



# 2012 NC Energy Conservation Code Update



# Topics for Today

- ◆ Update from the March, 2010 NC Building Code Council (NC BCC) Meeting
- ◆ Overview of the US DOE special project award received for improving the NC Energy Conservation Code
- ◆ Improvements in the proposed 2012 NC Energy Code compared to the 2006 IECC



# Topics for Today

- ◆ Suggestions for future improvements
- ◆ Additional work activities in development



# March 2010 NC BCC Meeting Update

- ◆ The NC BCC accepted the proposed amendment packages for the 2012 NC Energy Conservation Code and 2012 NC Residential Code.
- ◆ The 2012 NC Building Code is modeled on the 2009 International Code Council (ICC) family of codes and includes NC specific amendments.

# Implementation Schedule

- ◆ June 15, 2010 - Public hearing for the 2012 NC Building Codes
- ◆ July 16, 2010 - Written public comment period expires
- ◆ September 14, 2010 - NC BCC meeting- Final adoption of 2012 NC Codes

# Implementation Schedule

- ◆ The planned effective date is September 1, 2011 with an overlap period with the current code until January 1, 2012.
- ◆ The 2012 NC Energy Code will be in print mid 2011 and available for training for the remainder of 2011.

# Implementation Schedule

- ◆ If a substantial change is made to the code as a result of the public comments, a new notice in the NC Register and another hearing would be required. The hearing would be conducted in September or December, 2010. This could delay the code adoption process by 3 – 6 months.

# Implementation Schedule

- ◆ There may also be requests for legislative review when the code goes before the Rules Review Commission. This could delay specific portions until the legislature is given the opportunity to act.

# Overview of the US DOE Special Project Award SPA

- ◆ The NC State Energy Office teamed with NC Governor's Office, NC DOI, NC AIA, Appalachian State University, and Mathis Consulting to request a grant for energy code development.
- ◆ A grant of \$500,000 was awarded by the US DOE to the NC State Energy Office.

# Key Commitments for Award of the US DOE SPA

- ◆ Develop and adopt a NC Energy Conservation Code 30% more energy efficient than the 2006 IECC.
- ◆ Develop a mechanism to determine the level of code enforcement and identify the main problem areas for code enforcement officials, building designers, and contractors.

# Key Commitments for Award of the US DOE SPA

- ◆ Provide training and technical assistance to improve compliance and enforcement of the energy code.
- ◆ Develop a system of “continuous improvement” in regard to code enforcement.
- ◆ Serve as a model for other states in the Southeast and Mid-Atlantic Regions.

# Results from the Work Effort to Improve the Code

- ◆ The 2012 NC Energy Conservation Code and the 2012 NC Residential Code energy provisions are each calculated to satisfy the 30% efficiency improvement target.

# Key Residential Energy Code Upgrades

- ◆ Increased thermal envelope requirements: R42 ceiling, R18 walls
- ◆ Fenestration: maximum U-factor of 0.32 and maximum SHGC of 0.27
- ◆ Detailed thermal envelope sealing requirements or blower door testing of the thermal envelope
- ◆ HVAC duct system leakage testing

# Key Commercial Energy Code Upgrades

- ◆ Thermal envelope requirements based on the proposed ASHRAE 90.1-2010 values
- ◆ Lighting requirements based on the 2012 IECC proposed values
- ◆ Added automatic lighting control requirements for certain spaces
- ◆ Demand control ventilation required for certain spaces

# Key Commercial Energy Code Upgrades

- ◆ Added one additional requirement at designer's choice: More efficient mechanical equipment, reduced lighting power density, energy recovery ventilation, more efficient service water heating, automatic daylighting control system, or on-site supply of renewable energy

# Key Commercial Energy Code Upgrades

- ◆ A requirement for HVAC system verification (commissioning) is being considered as a separate proposal in parallel with the 2012 NC Energy Conservation Code approval.

# Suggestions for Future Improvements

- ◆ Incremental improvements in building envelope provisions, mechanical provisions, and lighting provisions will be integrated into the NC Energy Conservation Code as new technologies mature and are cost effective.

# Suggestions for Future Improvements

- ◆ Require performance testing to prove limited air leakage of the building thermal envelope for residential and commercial buildings.
- ◆ Require commissioning of building HVAC and lighting systems to prove functionality and performance.

# In Development Now

- ◆ Much training is being planned for code officials using \$1,000,000 in American Recovery and Renewal Act (ARRA) of 2009 grant monies as a source for the funding. A request for proposals is being prepared by the NC State Energy Office for this task.

# In Development Now

- ◆ Expansion of the NC Code Officials Qualification Board qualification program for inspectors to include energy code training and testing in the core program.
- ◆ Develop a NC Green Construction Code modeled on the ICC International Green Construction Code.



# Questions

- ◆ Are there any questions?
- ◆ Thank you.
  
- ◆ You can contact me:
- ◆ E-mail: [billy.hinton@ncdoi.gov](mailto:billy.hinton@ncdoi.gov)
- ◆ Phone: 919 661 5880 x-239

