

Significant 2018 Code Changes for Multifamily Buildings



The material in this education session has not been reviewed, approved, or endorsed by the National Association of Home Builders (NAHB). The topics discussed and the materials provided herein are for informational purposes only, are not intended to be an exhaustive presentation of information on a particular subject, and should not be treated as such. The speaker or speakers are not acting on behalf of or at the direction of NAHB.

NAHB specifically disclaims any liability, loss or risk, personal or otherwise, which may be incurred as a consequence, directly or indirectly, in the use or application of any of the materials presented in this or any other education session presented as part of the International Builders Show®.

Learning Objectives

Participants in this session will be able to:

- Discuss significant changes to the 2018 edition of the International Building Code and related codes affecting multifamily construction.
- Recognize the potential impacts of the 2016 edition of ASCE 7 on the design of buildings to resist snow, high winds and earthquakes.
- Understand the potential cost increases imposed or savings generated on typical multifamily buildings.
- Understand how codes are adopted at the state or local level and what resources NAHB has available to help members.

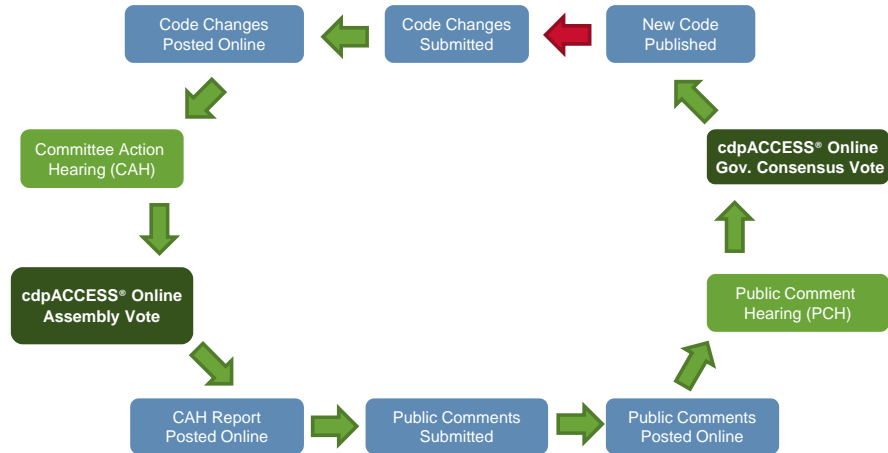


ICC Code Development Process

- The International Code Council (ICC) mission is to provide the highest quality codes, standards, products and services for all concerned with the safety and performance of the built environment.
- Developed by ICC, the International Codes® are the most widely adopted model code throughout the United States.
- ICC publishes a new edition of the codes every 3 years.



ICC Code Development Cycle



Private Garages and Carports

IBC 406.3

- Allows a private garage to be constructed using the public parking garage requirements.
- Permits a garage for tenants in a multifamily building to exceed the 1000 square foot area limit for private garages.
- Otherwise, there must be a 1-hour fire barrier every 1000 square feet of garage area.



Photo by Gary Ehrlich



Fire Walls

IBC 503.1, 706.1

- Not required on property lines established solely for ownership purposes as long as height and area limits are met.
- “Separate building” provision applies only for determining height/area limits and construction type.
- Do NOT need independent shear walls on each side of the fire wall.



Photo by Thomas Arledge

Attic Protection

IBC/IFC 903.3.1.2.3

Attics not required to be sprinklered (NFPA 13R system) in buildings of Type III, IV or V construction where the roof assembly is over 55 feet above the lowest level of required fire department vehicle access shall be protected by one of the following:

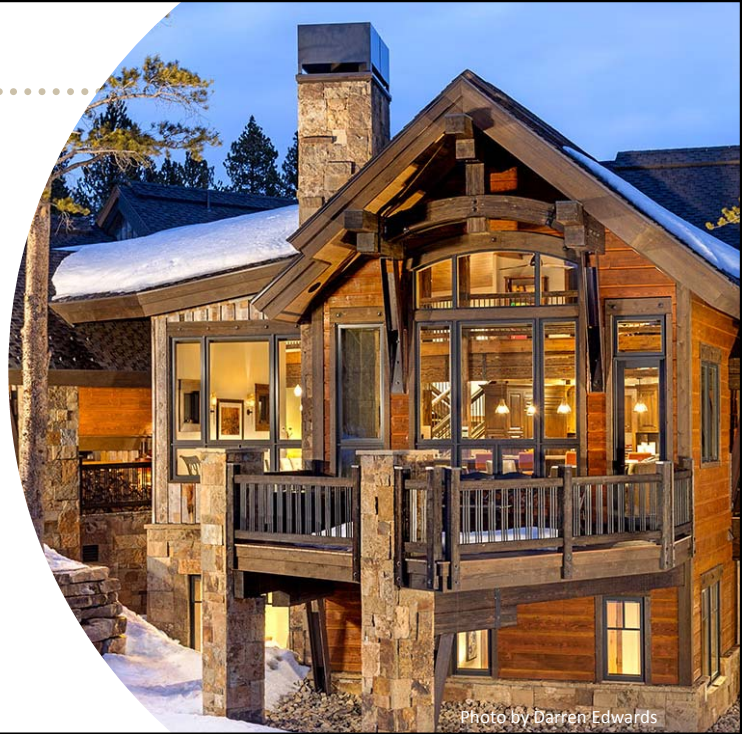
- Fire sprinklers
- Noncombustible construction
- Fire-retardant treated wood
- Fill with noncombustible insulation



Snow Loads

IBC 1608

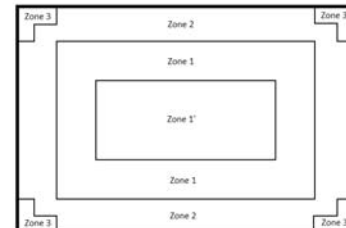
- State-specific ground snow loads for OR, WA, ID, MT, UT, CO and NH tabulated.
- Ground snow loads in Eastern Colorado (including Denver) increased based on new study.
- Rain load for secondary drains increased from 100-year/60-minute rainfall rate to 100-year/15-minute rate.



Wind Loads

IBC 1609

- New maps with reduced ultimate design wind speeds for West Coast, upper Midwest, and Northeast.
- New rules in Commentary for addressing open areas in suburban terrain.
- Component and cladding roof pressures for low-rise buildings increased. Edge and corner zones on low-slope roofs now vary with building height.



Seismic Loads

IBC 1613

- Seismic ground motion maps updated based on new USGS data.
- Higher SDC's for southeastern New Hampshire, eastern Tennessee, and Charleston, SC.
- New design requirements for concrete and masonry fences.
- Expanded design requirements for parapets, stairs, and ceilings.



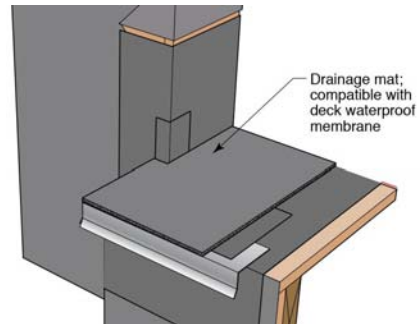
Photo by Dan Golden/FEMA



Wood Balconies

IBC 2304.12.2.5 and .6

- New provisions to address issues contributing to balcony collapse in Berkeley.
- Ventilation openings required if framing under balcony enclosed by soffit.
- Drainage board or mat required between concrete topping and wood framing below.
- All balconies must be designed for 1.5x live load of area(s) served.



Images © Building Science Corporation



Emergency Elevator Communications

IBC 3001.2

- Adds a requirement to install communication systems for hearing- and speech-impaired users.
- Visual and text-based, video-based 24/7 live interactive system.
- Voice-only options for the hearing.
- Able to communicate with emergency personnel via video conferencing, chat/text software or other approved technology.



Fire Watch

IFC 3304.5/IBC 3314.1

Allows the fire code official to require a fire watch:

- During non-working hours for construction that exceeds 40 feet in height.
- During activities such as temporary heating, welding or hot work.
- During building demolition.

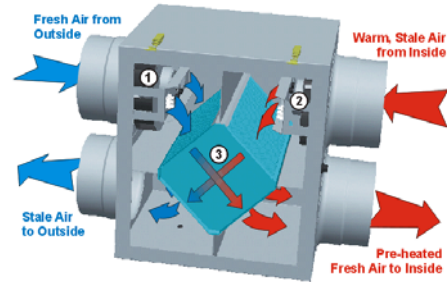


Photos: www.ConstructionFireSafetyPractices.com



Energy Recovery Ventilation

- Requirements for ERV's have been reduced in the commercial portion of the 2018 IECC.
- Many individual dwelling unit multi-family ventilation systems will no longer need energy recovery.
- In the 2015 code, nearly all dwelling units required ERV's.
- May need a timer on the ventilation system to avoid the ERV requirement.



Building Tightness Testing

- Multi-family units are permitted to be sample tested when using the performance path (section R405).
- Sampling protocol is not defined, this will need to be worked out with the AHJ.
- Significant cost savings for some multi-family buildings (e.g. garden style apartments).



Commercial Lighting Controls

This change rewrites sections of C405.2.5 and adds new sections that add requirements for controls to integrate exterior lighting controls with other building lighting controls. This functionally restricts the use of mechanical timers. An exception was introduced that exempted dwelling units from having to comply.



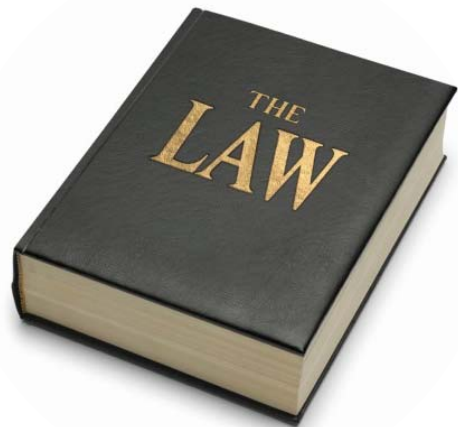
How Building Codes are Adopted

Three typical processes for adoption:

- Legislative adoption
- Direct regulatory adoption (no building code council)
- Periodic review and adoption by a state or county building code council.

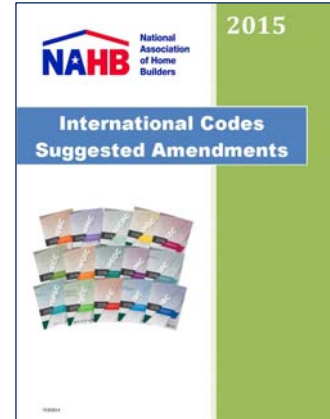
States with regulatory adoption or building code councils typically update their code every 3 years

Some states have gone to 5 or 6 year cycles



NAHB Code Adoption Resources

- NAHB offers Code Adoption Toolkits with information on significant changes, cost impacts, and recommended amendments.
- NAHB CC&S staff can assist HBA's in drafting state and local code amendments.
- NAHB CC&S staff can provide HBA's with talking points on state and local code amendments submitted by others.
- nahb.org/codes



Thank you!

Gary J. Ehrlich, P.E.
Director, Construction, Codes & Standards
National Association of Home Builders
Phone: (202) 266-8545
E-mail: gehrlich@nahb.org

