Challenges of a Six-Year Code Adoption Cycle

Southwest Energy Code Conference

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Denver, Colorado
Definition of terms:

Code adoption cycle and code development/publishing cycle are two different things. To understand this, one must understand the concept of “model codes”.
What are ICC’s model building codes?

- The legacy of modern building codes
- Jurisdictions with proprietary codes
- ICC’s code development process
- Who are the stakeholders?
State and local adoption of model codes- it comes in all flavors

- State adoption processes
- Local adoptions- home rule states
- Statutory requirement to adopt current code?
ICC, nor the federal government legally controls the adoption of the model building codes by state and local governments. Local control is maintained including the prerogative to amend the model code as necessary.
Staying current with code adoption

With the development and publishing of the latest edition of the model building codes, ICC is fulfilling the role its Members have commissioned it to do (that which would be extremely difficult and costly for individual jurisdictions to undertake).
When a governmental jurisdiction decides to skip a code cycle, in effect they are saying, “even though we support and are invested in this process, we are choosing to ignore the results and thus will deny the benefits of the current model code to our citizens, businesses, visitors and public at large for now”.
The Six-Year Code Cycle Challenge

Choosing to update codes at a six-year cycle is typically an avoidance type decision and usually results in the jurisdiction simply “kicking the can down the road”.
Such decisions are most often politicized with deference being given to one or more vocal special interest groups in the minority without consideration of the overall impact on all of the stakeholders as well as the unintended consequences of the deferral.
The unfounded avoidance rationale utilized to defer adoption of current codes:

- Cost- codes and new requirements
- Difficult process to review, amend, adopt and train all affected parties
- Must avoid new and overbearing top-down government regulations
Cost- codes and new requirements

- Cost of code books and training
- Incremental costs of new construction requirements - not always more costly
- Cost of funding the update review and adoption process.
Difficult process to review, amend, adopt and train all affected parties

- Ignores fact that it is more difficult to catch up later
- ICC’s support services are more geared towards regular adoption cycle.
- Overall, less painful to update regularly
Must avoid new and overbearing top-down government regulations
- The I-Codes are developed by all the stakeholders affected by the codes
- They are developed from the bottom up- not imposed from the top down
- ICC’s Governmental Consensus development process results in reasonable building requirements
Addressing the Minority’s objection to adoption of current codes

- Typically, they want only their stuff
- They don’t care about the work and contributions of others, nor the overall impact on all stakeholders
- Their selfish behavior needs to be exposed to decision makers
Case Study: Utah

- Code adoption process - recent change
- Players and Politics
- 2015 code adoption - current status
Utah Building Codes

- Adopted by Legislative Action

- Uniform Building Codes Commission (UBCC) makes recommendation to the Interim Business and Labor Committee
  - Newest version of the Code considered
  - Not automatically adopted
  - Amendments for the entire State
  - Several Advisory Committees study various Codes- prepare studies and recommendations to the UBCC
State Amendments to the 2012 IECC

- Only amendments to the residential section

- Adoption delayed until DOE produced a new version of REScheck specifically modified for the Utah Amendments

- July 1, 2014, the 2012 IECC with amendments becomes effective
Generally, the Entire State Must Follow Identical Codes

- Local Amendments are allowed
- Requires Legislative approval
- Local Amendments Include:
  - Adjusted roof snow load requirements based on geography and weather historical data
  - Fire sprinkler requirements in hazardous wild land areas
- Executive Action- Governor’s Signature Required for all Legislation
Overview of Residential Code Requirements

✓ Focus is on building envelope
  – Ceilings, walls, windows, floors, foundations
  – Sets insulation and fenestration levels, and solar heat gain coefficients
  – Infiltration control - caulk and seal to prevent air leaks, and test
  – Blower door testing is optional- State Amendment- similar to 2009 IECC- may use a comprehensive air barrier/insulation inspection

✓ Ducts, air handlers, filter boxes – seal, insulate, and test
  ✓ Testing required only if air handler or 50% of duct is outside the thermal envelope- State Amendment

✓ Limited space heating, air conditioning, and water heating requirements
  – Federal law sets most equipment efficiency requirements, not the I-codes

✓ No appliance requirements

✓ Lighting equipment – 75% of lamps to be high efficacy lamps or 75% of lighting fixtures to have only high efficacy lamps – Deleted by State Amendment
2012 AMENDED PRESCRIPTIVE TABLE
COMPARE TO 2006

<table>
<thead>
<tr>
<th>CLIMATE ZONE</th>
<th>FENESTRATION U-FACTOR*</th>
<th>SKYLIGHT U-FACTOR</th>
<th>GLAZED FENESTRATION SHGC**</th>
<th>CEILING R-VALUE</th>
<th>WOOD FRAME WALL R-VALUE</th>
<th>MASS WALL R-VALUE</th>
<th>FLOOR R-VALUE</th>
<th>BASEMENT WALL R-VALUE</th>
<th>SLAB R-VALUE &amp; DEPTH</th>
<th>CRAWL SPACE WALL R-VALUE</th>
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<td>0.55</td>
<td>0.40</td>
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<td>8/13</td>
<td>19</td>
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<td>10/13</td>
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<td>49</td>
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<td>19/21</td>
<td>30</td>
<td>10</td>
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</table>

For SI: 1 foot = 304.8 mm.

a. R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the installed R-value of the insulation shall not be less than the R-value specified in the table.

b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration. Exception: Skylights may be excluded from glazed fenestration SHCC requirements in Climate Zones 1 through 3 where the SHCC for such skylights does not exceed 0.30.

c. "15/19" means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. "19/19" shall be permitted to be met with R-15 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home. "19/13" means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.

d. R-5 shall be added to the required slab edge R-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less in Climate Zones 3 through 5 for heated slabs.

e. There are no SHCC requirements in the Marine Zone.

f. Baseline wall insulation is not required in warm humid locations as defined by Figure R301.1 and Table R301.1.

g. Insulation sufficient to fill the framing cavity, R-19 minimum.

h. Insulation is cavity insulation, second is continuous insulation or insulated slatting, so "13+5" means R-13 cavity insulation plus R-5 continuous insulation or insulated slatting. If structural sheathing covers 40 percent or less of the exterior, continuous insulation R-value shall be permitted to be reduced by no more than R-3 in the locations where structural sheathing is used to maintain a consistent total sheathing thickness.

i. The second R-value applies when more than half the insulation is on the interior of the mass wall.

2006

For SI: 1 foot = 304.8 mm.
NFL Rule Book Analogy

- League equals the nation
- Franchise team equals the jurisdiction
- The rule book equals the building codes
- Team owners equal the elected officials
Education is the Key to Success for regular update code adoptions!

Elected officials come and go, but the foundational and fundamental role of the model codes remains constant.
Top Ten Reasons to Stay Current

#1

The public need for protection from disaster due to fire, structural collapse and other public health and safety concerns related to the built environment. Saving lives and property is of paramount importance. Current codes take into account the latest, collective experience gained over hundreds of years to the hazards accompanying the built environment.
Top Ten Reasons to Stay Current

#2

Economic protection for business owners, homeowners or governments/institutions which own private and public buildings against the certain losses which would result from substandard construction. Current codes represent the standard of care professionals desire to incorporate as well as the level of protection and performance building occupants and owners expect.
Top Ten Reasons to Stay Current

#3

Economic protection to states and local communities by providing a safe and stable environment for living, working and recreation for their citizens, businesses and visitors. Current codes help a jurisdiction, whether state or local, maintain its regional competitiveness in economic development; sustainable growth, job creation and new business attraction.
Economic protection for the future buyers of buildings where codes and effective code administration provide a reasonable assurance that the existing building is structurally sound and safe. Current codes help to ensure the resilience of the state and/or local community should a disaster occur.
Top Ten Reasons to Stay Current

#5

Current national model building codes provide a consistent, recognized framework for buildings to be designed and constructed across the United States while at the same time providing for regional differences for climate, seismic and other hazards or conditions. This framework of model building codes help to make the U.S. more competitive in a global economy.
Current model building codes provide a practical solution and service to state and local governments which cannot effectively and economically promulgate their own unique and proprietary building codes. Model codes can be amended at adoption to adapt to local conditions.
Top Ten Reasons to Stay Current

#7

ICC’s Governmental Consensus Code Development Process includes input from all of the stakeholders including occupants, professional designers/engineers, builders/developers, construction trades, building materials/components/systems manufacturers or associations and governmental code administration professionals.
Top Ten Reasons to Stay Current

#8

The resultant model building codes represent and provide a reasonable minimum performance level of building safety, longevity, energy and water efficiency and other common features typically expected by building owners and the public at large. In other words, safe and sustainable buildings that function well.
Top Ten Reasons to Stay Current

#9

ICC’s code development process helps to keep building construction and operating costs reasonable while recognizing new construction methods and materials in the codes as they are vetted by ICC’s Members and other stakeholders.
Top Ten Reasons to Stay Current

#10

ICC’s model building codes, when regularly adopted by state and local governments, help to level the playing field for the building construction industry. This protects businesses, employees, building owners/buyers and communities as a whole. ICC’s codes and services are a complete system for the industry and local government.
Additional Resources


Coalition for Current Safety Codes
http://www.coalition4safety.org/
Questions/ Discussion

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