FLORIDA BUILDING COMMISSION

REPORT TO THE 2010 LEGISLATURE

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Prepared by the
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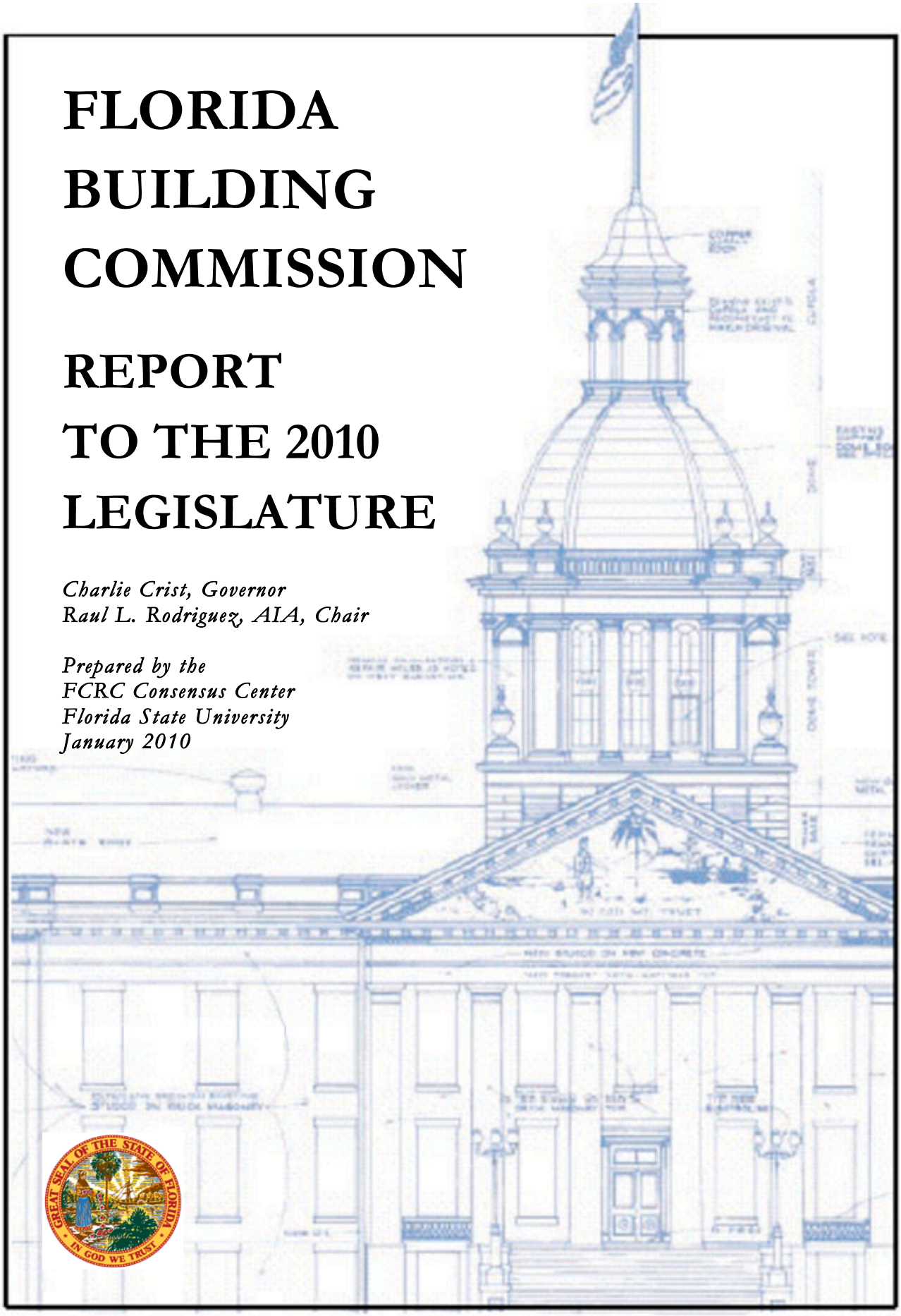
January 2010



FLORIDA BUILDING COMMISSION REPORT AND RECOMMENDATIONS TO THE 2010 FLORIDA LEGISLATURE

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FLORIDA BUILDING COMMISSION REPORT AND RECOMMENDATIONS TO THE 2010 FLORIDA LEGISLATURE

I. EXECUTIVE SUMMARY AND RECOMMENDATIONS

The primary focus of the Florida Building Commission during 2009 was the adoption of Glitch Amendments to the 2007 Edition of the Building Code, adoption of the 2007 Florida Energy Code implementing provisions necessary to comply with the Governor's 15% efficiency increase for thermal efficiency requirements, and adoption of 2008 Edition of the National Electric Code (NEC). In addition to efficiency increases to the Florida Energy Code, major components of the Code Update process include enhancements to the wind, water intrusion and hurricane protection provisions of the Florida Building Code. The effective date of the 2007 Florida Building Code, the 2008 Supplement to the 2007 Florida Building Code to implement glitch code amendments, and the 2009 Supplement to the Florida Energy Code was March 1, 2009.

In addition, the Commission convened numerous workgroups comprised of affected stakeholder interests to develop recommendations on septic system sizing, soffit system hurricane performance and labeling, the window wall interface, code assembly for the 2010 Code Update process, Accessibility Code updates, Energy Code amendments, flood resistant standards, pool energy efficiency standards, and hurricane and storm resistant construction research and code amendments.

During 2009 the Commission once again focused on consensus-building efforts regarding the implementation of Commission policy, with extensive input from stakeholders and interests affected by Commission policy. Chairman Raul L. Rodriguez, AIA, encouraged and led the Commission's consensus-building initiatives. Finally, the Commission continued with its focus of developing storm damage investigations and research and adopting code amendments related to making Florida's structures, and the products that comprise them, more storm resistant.

As a result of declining revenues from building permit surcharge fees, during the past year the Commission made changes to their processes to adapt to a reduced budget, and it is likely the Commission will have to continue in this mode for the coming year. To date, Commission meetings have moved from 3-day meetings every 6 weeks to 2-day meetings every 8 weeks with workgroup meetings held in conjunction with Commission meetings, and Technical Advisory Commmittee (TAC) and Program Oversight Committee (POC) meetings conducted by teleconference when the complexity of issues being addressed lends itself to the format. In addition, the Commission voted in favor of a policy requiring all programs to be self-supporting, and is seeking legislative authorization to charge fees for petitions for declaratory statements, non-binding interpretations, and accessibility code waiver applications.

The Florida Building Code System was developed after Hurricane Andrew to streamline statewide adoption and enforcement of improved hurricane protection standards. Hurricanes Charley, Frances, Ivan and Jeanne in 2004 and Dennis, Katrina and Wilma in 2005 demonstrated the overall effectiveness of the Code, and identified areas that need additional refinements. Analyses of building systems and component failures identified in these storms were conducted throughout 2005, 2006, 2007, 2008 and 2009, and will continue during the coming year (2010). Assessments indicate the design wind speeds required by the Code were adequate and buildings built to the new code did not experience nearly as severe damage as older buildings. While some new building technologies did have weaknesses, the major structural systems failures seen in older buildings were avoided in buildings complying with the Florida Building Code. The Commission addressed many of the weaknesses through implementation of the expedited code amendments authorized by the 2005 Legislature, the code enhancements adopted during the 2006 annual interim amendment process, and the adoption of the 2007 Edition of the Code, which became effective on March 1, 2009. With the continuing work of the Hurricane Research Advisory Committee and various building component specific workgroups (e.g., Window Wall, Soffit System), the Commission remains committed to addressing building and product weaknesses. Working with industry the Commission identified and funded research and implemented additional code amendments designed to strengthen the Code's building envelope protection.

The Code establishes minimum requirements to protect buildings and their occupants from wind, rain, flood and storm surge based on well-researched and continually-evolving engineering standards for buildings and the products that go into their construction. It is important that the Commission be able to quickly integrate these standards into the Code to keep pace with changes in building technology and advances in the sciences of storm dynamics and building performance. The Commission is continually evaluating the code adoption process for increases in efficiency, and as a result the Commission is recommending eliminating the statutory requirement for the Commission to wait six months after publication of the latest I-Code Edition before selecting same as the foundation code for the Florida Building Code for future Code Editions.

The Commission is required by Florida law to update the Florida Building Code every three years, and the 2007 Edition represented the second update and third edition of the Code. The update process is based on the code development cycle of the national model building codes, which serve as the "foundation" codes for the Florida Building Code. The effective date of 2007 Florida Building Code, the 2008 Supplement to the 2007 Florida Building Code to implement glitch code amendments, and the 2007 Florida Energy Code became effective on March 1, 2009. The Commission adopted the 2008 NEC as a glitch amendment following completion of rule adoption in June of 2009. During 2009 the Commission initiated the 2010 Code Update process by selecting the 2009 I-Codes as the foundation codes for the 2010 Edition of the Florida Building Code. In addition, the Commission selected December 31, 2011 as the target effective date for 2010 Edition of the Florida Building Code decided and to publish a fully integrated Code and implement a mandated process to remove (unnecessary) and maintain (needed) Florida Specific amendments for the 2013 Code Update Process.

The Code is a complex interrelated document consisting of thousands of pages and containing myriad related standards and references that must be evaluated and updated on an ongoing basis. In the case of editorial and unintended glitches, it is important for the Commission to correct these non-controversial glitch and correlation issues as quickly as possible in order to prevent unintended

consequences and unnecessary delays and complications for all of the building code system participants. With the addition of the expedited code amendment authority in 2007, the Commission is now capable of correcting code glitches as needed. To further this goal, the Commission is recommending that the Legislature expand the Glitch Code criteria in Chapter 553.73(7), F.S., to include recognizing equivalency of standards in the Florida Building Code (i.e., design standards) and to support other state agencies' efforts to include changes to rules that implement standards for construction established by their facility licensing regulations.

Energy efficiency issues were a primary focus of the Commission during 2009, and the Commission's Energy Code Workgroup met throughout the year and will continue to develop Energy Code recommendations for the 2010 Code Update cycle. The Chair appointed a Pool Efficiency Subcommittee to the Florida Energy Code Workgroup to provide recommendations to the Workgroup regarding the pool equipment efficiencies subtask for pool pumps and heaters efficiencies and hydronic systems standards. He also appointed a Green and Energy Efficient Roofs Subcommittee to the Energy Code Workgroup to provide recommendations on roof energy efficiency issues. During 2009, as directed by the Legislature, the Commission established a rule for determining cost effectiveness of energy conservation measures to be considered for inclusion in the Florida Energy Code by adopting Rule 9B-13.0071, Cost Effectiveness of Amendments to Florida Energy Code; adopted the 2009 International Energy Conservation Code (IECC) as the foundation for the 2010 FBC, Energy Volume; continued evaluating energy conservation measures to ensure the 2010 Energy Code increases efficiency requirements by 20%; developed a strategic plan for achieving scheduled increases in energy efficiencies with subsequent editions of the code; and continued evaluating specific building options for promoting the use of renewable energy technologies as required by law. The Commission's adopted strategic plan for achieving the energy standard revisions pursuant to requirements of Section 553.9061, F.S., requires the strategic plan to implement scheduled increases in the Code's energy performance standard, to recognize certain energy performance options, and to consider the cost effectiveness of the scheduled increases.

As required by the federal Energy Policy and Conservation Act, the Commission sent the U.S. Department of Energy certification that the Florida Energy Code is equivalent to the national efficiency standard for commercial buildings, ASHRAE 90.1-2004. It also verified for Governor Crist that Florida complies with the qualifying conditions for energy funds from the federal Stimulus Bill by determining that Florida's Energy Code, updated to implement Governor Crist's Executive Order 2007-197 and implemented in the 2007 Florida Building Code that went into effect March 1, 2009, is more stringent than ASHRAE 90.1-2007 for commercial buildings and is as stringent as the 2009 IECC for residential buildings. The report further stated Florida's energy code is a state-wide uniform and mandatory code and the schedule for increasing energy efficiency requirements required by Florida law, 20% by 2010, 30% by 2013 and 40% by 2016, will far exceed the standards established by the Stimulus Bill within the eight year time horizon the Bill establishes. In addition, at the request of the Florida Energy and Climate Commission (FECC) the Florida Building Commission transmitted a Report titled, "Florida Energy Code, The Baseline Efficiency for Florida Buildings," regarding assessment of building codes and appliance efficiency standards' effect on the need for utility sponsored programs, and relevant supporting documents to the (FECC).

In response to the U.S. Department of Justice's (DOJ) publication of "*Proposed ADA Standards for Accessible Design, June 2008*" that will trigger an update to the Florida Accessibility Code for Building Construction (FACBC), the Commission convened an Accessibility Code/ADAAG 2.0 Workgroup to develop recommendations for amending the Florida Accessibility Code for Building Construction

by integrating the relevant Florida standards of ss. 553.501-553.513, F.S., into the 2004 ADAAG as adopted by 28 CFR 36 (prospective). Although DOJ's process is not complete, the Workgroup began working with the 2004 ADAAG to develop the new draft FACBC. Once the integration of Florida-specific requirements is complete, the Workgroup will evaluate additional Florida-specific requirements for possible recommendations to the 2011 Legislature.

At the request of the Florida Division of Emergency Management (DEM), during 2009 the Florida Building Commission convened a Flood Resistant Standards Workgroup charged with developing recommendations for integrating the International Code Series (I-Codes: IBC, IRC, etc.) flood damage-resistant provisions (for buildings and structures) into the Florida Building Code. The Commission conducted a facilitated stakeholder process culminating in the Florida Building Commission unanimously adopting a consensus package of recommendations regarding integrating flood resistant standards into the 2010 FBC..

The product approval system is an internet-based system administered by a contracted Product Approval Administrator. With major consensus-based revisions to the system implemented through rule development in 2007, the system is processing hundreds of applications monthly with efficiency and satisfaction by the product manufacturers who use the system. The Commission's Product Approval Program Oversight Committee (POC) convenes at every Commission meeting to review product and entity applications, address petitions for declaratory statements, and consider enhancements to the product approval system. Since the system went into effect in October 2003, the Commission has approved 9,579 product applications and 40,905 products for statewide use within limitations established by the approvals, as well as approved 150 product approval entities. During 2009 the Commission amended Rule 9B-72.090 adjusting product approval fees for manufacturers and the administrator's contract to ensure the program is self-supporting; amended Rule 9B-72.100 by adopting criteria (meeting requirements of ISO/IEC Guide 65 and substantiating accreditation and independence) for approval of evaluation entities and including the International Association of Plumbing and Mechanical Officials Evaluation Service (IAPMO ES) to the list of approved evaluation entities; amended Rule 9B-72.130, Product Approval, for the purpose of limiting the number of lines in an application to 150 and revising the Building Code Information System (BCIS) screens to conform to the rule amendments; amended Rule 9B-72.090 (self-affirmation) to allow self-affirmation for products that comply with the subsequent code version; and amended Rule 9B-72.180 (equivalency of standards).

Education is one of the cornerstones of the Building Code System, and the effectiveness of the Building Code depends on the knowledge of professionals who design and construct buildings. The Commission continues to work with the Department of Business and Professional Regulation (DBPR) and representatives of the licensing boards to establish a cooperative system for approving building code courses and integrating building code continuing education into licensing requirements. In collaboration with the System Administrator the Commission is working to ensure the accountability and efficacy of the Education System. To be consistent with action taken by the DBPR to eliminate building code core course requirements from licensing board laws, the Commission is recommending the repeal of the Building Code Administrative Core Curriculum. During 2009 the Commission amended Rule 9B-70.002, Education, to revise the rules of operation regarding review and approval of accreditors and courses seeking accreditation and to correct some outdated internet references, including expiration dates of registered training providers and accreditors.

The Commission's commitment to consensus-building on substantive issues was spotlighted during 2009, with Chairman Rodriguez appointing facilitated workgroups of Commission members and representative stakeholders to develop consensus on packages of recommendations in their respective subject areas. The workgroups convened during 2009 include: the Florida Accessibility Code Workgroup, Florida Energy Code Workgroup, Pool Efficiency Subcommittee to the Energy Code Workgroup, Green and Energy Efficient Roofs Subcommittee to the Florida Energy Code Workgroup, Hurricane Research Advisory Committee, Soffit Systems Workgroup, Window and Wall Workgroup, and the Flood Resistant Standards Workgroup. Each of these groups worked with stakeholders to identify issues, evaluate a full range of options, and submit consensus recommendations to the Florida Building Commission on their respective topics. In addition, the Chair convened an ad hoc committee of Commissioners to evaluate the efficacy of Commission processes.

Monitoring the building code system and determining refinements that will make it function better is a primary responsibility of the Commission, and consequently the Commission is continually effecting refinements to the building code system by administrative rule amendment(s) where the statutes provide authority. However, the building code system is established in law, requiring that some refinements must be implemented through changes to law. The Commission's recommendations for 2010 legislative actions designed to improve the system's effectiveness are summarized below.

Additional Legislative Issues Adopted by the Commission for Conveyance to the 2010 Legislature:

The Commission supports the current Florida Building Code provisions (301.12, M1307.2 and .3, 1609.1 and .1.1) regarding wind resistance requirements for air conditioning equipment and appliances exposed to wind, and does not support any exemptions to these provisions.

The Commission has concerns with proposed legislation in light of pending SB 648 regarding expedited product approval and requested DCA staff to negotiate with industry to address the Commission's concerns pertaining to financial/fiscal implications, staffing, ensuring a fair playing field for the various compliance methods, maintaining the efficacy of the current product approval system, and other concerns identified by the Product Approval Program Oversight Committee.

The Commission was requested by stakeholders to seek statutory authority to allow local variances to flood provisions if adopted in accordance with the provisions of 44 CFR 60, and referred the issue to the Flood Resistant Standards Workgroup to develop recommendations for submittal to the Commission at the February 2010 meeting. Once the Commission has adopted the recommendations, DCA legal staff will convey them to the 2010 Florida Legislature.

The Florida Building Commission's Recommendations for Legislative Actions Designed to Improve the System's Effectiveness are Summarized as Follows:

The Commission's 2008 Recommendations Submitted to the 2009 Legislature are Submitted as Recommendations to the 2010 Florida Legislature, as follows:

1. *The Commission seeks clarification and has recommendations regarding the Legislature's intent (section 509.211 and section 553.885, F.S.) for Carbon Monoxide (C0) Detector requirements in the Florida Building Code. They are as follows:*
   a. *Clarify the responsibilities of the Division of State Fire Marshal (DSFM) and the Department of Business and Professional Regulation (DBPR) under Chapter 509.211, F.S., regarding CO detectors in hotels and motels.*
   b. *Clarify the scope of what was intended by the term "new construction" in section 553.885, F.S.*
   c. *Provide legislative authority for the Commission to review and determine the appropriate location(s) for CO detectors.*
   d. *Clarify that the requirement applies to all fuel sources that emit carbon monoxide and not only fossil fuels.*

2. *The Commission recommends and seeks statutory clarification that TAC members may serve on TAC's despite their personal or associates' appearance before the Commission or appendages on matters unrelated to TAC service.*

3. *The Commission recommends the Legislature expand Glitch Code criteria in Chapter 553.73(7), F.S., to include recognizing equivalency of standards in the Florida Building Code (i.e., design standards).*

4. *The Commission requests statutory authority for the Commission to charge a fee for issuing non-binding interpretations and for parties requesting interpretations to pay the interpretations' contractor directly for the service.*

5. *The Commission recommends incorporating its 75% voting threshold requirement for all substantive Commission decisions into the statutes.*

6. *The Commission supports DCA's initiative seeking statutory authority for the Department to administer the manufactured building program by contracting with an administrator.*

7. *The Commission recommends and requests specific statutory authority for manufactures/entities to pay the administrator of the Product Approval Program (vendor) directly via the BCIS.*

Commission Recommendation in Response to 2008 Legislative Assignments for Submittal to the 2010 Legislature:

8. *The Commission recommends amending the list of product approval evaluation entities in law to include IAPMO Evaluation Service (ES) , while also updating the current list to eliminate entities no longer in existence and alphabetizing the list of approved evaluation entities. The Commission recommends that the law be revised to eliminate the Commission's adoption of rule criteria.*

Commission's 2009 Recommendations to the 2010 Florida Legislature:

9. *The Commission seeks a legislative exception so that local Community Rating System (CRS) standards (higher flood resistant standards) would not be subject to the local technical amendment requirements of the Code, but would be subject to a consistency review with updated editions of the code.*

10. *The Commission seeks statutory change to section 553.80 F.S. to clarify that this provision shall not be used to deviate from flood resistant requirements.*

11. *The Commission recommends eliminating the statutory requirement for the Commission to wait six months after publication of the latest I-Code Edition before selecting same as the foundation code for the Florida Building Code for future Code Editions (starting with 2013 Code Update process).*

12. *The Commission requests statutory authority for the Commission to charge a fee for issuing petitions for declaratory statements and for parties requesting declaratory statements to pay DCA for the service.*

13. *The Commission requests statutory authority for the Commission to charge a fee for issuing accessibility code waivers and for parties requesting wavers to pay DCA for the service.*

14. *The Commission requests statutory authority to make editorial revisions to existing product approvals.*

15. *The Commission supports stakeholder initiatives to repeal the Building Code Administrative Core Curriculum in accordance with actions taken by the DBPR.*

16. *The Commission supports the consensus recommendation for sizing residential septic systems developed by the Septic System Sizing Workgroup (Interagency Workgroup: FBC and DOH), and further requests that the Florida Legislature grant jurisdictional authority to the Florida Building Commission to implement the recommendation by integration into Chapter 26-Section P2602.1 of the most current edition of the Residential Florida Building Code.*

II. INTRODUCTION

In 1974, Florida adopted a state minimum building code law requiring all local governments to adopt and enforce a building code. The system provided four separate model codes that local governments could consider and adopt to establish minimum standards of health and life safety for the public. In that system the state's role was limited to adopting all or relevant parts of new editions of the four model codes. Local governments could amend and enforce their local codes as they saw fit.

Hurricane Andrew demonstrated in 1992 that this system of local codes did not provide the level of public protection that was necessary. The South Florida Building Code, which was the local code universally acknowledged to set the strongest standard for hurricane protection, essentially failed. The resulting problems had impacts well beyond southern Miami-Dade County. The state filled the property insurer void left by failed and fleeing private insurance companies and the federal government poured billions of dollars of aid into the disaster area. It became starkly apparent the state had a significant interest in the effectiveness of building codes.

After Andrew, Miami-Dade County conducted an exhaustive review of its building code and made significant changes to both the code and support systems for code enforcement. In other areas of the state the Florida Board of Building Codes and Standards (predecessor to the Florida Building Commission) adopted significant upgrades to the wind resistance standards of the model state minimum code that was used by the majority of other local governments. The state also began licensing local government building code enforcement personnel. These steps proved critical in leading to the building codes that produced improved building performance in the 2004 hurricane season.

Like Miami-Dade County, the state went beyond just modernizing the minimum building codes. In 1996 a study commission was appointed to review the system of local codes created by the 1974 law and make recommendations for modernizing the entire system. The 1998 Legislature adopted the study commission's recommendations for a single state building code and an enhanced oversight role for the state in local code enforcement. The 2000 Legislature authorized implementation of the Florida Building Code, and the first edition replaced all local codes on March 1, 2002.

To implement the new Florida Building Code, the Florida Building Commission was established in law. The Florida Building Commission, originally consisting of 23 members, is now a 25-member Governor-appointed stakeholder group who successfully created, implemented, and maintains the statewide Florida Building Code, which became effective in 2002. The Commission is composed of the Governor's Chair and 24 members representing various industries and governmental interests as follows: four code officials, two state government representatives, a local government representative, a representative of persons with disability, a representative of the green building industry, an architect, a structural engineer, a mechanical or electrical engineer, representatives of fire protection technology, the building management industry, the manufactured building industry, and the insurance industry, a general contractor, a residential contractor, a mechanical or air conditioning contractor, a plumbing contractor, an electrical contractor, a roofing/sheet metal contractor, a building product manufacturer, and a swimming pool contractor.

The first major tests of the building code enhancements put in place after Hurricane Andrew came with 2004's Hurricanes Charley, Frances, Ivan, and Jeanne. All but Hurricane Charley produced winds below the design speeds required by the Code but they were long in duration and produced extensive rainfall. Hurricane Charley was a design wind speed storm that moved quickly across the state and produced less rainfall. Hurricane Ivan, similar to Hurricane Opal in 1995, was a category 4-5 storm in the Gulf but its winds diminished dramatically when it approached land, lowering winds below building code design wind speeds, but maintaining storm surges that wreaked havoc along barrier islands and mainland waterways. Each storm provided different kinds of tests and exposed different types of building failures. The difference in the failures experienced by structures built to older codes and those built to the new Florida Building Code was that older buildings had major damage to property and proved to be unsafe shelters. In contrast, structures built to the Code had less property damage and provided safe shelter. The testimony of homeowners, many of whom in 2002 were skeptical of the new code requirements and their added costs, was that they felt safe in their homes and found value in the additional costs associated with complying with the Florida Building Code.

During 2005 the code was again tested when Florida was battered by another series of hurricanes. Although Hurricanes Dennis, Katrina, and Wilma were devastating to the citizens of the state, they added further evidence that the Florida Building Code is working. In addition, the observations, investigations and research regarding storm-related damage provided additional insight on how to improve the products and construction methods used in Florida. The Commission continues to study how to enhance the Code through the work of its Hurricane Research Advisory Committee.

Engineering standards progress as new real-world tests like hurricanes provide the laboratory for expanding knowledge. It is essential that Florida maintain pace with the evolving standards because its coastal exposure and rapidly expanding population create a major risk and limit options for ensuring the safety of its citizens. The Commission keeps pace by amending the Code to adopt updated national codes and reference standards and by implementing enhancements coming from its research and consensus-building standards development projects.

The Florida Building Commission's Hurricane Research Advisory Committee continues to meet to review research and make recommendations to the Commission regarding proposed code enhancements. Some of the Committee's recommendations were implemented in a specially authorized "expedited" code amendment process conducted in 2005. Other recommendations that required additional development effort were adopted with the Glitch Code amendments in 2006 and with adoption of the 2007 Edition of the Florida Building Code. Workgroups formed as a result of the Committee's work are developing recommendations for additional code amendment enhancements for the 2010 Code Update Process, including soffit systems performance and enhanced window and wall interface. The Committee continues to recommend and monitor research projects designed to enhance the performance of Florida's buildings during storms.

A primary focus for the Commission during 2009 was to develop a strategic plan for energy standard revisions pursuant to requirements of Section 553.9061, F.S., requiring the strategic plan to implement scheduled increases in the Code's energy performance standards, recognize certain energy performance options, and consider the cost effectiveness of the scheduled increases.
During 2008 the Commission amended the Florida Energy Code to require 15% more efficiency in buildings by reviewing energy-related code requirements adopted in the 2007 Florida Building Code Update and then adopting additional requirements necessary to achieve Governor Crist's directive of

15% increased efficiency. The efficiency increases took effect March 1, 2009, concurrent with the 2007 Florida Building Code.

The Commission is currently in the process of evaluating options for achieving an additional 5% increase in efficiencies for the 2010 Code Update consistent with their charge to increase the energy performance of new buildings by at least 20% as compared to the energy efficiency provisions of the 2007 Florida Building Code. Working with stakeholders using consensus-building workgroups, the Commission is striving to achieve the increases in efficiency in buildings stipulated in Florida Law while implementing code amendments that are efficient, consistent, understandable, and enforceable for the full spectrum of Energy Code users.

The Florida Building Commission seeks to develop consensus decisions on its recommendations and policy decisions. Consensus is a participatory process whereby, on matters of substance, the members strive for agreements they all can accept, support, live with, or agree not to oppose. In instances where the Commission finds that unanimity is not achievable on substantive decisions, final decisions require at least 75% favorable vote of all members present and voting. This super-majority decision rule underscores the importance of actively developing consensus throughout the process on substantive issues. The Commission's consensus process is conducted as an open public process with multiple opportunities for the public to provide input to the Commission on substantive issues.

At each Commission meeting, the public is provided an opportunity to speak during the public comment period provided for each substantive issue under consideration, as well as during general public comment periods provided at the end of each day's meeting. In addition, most substantive issues before the Commission go through a workgroup process where consensus recommendations are developed by appointed representative stakeholder groups, providing additional opportunities for public input. Workgroup recommendations approved by the Commission usually require rule development to implement, affording at least two additional opportunities for public comment.

Since its creation in July 1998, the Commission has demonstrated a commitment to working with affected interests to build consensus on complex issues. The adoption of the first edition of the Florida Building Code (2001 Edition), developed from September 1998 through January 2001, involved 27 Commission meetings, dozens of facilitated public workshops, and hundreds of Technical Advisory Council meetings. The Commission consistently works with all affected interests in building the best possible consensus-based decisions for the citizens of Florida.

Through its committees and workgroups of experts, the Commission develops its decisions on the results of the best engineering-based science available. Although the Code is by law a minimum building code, the Florida Building Code is the strongest consensus and science-based building code in the country.

In summary, the Florida Building Commission provides a forum for stakeholders representing different interests to participate in a consensus-building process where issues affecting the construction industry are discussed and evaluated on both their technical merits and cost-benefits to the citizens of the State of Florida.

III. COMMISSION REPRESENTATION AND PROCESS

Commission Representation. The Florida Building Commission is a 25-member Governor appointed stakeholder group who successfully created, implemented, and maintains the statewide Florida Building Code, which became effective in 2002. The Commission is composed of the Governor's Chair, and 24 members appointed according to criteria established by the American National Standards Institute (ANSI) for representation. They are as follows: in the *general interest category*: four code officials, two state government representatives, a local government representative, a representative of persons with disability, and a representative of the green building industry; in the *consumer category*: an architect, a structural engineer, a mechanical or electrical engineer, representatives of fire protection technology, the building management industry, and the insurance industry; and in the *producer category*: a general contractor, residential contractor, mechanical contractor, plumbing contractor, electrical contractor, roofing/sheet metal/air conditioning contractor, a manufactured building representative, a building product manufacturer, and a swimming pool contractor.

Consensus Process. The Florida Building Commission (FBC) seeks to develop consensus decisions on its recommendations and policy decisions. General consensus is a participatory process whereby, on matters of substance, the members strive for agreements which all of the members can accept, support, live with or agree not to oppose. In instances where, after vigorously exploring possible ways to enhance the members' support for the final decision on substantive decisions, and the Commission finds that 100% acceptance or support is not achievable, final decisions require at least 75% favorable vote of all members present and voting. This super-majority decision rule underscores the importance of actively developing consensus throughout the process on substantive issues with the participation of all members and which all can live with and support.

The Commission's consensus process is conducted as an open public process with multiple opportunities for the public to provide input to the Commission on substantive issues. At each Commission meeting, the public is welcome to speak during the public comment period provided for each substantive issue under consideration, as well as general public comment periods provided at the end of each day's meeting. In addition, most substantive issues before the Commission go through a workgroup process where consensus recommendations are developed by appointed representative stakeholder groups, providing additional opportunities for public input. Workgroup recommendations approved by the Commission usually require rule development to implement, affording at least two additional entry points for public comment.

Since its formation in July 1998, the Commission has demonstrated a commitment to working with affected interests to build consensus on complex issues. The adoption of the first edition of the Florida Building Code (2001 Edition), developed from September 1998 through January of 2001, involved 27 Commission meetings, dozens of facilitated public workshops, and hundreds of TAC meetings. The Commission has consistently worked with all affected interests to build the best possible consensus-based decisions for the citizens of Florida. Through its committees and workgroups composed of experts, the Commission has always developed its decisions based on the results of the best engineering and science available. Although the Code is by law a minimum building code, the Florida Building Code is the strongest consensus and science-based building code in the country. In summary, the Florida Building Commission provides a forum for stakeholders

representing different interests to participate in a consensus-building process where issues affecting the construction industry are discussed and evaluated on their technical merits and cost-benefits to the citizens of the State of Florida.

IV. LEGISLATIVE ASSIGNMENTS

Since none of the legislation containing assignments to the Commission passed the 2009 Legislature there are no assignments specific to 2009. However, the 2008 Florida Legislature, through the passage of a number of bills during that session, charged the Commission with a range of assignments including Energy Code enhancements, wind protections, and revisions to specific Building Code provisions that are longer-term in nature and require additional updates from the 2009 Report.

In response, the Commission worked with stakeholders and affected interests to address each of the legislative assignments through facilitated processes yielding consensus-based recommendations and Commission decisions. The Commission's actions are detailed in the following section of this report. The recommendations are organized into two categories: code-related recommendations and energy-related recommendations.

2008 Code Related Assignments for Submittal to 2010 Legislature

Recommendation to 2010 Legislature for Entities to be Recognized in Law
Section 16 of SB 697 requires the Commission to address approval of additional evaluation entities for product approval:

> *"(17)(a) The Florida Building Commission shall review the list of evaluation entities in subsection (8) and, in the annual report required under s. 553.77, shall either recommend amendments to the list to add evaluation entities the commission determines should be authorized to perform product evaluations or shall report on the criteria adopted by rule or to be adopted 938 by rule allowing the commission to approve evaluation entities that use the commission's product evaluation process. If the commission adopts criteria by rule, the rulemaking process must be completed by July 1, 2009."*

The Commission's Product Approval Program Oversight Committee reviewed and developed recommendations that were adopted by the Commission at the December 2008 meeting. Following are the Commission's recommendations to the 2010 Florida Legislature:

The Commission recommends amending the list of evaluation entities in law as follows:

1. Include IAPMO Evaluation Service (ES) in the law as an approved evaluation entity as indicated below.

2. Recommend changing s. 553.842(8)(a), F.S., to read as follows *(update list to eliminate entities no longer in existence, add IAPMO ES, and alphabetize the list of approved evaluation entities)*:

   (8)(a) ~~Evaluation entities that meet the criteria for approval adopted by the commission by rule.~~ The commission shall specifically approve the, the International Association of Plumbing and Mechanical Officials Evaluation Service, the International Code Council

Evaluation Services, and the Miami-Dade County Building Code Compliance Office Product Control~~, the international Conference of Building Officials Evaluation Services, the Building Officials and Code Administrators International Evaluation Services, the Southern Building Code Congress International Evaluation Services~~. Architects and engineers licensed in this state are also approved to conduct product evaluations as provided in subsection (5).

Requirements of Law for Carbon Monoxide Detectors Implementation

The 2007 Florida Legislature directed the Commission to adopt carbon monoxide detector requirements written into law as a separate non-Code rule to take effect July 1, 2008, and to adopt the requirements from the law as part of the 2007 Code. The Commission's Mechanical TAC worked with stakeholders to develop recommendations for consideration by the Commission during the 2007 Code Adoption process which were adopted by Rule 9B-3.0472 effective July 1, 2008. In addition, the Commission integrated the CO detector provisions of Rule 9B-3.0472 into the 2007 Edition of the Code as a part of the Glitch Amendment process. The Commission seeks additional clarification as follows:

The Commission seeks clarification and has recommendations regarding the Legislature's intent (Sections 509.211 and 553.885, F.S.) for Carbon Monoxide (CO) Detector requirements in the Florida Building Code. They are as follows:

1. Clarify the responsibilities of the Division of State Fire Marshal (DSFM) and the Department of Business and Professional Regulation (DBPR) under section 509.211. F.S.

2. Clarify the scope of what was intended by the term: "new construction".

3. Provide legislative authority for the Commission to review and determine the appropriate location(s) for CO detectors.

4. Clarify that the requirement applies to all fuel sources that emit carbon monoxide and not only fossil fuels.

2008 Energy Assignments Update

Governor Crist directed the Commission to increase building energy efficiency requirements by 15% in his July 2007 Executive Order 127. In addition, the 2008 Legislature through passage of The Energy Act of 2008 created a number of energy-related assignments for the Building Commission. The Energy Code provisions were a major focus of the Commission during 2008, and the Commission increased the thermal efficiency requirements for the Florida Energy Code by 15% and then integrated the enhanced requirements into the 2007 Florida Building Code.

A primary focus for the Commission during 2009 was to develop a strategic plan for energy standard revisions pursuant to requirements of Section 553.9061, F.S., requiring the strategic plan to implement scheduled increases in the Code's energy performance standard, recognize certain energy performance options, and consider the cost effectiveness of the scheduled increases.

During 2008 the Commission amended the Florida Energy Code to require 15% more efficiency in buildings by reviewing energy-related code requirements adopted in the 2007 Florida Building Code Update, and then adopting additional requirements necessary to achieve Governor Crist's directive of 15% increased efficiency. The efficiency increases took effect March 1, 2009, concurrent with the 2007 Florida Building Code.

The Commission is currently in the process of evaluating options for achieving an additional 5% increase in efficiencies for the 2010 Code Update consistent with its charge to increase the energy performance of new buildings by at least 20% as compared to the energy efficiency provisions of the 2007 Florida Building Code. Working with stakeholders using consensus-building workgroups, the Commission is striving to achieve the increases in efficiency in buildings stipulated in Florida Law while implementing code amendments that are efficient, consistent, understandable, and enforceable for the full spectrum of Energy Code users.

The Legislature's other Energy Code-related assignments were addressed during 2009 in preparation for the 2010 edition of the Code. The Florida Energy Code Workgroup was convened to address these issues and develop recommendations for the Commission. The Commission's energy-related tasks for 2009 are summarized in this section of the Report.

Study Energy Conservation Measures and Develop a Plan for 20% Increased Efficiency Requirement for 2010 FBC—Develop Plan to Implement Legislated Energy Efficiency Increases

Section 109 of HB 7153 establishes a schedule for increases in building energy efficiency requirements. This task expands the study of energy conservation measures for residential buildings to investigation of efficiency options for commercial buildings and the development of a plan to implement the requirements of the new law. Section 553.9061, F.S., Scheduled increases in thermal efficiency standards, was created to establish percentage increases in efficiency to be implemented in the 2010, 2013, 2016, and 2019 Codes.

With the adoption of the Glitch Amendments to the 2007 Edition of the Florida Building Code and the revisions to Rule 9B-13 Thermal Efficiency Standards, the Commission implemented a strategy for increasing the energy efficiency provisions of the Code by 15%. The Commission's Florida Energy Code Workgroup and Energy TAC are working with stakeholders to evaluate options for achieving an additional 5% increase for the 2010 Edition of the Code, and for achieving the progressive increases in efficiency required for subsequent editions of the code.

The Commission unanimously adopted a strategic plan for achieving the required progressive energy efficiency increases as follows:

- Selecting the IECC as foundation code for the Florida Building Code, Energy pursuant to s. 553.73(6)(a), F.S.
- Adopting the Florida Energy Efficiency Code for Building Construction (FEC) within the Florida Building Code by modifying the IECC to maintain the efficiencies of the Florida Energy Code adopted and amended pursuant to s. 553.901, F.S., as directed by s. 553.73(6)(a), F.S.

Modifications To Include:

- Adding a maximum glass percentage criterion to the prescriptive compliance method to maintain a consistent standard of energy efficiency for all compliance methods. (criterion 10, ss. 553.73(6)(a) and 553.901, F.S.)
- Modifying the prescriptive compliance method's component efficiency requirements to meet the 20% overall efficiency requirement improvement pursuant to s. 553.9061(1), F.S., as determined by simulations of annual energy use by Energy Gauge USA Fla/Res. (criterion 10 and s. 553.73(6)(a), F.S.)
- Modifying the UA compliance method's compliance criteria to meet the 20% overall efficiency requirement improvement pursuant to s. 553.9061(1), F.S., as determined by simulations of annual energy use by Energy Gauge USA Fla/Res. (criterion 10 and s. 553.73(6)(a), F.S.)
- Using the Energy Gauge USA Fla/Res implementation of the FEC energy budget compliance method for the performance compliance method and using 80 points as the compliance criteria (s. 553.73(6)(a), F.S., s. 553.901, F.S., criteria 4, 5, 6, 7, 8, 9, 10, 11, and 12)
- Modifying the IECC to include all other energy efficiency requirements adopted pursuant to s. 553.901, F.S., The "Thermal Efficiency Code."

The Commission commissioned a report to evaluate achieving progressive energy efficiency increases culminating in a 50% increase. The Florida Solar Energy Center (FSEC) produced a Report that is summarized as follows:

"Evaluation of Alternatives of Florida's 2010 Energy Code Update for Residential Buildings—FSEC-CR-1831-09"

Overview of FSEC-CR-1831-09:

This report provides results of analysis of the Florida Energy Code (FEC) with respect to requirements of Florida House Bill 7135. The analysis uses Florida's performance-based code compliance software, EnergyGauge® USA, to conduct detailed analysis of HB 7135 requirements to significantly increase the efficiency of new homes over time. First, results of an analysis of the long-term, year 2019 requirement for a 50% increase in new home energy efficiency are presented. Next, the 2009 edition of the International Energy Conservation Code (IECC) is analyzed with respect to the HB 7135 dual requirements that the 2009 IECC become the foundation code for the FEC and that the 2010 FEC achieve a 20% increase in new home energy efficiency relative to the 2007 FEC. Finally, the report presents results of analysis of three potential prescriptive compliance options for meeting the 20% efficiency improvement requirement of HB 7135.

Conclusion of FSEC-CR-1831-09:

The analysis indicates that Florida technically can achieve the required 50% reduction in new home energy use by 2019. However, to accomplish this, the efficiency of heating, cooling and hot water systems in Florida homes will have to be considered and may, depending on other energy efficiency measures, need to be greater than the current federal minimum standard.

The analysis of the 2009 IECC indicates that this code is either 8% more efficient than the 2007

FEC (i.e., 2006 IECC) or 19% more efficient than the 2007 FEC, depending on whether compliance is by the prescriptive procedures of Section 402, 403, and 404 or by the simulated compliance alternative specifications of Section 405. The 2009 IECC analysis further shows that air distribution system efficiency is a major determinant of overall home energy efficiency in Florida. Finally, the analysis shows that the 2009 IECC mass wall R-value requirements of Table 402.1.1 and equivalent U-factor requirements of Table 402.1.3 do not comport well with the frame wall R-value and U-factor requirements in Florida's climates. As a result, this study also recommends that minimum R-value for mass walls in the prescriptive-compliance procedure be increased from R-6 to R-7.8 for all of Florida.

The final sets of analysis of options for the 2010 FEC, which must be 20% more efficient than the 2007 FEC showed that at least 3 options exist to select from for the 2010 FEC prescriptive compliance procedure. Depending on strategy, the resulting options incorporate a broad range of minimum window area limitations that span the range of likely window-to-floor area percentages in new Florida homes.

The full report may be reviewed at the project webpage, as follows:
http://consensus.fsu.edu/FBC/2010-Florida-Energy-Code.html

Rule Development on Rule 9B-13.0071, Cost Effectiveness of Amendments to Florida Energy Code

Section 109 of HB 7153 directed the Commission to develop a rule for determining cost effectiveness of energy conservation measures to be considered for inclusion in the Florida Energy Code. The rule must be completed and applied to the update of the energy provisions of the 2010 Florida Building Code. The Commission worked with stakeholders via the Energy Code Workgroup to develop cost effectiveness test criteria to be applied to justification for increased residential and commercial building energy efficiency requirements, and concluded rule making during 2009, in time for the adopted rule to be effective for application to the 2010 Code Update process. At its February 2009 meeting the Commission voted to initiate rule making to develop a rule for determining cost effectiveness of energy conservation measures to be considered for inclusion in the Florida Energy Code, conducted a rule development workshop at the April 2009 Commission meeting, and conducted a rule adoption hearing at the June 2009 meeting culminating with adoption of the rule. In addition, the Commission adopted a definition for "Consumer" as follows: "A class of economic system participant that makes no distinction between the owner of the building and the utility rate payer." The content of the Rule is included as "Appendix E" of this report.

Identify Specific Building Options to Achieve the Energy Efficiency Improvements

The Energy Act of 2008 (HB 7135) directed the Commission to include, as a minimum, certain technologies for achieving enhanced building efficiency targets established by the Act in the Florida Energy Code. The Building Code Act of 2008 (HB 697) directed the Commission to facilitate and promote the use of certain renewable energy technologies.

The Commission's Energy Code Workgroup worked with stakeholders beginning in early 2009 on a comprehensive evaluation of options for achieving energy efficiency initiatives for the Florida

Building Code including: mandated increases in energy efficiencies for subsequent editions of the Code, criteria for cost effectiveness test for increases in energy efficiency, studying energy conservation measures for replacement of air conditioning equipment, investigating humidity and moisture control problems for hot and humid climates, and evaluating rainwater collection and reuse and waste water recycling techniques. The Workgroup will continue to evaluate code issues prior to the deadline for submittal of between March 1 and April 2, 2010.

The law instructs the Commission to evaluate energy efficiency performance options and elements including, but not limited to: solar water heating; energy-efficient appliances; energy-efficient windows, doors, and skylights; low solar-absorption roofs, also known as "cool roofs"; enhanced ceiling and wall insulation; reduced-leak duct systems; programmable thermostats; and energy-efficient lighting systems. To date the Workgroup has identified the following technologies/options as follows:

- Solar water heating.
- Energy-efficient appliances.
- Energy-efficient windows, doors, and skylights.
- Low solar-absorption roofs, also known as "cool roofs."
- Enhanced ceiling and wall insulation.
- Reduced-leak duct systems.
- Programmable thermostats.
- Energy-efficient lighting systems.
- Water source, geo-thermal HVAC systems.
- Solar photovoltaic systems.
- Variable refrigerant flow mechanical systems.
- Data center efficiencies.
- Under-floor duct systems.
- Induction lighting and new lighting technologies.
- Passive energy efficient design and day-lighting.
- Building envelop efficiencies.

The Workgroup will evaluate this task further during early 2010 and prior to the 2010 Code Update process.
(Appendix E—Florida Energy Code Workgroup)

V. THE FLORIDA BUILDING CODE

The Commission is required by law to update the Florida Building Code (FBC) every three years, and the 2007 Edition represented the second update and third edition of the Code. The Commission is currently conducting the 2010 Code Update process that will result in the third update and fourth edition of the Code. The update process is based on the code development cycle of the national model building codes, which serve as the "foundation" codes for the Florida Building Code, and 2009 represents the first time the Commission adopted the International Energy Conservation Code (IECC) as the foundation for the 2010 Florida Energy Code. National model building codes and most engineering standards are updated every three years and the intent is to keep the Code up-to-date with evolving national standards of health, safety, and welfare of the public.

The model building codes on which the Florida Building Code is based have undergone a major transformation since work began on the Florida Building Code in 1998. In 1998 there were three model code organizations, each with a separate model code that included a "building" code for structural, fire safety, and general building design requirements and separate plumbing and mechanical (heating, cooling and ventilation) codes. The code for electrical systems and fuel gas systems are essentially based on common reference standards developed by separate organizations. During the late 1990s the three regional model code organizations transitioned into a single organization, the International Code Council, which was to develop a single national model code. When that code was completed and the organizations merged, the three prior model codes were abandoned. In late 1998 when the Commission selected a model code to provide the base requirements for the Florida Building Code, the International Plumbing, Mechanical, and Fuel Gas sub-codes were in place but the "Building" Codes were still under development. The first edition of the Florida Building Code was based on the International sub-codes, the National Electrical Code, and the Standard Building Code, which was used in sixty-five Florida counties, municipalities and state agencies since the mid-1970s, for the "building" volume. The last edition of the Standard code was published in 1999. The first edition of the new International Building Code was in place by 2000 and has since been updated with a fourth edition, the 2009 International Building Code and has added a Residential Code and Existing Building Code. With the adoption of the Second Edition of the Florida Building Code, the Code is now based on the International Family of Codes, modified with Florida-specific amendments. Florida-specific amendments go through a rigorous review process including posting to the Building Code Information System (BCIS) for 45 days prior to a review by the Commission's Technical Advisory Committees (TAC), posting the TAC's recommendations for 45 days prior to Commission consideration, and then the Chapter 120, F.S., rule development process. The Commission provides multiple input opportunities for public comment, and once the code is published six months must pass before the Code's effective date.

The initiation of the 2010 Florida Building Code Update process represents the third update and fourth edition of the Code. This was a major focus of the Commission at the end of 2009 and will be during 2010, when major work on the triennial code update process for the 2010 Edition of the FBC begins. The 2009 Edition of the International Building Code (IBC) was published in April of 2009, and the Commission's process—which by law could not begin until six months after the printing and availability of the IBC—commenced in October 2009 with selection of the 2009 I-

Codes as the foundation for the 2010 Florida Building Code. From April to October 2009 staff compiled sections of a draft 2010 Florida Code by integrating existing Florida-specific amendments into the 2009 International codes. Section 553.73(8), F.S., requires that existing Florida amendments that overlap with changes to foundation codes from one edition to the next must be reviewed for retention or deletion. The Commission's technical advisory committees conducted the preliminary review in December 2009. Changes or elimination of Florida-specific amendments will be made through the amendment process that begins in March 2010.

Section 553.73(6), F.S., requires the Commission to update the Florida Building Code every 3 years by first selecting the most current version of the International Family of Codes. The commission may modify any portion of the foundation codes only as needed to accommodate the specific needs of this state, maintaining Florida-specific amendments previously adopted by the commission and not addressed by the updated foundation code. The Commission complied with this statutory requirement by selecting 2009 Editions of the respective I-Codes as the foundation code for the 2010 Code (Building, Residential, Mechanical, Plumbing, Fuel Gas, Existing Building Codes, and Energy). The foundation for the electrical code component of the Florida Building Code is based on NFPA 70: National Electrical Code (NEC), which us updated every three years but not in the same year as the International Codes. The 2008 NEC is that latest edition and was adopted into the 2007 FBC through the glitch amendment process. Adoption of updates to this code through glitch amendments was authorized by changes to law in 2008, and the Commission will review and adopt the 2011 NEC as a glitch amendment during 2010.

In order to minimize confusion and maximize effectiveness, the Commission opted for a 2007 Code with glitch amendments fully integrated prior to implementation, with a single effective date for the Building and Energy codes. The 2007 Edition of the Florida Building Code, the 2009 Supplement to the 2007 Florida Building Code to implement glitch code amendments, and the 2007 Florida Energy Code became effective on March 1, 2009. The 2008 NEC was adopted in a separate glitch proceeding and implemented in September 2009.

Glitch Amendments to the 2007 Florida Building Code

The primary focus of the Commission during 2008 was to adopt amendments to the 2007 Florida Building Code through a Glitch Amendment Process. The Commission provided an opportunity for members of the public to submit proposed code glitch amendments with an initial submittal deadline of June 1, 2008, that was later extended to July 15, 2008. The Commission's technical advisory committees (TAC) reviewed and developed recommendations on proposed amendments throughout the summer and fall of 2008. Work was interrupted in August when Hurricane Faye caused cancellation of key TAC meetings and a scheduled Rule Development Workshop in Naples. The Commission then conducted a Rule Development Workshop in October and a Rule Adoption Hearing in December 2008. As a result Hurricane Faye necessitating the cancellation of the Commission's August 2008 meeting and rescheduling rule proceedings, the Commission voted to make March 1, 2009, the effective date of the 2007 Florida Building Code, the 2008 Supplement to the 2007 Florida Building Code to implement glitch code amendments, and the 2008 Florida Energy Code. The 2007 Edition of the Florida Building Code represents significant increases in energy efficiency, enhanced wind and water infiltration requirements, and additional structural integrity requirements, and includes updated standards for product approvals.

Rule Development Workshop on Rule 9B-3.047 Florida Building Code/2008 NEC, Interior Designers, and Conflicts with Law

At an October 2008 Rule Development Workshop conducted for the purpose of considering glitch amendments to the 2007 FBC, the Commission considered whether to adopt the 2008 National Electrical Code as a glitch amendment. The criteria provided in Section 553.73(7) F.S., for considering glitch amendments specifies the Commission may consider updates to the NEC if delay of implementing the updated edition causes undue hardship to stakeholders or otherwise threatens the public health, safety, and welfare. The Commission considered testimony on both sides and voted to defer action on deciding whether to consider adoption of the 2008 NEC as an amendment in the 2008 Glitch Amendment Process, and to set a schedule for a separate rulemaking to implement the Commission's actions relative to adopting the 2008 NEC by July 1, 2009. The NEC was reviewed by the Electrical TAC, and the TAC provided recommendations regarding adopting the 2008 NEC into the Florida Building Code and proceeding with rulemaking. The TAC recommended that the Commission adopt the 2008 NEC in whole and conduct a rule development workshop at the April 2009 Commission meeting, and the Commission voted to proceed with rule development to adopt the 2008 NEC, the interior decorators settlement agreement, and correction of conflicts with law by conducting a rule development workshop at the April 2009 Commission meeting. The Commission voted at that meeting to proceed with rule adoption. The June rule adoption hearing provided an additional opportunity for public comment on the issue, and the Commission voted unanimously to finalize rule adoption for Rule 9B-3.047, Florida Building Code/2008 NEC, Interior Designers, and Conflicts with Law.

Selection of 2009 I-Codes for Foundation of the 2010 Florida Building Code

The Commission is required by law to wait six months after all volumes of the I-Codes are available prior to selecting the latest Edition of the I-Codes as the foundation for the Florida Building Code. The last volume of the I-Codes was available on April 2, 2009, and the six-month time frame was achieved at the October 2009 meeting, allowing the Commission to select the 2009 Edition of the I-Codes as the foundation for the 2010 Edition of the Florida Building Code at that meeting.

Adoption of the 2011 National Electric Code by Separate 2011 Glitch Amendment

The 2010 FBC development and adoption will proceed consistent with the process required by law and Florida-specific amendments to the 2009 I-Codes (the new foundation codes as required by law) will be published online as a Supplement to the 2009 I-Codes. The codebook publishing process will begin when the Supplement is posted to the internet. The Glitch Amendment Process will begin at this point also with the intent to limit glitch amendments to those identified by code professionals contracted to monitor the development of the 2010 FBC, and to adopt the 2011 National Electric Code pursuant to law.

Legislative Recommendation for Building Code Carbon Monoxide Detector Requirements

The 2007 Legislature established CO detector requirements to be enforced through the Code. The detector placement requirements established in law were developed based on consideration of deaths in single-family homes and hotels/motels and applied globally to all occupancies that have sleeping rooms. Hospitals and nursing home organizations proposed changes to the law for institutional occupancies but the 2008 Legislature elected not to expand tailoring of requirements to

other occupancies and suggested in response to Commission inquiries that the Commission develop recommendations to be brought back to the 2009 Legislature if further changes are necessary. The Commission convened a Workgroup for the purpose of making recommendations to the Commission. At its December 2008 meeting the Commission voted to make the following recommendations to the 2009 Florida Legislature, and offers the same recommendations to the 2010 Florida Legislature:

The Commission seeks clarification and has recommendations regarding the Legislature's intent (sections 509.211 and 553.885, F.S.) for Carbon Monoxide (CO) Detector requirements in the Florida Building Code. They are as follows:

1. Clarify the responsibilities of the Division of State Fire Marshal (DSFM) and the Department of Business and Professional Regulation (DBPR) under Chapter 509.211. F.S.. regarding CO detectors in hotels and motels.

2. Clarify the scope of what was intended by the term "new construction" in section 553.885, F.S.

3. Provide legislative authority for the Commission to review and determine the appropriate location(s) for CO detectors.

4. Clarify that the requirement applies to all fuel sources that emit carbon monoxide and not only fossil fuels.

Development Process for the 2010 Florida Building Code

The Commission is required by law to update the Florida Building Code (Code) every three years, and the update process is based on the code development cycle of the national model building codes which serve as the "foundation" codes for the Florida Building Code. National model building codes and most engineering standards are updated every three years, and the intent is to keep the Code up-to-date with evolving national standards of health, safety and welfare of the public. After each update to the Code the Commission conducts a review of the update process and determines what modifications would make the next process run smoother and more efficiently. In early 2009 Chairman Rodriguez appointed a study committee to develop recommendations, which the Commission considered and adopted following a public hearing conducted in June 2009. The Commission voted to make December 31, 2011, the effective date for 2010 Code , publish a fully integrated Code, and implement a mandated process to remove (unnecessary)/maintain (needed) Florida Specific amendments for the 2013 Code Update Process. The Commission initiated the development of the 2010 Florida Building Code in October 2009 by selecting the 2009 I-Codes as foundation codes for the Florida Building Code. In addition, the Commission's TACs made recommendations regarding overlaps of current Florida-specific code amendments with International Code changes from 2006 to 2009 Editions, and the draft will be posted to the Commission's intranet website as the Florida Supplement to the 2009 I-Codes and made available for public review.

Integration of Florida Accessibility Law into the New ADAAG Being Adopted by the U.S. Department of Justice

The Commission's Accessibility TAC recommended and the Commission approved convening a workgroup to evaluate and develop recommendations regarding the integration of the Florida Accessibility Law into the 2004 ADAAG that is being adopted by the U.S. Department of Justice (DOJ). The Commission convened a Florida Energy Code Workgroup in December 2008 and the Workgroup is working on recommendations to the Commission in early 2010.
The scope of the Workgroup is to develop recommendations for amending the Florida Accessibility Code for Building Construction once DOJ completes its adoption of the next generation of the ADA Accessibility Standards. The task is to integrate the relevant Florida standards in ss. 553.501-553.513, F.S., into the 2004 ADAAG as adopted (and modified) by 28 CFR 36 (prospective). Although DOJ's process is not complete, the Workgroup began with the 2004 ADAAG and the draft FACBC will be modified to reflect DOJ's final amendments when those are available. The Workgroup voted unanimously to integrate all current Florida Specific requirements into the Proposed DOJ SAD (Standards for Accessible Design), June 2008, and concurrently evaluate and make recommendations on the Florida-specific requirements and ancillary topics, with recommendations forwarded to the Florida Legislature for enhancements or removal of Florida-specific requirements and ancillary issues. The Commission will evaluate and adopt any proposed recommendations to the Governor and Legislature for submittal in the 2011 Report to the Legislature.
(Appendix F—Florida Accessibility Code Workgroup)

VI. ENERGY EFFICIENCY INITIATIVES AND CODE CHANGES

Governor Crist issued Executive Order 07-127 establishing actions to reduce greenhouse gas emissions within Florida, and a component of the EO has an impact on the energy performance requirements of the Florida Energy Code. DCA Secretary Tom Pelham attended the Commission's October 2007 meeting to detail the Governor's requirements. Secretary Pelham reported that Governor Crist has committed his Administration to charting a new direction in energy policy in Florida. The Secretary stated that in Executive Order 07-127 the Governor made two statements that require immediate attention:

- "Global climate change is one of the most important issues facing the State of Florida this century" and
- "Immediate actions are available and required to reduce emissions of green house gases within Florida."

The executive order directs the Department of Community Affairs and the Florida Building Commission to work together to revise the Florida Energy Efficiency Code for Building Construction to increase the energy performance of new construction in Florida by at least 15 percent. It also instructs DCA to initiate rulemaking on Florida appliance efficiency standards, with the objective of increasing the efficiency of appliances by 15 %. The Governor charged DCA and the Commission with accomplishing these tasks by 2009.

The Commission reviewed energy-related code amendments adopted in the 2007 Florida Building Code Update to determine their cumulative level of increased efficiency and adopted additional amendments required to achieve Governor Crist's directive of 15% increased efficiency using procedures of Part VI, Chapter 553, F.S. During 2008 the Energy Code was amended by administrative rule authorized by that part and then the revised Energy Code was adopted into the 2007 Florida Building Code during the 2008 Glitch Amendment Process and concurrently with the March 1, 2009, effective date for the 2007 Florida Building Code.

The Florida Legislature charged the Commission with implementing a series of energy efficiency increases as follows:

553.9061 Scheduled Increases In Thermal Efficiency Standards.--
(1) The purpose of this section is to establish a schedule of increases in the energy performance of buildings subject to the Florida Energy Efficiency Code for Building Construction. The Florida Building Commission shall:
(a) Include the necessary provisions by the 2010 edition of the Florida Energy Efficiency Code for Building Construction to increase the energy performance of new buildings by at least 20 percent as compared to the energy efficiency provisions of the 2007 Florida Building Code adopted October 31, 2007.
(b) Increase energy efficiency requirements by the 2013 edition of the Florida Energy Efficiency Code for Building Construction by at least 30 percent as compared to the energy efficiency provisions of the 2007 Florida Building Code adopted October 31, 2007.

(c) Increase energy efficiency requirements by the 2016 edition of the Florida Energy Efficiency Code for Building Construction by at least 40 percent as compared to the energy efficiency provisions of the 2007 Florida Building Code adopted October 31, 2007.
(d) Increase energy efficiency requirements by the 2019 edition of the Florida Energy Efficiency Code for Building Construction by at least 50 percent as compared to the energy efficiency provisions of the 2007 Florida Building Code adopted October 31, 2007.
(2) The Florida Building Commission shall identify within code support and compliance documentation the specific building options and elements available to meet the energy performance goals established in subsection (1). Energy efficiency performance options and elements include, but are not limited to: solar water heating; energy-efficient appliances; energy-efficient windows, doors, and skylights; low solar-absorption roofs; enhanced ceiling and wall insulation; reduced-leak duct systems; programmable thermostats; and, energy efficient lighting systems.
(3) The Florida Building Commission shall, prior to implementing the goals established in subsection (1), adopt by rule and implement a cost-effectiveness test for proposed increases in energy efficiency. The cost-effectiveness test shall measure cost-effectiveness and shall ensure that energy efficiency increases result in a positive net financial impact.

Commission Energy Efficiency Enhancement Focus for 2010

All of the following energy-related tasks are a part of the Commission's comprehensive effort to evaluate and enhance energy efficiencies in the Florida Building Code. The Commission's Energy Code Workgroup will develop recommendations regarding energy conservation measures for increasing efficiency requirements in the 2010 FBC by 20% as required by law. In addition, the Commission will implement additional efficiency measures with the 2010 Code Update process. It should be noted that the Commission voted unanimously to adopt a strategic plan (unanimously recommended by the Florida Energy Code Workgroup) for achieving the energy standard revisions pursuant to requirements of Section 553.9061, F.S., requiring the strategic plan to implement scheduled increases in the Code's energy performance standard, recognize certain energy performance options, and consider the cost effectiveness of the scheduled increases.

Additional energy efficiency initiatives in response to legislation are included in Section IV of this Report.

Options for Addressing Humidity and Moisture Control Problems for Hot and Humid Climates

At the recommendation of the Energy TAC, the Commission convened a Regional AC Efficiency Workgroup since the U.S. Department of Energy (USDOE) now has authority to develop and adopt regional AC efficiency standards. The Workgroup was charged with developing recommendations on whether the Commission and DCA should recommend regional AC efficiency standards for the hot and humid climate to USDOE, and if a regional standard is determined to be a good strategy, developing recommendations for the technical requirements.

The Workgroup worked with affected stakeholder interests in a facilitated workgroup process. The Workgroup investigated the feasibility of a hot-and-humid climate regional efficiency rating for air-conditioner and heat-pump systems and recommended that the Commission develop

recommendations regarding AC equipment's role in controlling humidity and moisture in buildings in a hot and humid climate.

Following the first meeting, the scope of the Workgroup was changed to develop recommendations regarding AC equipment's role in controlling humidity and moisture in buildings in a hot and humid climate and referred the issue to the Florida Energy Code Workgroup. The Florida Energy Code Workgroup has been tasked with considering a range of issues and options regarding the manufacturing, design, and installation of AC equipment in controlling moisture and preventing mold and mildew in the hot and humid Florida climate.

In addition, air conditioning contractors raised the concern that building energy efficiency optimization, commodity grade air conditioning systems, and mechanical systems construction practices are combining to cause indoor humidity control problems.

To date the Florida Energy Code Workgroup has identified the following issues for evaluation:

- Minimum efficiency equipment can result in problems with indoor humidity control for situations where AC equipment is oversized and sensible heat loads are diminished by advanced ECMs relative to latent loads contributed by outdoor moisture infiltration/diffusion and indoor moisture generation.
- Energy conservation achieved by sensible load reduction measures must be balanced with equipment requirements for improved moisture removal and latent loading control measures.
- High efficiency variable speed and variable capacity AC systems provide load matching capability and increase moisture removal effectiveness.
- Building envelope tightening to limit outdoor moisture infiltration/diffusion typically reduce air exchange resulting in building performance characteristics that may lead to required forced air ventilation of homes.
- Forced ventilation of homes will require preconditioning of ventilation air to remove moisture to achieve indoor humidity control.

These issues will be evaluated during 2010 as a part of the Commission's comprehensive review of energy efficiency initiatives.

Study Energy Conservation Measures for Replacement of Air Conditioning Equipment

This task is a recommendation of the Commission's Energy TAC resulting from consideration of Energy Code amendment proposals regarding replacement air-conditioning systems at the October 2008 meeting. The task was approved by the Commission at the October 2008 meeting and was evaluated during 2009 as a part of the Commission's comprehensive review of energy efficiency initiatives. The Workgroup has made the following recommendations, which will be considered during the 2010 Code Update process:

Sizing of Replacement Air Conditioning Systems:

The AC contractor or licensed Florida PE shall submit a nationally recognized method-based sizing calculation at the time of permit application for total replacement of the condensing/evaporator components of HVAC systems 65,000 Btu/h and less.

Exception: Buildings designed in accordance with Section 105.3.1.2 of the Florida Building Code, Building.

Testing of air distribution systems when air conditioning systems are replaced:

At the time of the total replacement of HVAC evaporators and condensing units under 65,000 Btu/h, all accessible (a minimum of 30 inches clearance) joints and seams in the air distribution system shall be sealed using reinforced mastic or code-approved equivalent and shall include a signed certification by the contractor that is attached to the air handler unit stipulating that this work had been accomplished.

Exceptions:

1. *Ducts in conditioned space.*
2. *Joints or seams that are already sealed with fabric and mastic.*
3. *If system is tested and repaired as necessary.*

Options for Design Criteria for Energy Efficient Pools

The Energy Act of 2008 (HB 7135) directs adoption of pool pump efficiencies in the 2010 FBC. During discussions with the Florida Spa and Pool Association regarding energy efficiency requirements for pool pumps members suggested improved efficiency could be achieved through criteria for pool hydronic system design. This task is being evaluated by the Commission's Pool Efficiency Subcommittee to the Energy Code Workgroup in coordination with the national industry and other state's initiatives currently underway. To date the following issues have been identified for evaluation:

- Pool pump standards.
- Pool plumbing system design.
- Performance and prescriptive compliance paths for pools.
- Credits for alternative energy sources for pool heating, lighting and pumping.

Evaluate Requirements For Green Roofs Recognition In the Florida Building Code

The Energy Act of 2008 (HB 7135) directs the Commission to include, as a minimum, certain technologies for achieving enhanced building efficiency targets established by the Act in the Florida Energy Code. Energy efficient roofs are one category. The Building Code Act of 2008 (HB 697) directs the Commission to facilitate and promote the use of certain renewable energy technologies. This task will be evaluated by the Commission's Green and Energy Efficient Roofs Subcommittee to the Florida Energy Code Workgroup. To date the following issues have been identified for evaluation:

- Green roof energy performance, structural, and water protection characteristics in Florida environment.
- Cool roof options and energy performance in Florida environment.
- Alternative roof systems and components effect on roof/ceiling heating cooling loads and calculations for Florida environment (solar pool heater and DHW thermal arrays, pv arrays, pv roof tiles, mass and metal roof covering, evaporatively cooled, radiant barrier systems).

Equivalence of 2008 Florida Energy Code to ASHRAE 90.1-2007 for Commercial Buildings and to the IECC 2009 for Residential Buildings and Report to the Governor's Office

The federal Stimulus Bill provides funding for State Energy Programs for those states that can certify their energy codes are equal or more stringent than the 2009 International Energy Conservation Code for residential buildings and ASHRAE 90.1-2007 for commercial buildings and whose Governors can certify that qualifying codes will be in force and effect for 90% of new and renovated existing buildings within 8 years. Other qualifying criteria regarding utility regulation programs also apply, which for Florida will be handled by its Public Service Commission. The Building Commission was asked by Governor Crist's Energy Office to issue a letter verifying Florida complies with the qualifying conditions for the federal energy funds. Staff conducted an analysis and prepared the letter for the Chairman to submit on behalf of the Commission to meet the Governor's deadline of March 15, 2009. The report found that Florida's Energy Code, updated to implement Governor Crist's Executive Order 2007-197 and implemented in the 2007 Florida Building Code that went into effect March 1, 2009, is more stringent than ASHRAE 90.1-2007 for commercial buildings and is as stringent as the 2009 IECC for residential buildings. The report further stated Florida's energy code is a statewide uniform and mandatory code and the schedule for increasing energy efficiency requirements required by Florida law – 20% by 2010, 30% by 2013, and 40% by 2016 – will far exceed the standards established by the Stimulus Bill within its 8-year time horizon.

Report to U.S. Department of Energy (USDOE) on Equivalence of Florida Energy Code to ASHRAE 90.1-2004

States are required by federal law to certify that their energy codes are equivalent to a code identified by US DOE. Florida must certify that Florida Energy Code is equivalent to ASHRAE 90.1-2004, and FSEC has done the analysis supporting that Florida's Code is stronger than the ASHRAE 90.1-2004. The Energy TAC reviewed the analysis and recommended that the Commission send the certification to the US DOE. At its October 2009 meeting the Commission voted unanimously to send a certification that the Florida Energy Code is equivalent to ASHRAE 90.1-2004.

Consider Report on Florida Energy Code Impact on Utility Conservation Program

At its August 2009 meeting the Commission received a letter from Jim Murley, Chair of the Florida Energy and Climate Commission (FECC), indicating that the FECC is charged with providing comments to the Florida Public Service Commission concerning the updating of energy efficiency goals pursuant to the Florida Energy Efficiency and Conservation Act. The FECC requested the Commission's assistance in providing input to the PSC regarding "assessment of building codes and appliance efficiency standards on the need for utility-sponsored programs". The Commission had a report prepared providing the basic information for the 2007 Florida Building Code, and the Report was updated for the 2010 Code development process. The revised Report and other existing documents were used to provide the FECC with the information they requested. At its October meeting the Commission voted unanimously to transmit the Report, "Florida Energy Code, The Baseline Efficiency for Florida Buildings," regarding assessment of building codes and appliance efficiency standards on the need for utility-sponsored programs, and relevant supporting documents to the Florida Energy and Climate Commission (FECC).

Florida Energy Code Impacts on Energy Efficiency Standard of Performance for Residential Buildings in Florida

Florida's building energy efficiency standards and regulated utility companies' energy efficiency programs have been linked since the early 1980s. The Florida Energy Efficiency Code for Building Construction (Florida Energy Code) established a mandatory minimum building-energy performance for new buildings. The Florida Energy Efficiency and Conservation Act (FEECA) authorized utility programs to provide energy efficiency education and support that is essential to both the construction industry's compliance with the code and to increase awareness of building efficiency opportunities beyond the minimum requirements of the code. Together, these two tools for implementing energy conservation policy provide a combination of regulatory-push and market-pull dynamics that result in improved building sector energy efficiency.

Building codes establish minimum standards of performance to protect the life safety of building occupants; to provide property protection for building owners, financers and insurers; and to provide for the welfare of building occupants and society in general. Building codes are, by nature, conservative and follow well-established principles and proven technologies and, typically, do not push the limits of existing knowledge and technology. The Florida Energy Code has, at times, been an exception.

When it was first imposed as a statewide mandate, a 5-year target was administratively set for building energy efficiency improvement. In 2008, the Florida Legislature established a schedule for increasing efficiency requirements by 50 percent by 2019. Achieving that goal will require renewed efforts to develop and integrate energy-efficient technologies and construction methods and to develop the education and incentive programs to help the construction industry adapt.

The success of the Code in reaching the increased efficiency requirement increases depends, in part, on the continued momentum of the "green building" movement. Codes directed primarily to societal benefits – such as energy efficiency codes – are always secondary to life-safety codes and generally secondary to property protection codes. They become a more significant consideration when the cost of energy rises dramatically, as it did from the late 1970s to early 1980s, for example. Rising energy costs are once again a factor impacting state policy. Builder education, consumer awareness, and local government commitment are all essential components to reaching the new efficiency goals. Utility companies have been key communicators in reaching these groups in previous eras and can be again.

Building energy efficiency is currently a policy priority; however, building codes must balance multiple design goal priorities for building performance. When the proper balance is not established problems can result. Building energy efficiency measures can conflict with other building performance factors. Past experiences in Florida have revealed several such problems. Some examples are:

- Foam board sheathing applied to the exterior of wood frame walls provides significant energy efficiency improvements but this method proved too weak under hurricane conditions and has been replaced by structural panel sheathing.
- Insulating foam/synthetic stucco wall systems (also energy efficient) caused extensive rainwater leaks that led to rotting walls and termite damage.

- Airtight construction combined with efficient air conditioners that could not provide enough moisture removal resulted in indoor mold and mildew problems.

Clearly building energy efficiency measures are not all appropriate to the different climate regions throughout the country. Measures need to be evaluated for more than cost effectiveness and conservation benefit. Utility companies have been proactive in conducting such evaluations and should continue to be in the future.

Building Codes are directed primarily to new construction. New buildings, and most additions to existing buildings, must fully comply with codes. However, unless an existing building is undergoing a significant alteration or renovation there is no authority to require upgrading components to current standards. The greatest impact codes have on existing building energy performance comes by requiring upgrades of equipment to current minimum efficiency levels when it is replaced. It is in this area of building sector energy efficiency that utility company programs have historically directed much of their resources. Studies show that intervention in emergency repairs or existing building upgrade projects have a significant level of consumer participation. "Beyond Code" programs that support installation of building components with efficiencies that are better than the minimums required by the Code can be very effective.

Buildings are major energy users in every state and building code energy efficiency standards are one tool to address that use. However, as Florida's energy code has become more stringent over the preceding 30 years, energy use due to building components and features that can be directly affected by the code has diminished from 72 percent to 45 percent of the overall home energy use. Consequently, increasing building code standards for energy efficiency will impact, at most, only 45 percent of current home energy use. Other energy conservation policy tools are required to address the dominant energy uses.

Appliance efficiency standards are an alternate tool and Florida established an appliance efficiency law in the late 1980s. However, state-specific standards for major energy using appliances are problematic and the industries that manufacture these products have submitted themselves to federal regulation to preempt potentially variable state standards. As with energy codes, the advancement of federal appliance standards has languished during the period of relatively stable prices and inexpensive energy. However, they are now undergoing significant development with a renewed focus on energy security and climate protection. All major building, energy-using equipment in national use is now covered by federal law. Other products – those that are minor users individually but have a significant impact in the aggregate (such as electronic equipment) – remain unregulated. Consumer education is currently the key to curtailing the growth in this consumption area.

Florida's energy code has been mandatory statewide for 29 years. Over that time, the standard of performance for building energy use due to components covered by the code has increased by more than 65 percent. Currently, potential energy efficiency increases for building envelope improvements are close to their cost-effective or current technological limits for Florida's mild climate (relative to other regions). Consequently, the major efficiency standards increases targeted by the Florida Legislature (30 percent for 2013 code, 40 percent for 2016 code, 50 percent for 2019 code) will require significant and costly changes to current building construction practices if they are to be achieved. Reaching the efficiency targets will require use of improved water heating and space

heating and cooling technologies as well as adapting building designs and construction methods to Florida's sunny and humid climate.

The 50 percent building efficiency increase goal set for the Florida Energy Code in 1980 was more easily accomplished because the starting point was at a much lower efficiency than is the case today. Incremental changes to building component efficiencies made more impact than they make at current efficiency levels. Nonetheless, change in the construction industry did not come without difficulty. Significant education and outreach efforts that went beyond government capabilities were employed to facilitate the transition and builders were provided a range of options to increase the efficiency of their building designs. Radical change was not required over a short period of time. The combination of multiple compliance options and industry education was a significant contributor to the rapid increase in regulation-driven efficiency improvements to buildings during the 1980s and will be essential to the improvements scheduled for the next 10 years.

The Florida Energy Code

The Florida Energy Code incorporates both prescriptive- and performance-compliance methods, which require the same level and standard of energy performance. Prescriptive methods, such as the one used in the Florida code, are derived by applying the performance method to a standard reference building to determine building component efficiencies that are then prescribed for all buildings using that method to comply with the Code.

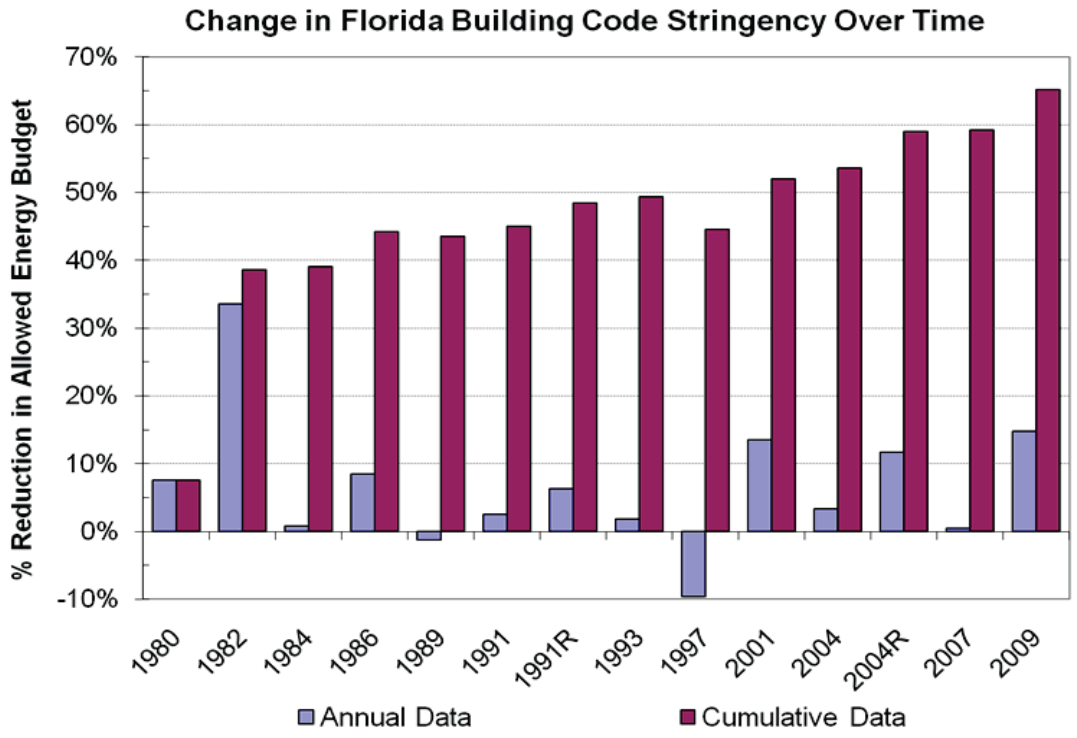
The prescriptive method is the simpler of the two; however, in Florida, contractors use the performance-compliance method for more than 90 percent of buildings. The performance compliance option establishes an energy budget specific to the building being built by using a computer program that simulates hourly energy use. It allows tradeoffs, within bounds, between the efficiencies of different building components so long as the overall energy budget is met. For instance, a building can have a greater amount of glass by installing a higher efficiency air conditioner. The prescriptive-compliance method allows no trade offs between the minimum efficiency levels of each building component. A component's efficiency level can be better than the minimum standard, but the efficiency level prescribed by the method is the absolute minimum allowed for that component and the difference may not be used to allow another component with an efficiency above the minimum level.

Florida's energy code established requirements based on three climate regions within the state between 1979 and 2007: North, Central, and South. The boundaries of these climate regions were modified as part of a 2009 code amendment that implemented Governor Crist's Executive Order 2007 directive to increase building efficiency requirements by 15 percent. The climate regions were modified to be consistent with the two International Energy Conservation Code climate regions as part of this amendment. Additionally, the pass/fail criteria used for the performance (energy budget method) compliance method was modified.

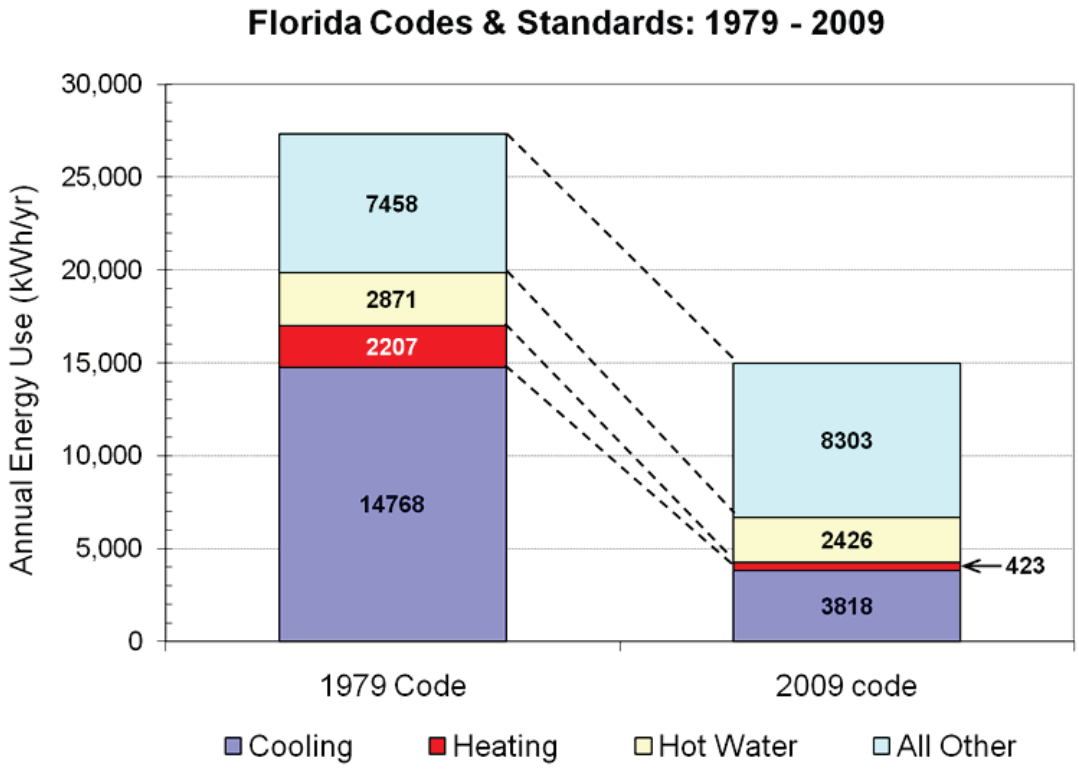
From 1979 to 2007 the criteria for compliance was that the calculated energy use for the house as it was designed had to be equal to or less than the energy use calculated using "baseline" efficiency levels for each building component. Increases in the energy performance standard were made by raising the "baseline" efficiencies for building components, resulting in a lower energy budget. The baseline component efficiencies for each climate region are shown in Table A. The 2009 amendment changed the criteria by leaving the "baseline" efficiency levels at the 2007 levels and

requiring the calculated energy use for the designed building to be the target percent less than the 2007 budget. That is to say compliance criteria for the 2009 amended code is 85 percent of the 2007 budget (15 percent improvement compared to the 2007 code) and the 2019 code would require compliance to be 50 percent of the 2007 budget. Florida law references the increased efficiency requirements to the 2007 code.

The following graph, comparing code stringency from 1979 to 2009, shows that while the overall reduction in energy budget over the years has been significant at 65 percent, the reduction has occurred in spurts. First, in 1982 there was a substantial increase in code stringency caused by the fact that ducts were placed in the interior of the home to arrive at the energy budget for that year. This provision also existed in the 1984 code cycle but has not been used since. The 1989 code cycle shows a slight increase in energy budget; however, this entire increase is due to the increase in house size between the two code cycles.



The following graph depicts the average Florida home savings resulting from Florida Code implementations.



The Florida Energy Code has been an effective tool for implementing state policy for energy conservation in buildings. It has been successful in part because it provides a system for incorporating a broad range of energy saving technologies and construction practice options that can be employed to comply with the energy performance standard it establishes. This allowed for rapid and affordable adaptation to significant increases in the energy performance standard over time. The flexibility provided by Florida's performance based code allows building designers an effective method to meet multiple design goals in addition to energy efficiency and has proven to be the compliance option used most by builders.

Going forward, the Florida Legislature has committed to law a schedule for increasing building energy efficiency standards that will be challenging for the construction industry. The Florida code provides a framework with sufficient flexibility to accommodate adaptation of the variety of buildings characteristic of Florida's market to the increasing standards. However, support services including extensive builder- and owner-education programs and innovative conservation measures evaluation programs will be essential to developing the knowledge base necessary for rapid change in the marketplace. Subsidy programs may even be necessary to provide the demonstration of reliability that builders seek before adopting new construction practices. The optimistic schedule for building code energy standard improvements will require much more market interaction than the state or federal governments can provide alone. Improved codes and effective implementation will not address all potentials for building energy sector energy conservation.

Two major sources of building sector energy use are not fully impacted by building codes. The first is existing buildings, which are impacted only to the extent that an alteration is made to the building or an air conditioner or water heater is replaced. Even then the code requires only minor upgrades to altered portions of buildings and replacement of equipment with the minimum efficiency allowed to be sold in the US. In this area, incentive programs that provide subsidies or financing options are essential for reaching the potential for building energy efficiency upgrades associated with repair, alteration and renovation projects. Emergency repair programs in particular are reported to have been very successful energy conservation programs and provide benefit well beyond code minimum efficiency benefits.

The second and growing source of energy use that must be addressed by a conservation tool other than building codes is the growing energy use of "plug load" appliances and electronic devices within homes and buildings. These loads now amount to 55 percent of home energy use and cannot be addressed by building codes. They contribute to energy use not only by direct consumption but by the heat they create that must be removed by air-conditioning systems. Education programs and incentive programs must be devised to move consumers to the more efficient options.

Florida devised and implemented a number of tools to address energy conservation policies during the era of rapidly rising power generation energy costs of the 1970s and 1980s. In this time of renewed interest in building sector energy efficiency there is an opportunity for viewing how these tools can work together to achieve the maximum potential for controlling energy-use growth and providing for a clean and efficient energy future for Florida. The participation and support of the private sector is key and the role utility companies will play is up to the Public Service Commission. *(Appendix E—Florida Energy Code Workgroup)*

VII. HURRICANE RESPONSE AND CODE CHANGES

Developing the scientific foundation for the building code is fundamental to solving hurricane problems in the most efficient and effective ways. To support code development and other legislative assignments the Commission contracted with the University of Florida and Applied Research Associates for studies in 2007 to address wind-borne debris risks, water intrusion, wind resistance of roof systems and "code plus" requirements that go beyond the Code minimums for coastal buildings.

As a result of hurricanes affecting Florida during the 2004 and 2005 seasons, the Florida Building Commission's Hurricane Research Advisory Committee (HRAC) continues to meet at selected Commission meetings to review research and make recommendations to the Commission regarding proposed code enhancements and research needs. Many of the Committee's recommendations were adopted in a special legislatively authorized amendment process in 2005. Other recommendations were adopted with the 2006 Code amendments to the 2004 Code and during the 2007 Code Update cycle, and additional proposals will be evaluated during the 2010 Code Update process. The Committee continues to consider enhancements to the Florida Building Code based on sound science. In addition, the Committee recommended research to advance the science and allow the Commission to continually study and update the storm protection provisions of the Florida Building Code. The Committee is continuously monitoring current research and recommending the development of standards and installation practices related to protecting against wind damage and water infiltration.

Research for Hurricane Resistance Code Enhancements

During 2007 the Committee prioritized for funding research in a number of areas, including sealing of masonry walls, soffit systems, window water infiltration standards, aggregate roof blow-off, testing procedures for hurricane zones, lightening protection systems, and tile roof systems. During 2008 the Committee recommended and the Commission approved funding a variety of research projects including evaluating water leakage at the window/wall interface and soffit system performance. During 2009 the Committee recommended continuing these studies and expanded research to include studies of the resistance of residential window glass to lightweight windborne debris including shingles and tree branches, of the residual resistance of steel and aluminum storm panels to roof tiles, of the structural resistance of commercial soffit systems, of the resistance of field fabricated and factory manufactured residential window mullions to water intrusion, and of primary and secondary roof coverings.

Due to the ongoing recession's impact on the construction industry and resulting decline in fees to support Commission activities, the Committee recommended prioritizing research projects that leverage the funding of other agencies for projects that support resolution of Florida hurricane-related building failures. The Commission voted unanimously in favor of the recommendation. Research projects will evaluate shingle roof covering systems and roof deck attachment alternatives.

The Committee will meet during 2010 to receive updates on ongoing research projects and to continue developing consensus on recommendations to the Commission for additional code enhancements for consideration during the 2010 Code Update process.

Of particular note during 2009 was the extensive opportunity for public input during Hurricane Research Advisory Committee and Commission meetings. In addition, each Hurricane Research Advisory Committee meeting provided opportunities for individuals and entities to present the results of their observations, studies, and research regarding the effects of the 2004, 2005, and 2008 hurricanes on the citizens of Florida and the built environment.

The Commission convened a Soffit System Workgroup at the recommendation of the Hurricane Research Advisory Committee to work with affected stakeholder interests in a facilitated workgroup process to evaluate and build consensus on recommendations regarding labeling and performance requirements for soffit systems in the Florida Building Code.

The Workgroup agreed unanimously to the following regarding soffit system packaging labeling requirements for manufactured products in the Florida Building Code, as follows:

1714.8.2 The following information shall be included on the labels on soffit systems:

1. *Product approval holder/manufacturer name and city and state of manufacturing plant.*

2. *Product model number or name.*

3. *Method of approval and approval numbers as applicable. Methods of approval include, but are not limited to: Miami-Dade, NOA, Florida Building Commission FL #, TDI Product Evaluation, and/or ICC-ES.*

4. *The test standard or standards specified in Chapter 14 used to demonstrate Code compliance.*

5. *Net free area.*

Individual soffit pieces shall be marked at not more than four foot on center with a number/marking that ties the product back to the manufacturer.

The Workgroup's complete recommendations to date and information on the project are included as "Appendix I" of this Report.
(Appendix I—Soffit Systems Workgroup)

The Commission convened a Window Wall Workgroup at the recommendation of the Hurricane Research Advisory Committee to work with affected stakeholder interests in a facilitated workgroup process to evaluate and build consensus on developing recommendations regarding the window-wall interface (installation and water intrusion). The Workgroup is evaluating possible code amendments for the 2010 Florida Building Code.

The Workgroup agreed unanimously to the following regarding window and wall provisions of the Code:

1. *Reorganize the code sections to split curtain wall from garage door requirements.*

2. *Add requirement to Chapter One, plan review requirements, detail through wall penetrations for fenestrations for both commercial and residential plans.*

3. *Include a standard detail for each type of installation and place in the code commentary.*

4. *106.3.5 Minimum plan review criteria for buildings. The examination of the documents by the building official shall include the following minimum criteria and documents: a floor plan; site plan; foundation plan; floor/roof framing plan or truss layout; all fenestration penetrations; flashing; and rough opening dimensions and all exterior elevations.*

The Workgroup's complete recommendations to date, and information on the project are included as "Appendix J" of this Report.
(Appendix J—Window Wall Workgroup)

Additional information on the Hurricane Research Advisory Committee's activities including the status of proposed code amendments are found in "Appendix D" of this Report.
(Appendix D—Hurricane Research Advisory Committee)

VIII. PRODUCT APPROVAL

The Florida Building Code establishes standards for products integrated into buildings in addition to standards for the design of buildings themselves. Where compliance with prescriptive standards such as location of fire exits can be determined by reviewing building plans and onsite inspections during construction, how well products such as windows perform cannot be determined by review of drawings or inspection of the product alone. Yet compliance of the individual products is fundamental to compliance of the overall building. To determine whether products and building systems comply, the building official must rely on engineers and testing laboratories to evaluate performance then rely on the manufacturers to maintain quality control of production to ensure that production products perform like the ones tested. The product approval system framed in law and implemented through rule requires accreditation of the product evaluators and quality assurance monitors and standardizes the information that must be provided to demonstrate code compliance.

The Commission directed a major part of its efforts since its inception in 1998 to developing a standardized system for public regulation from the many combinations of product evaluation and quality control monitoring services provided by private companies. The diversity of approaches used in different industries for product evaluation and quality control monitoring make standardization particularly difficult, and a considerable amount of time and effort have been dedicated to this task. Patience and hard work characterize the contributions of all parties.

With the significant enhancements to the Product Approval system implemented through revisions to Rule 9B-72, State Product Approval – details of the revisions were described in the 2006 and 2007 Reports to the Legislature – and the hiring of a Product Approval administrator to process applications, the Product Approval System is functioning more efficiently and user satisfaction, as determined by surveys, is very high.

During 2009 the Commission revoked product approvals for products that no longer complied with the requirements of their product approvals. The ability to determine the need for product revocation demonstrates the efficacy of the Product Approval System.

During 2009 the Product Approval Rule was amended to adjust fees, to limit the number of lines in an application, to allow for self-affirmation and equivalency of standards, and to adopt criteria for approval of evaluation entities. The Commission conducted rule development on Rule 9B-72.100 and 9B-72.130 for the purpose of soliciting feedback regarding adopting criteria for the approval of product approval evaluation entities, and including IAPMO to the list of approved evaluation entities. The Commission voted to adopt criteria (meeting requirements of ISO/IEC Guide 65, and substantiating accreditation and independence) for approval of evaluation entities and including the International Association of Plumbing and Mechanical Officials Evaluation Service (IAPMO ES) to the list of approved evaluation entities. In the past the Commission subsidized costs to develop, revise, and maintain the Building Code Information System (BCIS) for product approval. The Commission agreed that the true costs of implementing program changes would have to be reflected in the fees charged for these programs. As a result of declining funds the Commission revised the fee schedule for product approvals to make the program self-supporting and to repay some of the development costs funded by the Commission for the product approval system. In conformance

with the Commission's adopted policy of requiring all programs to be self-supporting, the Commission conducted rule development on Rule 9B-72.090, Product Approval, Fees, for the purpose of raising fees. The Commission conducted rule development on Rule 9B-72.130 Product Approval, for the purpose of limiting the number of lines in an application to 150 and to amend BCIS screens to conform to the rule amendments. Finally, the Commission conducted rule development on Rule 9B-72.090 (self-affirmation) and Rule 9B-72.180 (equivalency of standards). As part of application for self-affirmation, if the evaluation report refers to the previous edition of the Code, the manufacturer of the approved product shall submit a statement from an approved evaluation or original validation entity that the product complies with the subsequent code version via an attachment uploaded and submitted through the BCIS. In summary, all of the above-described revisions to the Product Approval Rule were implemented during 2009.

At its December 2009 meeting the Commission voted unanimously to convey to the Legislature that the Commission has concerns with proposed legislation in light of pending SB 648 regarding expedited product approval and requested DCA legal staff to negotiate with industry to address the Commission's concerns pertaining to financial/fiscal implications, staffing, ensuring a fair playing field for the various compliance methods, maintaining the efficacy of the current product approval system, and other concerns identified by the Product Approval Program Oversight Committee (POC).

Since inception, the Commission has approved 5,593 product applications (involving 22,575 products) under the 2004 Florida Building Code and 3,986 product applications (involving 18,330 products) under the 2007 Florida Building Code. In addition, the Commission has approved 1 accreditation body, 1 certification agency, 1 evaluation entity, 3 quality assurance entities, 4 testing laboratories, and 5 validation entities. Following are relevant product approval system statistics:

Product Approval and Entities Statistics Update

Entities	Accreditation Body	Certification Agency	Evaluation Entity	Quality Assurance Entity	Testing Laboratory	Validation Entity	Totals
Approved	**1**	**1**	**1**	**3**	**4**	**5**	**15**
Pending	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Pending Accreditation	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Denied	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Suspended	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expired	**0**	**3**	**0**	**3**	**5**	**2**	**13**
Renewed / Revised	**0**	**15**	**0**	**28**	**60**	**19**	**122**
Totals	**1**	**19**	**1**	**34**	**69**	**26**	**150**

CODE VERSION	2004		2007	
	Applications	Products	Applications	Products
Approved	5,593	22,575	3,986	18,330
Applied For	31	39	103	612
Denied	154	482	5	7
Validated	15	28	98	317
Suspended	0	0	0	0
Re-Apply	3	3	32	81
Pending FBC Approval	1	1	10	36
Revoked	6	17	0	0
Archived	528	1828	395	1,366
Over 180 Days Old and Not Approved, Denied, Validated, or Pending Status	3	7	17	42
Totals	6334	24,980	4,646	20,791

IX. BUILDING CODE TRAINING PROGRAM

Education is one of the cornerstones of the Building Code System, and the effectiveness of the Building Code depends on the knowledge of professionals who design and construct buildings. The Commission continues to work with the Department of Business and Professional Regulation and representatives of the licensing boards to establish a cooperative system for approving building code courses and integrating building code continuing education into licensing requirements.

The state building code system, first established in 1974, was overhauled in 1998 to improve its effectiveness. The Legislature recognized that the effectiveness of the Florida Building Code depended on the various participants' knowledge of the codes. The Building Code Training Program was intended to improve compliance and enforcement by providing a focus for code-related education through coordination of existing training resources, including those of universities, community colleges, vocational technical schools, private construction schools and industry and professional associations.

During 2008 the Commission's Education Program Oversight Committee (POC), working with the program administrator and other entities, implemented education and outreach initiatives developed in 2007. These initiatives relate to the Florida construction and design industries to ensure these licensees are informed about Florida Building Code requirements and aware of related specific duties.

The Commission defined, designed, developed, and prepared for deployment a significant update to the Building Code Information System. The update was necessitated by changes made to the Commission's education system and requirements first adopted in 2000-2001. This system is the mechanism used to submit courses for approval, applications for course provider approval, and applications for course accreditor approval. Through this system, courses and related materials are processed and tracked. Ultimately, approved courses, accreditors, and providers are entered into the system, and this information is made available for licensees and any other interested parties.

The Commission coordinated the development of a clearinghouse to bring together information on available and approved continuing education courses, course and education process and approval requirements, and access to underlying information (such as building code and other changes) that is relevant to the need for new or updated courses. The clearinghouse development included research and determination of the most useful structure and level of information as well as the most efficient way to maintain current information and resources on an on-going basis. This clearinghouse may be accessed at: http://www.buildingasaferflorida.org.

The Commission is recommending the repeal of the
Building Code Administrative Core Curriculum in accordance with action taken by the DBPR to eliminate building code core course requirements from licensing board laws.

During 2009 the Commission's Education Program Oversight Committee (POC), through the education administrator and the clearinghouse, achieved the following:

- Implemented a significant update to the Building Code Information System (BCIS) based on improvements developed in 2008. This system is the mechanism used to submit courses for approval, applications for course provider approval, and applications for course accreditor approval. Through this system, courses and related materials are processed and tracked. Ultimately, approved courses, accreditors, and providers are entered into the system, and this information is made available for licensees and any other interested parties.

- Developed, prepared for, initiated, or completed training to include 3-hour code compliance/mitigation seminars, 1-hour courses on residential codes and energy efficiency, 1-hour courses on advanced codes and mitigation, video/DVD on code compliance/mitigation tools and techniques, trainer training on weatherization and energy efficiency, and training materials and technical support on weatherization and energy efficiency. The target audiences are building officials, builders, and design professionals. The training is intended to achieve compliance, promote better design and construction practices, and create opportunities for increased work in design and construction in Florida.

- Developed, prepared for, or initiated "Building Florida Better" awareness program, Building A Safer Florida mitigation print advertising campaign, "Building Florida Better" spring 2010 road show, and "Building Florida Better" trade show display. The promotional efforts are intended to promote better design and construction practices and create opportunities for increased work in design and construction in Florida.

- Developed and prepared for updating of the Disaster Contractors Network (DCN), www.dcnonline.org, to reflect changes relating to mitigation and code requirements. This system is the mechanism used by state and local officials, design and construction professionals, manufacturers and suppliers, and the public to coordinate assistance to repair and rebuild after a natural disaster.

- Initiated development of a survey relating to statewide electronic submission of building permit applications and plans. This effort is to ascertain the potential savings of time, travel, and cost as well as increase uniform interpretation and application of building codes for Florida.

- Provided technical assistance and non-binding opinions on specific provisions and issues relating to building codes. This service is provided to quickly answer questions and resolve issues to better compliance with and more uniform application of building codes.

- Administered the meetings and tasks of the Commission's Education Program Oversight Committee, including conducting meetings, managing course applications, review, and approval, handling inquiries from licensees, providers, and the public; and development of guidelines and information on course development and processing.

X. FLORIDA BUILDING CODE SYSTEM UPDATES AND COMMISSION 2009 ACTIONS

FLORIDA BUILDING CODE SYSTEM UPDATES

Section 553.77(1)(b), F.S., requires the Commission to make a continual study of the Florida Building Code and related laws and on a triennial basis report findings and recommendations to the Legislature for provisions of law that should be changed. In 2005 the Commission conducted, and reported to the 2006 Legislature, the results of the Building Code System assessment, which resulted in the 2006 Legislature granting the Commission authority to conduct expedited code amendments. Following are 2007 Commission initiatives and actions related to the Florida Building Code System:

The Florida Building Code and the Code Development Process. The new Florida Building Code is a statewide code implemented in 2001 and updated every three years. The Florida Building Commission developed the Florida Building Code from 1999 through 2001 and is responsible for maintaining the Code through annual interim amendments and a triennial foundation code update. In 2006 the Commission selected the 2006 I-Codes as foundation for the 2007 Florida Building Code, and during 2007- it developed and adopted the 2007 Edition of the Code, representing the second update and Third Edition of the Florida Building Code. The Commission amended its rules to develop criteria ensuring that annual amendments are restricted to issues that are urgent and cannot wait for the triennial code updates, such as life-safety issues- and updates and changes to state and federal law(s). The Commission also developed rules for Technical Advisory Committee (TAC) proposed code amendments to include TAC comments on its review of amendments to ensure the Commission has additional input from its technical experts.

The Commission. The Commission is an appointed representative stakeholder body that develops, amends, and updates the Code. The Commission is composed of members representing each of the key interests in the Building Code System. The Commission meets every eight weeks and, in addition to its code development responsibilities, regularly considers petitions for declaratory statements, accessibility waiver requests, the approval of products and entities, and the approval of education courses and course accreditors. The Commission also monitors the Building Code System and reports to the Legislature annually with its recommendations for changes to law.

Local Administration of the Code. Florida Law requires that the Code be administered and enforced by local government building and fire officials. The Commission has certain authorities in this respect such as the number and type of required inspections. In 2007 the Commission conducted an assessment survey to review and address the code administration needs of local governments with consideration of measures to improve uniform and effective enforcement of the Code. The Commission identified a need to address the code administration needs of local governments with an emphasis on identifying measures to improve uniform and effective enforcement of the Code. During 2008 the Commission convened the Commission's Code Administration Technical Advisory Committee to develop recommendations to enhance the functioning of this important component of the Building Code System.

Strengthening Compliance and Enforcement. Compliance and enforcement of the Code is a critical component of the system, and the Commission's emphasis in this regard is on education and training. During 2008 the Commission's Education Program Oversight Committee (POC), working with the program administrator and other entities, implemented initiatives collaboratively to ensure Florida construction and design industries licensees are informed about Florida Building Code requirements and aware of related specific duties.

Product Evaluation and Approval. To promote innovation and new technologies, a product and evaluation system was determined to be the fifth cornerstone of an effective Building Code System. The product approval process should have specific criteria and strong steps to determine that a product or system is appropriately tested and complies with the Code. Quality control should be performed by independent agencies and testing laboratories that meet stated criteria and are periodically inspected. A quality assurance program was also deemed essential. The Commission adopted a Product Approval System by rule and currently approves products for state approval and product approval entities. Local product approval remains under the purview of local building officials a part of the building permit approval process.

Manufactured (Modular) Buildings Program. The Manufactured (Modular) Buildings Program is authorized under Chapter 553, Part I, F.S., and Rule 9B-1, Florida Administrative Code, to regulate factory-built buildings constructed to the Florida Building Code. All approved buildings bear a Department of Community Affairs (DCA) insignia, which attests to compliance with the Florida Building Code.

Certification of manufacturing facilities, quality control manuals, plan reviews, product approval, and in-plant inspections are conducted by private agencies, acting as agents for the Department of Community Affairs. Their personnel are licensed by the Department of Business and Professional Regulation.

The Department issued 20,272 modular building insignias during Fiscal Year 2008-2009:

Insignias Issued

Storage Sheds	17,989
Portable Classrooms	879
Residential	300
Commercial	1,104

In 2009 the Department initiated changes to Rule 9B-1, F.A.C., Manufactured Building Program, to clarify programmatic procedures for onsite modifications of previously approved manufactured buildings, documentation required for code-related items not installed at the manufacturing facility, and recertification of previously approved manufactured buildings.

(1) The Department and the Commission request legislative authority to administer the manufactured building program by contracting with an administrator.

2009 COMMISSION ACTIONS

(Also see Appendix A—Commission 2009 Milestones)

Roof Mounted Air Conditioning Equipment Code Wind-Load Requirements

Broward County Board of Rules and Appeals (BORA) sent a letter to 59 air-conditioning manufacturers to ensure they were aware of the Florida Building Code's wind load requirements for mechanical equipment exposed to the wind. A copy of the Commission's final order on Declaratory Statement DCA-08-DEC-205 clarifying that pursuant to section 301.13 Florida Building Code, Mechanical Volume: "mechanical equipment, appliances and support that are exposed to wind shall be designed and installed to resist the wind pressures on the equipment and the supports as determined in accordance with the Florida Building Code, Building. This may be accomplished by design or by application of Section 301.13.1 Roof-mounted mechanical units and supports shall be secured to the structure. The use of wood "sleepers" shall not be permitted." was also sent. BORA reported that only three (3) manufacturers responded, none of which they felt demonstrated compliance with the requirements of the Code.

At the June 2009 meeting, Broward County Board of Rules and Appeals (BORA) requested that the Commission address issues regarding the Mechanical Code's requirement for mechanical equipment exposed to wind to be designed for wind resistance. BORA indicated that they contacted manufacturers none of whom have equipment that complies with the relevant provisions of the Code and that building departments do not appear to be enforcing the provision. Representatives of BORA requested that the Commission contact manufacturers to ensure they comply with the Code on this issue.

Subsequently, Chairman Rodriguez sent a letter to the Air-Conditioning, Heating, and Refrigeration Institute. The letter stated:

> RE: *Florida Requirements for the Hurricane Resistance of Outdoor Mounted HVAC Equipment*
>
> *You are aware, one of the major problems Florida must address is hurricane protection. Hurricanes have devastated areas of Florida, damaged its economy and created property insurance crises since the early 1990's. In response, the Florida Legislature enacted the state developed Florida Building Code (the Code) and used it to address hurricane damage to buildings. The Code in turn has addressed numerous building weaknesses including outdoor mounted WAC system components.*
>
> *While the Florida Code has led the advancement of hurricane protection requirements it is not alone in addressing the potential damage to buildings resulting from equipment that breaks loose from its attachment to structures. The American Society of Civil Engineers, Standard 7 also currently provides criteria, which we understand will be even more directive in the next edition. Some WAC equipment manufacturers have responded to the codes and standards requirements however of concern are code enforcement jurisdictions' reports that most have not demonstrated their products meet appropriate standards. The Florida Building Commission is responsible for working with industries, building officials and other interests to develop and update the Code. A dialog with your industry, local jurisdictions and insurance industry interests would be a constructive approach to address the compliance concern. I propose that we arrange a meeting of the parties to discuss how industry and government can move forward together and request that you identify and coordinate*

participation of your manufacturer members' representatives.

The Commission referred this issue to the Hurricane Research advisory Committee (HRAC) so they could work with stakeholders to ensure that the wind-load requirements of the Code are being complied with and to evaluate issues and options for ensuring the same. The Commission convened a workshop to provided a forum for industry, installers, building officials, and other stakeholders to provide industry with input regarding compliance with the wind provisions of the Florida Building Code. During the workshop industry was provided an overview of the State Product Approval system as an option for manufactures' to demonstrate their products comply with the Code's provisions. Subsequent to the workshop the Product Approval POC voted that AC equipment that is attached to the building envelope falls within the scope of Rule 9B-72, and this information was also conveyed during the workshop. Industry indicated that they are considering developing a standard so products may be tested relative to a standard that complies with the Code.

At its December 2009 meeting the Commission voted unanimously to convey to the 2010 Florida Legislature that the Commission supports the current Florida Building Code provisions (301.12, M1307.2 and .3, 1609.1 and .1.1) regarding wind resistance requirements for air conditioning equipment and appliances exposed to wind, and does not support any exemptions to these provisions. In addition, the Commission voted unanimously to support the Building Officials' Association of Florida's (BOAF) initiative to educate building officials regarding the Code's wind resistance requirements for air conditioning equipment and appliances exposed to wind.

COMMISSION 2009 POLICY IMPLEMENTATIONS

The following are policy decisions by the Commission implemented during 2009 with existing Commission authority through administrative rule development:

Streamlining Commission Proceedings and Adjusting Fees

As a result of a declining state budget and reduced permit surcharge receipts, the Commission made changes to its processes during the past year to adapt to a reduced budget, and it is likely the Commission will have to continue in this mode for the coming year. To date, staff has moved Commission meetings from 3-day meetings every 6 weeks to 2-day meetings every 8 weeks, and most of the TACs and POCs are meeting by teleconference when the complexity of issues they are addressing lends itself to the format. The permit surcharge fee rule, Product Approval Rule fees, and Manufactured Building Program fees were all adjusted to ensure programs are self-supporting and cover funds expended to develop the Building Code Information System (BCIS) for the support of the programs.

To ensure that programs are self-supporting the Commission is requesting Legislative authority for the Commission to charge a fee for issuing accessibility code waivers and for parties requesting wavers to pay DCA for the service, authority for the Commission to charge a fee for issuing non-binding interpretations and for parties requesting interpretations to pay the interpretations contractor directly for the service, and authority for the Commission to charge a fee for issuing petitions for declaratory statements and for parties requesting declaratory statements to pay DCA for the service.

COMMISSION 2009 INTERAGENCY COLLABORATION INITIATIVES

Investigate A Consistent Definition of "Bedroom" for Department of Health On-site Septic System Sizing Regulations

The Commission convened a facilitated joint workgroup process with the Florida Department of Health (DOH) to develop recommendations regarding requirements for the sizing of septic systems. The purpose of the Workgroup is to develop recommendations regarding an acceptable definition of "Bedrooms" used for the sizing of septic systems. The definition should work from the Florida Building Code (FBC) and Department of Health (DOH) perspectives. This initiative is a cooperative effort with the Florida Department of Health directed to improving the definition used by the DOH rule for septic system sizing.

The Workgroup voted unanimously to recommend in concept the following strategy for sizing septic systems:

- Use census definition of rooms for calculating system sizes,
- All rooms that meet the "Room" definition are counted as a room,
- Use 70 square feet as minimum room size, and
- Use a conversion factor of 50 gallons per day/room for sizing septic systems.
- The proposal was submitted to the Department of Health's (DOH) Technical Review and Advisory Panel (TRAP) for evaluation and feedback.
- The TRAP was unable to achieve consensus on the Workgroup's proposed changes, and some member's felt that the DOH Rule was fine as is.
- DOH should also evaluate the 50gpd/room and 70 square foot criteria to ensure they are the best numbers to use in the formula for calculating septic system sizing.
- The Workgroup planned meet a final time once TRAP has evaluated the Workgroup's consensus recommendations regarding a strategy for method for the sizing of septic systems.

At its December 2009 meeting the Commission voted unanimously that the Commission supports the consensus recommendation for sizing residential septic systems developed by the Septic System Sizing Workgroup (Interagency Workgroup: FBC and DOH), and further requests that the Florida Legislature grant jurisdictional authority to the Florida Building Commission to implement the recommendation by integration into Chapter 26-Section P2602.1 of the most current edition of the Residential Florida Building Code.
(Appendix H—Septic System Sizing Workgroup)

Evaluate Rainwater Collection and Reuse for Process Water and Other "Green" Technologies in Coordination with DOH, Health Officials, DEP and Other Water Management Agencies

The Plumbing TAC identified rainwater collection as a growing "Green Building" practice that should be evaluated by building and health regulators. It is expected that appropriate requirements would facilitate implementation of the practice, and the Commission will decide whether to convene a workgroup to address this issue during 2010 based on availability of project funding.

Evaluate In-Home Waste Water Recycling in Coordination with Department of Health and Department of Environmental Protection

This task was originated at the request of the Florida Department of Health and Florida Department of Environmental Protection. It was first addressed for the 2007 Code and resulted in the inclusion of the Florida Department of Health requirements for home grey water capture and reuse for irrigation outside homes. This task will be further evaluated for the 2010 Code Update process as feasible.

Flood Plain Management Standards Integration into the 2010 FBC

At the request of the Florida Division of Emergency Management (DEM), during 2009 the Florida Building Commission convened a Flood Resistant Standards Workgroup charged with developing recommendations for integrating the International Code Series (I-Codes: IBC, IRC, etc.) flood damage-resistant provisions (for buildings and structures) in the Florida Building Code. FEMA worked with ICC for the past 10 years on flood standards for buildings that are consistent with the requirements of the National Flood Insurance Program (NFIP), and the current I-Codes reflects these standards. When the 2001 Florida Building Code (First Edition) was developed a policy decision was made, primarily for administrative reasons, to eliminate flood standards from the foundation model code and continue the practice of relying on Floodplain Management Ordinances adopted by communities participating in the National Flood Insurance Program. In addition, the DEM has requested that the policy be reviewed, that identified administrative issues be resolved, and that the I-Code flood standards be retained in the 2010 FBC. The Commission conducted this facilitated stakeholder process from March to May 2009. The Workgroup met on March 25, 2009, April 29, 2009, and May 29, 2009, and developed a package of consensus recommendations for submittal to the Florida Building Commission. The Commission received a report on the recommendations at its June 2009 meeting and the Structural TAC has reviewed the Workgroup's recommendations and has recommendations for the Commission regarding integrating flood resistant standards into the 2010 FBC. At this time the Commission will only adopt the policy recommendations and the specific code language will be considered during the 2010 Code Update process. Specific code amendment adopted recommendations will be submitted as code amendments for the 2010 Florida Building Code Update process. At its October 2009 meeting the Commission voted unanimously to adopt the Flood Resistant Standards integration recommendations as recommended by the Flood Resistant Standards Workgroup. At its December 2009 meeting the Commission was requested to seek authority to allow local variances to flood provisions if adopted in accordance with the provisions of 44 CFR 60, and referred the issue to the Flood Resistant Standards Workgroup to develop recommendations for submittal to the Commission for their consideration at the February 2010 meeting. Once the Commission has adopted the recommendations, DCA legal staff will convey them to the Legislature.
(Appendix G—Flood Resistant Standards Workgroup)

Evaluate Resolution of CCCL and V Zone Requirement Inconsistencies

The Commission and the Commission's Flood Resistant Standards Workgroup voted unanimously that inconsistencies between the CCCL and V Zone requirements shall continue to be resolved at the local level, and on a case-by-case basis. The Workgroup also voted that this issue should be addressed by a separate workgroup for resolution and the Commission has added the task to its Workplan pending availability of funds.

FLORIDA BUILDING COMMISSION REPORT AND RECOMMENDATIONS TO THE 2010 FLORIDA LEGISLATURE

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APPENDIX A

COMMISSION MILESTONES FOR 2009

http://consensus.fsu.edu/FBC/fbc_documents.html

February 2009 Commission votes to proceed with rule development to adopt the 2008 NEC, the interior decorators settlement agreement, and correction of roofing nail size error in the FBC, by conducting a rule development workshop at the April 2009 Commission meeting. Commission votes to initiate rule making to develop a rule for determining cost effectiveness of energy conservation measures to be considered for inclusion in the Florida Energy Code. Commission conducts hearings to repeal Rule 9B-3.0477, Electrical Bonding of Pool Decks, Rule 9B-3.0475, Wind Mitigation Retrofits, and Rule 9B-3.0472, Carbon Monoxide Detectors.

March 2009 Commission conducts Teleconference Meeting (March 16, 2009) and decides on Rule 9B-72.090, Product Approval Self Affirmation, and Rule 9B-72.180, Product Approval Equivalency of Standards, and votes to file the rules. Commission conducts
Teleconference meeting on March 30, 2009 to receive update on relevant issues regarding the 2009 Legislative Session.

April 2009 Commission conducts rule development workshops on Rule 9B-70.002, Education, Rule 9B-3.047, Florida Building Code/2008 NEC, Interior Designers, and Conflicts with Law, and Rule 9B-13.0071, Cost Effectiveness of Amendments to Florida Energy Code. Commission reviews annual Effectiveness Assessment Survey Results. Commission convenes Commission Process Review Ad Hoc, Green and Energy Efficiency Roofs Subcommittee to Florida Energy Code Workgroup, Pool Efficiency Subcommittee to Florida Energy Code Workgroup, and Swimming Pool Subcommittee to the Plumbing TAC. Commission renames Window Workgroup to the Window/Wall Workgroup and Universal Bedroom Definition Workgroup to the Septic System Sizing Workgroup to better reflect their respective project scopes. Commission conducts Teleconference meetings on April 20, 2009 and April 27, 2009 to receive updates on relevant issues regarding the 2009 Legislative Session.

May 2009 Commission conducts Teleconference meeting on May 18, 2009 to receive update on the results of relevant issues regarding the 2009 Legislative Session.

June 2009 Commission conducts organizational meetings for Commission Process Review Ad Hoc, Pool Efficiency Subcommittee to Florida Energy Code Workgroup, and Swimming Pool Subcommittee to the Plumbing TAC. Commission conducts rule adoption hearings and concludes rulemaking for

Rule 9B-70.002, Education, Rule 9B-3.047, Florida Building Code/2008 NEC, Interior Designers, and Conflicts with Law, and Rule 9B-13.0071, Cost Effectiveness of Amendments to Florida Energy Code. Commission conducts rule development workshops on Product Approval Fees. Commission considers Broward BORA Memo Regarding AC Equipment Wind Resistance, and decides to work with local boards of appeals to consider options. Commission decides that the effective date for 2010 Code will be December 31, 2011, to publish a fully integrated Code, and to implement a mandated process to remove (unnecessary)/maintain (needed) Florida Specific amendments for the 2013 Code Update Process.

August 2009 Commission conducts rule adoption hearing on Rule 9B-72.090, Product Approval Fees. Commission adopts criteria for approving evaluation entities and adds IAPMO as an approved entity, and votes to proceed with rule adoption for Rule 9B-72.100 and 9B-72.130, Product Approval. Commission adopts Flood Plain Management Standards for integration into the 2010 Code.

September 2009 Commission conducts teleconference rule adoption hearing on Rule 9B-72.100, Product Approval, adopting criteria for the approval of product approval evaluation entities, and including IAPMO to the list of approved evaluation entities.

October 2009 Commission conducts rule development workshop on Rule 9B-72.130, Product Approval, application limitations and amending BCIS screens to 150 sequence numbers. Commission adopts schedule for development of and adoption of 2010 Florida Building Code, with an effective date of December 31, 2011 for the 2010 Florida Building Code. Commission selects 2009 I-Codes for the foundation of the 2010 Florida Building Code. Commission certifies to the United States Department of Energy the equivalence of the Florida Energy Code to ASHRAE 90.1-2004. Commission conveys report on Florida Energy Code impact on utility conservation programs to the Florida Energy and Climate Commission (FECC).

December 2009 Commission conducts rule adoption hearing on Rule 9B-72.130, Product Approval, application limitations and amending BCIS screens to 150 sequence numbers. Commission adopts Strategic Plan for achieving the energy standard revisions pursuant to requirements of Section 553.9061, F.S. Commission adopts summary of issues and recommendations to the 2010 Florida Legislature. The Commission's TACs met to review and develop recommendations regarding overlaps of current Florida-specific code amendments with International Codes changes from 2006 to 2009 Editions.

APPENDIX B

ENERGY CODE CASE STUDY

Policy Consensus Initiative (PCI)
National Policy Consensus Center (NPCC)

Case Study
Achieving Building Code Energy Efficiencies in Florida

The Issue

Florida has long been one of the leading states for work in energy efficiency. It became the first state to adopt a statewide mandatory energy code in 1980 by establishing performance requirements for heating and cooling systems. The requirements that the state of Florida has maintained since then have been equal to or greater than those standards set by the U.S. Department of Energy. These codes work to create energy efficiency levels that work with priorities regarding air quality in a climate overwhelmed with heat and humidity. In his July 2007 executive order, Governor Charlie Crist directed the Florida Building Commission to increase the energy efficiency requirements described in the Florida Energy Efficiency Code for Building Construction. The increase in efficiency was to be by 15% for residential and commercial buildings. The Florida legislature passed the Energy Act of 2008, which created assignments and goals for the commission. Following this bill, a supplement to the 2007 Florida Building Code took effect in March 2009.

The Process

The Florida Building Commission was assisted by the FCRC Consensus Center at Florida State University in meeting proceedings. Jeff Blair of FCRC helped to facilitate consensus building with the Florida Energy Code Workgroup and the Florida Solar Energy Center where they worked to evaluate the options for achieving the building code energy efficiencies. The purpose of the workgroup is to develop recommendations that will increase energy conservation to 20% by the 2010 Florida Building Commission. These building efficiency increases will be based on the International Energy Conservation Code, while maintaining Florida energy efficiencies. The workgroup worked to analyze several options for efficiency improvement including energy efficiency for new additions to code, examining improvements to equipment to make it more efficient in the humid climate and design criteria for new equipment.

The Players

The Florida Building Commission is chaired by Raul Rodriguez of American Institute of Architects (AIA). A 25-member workgroup was tasked by the Governor to represent their stakeholders group's interests. The Florida Energy Code Workgroup is charged to work with stakeholders to develop consensus packages of recommendations for submittal to the Commission.

The Product

The Florida Energy Code Workgroup unanimously voted on recommendations regarding cost effectiveness tests for evaluating the proposed amendments to the building code in May of 2009. These recommendations were submitted to the Florida Building Commission, and the Commission voted unanimously at the June 2009 meeting to adopt the package of recommendations. The workgroup will continue to work in facilitated meetings to develop recommendations to increase energy efficiency for the Florida Building Code.

Next Steps

Future work by the Florida Energy Workgroup will include the development of a model for energy code efficiencies in residential building, the evaluation of the current code for both residential and commercial energy effectiveness, a comparison of the Florida code to that of the International Energy Conservation Code and strategies for developing and implementing the publics awareness on energy efficiencies and its benefits. These meetings will continue to be facilitated by the Florida Consensus Center and will develop recommendations to the Commission for consideration during the 2010 Florida Building Code Update Process.

This case study was published jointly by the Policy Consensus Initiative (PCI) and its applied research arm, the National Policy Consensus Center (NPCC). PCI is a national non-profit organization that promotes consensus building and effective problem solving in states. NPCC is a center of expertise on consensus building for public leaders. For other case studies and information about collaboration, consensus building and conflict resolution, visit the website:
http://www.policyconsensus.org

APPENDIX C

BUILDING CODE CASE STUDY

Policy Consensus Initiative (PCI)
National Policy Consensus Center (NPCC)

Case Study
Building Consensus in Florida on a Statewide Building Code

The Problem

Following Hurricane Andrew in 1992, Florida experienced record-breaking insurance losses resulting in a crisis affecting every homeowner in the state. The Governor appointed a Building Code Study Commission, The Florida Conflict Resolution Consortium, located at Florida State University, designed and facilitated a 2-year study and deliberation process with the 28 members representing a range of interests in the public and private sectors, through which the Commission evaluated the building code system.

The study revealed that building code adoption and enforcement was inconsistent throughout the state. Even local codes thought to be the strongest proved inadequate when tested by major hurricane events. The consequences were devastation to lives and economies and a statewide property insurance crisis. The Commission recommended reform of the state building construction system that placed emphasis on uniformity and accountability.

The Legislature enacted the consensus recommendations into law in 1998. In late 1998 the Consortium was asked by the Commission's chair to assist the newly created Florida Building Commission in its effort to build consensus for a uniform building code proposal. A complex consensus building process was put in place that included designing and facilitating meetings of 11 balanced technical advisory groups of 11 members each appointed by the Commission, as well as the Commission's meetings.

The Process

The Consortium designed and led a series of facilitated public workshops around the state for the Commission to receive public input on its draft products. After public comment was obtained, the Commission refined the Code and presented it to the 2000 Florida Legislature for review and approval.

The Product

The Florida legislature enacted the new Florida Building Code and directed the Commission to continue to build consensus on key topics involved in its implementation, including product approvals and other controversial issues. The Consortium continues to assist the Commission at each of its meetings.

The Florida Building Commission is a 25-member Governor-appointed stakeholder group who successfully created, implemented, and maintains the new statewide Florida Building Code. Commission Chair Rodriguez praised the consensus process that has resulted in the code decisions thus far. "I am absolutely in awe of this process. The intent is not to compromise, because one does not compromise on issues of life safety, but to find and reach consensus on the best way to achieve results the people want." The Florida Building Commission (FBC) seeks to develop consensus decisions on its recommendations and policy decisions. The members strive for agreements which all of the members can accept, support, live with or agree not to oppose. In instances where, after vigorously exploring possible ways to enhance the members' support for the final decision, the Commission finds 100% acceptance or support is not achievable, decisions require at least 75% favorable vote of all members present and voting. This super-majority decision rule underscores the importance of actively developing consensus throughout the process on substantive issues with the participation of all members and which all can live with and support. The consensus process is conducted as an open public process with multiple opportunities for the public to provide input to the Commission on substantive issues.

Next Steps

The Florida Building Commission continues to provide a forum for stakeholders representing different interests to participate in a consensus-building process where issues affecting the construction industry are discussed and evaluated on their technical merits and cost-benefits to the citizens of the State of Florida.

This case study was published jointly by the Policy Consensus Initiative (PCI) and its applied research arm, the National Policy Consensus Center (NPCC). PCI is a national non-profit organization that promotes consensus building and effective problem solving in states. NPCC is a center of expertise on consensus building for public leaders. For other case studies and information about collaboration, consensus building and conflict resolution, visit the website:
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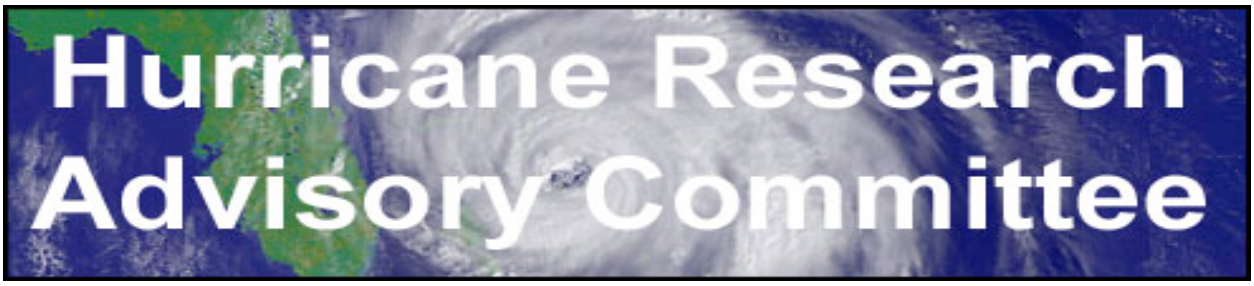
APPENDIX D

HURRICANE RESEARCH ADVISORY COMMITTEE



At its January 26, 2005, Commission meeting, Chairman Rodriguez appointed a small coordinating group consisting of Commissioners and other stakeholder representatives, charged with identifying what research is being conducted related to building failure issues resulting from the 2004 hurricanes, identifying any research gaps on key issues identified but not being researched, and finally, to ensure that the Commission is provided with all relevant research findings on each of the major issues, prior to the Commission considering code enhancements resulting from lessons learned. The Committee has been instrumental in evaluating and making recommendations to the Commission on a broad number of proposals regarding Building Code enhancements and research projects.

As a result of hurricanes affecting Florida during the 2004 and 2005 seasons, the Florida Building Commission's Hurricane Research Advisory Committee (HRAC) continues to meet at most Commission meetings to review research and make recommendations to the Commission regarding proposed code enhancements and research needs. Some of the Committee's recommendations were adopted with the 2006 Glitch Code amendments to the 2004 Code and others were adopted during the 2007 Code Update cycle, others were implemented during the 2008 "Glitch" code annual interim amendment process, and still others will be implemented during the 2010 Code Update process. The Committee continues to consider enhancements to the Florida Building Code based on sound science. In addition, the Committee has recommended research to advance the science and allow the Commission to continually study and update the storm protection provisions of the Florida Building Code. The Committee is continuously monitoring current research and recommending the development of standards and installation practices related to protecting against wind damage and water infiltration, and the development of hurricane resistant construction standards.

During 2009 the Committee focused on evaluating Code enhancements regarding the window-wall interface, soffit labeling and performance standards, and roof mounted mechanical equipment.

Current research initiatives include:

- Study of roof component and cladding and roof attached structures and equipment
- Resistance of residential window glass to lightweight windborne debris

- Resistance of steel and aluminum storm panels to roof tile impacts
- Structural and WDR resistance of soffit
- Water penetration resistance of field and factory mulled window units
- Primary and secondary roof cover

Committee (HRAC) Recommendations for Code Changes Status

Recommendation	Actions	Targeted Code Change	Action Plan and Assignment
A bond break be provided between primary drainage planes and stucco renderings in drained assemblies. In simple terms this will require two layers of building paper or a layer of building paper over a plastic housewrap.	HRAC recommended Expedited Amendment Commission approved Expedited	Expedited Amendments 11/1/05	Completed
The specification, rating and testing of WRB's be consistent with their installed exposure – i.e. tested and rated as part of a stucco assembly. Appropriate performance specifications need to be developed for WRB's used with stucco renderings and the Florida Building Code altered to require them.	HRAC recommended Expedited Amendment Commission approved Expedited	Expedited Amendments 11/1/05	Completed
The Florida Building Code be altered to come into compliance with the International Residential Code to explicitly allow for the construction of unvented roof assemblies.	HRAC recommended Expedited Amendment Commission approved Expedited	Expedited Amendments 11/1/05	Completed
Require application of exterior surface coatings to manufacturer's specification.	HRAC recommended Expedited Amendment Commission approved Expedited	Expedited Amendments 11/1/05	Completed
Require wood, metal or other structural support "ridge board" for tile attachment methods 1, 2 and 4A	HRAC recommended Expedited Amendment Commission approved Expedited	Expedited Amendments 11/1/05	Completed

Recommendation	Actions	Targeted Code Change	Action Plan and Assignment
Require FBC approved pre-bagged mortar to attach hip and ridge tiles attachment methods 3 and 4B (pre-bagged mortar requirement applies to systems where mortar is the attachment component not systems utilizing ridge board and mechanical or adhesive-set)	HRAC recommended Expedited Amendment Commission approved Expedited	Expedited Amendments 11/1/05	Completed
Require testing of ridge attachment systems according to SSTD 11 to establish wind up-lift resistance.	HRAC recommended Expedited Amendment Commission approved Expedited	Expedited Amendments 11/1/05	Completed
Utilize an additional tile factor of 2-1 above that specified in SSTD 11 or TAS 101 to determine the "allowable overturning moment" or "attachment resistance expressed as a moment (Mf)"	HRAC recommended Expedited Amendment Commission approved Expedited	Expedited Amendments 11/1/05	Completed
Prohibit component substitution without proper laboratory testing and FBC Product Approval	HRAC recommended Expedited Amendment Commission approved Expedited	Expedited Amendments 11/1/05	Completed
Allow hip and ridge attachment systems with demonstrated performance equal or superior to that required by the identified systems	HRAC recommended Expedited Amendment Commission approved Expedited	Expedited Amendments 11/1/05	Completed
Address requirements for installation instructions via Product Approval Workgroup Recommendations	HRAC recommended Expedited Amendment Commission approved Expedited	Expedited Amendments 11/1/05	Completed

Recommendation	Actions	Targeted Code Change	Action Plan and Assignment
The moisture storage capacity of mass walls be increased by providing a "seat" at the base of these assemblies.	HRAC recommended expedited amendment Commission rejected	None	Referred back to FHBA (recommendation was from FHBA water intrusion report)
Define the terms "weather resistant" and "weather protection"	HRAC recommended expedited amendment Commission rejected	None	Referred back to Central Florida BOAF Chapter to pursue its recommendation
Delete the criteria of chapter 14 that deems walls constructed according to the masonry chapter and concrete chapter requirements to be weather resistant.	HRAC recommended expedited amendment Commission rejected	None	Referred back to Central Florida BOAF Chapter to pursue its recommendation
Require compliance with ANSI/SPRI ES-1 for edge flashings and copings.	HRAC recommended expedited amendment Commission deferred to glitch amendments	Glitch Amendments 12/23/06	Completed
Require compliance with ASTM E-1592 for testing the uplift resistance of metal panel roof systems. (Note: Require ASTM E-1592 for structural metal panel roof systems and UL 580 for non-structural metal panel roof systems)	HRAC recommended expedited amendment Commission deferred to glitch amendments	Glitch Amendments 12/23/06	Completed
Require asphalt shingles to comply with UL 2390 testing and rating based on wind speed categories	HRAC recommended expedited amendment Commission deferred to glitch amendments	Glitch Amendments 12/23/06	Completed

Recommendation	Actions	Targeted Code Change	Action Plan and Assignment
Require removal of existing roof covering down to the deck and replacement of deteriorated sheathing in areas where basic wind speed is 110 mph or greater. If existing sheathing attachment does not comply with loads derived from Chapter 16, require installation of additional fasteners to meet the loads.	HRAC recommended expedited amendment Commission deferred to glitch amendments	Glitch Amendments 12/23/06	Completed
Make the requirements of 2001 FBC Section 1522 (Rooftop Mounted Equipment) applicable throughout the state for all wind speeds. Include in Mechanical Volume also.	HRAC recommended expedited amendment Commission deferred to glitch amendments	Glitch Amendments 12/23/06	Completed
Add criteria regarding wind and wind driven rain resistance of ridge vents. Attachment criteria require development but TAS 100A could be referenced for rain resistance.	HRAC recommended adoption in post "expedited" amendment	Deferred to further research	
Criteria for wind resistance of soffits should be developed and added.	HRAC recommended adoption in post "expedited" amendment	Glitch Amendments 12/23/06	Completed Further research also
Criteria for wind-driven rain resistance of soffits should be developed and added.	HRAC recommended adoption in post "expedited" amendment	Long range – post 2007 FBC update.	Conduct R&D to establish criteria. Budget authority requested for 2007-08
Water managed window and door installation requirements be developed and the Florida Building Code altered to require them.	HRAC recommended adoption in post "expedited" amendment	2007 FBC Update 10/1/08	Prescriptive default criteria developed by 3 national window groups and submitted for 2007 FBC Update

Recommendation	Actions	Targeted Code Change	Action Plan and Assignment
Windows and doors be correctly rated and tested according to ANSI/AAMA 101. Mulled window units, double windows or composite windows be tested and held to the same requirements as single units.	HRAC recommended adoption in post "expedited" amendment	Glitch	Completed
Water managed window and door installation requirements be developed and the Florida Building Code altered to require them.	HRAC recommended adoption in post "expedited" amendment	2007 FBC Update 10/1/08	Prescriptive default criteria developed by 3 national window groups and submitted for 2007 FBC Update. **Not adopted for 2007 FBC**
Water managed details for dryer vents, electrical panel boxes, electrical boxes, vent fan hoods be developed and the Florida Building Code Altered to require them.	HRAC recommended adoption in post "expedited" amendment	Long range – post 2007 FBC update.	Conduct R&D to establish criteria. FY 07-08 project.
Remove the partially enclosed design option at the next code cycle.	HRAC recommended adoption in post "expedited" amendment	Special FBC amendment 1/1/07	Automatically enacted by adoption of 2006 IRC as required by 2005 SB 442. Implemented early-Jan 2007 via HB 1-A
Adopt ASCE 24-05 for elevation requirements and flood resistant materials, equipment.	HRAC recommended adoption in post "expedited" amendment	2010 FBC	FEMA and Florida DCA coordination. Special project for 2010 FBC.
Re-evaluate the hazard identification/mapping approaches in Coastal A/V Zones.	HRAC recommended adoption in post "EA"	Out of Commission's jurisdiction	FEMA and Florida DCA coordination. Prepare and submit amendment.
For hurricane shelters and EHPA, adopt wind speed recommended by Florida DCA in the State Emergency Shelter Program and the ASCE 7-02/2001 FBC wind speed map design wind speed plus 40 mph using Performance Criteria 3.	HRAC recommended adoption in post "expedited" amendment	Out of Commission's jurisdiction	Florida DCA, DOE and School Board Association negotiation. **Not adopted for 2007 FBC**

Recommendation	Actions	Targeted Code Change	Action Plan and Assignment
Pressure relieved/baffled soffit assemblies be developed for vented roof assemblies and the Florida Building Code altered to require them.	HRAC recommended adoption in post "EA"	Long range – post 2007 FBC update.	Conduct R&D to evaluate soffit water intrusion control methods.
It is unlikely that a practical paint specification can be developed in the short term to address micro-cracking stucco issues as the relationships among water vapor permeability, mil thickness and elasticity are not known. It is recommended that these relationships be explored and that until these relationships are understood the Florida Building Code not be altered to require "elastomeric paints" on stucco renderings.	HRAC recommended adoption in post "expedited" amendment	Long range – post 2007 FBC update.	Conduct R&D on water penetration, absorption and transport through concrete and masonry wall assemblies to establish criteria for coatings or other water control measures.
Add technically-based criteria regarding blow-off resistance of aggregate on built-up and sprayed polyurethane foam roofs (Roof Coverings for Roofs with Slopes Less than 2:12).	HRAC recommended adoption in post "EA"	Long range supported by R&D	Conduct R&D to establish criteria.
Develop window water leakage test and performance criteria specific to hurricane prone regions.	HRAC recommended adoption in post "expedited" amendment	Long range supported by R&D	Conduct R&D in support of AAMA standard development. Windows Work Group/UF research project
Develop criteria that pertain to attaching lightning protection systems. Include in the Electrical Volume also.	HRAC recommended adoption in post "EA"	Long range supported by R&D	Support industry standard development activity. Tom Smith/FEMA
Revise the Florida panhandle criteria to match ASCE 7 wind borne debris region.	HRAC recommended adoption in post "expedited" amendment	Legislature must change the law- Done Amend FBC by 7/1/07	Completed *(Conducted Study as directed by 2005 Leg. Issue decided legislatively. Code amended effective July 1, 2007.)*

Meeting Facilitation

The project was facilitated by Jeff Blair from the FCRC Consensus Center at Florida State University. Information at: http://consensus.fsu.edu/

Project Web Page

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http://consensus.fsu.edu/FBC/hrac.html

APPENDIX E

FLORIDA ENERGY CODE WORKGROUP

Governor Crist directed the Commission to increase building energy efficiency requirements by 15% in his July 2007 Executive Order 127. In addition, the 2008 Legislature through passage of The Energy Act of 2008 created a number of energy-related assignments for the Building Commission. The Energy Code provisions were a major focus of the Commission during 2008, and the Commission increased the thermal efficiency requirements for the Florida Energy Code by 15% and integrated the enhanced requirements into the 2007 Florida Building Code. The Commission reviewed energy related code amendments adopted in the 2007 Florida Building Code Update to determine their cumulative level of increased efficiency, and adopted additional amendments required to achieve Governor Crist's directive of 15% increased efficiency. During 2008 the Energy Code was amended by administrative rule and then the revised Energy Code was adopted into the 2007 Florida Building Code during the 2008 "glitch" cycle concurrently with the March 1, 2009 effective date for the 2007 Florida Building Code. Working with stakeholders using consensus-building workgroups, the Commission was able to achieve the 15% increase in efficiency in buildings and implement code amendments that are efficient, consistent, understandable and enforceable for the full spectrum of Energy Code users. The Commission's Energy Code Workgroup will develop recommendations regarding energy conservation measures for increasing efficiency requirements in the 2010 FBC by 20% as required by law.

Workgroup's Consensus Recommendations

1.A. Energy Efficiency Cost-Effectiveness Tests For Residential Code Consensus Recommendations

The Florida Legislature directed the Commission to develop a rule for determining cost effectiveness of energy conservation measures to be considered for inclusion in the Florida Energy Code. The rule must be completed and applied to the update of the energy provisions of the for the 2010 Florida Building Code.

"(3) The Florida Building Commission shall, prior to implementing the goals established in subsection (1), adopt by rule and implement a cost-effectiveness test for proposed increases in energy efficiency. The cost-effectiveness test shall measure cost-effectiveness and shall ensure that energy efficiency increases result in a positive net financial impact."

Energy Analysis Calculations Methodology

Energy analysis necessary to determine energy savings for Energy Conservation Measures (ECMs) be accomplished using Florida's code compliance software, EnergyGauge®.

Energy simulation analysis will be conducted for both single ECMs and packages of ECMs.

Economic Analysis Assumptions

Energy Conservation Measure (ECM) costs will be the full, installed incremental cost of improvements, where the incremental cost is equal to the difference between the baseline measure cost and the improved measure cost unencumbered by any federal tax credits, utility incentives or state rebates.

Energy Conservation Measure (ECM) costs will be the full, installed incremental cost of improvements, where the incremental cost is equal to the difference between the baseline measure cost and the improved measure cost unencumbered by any federal tax credits, utility incentives or state rebates, with option to consider encumbering utility incentives, etc. later, if possible.

Study Life Period

The analysis for residential buildings shall be conducted over a 30 year study period.

ECM Service Life

The evaluation shall be conducted using the appropriate service lives of the measures.

Home Mortgage Parameter Values

Mortgage interest rate: the greater of the most recent 5-year average and 10-year average simple interest rate for fixed-rate, 30-year mortgages computed from the Primary Mortgage Market Survey (PMMS) as reported by Freddie Mac.

Mortgage down payment: 10%.

Annual Rate Parameter Values

General inflation rate: the greater of the most recent 5-year and 10-year Annual Compound Interest Rate (ACIR) computed from the annual average Consumer Price Index (CPI) as reported by the U.S. Bureau of Labor Statistics.

Discount rate: General inflation rate plus 2%.

Fuel escalation rate: the greater of 5-year and 10-year ACIR computed from revenue-based prices as reported by Florida Public Service Commission minus the general inflation rate.

The baseline electricity and natural gas prices used in the analysis shall be the statewide, revenue-based average residential price for the most recent available 12 months as provided by the Florida Public Service Commission.

Cost Effectiveness Criteria

For present value cost-to-benefit ratio (PVCB) a value of 1.0 or greater.

For the internal rate of return (IRR) on investments, a value equal to 8%. {The recommended value is approximately 1.5% greater than the guaranteed return on State of Florida DROPS (retirement account) investments and is considered large enough that any rational investor would consider the investment wise compared with any other long-term investment.}

*For the levelized cost of conserved energy (LCCE), a value equal to the statewide residential revenue-based retail cost of electricity adjusted at the fuel escalation rate over one-half of the life of the measure (yields average over the measure life). {This is based on the fact that, over their life, accepted measures will cost consumers the same or less than purchasing electricity from the utility, where: LCCE criteria = (current price) * [(1+fuelEsc) ^ (life/2)].}*

Evaluation Methodology for Measures and Packages of Measures

Create multiple packages of ECMs that result in the target % efficiency increase for each code cycle update (20, 30, 40 and 50%), based on comparison to the 2007 FBC as adopted October 31, 2007 (without the 2009 supplement).

Evaluate each ECM using adopted cost effectiveness indicators (PVBC, IRR, LCCE), within their specific package of ECMs. PVBC will be considered the primary measure with IRR and LCEE used as measures for illustration and communication of individual ECMs and packages of ECMs comparative economic viability.

Validation of the cost effectiveness of Florida Energy Efficiency Code for Building Construction changes shall mean that a number of ECM packages evaluated to comply with the statutory percent energy efficiency increase requirements have a greater benefit than cost as measured in present value dollars.

1.B. Energy Efficiency Cost-Effectiveness Tests For Commercial Code Consensus Recommendations

Energy Analysis Calculations Methodology

Energy analysis necessary to determine energy savings for Energy Conservation Measures (ECMs) will be accomplished using Florida's code compliance software, EnergyGauge®.

Energy simulation analysis will be conducted for both single ECMs and packages of ECMs.

Economic Analysis Assumptions

Energy Conservation Measure (ECM) costs will be the full, installed incremental cost of improvements, where the incremental cost is equal to the difference between the baseline measure cost and the improved measure cost unencumbered by any federal tax credits, utility incentives or state rebates.

Energy Conservation Measure (ECM) costs will be the full, installed incremental cost of improvements, where the incremental cost is equal to the difference between the baseline measure cost and the improved measure cost unencumbered by any federal tax credits, utility incentives or state rebates, with option to consider encumbering utility incentives, etc. later, if possible.

Study Life Period

The analysis for commercial buildings shall be conducted over a 30 year study period with appropriate service lives included in the analysis.

ECM Service Life

The evaluation shall be conducted using the appropriate service lives of the measures.

Mortgage Parameter Values

Mortgage interest rate: the greater of the most recent 5-year average and 10-year average simple interest rate for fixed-rate, 30-year mortgages computed from the Primary Mortgage Market Survey (PMMS) as reported by Freddie Mac, rate plus 2%.

Mortgage down payment: 20%.

Annual Rate Parameter Values

General inflation rate: the greater of the most recent 5-year and 10-year Annual Compound Interest Rate (ACIR) computed from the annual average Consumer Price Index (CPI) as reported by the U.S. Bureau of Labor Statistics. Discount rate: General inflation rate plus 2%.

Fuel escalation rate: the greater of 5-year and 10-year ACIR computed from revenue-based prices as reported by Florida Public Service Commission minus the general inflation rate.

The baseline electricity and natural gas prices used in the analysis be the statewide, revenue-based average commercial price for the most recent available 12 months as provided by the Florida Public Service Commission.

Cost Effectiveness Criteria

For present value cost-to-benefit ratio (PVCB) a value of 1.0 or greater.

For the internal rate of return (IRR) on investments, a value equal to 7%.

*For the levelized cost of conserved energy (LCCE), a value equal to the statewide commercial revenue-based retail cost of electricity adjusted at the fuel escalation rate over one-half of the life of the measure (yields average over the measure life). {This is based on the fact that, over their life, accepted measures will cost consumers the same or less than purchasing electricity from the utility, where: LCCE criteria = (current price) * [(1+fuelEsc) ^ (life/2)].}*

Evaluation Methodology for Measures and Packages of Measures

Create multiple packages of ECMs that result in the target % efficiency increase for each code cycle update (20, 30, 40 and 50%), based on comparison to the 2007 FBC as adopted October 31, 2007 (without the 2009 supplement).

Evaluate each ECM using adopted cost effectiveness indicators (PVBC, IRR, LCCE), within their specific package of ECMs. PVBC will be considered the primary measure with IRR and LCEE used as measures for illustration and communication of individual ECMs and packages of ECMs comparative economic viability.

Validation of the cost effectiveness of Florida Energy Efficiency Code for Building Construction changes shall mean that a number of ECM packages evaluated to comply with the statutory percent energy efficiency increase requirements have a greater benefit than cost as measured in present value dollars.

1.C. Definition Of "Consumer" (Applies To Both Residential And Commercial)

Consumer: A class of economic system participant that makes no distinction between the owner of the building and the utility rate payer.

All of the above recommendations have been adopted by the Commission.

3. Energy Conservation Measures For Replacement Of Air Conditioning Equipment Recommendations

Consensus Recommendations:

Sizing of Replacement Air Conditioning Systems:
The A/C contractor or licensed Florida PE shall submit a nationally recognized method based sizing calculation at time of permit application for total replacement of the condensing /evaporator components of HVAC systems 65,000 Btu/h and less.

Exception: Buildings designed in accordance with Section 105.3.1.2 of the Florida Building Code, Building.

Testing of air distribution systems when air conditioning systems are replaced:
At the time of the total replacement of HVAC evaporators & condensing units, under 65,000 Btu/h, all accessible (a minimum of 30 inches clearance) joints and seams in the air distribution system shall be sealed using reinforced mastic or code approved equivalent and shall include a signed certification by the contractor that is attached to the air handler unit stipulating that this work had been accomplished.

Exception:
1. Ducts in conditioned space.
2. Joints or seams that are already sealed with fabric and mastic.
3. If system is tested and repaired as necessary.

2. Develop A Strategic Plan For Increased Efficiency Requirements Required By Law For Future FBC Editions

Consensus Recommendations:

Strategic Plan Criteria

1. The Strategic Plan must implement s.553.9061(1), F.S., scheduled increases in the Code's energy performance standard.
2. The Strategic plan must consider cost effectiveness of the incremental changes in efficiency required by the Code.
3. The Strategic Plan must implement s.553.73(6)(a), F.S., selection of the IECC as a foundation code and its modification to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction, s.553.901, F.S..
4. The Strategic Plan must implement s.553.9061(2), F.S., requiring the Code to recognize including energy efficiency performance options and elements including but not limited to: Solar water heating; Energy efficient appliances; Energy efficient windows, doors and skylights; Low solar absorption roofs/cool roofs; Enhanced ceiling and wall

insulation; Reduced leak duct systems; Programmable thermostats; and Energy efficient lighting systems.

5. The Strategic Plan should identify compliance methods with the best potential for complying with the schedule for increasing efficiency standards.
6. The Strategic Plan should be adaptable for all potential mandated efficiency performance standard increase schedule.
7. The Strategic Plan should allow flexibility for builders to choose different ways to adapt their construction.
8. The Strategic Plan should provide flexibility appropriate to product innovation.
9. The Strategic Plan should provide for easy measurement and demonstration of compliance with the energy efficiency increases required by s.553.9061, F.S..
10. The Strategic Plan should require that compliance meets an equivalent energy standard regardless of the compliance method.

Strategic Plan Consensus Recommendation

Commission Select The IECC As Foundation Code For Florida Building Code, Energy Pursuant To s. 553.73(6)(a), F.S.

Commission Adopt The Florida Energy Efficiency Code For Building Construction (FEC) Within The Florida Building Code Pursuant To s. 553.901, F.S., by modifying the IECC To Maintain The Efficiencies Of The FEC Adopted And Amended Pursuant To s. 553.901, F.S. As Directed By s. 553.73(6)(a), F.S.

Modifications To Include:

- Adding A Maximum Glass Percent Criteria To The Prescriptive Compliance Method To Maintain A Consistent Standard Of Energy Efficiency For All Compliance Methods. (Criterion 10, s. 553.73(6)(a), F.S.), and s. 553.901, F.S.)

- Modifying The Prescriptive Compliance Method's Component Efficiency Requirements To Meet The 20% Overall Efficiency Requirement Improvement Pursuant To s. 553.9061(1), F.S., As Determined By Simulations Of Annual Energy Use By Energy Gauge USA Fla/Res. (Criterion 10 and s. 553.73(6)(a), F.S.)

- Modifying The UA Compliance Method's Compliance Criteria To Meet The 20% Overall Efficiency Requirement Improvement Pursuant To s. 553.9061(1), F.S., As Determined By Simulations Of Annual Energy Use By Energy Gauge USA Fla/Res. (Criterion 10 and s. 553.73(6)(a), F.S.)

- Using The Energy Gauge USA Fla/Res Implementation Of The FEC Energy Budget Compliance Method For The Performance Compliance Method And Using 80 Points As The Compliance Criteria (s. 553.73(6)(a), F.S., s. 553.901, F.S., Criteria 4, 5, 6, 7, 8, 9, 10, 11, and 12)

- Modifying The IECC To Include All Other Energy Efficiency Requirements Adopted Pursuant To s. 553.901, F.S. The "Thermal Efficiency Code."

553.9061 Scheduled increases in thermal efficiency standards.--

(1) The purpose of this section is to establish a schedule of increases in the energy performance of buildings subject to the Florida Energy Efficiency Code for Building Construction. The Florida Building Commission shall:

(a) Include the necessary provisions by the 2010 edition of the Florida Energy Efficiency Code for Building Construction to increase the energy performance of new buildings by at least 20 percent as compared to the energy efficiency provisions of the 2007 Florida Building Code adopted October 31, 2007.

(b) Increase energy efficiency requirements by the 2013 edition of the Florida Energy Efficiency Code for Building Construction by at least 30 percent as compared to the energy efficiency provisions of the 2007 Florida Building Code adopted October 31, 2007.

(c) Increase energy efficiency requirements by the 2016 edition of the Florida Energy Efficiency Code for Building Construction by at least 40 percent as compared to the energy efficiency provisions of the 2007 Florida Building Code adopted October 31, 2007.

(d) Increase energy efficiency requirements by the 2019 edition of the Florida Energy Efficiency Code for Building Construction by at least 50 percent as compared to the energy efficiency provisions of the 2007 Florida Building Code adopted October 31, 2007.

(2) The Florida Building Commission shall identify within code support and compliance documentation the specific building options and elements available to meet the energy performance goals established in subsection (1). Energy efficiency performance options and elements include, but are not limited to:

(a) Solar water heating.
(b) Energy-efficient appliances.
(c) Energy-efficient windows, doors, and skylights.
(d) Low solar-absorption roofs, also known as "cool roofs."
(e) Enhanced ceiling and wall insulation.
(f) Reduced-leak duct systems.
(g) Programmable thermostats.
(h) Energy-efficient lighting systems.

(3) The Florida Building Commission shall, prior to implementing the goals established in subsection (1), adopt by rule and implement a cost-effectiveness test for proposed increases in energy efficiency. The cost-effectiveness test shall measure cost-effectiveness and shall ensure that energy efficiency increases result in a positive net financial impact.

Meeting Facilitation

The project was facilitated by Jeff Blair from the FCRC Consensus Center at Florida State University. Information at: http://consensus.fsu.edu/

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Project Web Page

Information on the project, including recommendations, agenda packets, meeting reports, and related documents may be found in downloadable formats at the project web page below:
http://consensus.fsu.edu/FBC/2010-Florida-Energy-Code.html

APPENDIX F

FLORIDA ACCESSIBILITY CODE WORKGROUP

The scope of the Workgroup is to develop recommendations for amending the Florida Accessibility Code for Building Construction once the US Department of Justice completes its adoption of the next generation of the ADA Accessibility Standards. The task is to integrate the relevant Florida standards in ss. 553.501-553.513, F.S., into the 2004 ADAAG as adopted by 28 CFR 36 (prospective). Although DOJ's process is not complete, the Workgroup began with the 2004 ADAAG and is modifying the new draft FACBC to reflect DOJ's amendments when those are available.

The process for developing the new Accessibility Code is divided into major tasks as follows:

- **Task 1:** Integration of Florida standards located in the current Florida Accessibility Code into sections of the 2004 ADAAG that have a one for one parallel section.
- **Task 2:** Deciding what to do with Florida standards that are in sections/subsections of 1994 SAD that do not have a one for one parallel section in the 2004 ADAAG.
- **Task 3:** Integration of Florida standards into new sections in the 2004 ADAAG that have no parallel in the Florida Accessibility Code (e.g., recreational facilities).
- **Task 4:** Revising the draft Florida Accessibility Code based on the 2004 ADAAG for changes made by DOJ in its rule making.

Workgroup Adopted Project Strategy Consistent with Project Scope

At the February 2, 2009 meeting the Workgroup voted unanimously to integrate all current Florida Specific requirements into the Proposed DOJ SAD (Standards for Accessible Design), June 2008, and concurrently identify issues that should be discussed for possible recommendations regarding Florida Specific requirements and ancillary topics, to be forwarded to the Legislature.

Project Documents

DOJ SAD, June 2008, "Proposed ADA Standards for Accessible Design".
FACBC 2009, "Florida Accessibility Code for Building Construction".

Meeting Facilitation

The project was facilitated by Jeff Blair from the FCRC Consensus Center at Florida State University. Information at: http://consensus.fsu.edu/

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http://consensus.fsu.edu/FBC/accessibility-code.html

APPENDIX G

FLOOD RESISTANT STANDARDS WORKGROUP

At the request of the Florida Division of Emergency Management (DEM), during 2009 the Florida Building Commission convened a Flood Resistant Standards Workgroup charged with developing recommendations for integrating the International Code Series (I-Codes: IBC, IRC, etc.) flood damage-resistant provisions (for buildings and structures) in the Florida Building Code. FEMA worked with ICC for the past 10 years on flood standards for buildings that are consistent with the requirements of the National Flood Insurance Program (NFIP), and the current I-Codes reflects these standards. When the 2001 Florida Building Code (First Edition) was developed a policy decision was made, primarily for administrative reasons, to eliminate flood standards from the foundation model code and continue the practice of relying on Floodplain Management Ordinances adopted by communities participating in the National Flood Insurance Program. In addition, the DEM has requested that the policy be reviewed, that identified administrative issues be resolved, and that the I-Code flood standards be retained in the 2010 FBC. The Commission conducted this facilitated stakeholder process from March to May of 2009. The Workgroup met on March 25, 2009, April 29, 2009, and May 29, 2009, and developed a package of consensus recommendations for submittal to the Florida Building Commission. The Commission received a report on the recommendations at the June 2009 meeting and the Structural TAC has reviewed the Workgroup's recommendations and has recommendations for the Commission regarding integrating flood resistant standards into the 2010 FBC. At this time the Commission will only adopt the policy recommendations and the specific code language will be considered during the 2010 Code Update process. Specific code amendment adopted recommendations will be submitted as code amendments for the 2010 Florida Building Code Update process. At the October 2009 meeting the Commission voted unanimously to adopt the Flood Resistant Standards integration recommendations as recommended by the Flood Resistant Standards Workgroup.

Key Issues Regarding Code Integration Results

The Workgroup identified and agreed to a strategy for key issues regarding code language for integrating flood resistant standards in the respective codes (2009 FBC, Building, Residential, Existing Building, Mechanical, Plumbing, and Fuel Gas). The issues and respective strategies are as follows:

Integrate flood resistant standards and ASCE 24 in the High Velocity Hurricane Zone (HVHZ).
The Workgroup agreed that flood resistant standards should be integrated into the HVHZconsistent with the methodology adopted in the code integration documents.

Integrate swimming pools built in flood hazard areas and designated floodways with the flood provisions of the code.
The Workgroup agreed that on balance ICC flood resistant standards language should be used for swimming pools. The Workgroup agreed that flood resistant standards for swimming pools should be integrated into the code consistent with the methodology adopted in the code integration documents.

Ensure flood resistant standards in the code are integrated within sections 419, 420 and 423 (state agency standards integration).
The Workgroup agreed that on balance flood resistant standards should be integrated in the state agency regulations as appropriate for sections 419, 420 and 423. The Workgroup agreed that flood resistant standards for state agency standards should be integrated into the code consistent with the methodology adopted in the code integration documents.

Provide a tie-back between the Code and the flood maps adopted by local jurisdictions in their floodplain management ordinance.
The Workgroup agreed that on balance there should be a tie-back between the Code and flood maps adopted by local jurisdictions.

Provide a tie-back between the Code and the floodplain management ordinance adopted by local jurisdictions. Provide a definition of Floodplain Management Ordinance.
The Workgroup agreed that on balance there should be a tie-back between the Code and floodplain management ordinances adopted by local jurisdictions.

Recommendations To The Florida Building Commission
Options Achieving Consensus Level of Support

1. *The I-Code provisions should be used as the basis for inclusion of flood provisions relevant to buildings and structures into each of the respective codes (FBC). Members agreed that on balance, ICC provisions should be retained unless there is a specific need for a Florida Specific Requirement.*

2. *Adopt ASCE 24 (Flood Resistant Design and Construction Standards) by reference as the flood provisions in each of the codes (FBC).*

3. *Allow local jurisdictions to adopt higher standards for flood resistance provision to address local concerns within the Code (based on local flood studies), to ensure local's ability to be eligible for the NFIP's Community Rating System.*

4. *Seek a legislative exception so that local CRS (higher flood resistant standards) would not be subject to the local technical amendment requirements of the Code, subject to a consistency review with updated editions of the code.*

5. *Develop a model "companion" ordinance that includes NFIP-consistent administrative provisions and includes NFIP requirements for development other than buildings and structures that are not within the scope of the Code. Also, include a list of more stringent requirements that local jurisdictions could consider for possible adoption.*

6. *Inconsistencies between the CCCL and V Zone requirements shall continue to be resolved at the local level, and on a case-by-case basis.*

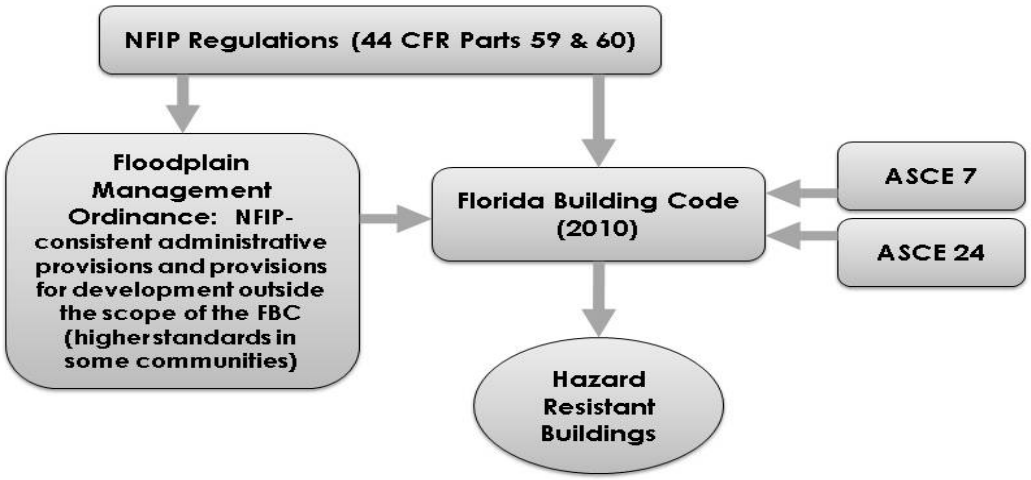
7. *A interagency group should be formed to develop a strategy for determining whether any inconsistencies between the CCCL and V Zone requirements can be resolved by code changes in the next code cycle (i.e., coordination between FBC, DEP, DEM, FEMA).*

8. *Adoption of flood maps and administrative procedures shall be at the local level.*

9. *Retain ICC format, modify as appropriate for Florida and develop cross-reference list, similar to Chapter 27 for the Electrical Code.*

10. *Seek statutory change to section 553.80, F.S., to clarify that this provision not be used to deviate from flood resistant requirements.*

FLOOD RESISTANT STANDARDS INCORPORATED INTO THE FLORIDA BUILDING CODE—RECOMMENDED STRATEGY



Meeting Facilitation
The project was facilitated by Jeff Blair from the FCRC Consensus Center at Florida State University. Information at: http://consensus.fsu.edu/

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Project Web Page
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http://consensus.fsu.edu/FBC/Flood-Resistant-Standards.html

APPENDIX H

SEPTIC SYSTEM SIZING WORKGROUP

Overview
Chairman Rodriguez announced that the Commission is convening a facilitated joint workgroup process with the Florida Department of Health (DOH) to develop recommendations regarding requirements for the sizing of septic systems. The purpose of the Workgroup is to develop recommendations regarding an acceptable definition of "Bedrooms" used for the sizing of septic systems. The definition should work from the Florida Building Code (FBC) and Department of Health (DOH) perspectives. The Workgroup name was changed from the Universal Bedroom Definition to the Septic System Sizing Workgroup to better reflect the scope of the Workgroup since the Workgroup's recommendations focus on a strategy for sizing septic systems.

Workgroup's Consensus Draft Recommendations Regarding Sizing of Septic Systems
The Workgroup voted unanimously, 10 - 0 in favor, to recommend in concept the following strategy for sizing septic systems:

- Use census definition of rooms for calculating system sizes,
- All rooms that meet the "Room" definition are counted as a room,
- Use 70 square feet as minimum room size, and
- Use a conversion factor of 50 gallons per day/room for sizing septic systems.

Current Status
DOH members have reported that the **F**lorida Department of Health's (DOH) Technical Review and Advisory Panel (TRAP) have discussed the Universal Bedroom Definition/Septic System Sizing recommendations from the Commission's and DOH's Septic System Sizing Workgroup's recommendations and were not able to reach consensus on changes regarding the sizing of septic systems. The matter was tabled at the TRAP's August 2009 meeting pending future consideration.

Meeting Facilitation
The project was facilitated by Jeff Blair from the FCRC Consensus Center at Florida State University. Information at: http://consensus.fsu.edu/

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Project Web Page
Information on the project, including recommendations, agenda packets, meeting reports, and related documents may be found in downloadable formats at the project web page below:
http://consensus.fsu.edu/FBC/ssswg.html

APPENDIX I

SOFFIT SYSTEMS WORKGROUP

Overview
Chairman Rodriguez, at the request of stakeholders, convened a Soffit Systems Workgroup. The Workgroup is working with affected stakeholder interests in a facilitated workgroup process to evaluate and build consensus on recommendations regarding labeling and performance requirements for soffit systems in the Florida Building Code.

Workgroup members were asked to identify key topical issues that should be evaluated for developing soffit systems labeling recommendations for the Florida Building Code.

Following are the key topical issues identified by the Workgroup:

- **Label Format**
- **Label Content** (what should be provided on the label)
- **Inspection Needs** (providing on-site what the building inspector needs to ensure the product complies with the Code)
- **Performance Standards** (product/material types and prescriptive requirements)
- **Installation Instructions**

Recommendations for Manufactured Soffit Products Labeling

1714.8.2 The following information shall be included on the labels on soffit systems:
1. Product approval holder/manufacturer name and city and state of manufacturing plant.
2. Product model number or name.
3. Method of approval and approval numbers as applicable. Methods of approval include, but are not limited to: Miami-Dade NOA, Florida Building Commission FL #, TDI Product Evaluation, and/or ICC-ES.
4. The test standard or standards specified in Chapter 14 used to demonstrate Code compliance.
5. Net free area.

Meeting Facilitation
The project was facilitated by Jeff Blair from the FCRC Consensus Center at Florida State University. Information at: http://consensus.fsu.edu/

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Project Web Page
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http://consensus.fsu.edu/FBC/soffit.html

APPENDIX J

WINDOW AND WALL WORKGROUP

The Window and Wall Workgroup was formed out of the work conducted by the Hurricane Research Advisory Committee (HRAC) and the Window Workgroup. The Window Workgroup developed recommendations for enhancing the performance of windows and identified the need for research on water infiltration regarding the window wall interface. The Workgroup is working in collaboration with the HRAC, and in January 2008 identified research issues needed to develop recommendations for code enhancements. The Workgroup identified the following topics for research:

- Origin, path and mechanisms of water intrusion.
- Validation of water intrusion test and window installation specifications.
- Innovation of new mitigation technologies for fenestration.
- Mitigation of existing window/wall systems.

Research on the window/wall interface was conducted by the University of Florida in cooperation with industry stakeholders. The HRAC and Window/Wall workgroup continues to review and evaluate the research results with the goal of developing code recommendations for the 2010 Code Update process regarding the window-wall interface (installation and water intrusion).

Consensus Recommendations for Florida Building Code Updates

1. *Reorganize the code sections to split curtain wall from garage door requirements.*

2. *Add requirement to Chapter One, plan review requirements, detail through wall penetrations for fenestrations for both commercial and residential plans.*

3. *Include a standard detail for each type of installation and place in the code commentary.*

4. *106.3.5 Minimum plan review criteria for buildings. The examination of the documents by the building official shall include the following minimum criteria and documents: a floor plan; site plan; foundation plan; floor/roof framing plan or truss layout; all fenestration penetrations; flashing; and rough opening dimensions and all exterior elevations.*

Meeting Facilitation

The project was facilitated by Jeff Blair from the FCRC Consensus Center at Florida State University. Information at: http://consensus.fsu.edu/

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Project Web Page

Information on the project, including agenda packets, meeting reports, and related documents may be found in downloadable formats at the project web page below:
http://consensus.fsu.edu/FBC/wwg.html

APPENDIX K

POOL ENERGY EFFICIENCY SUBCOMMITTEE

Pool Efficiency Subcommittee to Florida Energy Code Workgroup
The Energy act of 2008 (HB 7135) directs adoption of pool pump efficiencies in the 2010 Code. During discussions with the Florida Spa and Pool Association regarding energy efficiency requirements for pool pumps members suggested improved efficiency could be achieved through criteria for pool hydronic system design. This initiative is being conducted in coordination with the national industry and other state's initiatives currently underway.

The Commission convened a Pool Efficiency Subcommittee to the Florida Energy Code Workgroup to provide recommendations to the Florida Energy Code Workgroup regarding the pool equipment efficiencies subtask for pool pumps and heaters efficiencies and hydronic systems standards.

Members are evaluating options regarding proposed code amendments for each of the key topical issue areas as follows: pool pump standards; pool plumbing system design; performance and prescriptive compliance paths for pools; and, credits for alternative energy sources for pool heating, lighting and pumping.

Next Steps
Once additional information is available from the APSP Energy Standard writing committees and the California Title 24 process, members will evaluate the results for possible inclusion in the Florida Building Code**.** The APSP Energy Standard writing committees (one for pools, one for spas) have set out their objectives into three phases with the timeline as follows:

- Phase One: complete a model code, APSP Energy Standard committees noted that this is being done in cooperation with the FBC Pool Efficiency Subcommittee, and they will continue to provide all their language/documentation. Jennifer Hatfield will continue to keep Subcommittee up to date from APSP's end so the language put into the 2010 Florida Building Code is as consistent as possible.
- Phase two: complete the APSP 14 and 15 pool and spa energy standards, goal is to have language ready for canvas by the end of 2010.
- Phase Three: an equipment scoring system (a rating system based on the national Energy Star Program that would score equipment categories such as pumps), probably completed by 2011.

Meeting Facilitation
The project was facilitated by Jeff Blair from the FCRC Consensus Center at Florida State University. Information at: http://consensus.fsu.edu/

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Project Web Page
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http://consensus.fsu.edu/FBC/Pool-Efficiency.html

APPENDIX L

COMMISSION PROCESS REVIEW AD HOC COMMITTEE

Commission Process Review Ad Hoc Overview
As a result of the expanded scope of issues, the Commission reconstituted the Code Assembly Ad Hoc and renamed it the Commission Process Review Ad Hoc. Consisting of senior Commission members, the Ad Hoc's immediate task was to review and make recommendations to the Commission on the code development process, 2010 Code publication options, and the declaratory statement process, regarding streamlining and making them as efficacious and economical as possible.

Consensus Recommendations

Code Update Process Recommendation for 2010 Code Update
Adopt 2009 I-Codes as foundation code for the 2010 FBC, with an effective date of 12/31/2011.

Implement a mandated process to remove (unnecessary)/maintain (needed) Florida Specific amendments for the 2013 Code Update Process.

Recommend that the Commission recommend to the 2010 Florida Legislature eliminating the statutory requirement for the Commission to wait six months after publication of the latest I-Code Edition before selecting same as the foundation code for the Florida Building Code for future Code Editions (2013).

Code Printing/Publication Recommendation
For the 2010 Code Update Process: publish a fully integrated Florida Building Code (Florida specific amendments integrated into the 2009 I-Codes).

Meeting Facilitation
The project was facilitated by Jeff Blair from the FCRC Consensus Center at Florida State University. Information at: http://consensus.fsu.edu/

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Project Web Page
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http://consensus.fsu.edu/FBC/cah.html

Commission Interpretation Processes