposals

PROPOSAL #	TYPE OF CHANGE	IMPACT	CODE SECTION & ANALYSIS
CE42-19	Definition Change	Significant	**Numerous Sections:** Reformats and eliminates terms, and results in increased stringency. In Performance Path, proposed design must have an annual energy cost less than or equal to 85% of the reference design.
CE55-19	New Requirement	Neutral	**C401.3 Thermal Envelope Certificate (New):** Requires posting of certificate identifying envelope R-values, U-factors, SHGC and testing results.
ENVELOPE INSULATION			
CE61-19	Revision / Increases Requirement	Moderate	**Table C402.1.3 Opaque Envelope Requirements (Roofs):** Increases required roof insulation for attics and aligns values with ASHRAE 90.1-2016 – • Climate Zone (CZ) 4 from R38 to R49 • Changes Group R metal buildings in CZ 6 and above. • Proposals CE61, 63, 64, 66, 68, and 69 are a block of proposals from same proponents all seeking updates/increases to U- and R-values in the Prescriptive Path compliance tables.
CE63-19	Revision / Increases Requirement	Significant	**Table C402.1.3 Opaque Envelope Requirements (Walls):** Increases wall insulation for metal, metal-framed and wood-framed buildings in Climate Zones 4 and up. Part of package of proposals to increase efficiency tables per ASHRAE 90.1-2016.
CE64-19	Revision / Increases Requirement	Neutral	**Table C402.1.3 Opaque Envelope Requirements (Walls):** Increases below-grade wall insulation in Climate Zone 7 and up, but very geographically limited.
CE65-19	Revision / Increases Requirement	Neutral	**Table C402.1.3 Opaque Envelope Requirements (Floors):** Increases R-value requirement for Frame Floors in Zone 1 to R-13 (previously 0). Very limited geographic impact, and change can be avoided by using tradeoff method.
CE66-19	Revision / Increases Requirement	Moderate	**Table C402.1.3 Opaque Envelope Requirements (Floors):** Increases R-value requirement for mass floors in Zones 4 and up. Increases R-value requirements for frame floors in Zones 6 and up. And, increases prescriptive U-factor table. Part of package of proposals to increase efficiency tables per ASHRAE 90.1-2016.

CE68-19	Revision / Increases Requirement	Moderate	**Table C402.1.3 Opaque Envelope Requirements (Slabs):** Increases requirements for unheated slab insulation in Zones 3 and up. Increases prescriptive U-factor table in selected climate zones. Part of package of proposals to increase efficiency tables per ASHRAE 90.1-2016.
CE69-19	Revision / Increases Requirement	Moderate	**Table C402.1.3 Opaque Envelope Requirements (Slabs):** Increases prescriptive requirements for unheated slabs in Zones 7 – 8. Increases minimum F-factors for unheated slabs in selected climate zones. Part of package of proposals to increase efficiency tables per ASHRAE 90.1-2016.
CE75-19	Revision / Increases Requirement	Neutral	**Table C402.1.4 Opaque Envelope Requirements (Walls):** Decreases maximum U-factors for metal- and wood-framed above grade walls in Zones 5 and 7. Aligns with prescriptive R-value requirements for these assemblies.
WINDOWS			
CE84-19	Revision / Increases Requirement	Significant	**Table C402.4 Fenestration U-factor and SHGC Requirements:** Increases stringency of U-factors and SHGC in all climate zones: 1) Reduces U-factors by 0-14% for fixed and operable vertical fenestration; 7-25% for entrance doors; 0-18% for skylights; 2) Reduces SHGC requirements for vertical fenestration and skylights by 0-14%; 3) Aligns with ASHRAE 90.1-2019, with largest impacts to climate zones 7 and 8.
CE85-19	Revision / Increases Requirement	Significant	**Table C402.4 Fenestration U-factor and SHGC Requirements:** Proposes same U-factors as CE84, but does not change SHGC.
CE87-19	Revision / Increases Requirement	Moderate	**Table C402.4 Fenestration U-factor and SHGC Requirements:** Increases SHGC requirements for windows across all climate zones. Adds SHGC requirements for Zones 7 and 8. Aligns requirements with ASHRAE 90.1-2016. Note: greater impact to operable versus fixed windows, but values are comparable to 2015 IECC Residential (Zones 1 - 4).
AIR BARRIERS AND AIR SEALING			
CE96-19	New Requirement	Significant	**C402.5.1.2 Air Barrier Compliance:** Except in CZ 2B, 3C and 5C, requires a portion of dwellings to have a blower door test. Measured leakage must be </= 0.30 cfm per sf unit enclosure area (e.g. surface area) - which is about 5 to 6 ACH50 depending on geometry of the unit. For buildings with < 8 units, all units must be tested. Provides a sampling protocol for 8 units or more - after the initial 7, test 20% of remaining units. If one unit fails, test another 20%. This is a continuation of air leakage testing efforts from previous cycles.
CE99-19	New Requirement / Enforcement Change	Significant	**C103.2, C402.5.1, C402.5.3 Air Barriers:** Requires potentially onerous review of construction documents, inspection of air barrier installation during installation, and final commissioning report by registered design professional.

MECHANICAL SYSTEMS AND VENTILATION			
CE111-19	New Requirement	Moderate To Neutral	**C403.2.3 Fault Detection System (New):** Requires fault detection system for mechanical systems in buildings larger than 100,000 sf. to monitor system performance and identify faults. Question practicality in multifamily construction and applicability to individual dwelling units systems. Neutral for multifamily if modification is maintained specifically exempting R-2 occupancies.
CE113-19	Revision	Moderate	**C403 HVAC Efficiency:** Replaces minimum efficiency tables for HVAC equipment to align with ASHRAE 90.1-2019. Impacts are situational – with replacement values being more stringent in some cases and less stringent in others.
CE124-19	Decreases Requirement	Favorable	**C403.5 Economizers:** Deletes requirement for economizer in VRF systems with dedicated outdoor air system.
CE129-19	Limits Exception	Moderate	**C403.7.2 Garage Ventilation Controls:** Diminishes value of exception: 1) Requires CO and NO2 detectors rather than just "contamination detectors"; 2) Lowers exception trigger from systems with an exhaust capacity of 22,500 cfm down to 8,000 cfm; 3) Adds requirement for occupancy sensor that activates full ventilation rate.
CE133-19	New Requirement	Moderate	**C403.7.4 Energy Recovery Ventilation Systems:** Requires energy recovery ventilation for multifamily dwelling units, but only impacts prescriptive compliance path.
CE139-19	Increases Requirement	Moderate	**C403.8.3 New:** Changes metric for fan efficiency from Fan Efficiency Grade to Fan Energy Index. Likely cost increase in certain HVAC equipment, but smaller systems will not be impacted.
CE140-19	New Requirement	Moderate	**C403.8.5:** Requires mechanical ventilation fans less than 1/12 hsp to align with EnergyStar. Applies to H/ERVs, in-line fans, bath fans, but applicable in prescriptive path only.
CE156.19	Increases Requirement	Moderate to Neutral	**C404.2.1 High Input Service Water Heating Systems:** Increases efficiency requirements where a single piece of water-heating equipment has input rating equal to/higher than 1,000,000 Btu/h or where multiple pieces of equipment provide combined input capacity equal to that amount. Exempts water heaters that serve individual dwelling units and may be of limited applicability in typical multifamily construction.
LIGHTING / ELECTRICAL SYSTEMS			
CE162-19	Increases Requirement	Moderate	**C405.1 Lighting:** Requires high-efficacy lamps in at least 90% of permanently installed lighting in dwelling units (65 lumens/watt or luminaires with efficacy not less than 45 lumens/watt or comply with 405.2.4 and 405.3 (Lighting Controls and Lighting Power Allowance).
CE169-19	New Requirement	Significant	**C405.2.1 Occupant Sensor Controls:** Requires occupancy sensors in corridors that reduce lighting power by 50%. Raises questions of resident experience, safety and security in residential construction.

CE185-19 CE187-19	Increases Requirement	Moderate to Neutral	**C405.2.3 Daylight-Responsive Control Function:** CE184 to CE189 all address requirements for lighting in daylight zones such as dimming and reduction of threshold of general lighting. Impact on typical multifamily will be project-specific.
CE198-19	New Requirement	Moderate	**C405.2.6.3 Lighting Setback:** Occupancy sensors required for outdoor parking lot areas where wattage of luminaires 24' or less above ground is greater than 78 watts. Reduce wattage by 50%. Note safety and security considerations.
CE199-19	New Requirement	Significant	**C405.2.7 Parking Garage Lighting Controls:** Requires occupancy sensors and dimming controls for parking garages. Exception where fenestration to wall ratio is less than 40%, but safety and security concerns remain in multifamily buildings.
CE206-19 CE208-19	Increases Requirement	Moderate	**Table C405.3.2(1) Interior Lighting Power Allowances:** Reduces lighting power allowance in multifamily common areas to align with efficiency levels in sources including ASHRAE 189.1 and the New York Stretch Code. Only pertains to compliance through the Lighting Power Allowance method under the Prescriptive Path, but will raise costs for multifamily and raises questions of practicality. See CE204, CE205 and CE207.
CE215-19	New Requirement	Significant to Moderate	**C405 Energy Monitoring:** Original proposal requires energy monitoring in new buildings larger than 25,000 sf, with limited equipment and space exceptions. Important to maintain modification to exempt R-2 occupancies.
CE217-19	New Requirement	Significant	**C405 Electric Vehicles:** Requires percentage of parking to be EV-Ready Spaces and EV-Capable Spaces. Generally, 2 EV-Ready spaces and 3-5 EV-Capable spaces for up to 25 spaces, then 20% where 26 or more spaces provided.
ADDITIONAL EFFICIENCY PACKAGES			
CE218-19	Revision / Increases Requirement	Significant	**C406 Additional Efficiency Packages:** Substantially changes prescriptive compliance path by increasing efficiency levels and could seriously impair the simplicity and viability of the Prescriptive option for apartments. Proposal relies on products and systems that are not practical compliance options for multifamily buildings.
CE226-19 CE240-19	Increases Requirement	Significant	**C406 Additional Efficiency Packages:** Very similar to CE218. Requires commercial buildings to achieve 10 credits/points from a list of 13 options. 95% of lighting in dwelling units and sleeping units must be 65 lumens per watt, e.g., LEDs.
CE264-19	New Appendix	Significant	**Appendix - Zero Code Renewable Energy Standard (New):** Provides path for jurisdictions to impose renewable energy systems requirements to achieve zero-net-carbon. Establishes guidelines for determining required amount of renewable energy according to climate zone and building occupancy using EUI values. While optional at this time, implementation presents significant costs and practical issues for multifamily.

Disapproved and Withdrawn Proposals

Proposal #	Type of Change	Impact	Code Section & Analysis
CE28-19	Definition Change	Significant	**Definitions:** Major redefinition that would move all multifamily (R-2) buildings to the Commercial Energy Code. Industry preference has long-been to maintain existing categorization split between residential and commercial codes as it more closely aligns with typical apartment design and construction.
CE44-19	Revision / Adds Exception	Favorable	**C401.2 Application - RESNET Standard Reference:** Allows for code compliance via the Energy Rating Index (ERI) in Section R406 and updates RESNET Standard reference to ANSI/RESNET/ICC 301-2019 - Standard for Calculation and Labeling of Dwelling and Sleeping Units using the Energy Rating Index. Would create flexibility for multifamily code compliance.
CE49-19	Revision	Significant	**C401.2 Application/ C407.3 Performance-Based Compliance:** Increases Performance Path compliance by 5 percent.
CE53-19 CE263-19	New Requirement	Significant	**C401.2.2 On-Site Renewable Energy:** Requires renewable energy equipment equivalent to 0.25 w/sf multiplied by the sq.ft. of conditioned floor area of the 3 largest floors. CE263 develops an appendix requiring on-site photovoltaic systems. Cost-benefit for apartments is uncertain and significant implementation concerns including wide variation in net metering policies, greater cost-efficiency through use of utility-scale renewables and service of common areas versus dwelling units. Not appropriate for inclusion as universal code requirement.
CE70-19	Revision / Increases Requirement	Moderate	**Table C402.1.4 Opaque Thermal Envelope (Doors):** Removes R-value requirements for opaque swinging and non-swinging doors, and increases stringency of prescriptive U-factor requirements for swinging doors (reduced from U-0.61 to U-0.37 in all climate zones).
CE81-19	New Requirement	Moderate	**C402.2 Thermal Envelope Requirements**: Requires concrete slab floors that penetrate envelope (e.g. balconies) to have thermal break of at least R-3. Thermal bridging requirements and best practices remain unresolved (see ongoing work by ASHRAE 90.1) and are likely not ripe for IECC inclusion.
CE86-19	Revision / Increases Requirement	Moderate to Neutral	**Table C402.4 Fenestration U-factor and SHGC Requirements:** Increases stringency for U-factors for skylights in Climate Zones 6, 7 and 8. Reduced to U-0.44 and 0.41 respectively (from U-0.50). Very limited application.
CE88-19	Revision	Moderate	**Table C402.4 Fenestration U-factor and SHGC Requirements:** Distinguishes between curtain walls and other types ("punched") fenestration. Establishes U-factor requirements for "punched" fenestration, which align closely with the current IECC Residential U-factors.
CE100-19	New Requirement	Significant	**C402.5.1.2 Air Barrier Compliance:** Requires onerous air barrier / leakage testing compared to similar proposals. Third-party testing required for every assembly. See CE96 for preferable provision.

CE109-19	Revision	Significant	**C403.2.2.1 Multifamily Ventilation:** for unitary systems < 65,000 Kbtu/yr with individual ventilation systems, ventilation fan must be less than 1⁄4 hsp. Eliminates using outdoor air duct to return side of air handler and limits a supply fan providing ventilation to 186 W or less - essentially ruling out many central AHUs to be used in CFI type configurations.
CE110-19	New Requirement	Significant	**C403.2.3 Fault Detection System (New):** Requires fault detection system for mechanical systems in buildings larger than 100,000 sf. to monitor system performance and identify faults. Question practicality in multifamily construction, applicability to individual dwelling units systems and use of proprietary equipment. See CE111 that was modified to specifically exempt R-2 occupancies.
CE130-19	Revision	Moderate	**C403.7.2 Enclosed Parking Garage Ventilation Controls :** Similar to CE129, but adds thresholds of 25ppm for CO and 3 ppm for NO2 to activate ventilation. Min exhaust rate of .75 cfm/sf. Adjacent occupied spaces to be kept at positive pressure and provided with ventilation, but retains exceptions so preferable over CE129.
CE132-19	New Requirement	Moderate	**C403.7.4 Energy Recovery Ventilation Systems:** Requires energy recovery ventilation for multifamily dwelling units, but only impacts prescriptive compliance path. See CE133.
CE204-19 CE205-19 CE207-19	Increases Requirement	Moderate	**Table C405.3.2(1) Interior Lighting Power Allowances:** Reduces lighting power allowance in multifamily common areas to align with efficiency levels in sources including ASHRAE 189.1 and the New York Stretch Code. Only pertains to compliance through the Lighting Power Allowance method under the Prescriptive Path, but will raise costs for multifamily and raises questions of practicality. See CE206 and CE208.
CE222-19	Revision	Favorable	**C406.2 More Efficient HVAC Equipment Performance:** Offers added flexibility for central HVAC equipment in multifamily buildings.
CE224-19	Increases Requirement	Moderate	**C406.2 More Efficient HVAC Equipment Performance:** Increases IEER stringency for air-cooled unitary systems for credit for HVAC Additional Energy Efficiency Option. IEERs are 25 - 40% above 2018 minimum efficiencies, and 10% above federal minimums that go into effect in 2023.
CE227-19	Revision	Favorable	**C406.3 Reduced Lighting Power:** Increases flexibility - Lighting: Changes total lighting power requirement to "less than 95%" of prescriptive lighting requirements.
CE219-19	Increases Requirement	Significant	**C406 Additional Efficiency Packages:** Revises 2018 code provision requiring compliance with one of a set of eight efficiency packages to two or more. Majority of proposed options are not practical for typical multifamily construction, raising serious compliance questions for apartments.
CE220-19	Increases Requirement	Significant	**C406 Additional Efficiency Packages:** See CE219.
CE221-19	Revision / Clarification	Favorable	**C406 Additional Efficiency Packages:** Clarifies language on More Efficient HVAC Performance to provide more practical treatment of equipment types not listed in the IECC equipment tables.
CE228-19	Revision / Increases Requirement	Favorable	**C406 Additional Efficiency Packages:** Clarifies how to apply the Lighting Efficiency option to multifamily buildings. Minimally increases requirements, but eases implementation.

CE229-19	Increases Requirement	Significant	**C406 Additional Efficiency Packages:** Relates to CE218. Proposal relies on products and systems that are not practical compliance options for multifamily buildings.
CE230-19	Revision	Neutral	**C406.4 Enhanced Digital Lighting Controls:** Note lighting control options, but this equipment is atypical for multifamily construction.
CE242-19	Revision / Adds Option	Moderate	**C406 Additional Efficiency Packages:** Adds electrical vehicle supply equipment to list of compliance options. While other compliance options are allowed, note cost and viability of EV code proposals.
CE246-19	Revision	Neutral	**C407 Performance Based Compliance:** Where energy use based on source energy is used rather than energy cost, multipliers shall be 3.16 for electricity and 1.1 for other fuels. Note relevance to source energy calculations (impacts gas versus electric use).
CE251-19 CE260-19	New Requirement	Moderate to Neutral	**C502.2 Alterations, Additions/CE503 Alterations:** New mechanical systems that serve alterations, new service water heating systems and lighting that serve additions shall be commissioned and tested. Largely inapplicable to multifamily due to size/capacity thresholds and exempts systems that serve individual dwelling units.
CE253-19 CE256-19 CE257-19	Adds Exception	Favorable	**C503.1 Building Envelope:** Adds exception for roof replacement on low-slope roofs and CE256 and CE257 eliminates language that allows for subjective determinations ("where deemed by code official").
CE261-19	Increases Requirement / Enforcement	Moderate to Neutral	**C505 General:** Although provision is a significant change, it would seldom be triggered in multifamily construction or only arise during a major renovation where implementation would not be problematic. Relates to a change of occupancy and compliance with IECC requirements for new occupancy type.