Code and Regulatory Action

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Topics for Today

- History of US Construction Codes
- Current State of National Model Codes
- State Code Adoption
- Green Building Codes and Rating Systems
- Issues Management
  - Energy Efficiency
  - Building Performance
  - Sustainability
  - Responsible Product Stewardship
US Codes

- 1625-1674: Dutch West India
  - Types and Locations of Housing
  - Fire Prevention
  - Sanitation

- 1630: Boston Outlawed Wood Chimneys and Wood Thatch Roof Coverings

- 1770s: Height and Area Limitations

- 1788: First Formal Building Code in Old Salem
US Codes (cont.)

- 1860: New York City Tenement Fire
  - Fire Department “Superintendent of Buildings”

- 1892: Manhattan “Buildings Department”
  - Boroughs Remained Independent
  - Triangle Shirtwaist Factory Fire

- 1927: First UBC (ICBO, Long Beach CA)

- 1936: NYC Department of Buildings
  - City-Wide Governance

- New York State Code: 1954
US Energy Issues

- WWII: Wartime Supply Issues and Rationing
- The Pollution Trigger: 1970 Clean Air Act
- The Supply Trigger: 1973 Yom Kippur War
  - US Support of Israel
  - OPEC Oil Embargo
  - Inflation
  - Odd-Even Gas Lines
A long line of cars is seen waiting in the street at a gas station. The sign on the pump indicates "NO GAS".
US Energy Policy

  - Strategic Petroleum Reserves
  - Price regulation
  - Efficiency Standards
    - Automobile Fuel Economy
    - Appliances
  - 1978 Amendment
    - Building Efficiency Standards

- American Recovery and Reinvestment Act (ARRA) 2009
ARRA 2009

- American Recovery and Reinvestment Act (ARRA) allocates $3.1 billion to the State Energy Program (SEP).

- State Requirements:
  - (1) Adopt a building energy code for residential buildings that meets or exceeds the 2009 IECC;
  - (2) Adopt a building energy code for commercial buildings and high-rise residential that meets or exceeds ASHRAE 90.1-2007; and
  - (3) Develop and implement a plan to achieve 90% compliance by 2017.
Model Energy Codes

- 1975: ASHRAE 90-75
  - Energy Conservation in New Building Design
- 1977: Council of American Building Officials
  - MCEC 77
- 1983: CABO Model Energy Code (MEC)
- 1989: ASHRAE 90.1 Non Residential
- 1998: ICC
Continuous Insulation: Not A New Idea
Model Codes Updates: Building

- 2015 International Building Code (IBC) as well as the 2015 International Residential Code Maintain Flammability Testing Requirements
- International Existing Building Code (IEBC) and International Energy Conservation Code (IECC) Increased Focus on Energy Efficiency
- Vapor Retarder Issues: Work in Progress
  - Foam Sheathing Committee
  - IECC, IRC and IBC Conflicts
Model Codes Updates: Energy

- 2015 International Energy Conservation Code and ASHRAE 90.1 Standard
  - Raised Heel Truss R-Value Clarifications

- ASHRAE 90.1 and 90.2 in Continuous Maintenance
  - ASHRAE 90.2 Will Follow Performance Path Using Resnet

- 2018 IECC Proposals Due January 2016

- Energy Efficient Codes Coalition (EECC)
Model Codes Updates: Green

- 2015 International Green Construction Code
  - Energy Efficiency at Code (IECC) Plus 5%
  - Outcome-Based Compliance Option (NIBS)
  - Whole Building LCA
  - Environmental Product Declaration (EPD)
  - Single Attribute Compliance

- ASHRAE 189.1 & 2018 IgCC
  - USGBC, ICC, ASHRAE, GBI Green Globes

- ICC 700 Public Review in Early 2015
2015 I-Code Changes: IECC

- New Chapter 5 (RE): Existing Buildings
- No Changes to Envelope R-Value Table; Minor Adjustments to U-Factor Table R402.1.4
- Raised Heel Truss Design in R402.2.1
  - R-49 Reduced to R38
  - R-38 reduced to R-30
  - Insulation must completely cover wall top plate at full R-Value
- Air Barrier R402.4.1.2 Mandatory Testing
  - ACH 5 in Climate Zones 1 and 2
  - ACH 3 in Climate Zones 3 through 8
State Code Issues

- Building & Energy Code Adoption
  - Residential vs. Non-residential Energy Efficiency
  - Florida
  - California
  - Responsible Energy Codes Alliance (RECA)

- Flammability Standards
  - CA AB127
  - CA Office of the State Fire Marshal
  - CA Building Standards Commission
  - Energy Efficient Foam Coalition (EEFC)
# 2018 International Codes

- **2015: Group A**
  - IBC General, Fire Safety, Existing Buildings

- **2016: Group B**
  - IBC Structural, IFC & IWUIC, Residential Building & Residential and Non-Residential Energy Efficiency

- **2017: Group C**
  - International Green Construction Code

## 2015 - Group A Codes

## 2016 - Group B Codes
- Admin, IBC-S, IECC-C, IECC/IRC-R, IFC, IRC - B, IWUIC

## 2017 - Group C Code
- IgCC
2015-2016 Issues

➢ Construction Codes
  ➢ Flammability (EEFC)
  ➢ Vapor Retarder (Foam Sheathing Committee- FSC)

➢ Energy Codes
  ➢ Window-to-wall Ratio (WWR)
  ➢ Prescriptive vs. Performance
  ➢ Air Barrier Improvements
  ➢ SPF-Based Prescriptive R-Value Options
  ➢ Spray Foam Coalition (SFC)
  ➢ Energy Efficient Codes Coalition (EECC)

➢ Green Codes
  ➢ Product Compliance Path Options
Other Issues

- **Florida Building Commission Research Project**
  - Spray Foam and Wood Deck Deterioration
  - Conducted by University of Florida School of Engineering; Dr. David Prevatt
  - Advisory Panel Includes Industry Representatives
  - Scoping of Literature Review Under Discussion
  - Preliminary Discussions Question Existence of a Problem
  - Building Product Producers are Generally Aligned

- **ASHRAE 90.2 Committee Moving with Adjusted Thermostat Set Points: 68/78 Versus 72/75**

- **CA AB 127 Debate on Foam Plastics and Flame Retardants Moves to Building Standards Commission**
My BOLD Prediction!

- The 2018 International Energy Conservation Code Will Be....
  - Thicker.
Questions?