This is only to provide rationale for code change proposals submitted. For final language specific to the 2004 code, more details regarding the sections in the code, and correct wording, please see the 2006 Supplement. Please see the proposed code change modifications for text submitted for consideration by the Florida Building Commission.

2/24/06

ENERGY TAC

FBC TRACKING CHART: PROPOSED MODIFICATIONS

2006 Annual Interim Code Amendments to the 2004 Florida Building Code

This chart is organized according to mod/proponent, section number, and a summary of the proposed change for modifications related to the Technical Advisory Committee's (TAC) area of responsibility. Common designations are:

Admin: Integration of the administration and enforcement portions of all codes and private swimming pool barriers.
Elec: Related to Electrical codes and standards
Energy: Related to the energy codes and standards
Fire: Related to the Fire and life/safety issues as contained within the building code and standards.
Mech: Related to the Mechanical codes and standards.
PlumbGas: Related to the Plumbing, Gas and swimming pool codes and standards (except commercial pools and pool barriers).
SpecOcc: Codes and related standards associated with facilities for special occupancies that are regulated by state agencies.
Struc: Related to the Building code for structural, technical, and material requirements and wind standards.

The proposals are listed sequentially by code section number for the base code designated. The proposed mod numbers are assigned by the BCIS web site as they are received. They are assigned to the TAC which administers that specific subject area. Notations concerning where a proposal has been assigned for action are made in the Comments column. For example, if the first proposed modification to the base code FBC-Mechanical code is for section 603.1.2 (related to duct construction), it would be assigned to the Energy TAC because the issue is with the energy chapter in the building base code. This chart can be used for quick reference and for tracking the status of proposals.

Status Codes:
AS = Approved as submitted
AM = Approved as modified
NA = Not approved
W = Withdrawn
I = Insufficient (Incomplete or does not meet criteria)

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2/24/06

Section	Rationale	Summary
13-202 Definitions **MANUFACTURED BUILDING**. A ~~Means a~~ closed structure, building assembly, or system of subassemblies, which may include structural, electrical, plumbing, heating, ventilating, or other service systems manufactured ~~in manufacturing facilities~~ for installation or erection, with or without other specified components, as a finished building or as part of a finished building, which shall include, but not be limited to, residential, commercial, institutional, storage, and industrial structures. ~~This part does not apply to mobile (manufactured) homes. Manufactured building may also mean, at the option of the manufacturer, any building of open construction made or assembled in manufactured facilities away from the building site, for installation, or assembly and installation, on the building site.~~	**[Mod 1752]** This definition is a holdover from a much earlier version of Rule 9B-1 and should be consistent with the current definition in the rule for manufactured buildings.	Fix definition of Manufactured Building for consistency with the Manufactured Building Program.
13-407.1.ABC.3.1.1 Equipment Efficiency Verification. Equipment covered under the Federal Energy Policy Act of 1992 (EPACT) shall comply with U.S. Department of Energy certification requirements. For other equipment, if ~~If~~ a certification program exists for a product covered in Tables 407.1.ABC.3.2A through 407.1.ABC.3.2D, and it includes provisions for verification and challenge of equipment efficiency ratings, then the product shall be either listed in the certification program or, alternatively, the ratings shall be verified by an independent laboratory test report. If no certification program exists for a product covered in Tables 407.1.ABC.3.2A through 407.1.ABC.3.2D, the equipment efficiency ratings shall be supported by data furnished by the manufacturer. Products covered in Table 407.1.ABC.3.2G shall have efficiency ratings supported by data furnished by the manufacturer. Where components such as indoor or outdoor coils from different manufacturers are used ~~equipment is not rated~~, a Florida-registered engineer shall specify component efficiencies whose combined efficiency meets the minimum equipment efficiency requirements in 407.1.ABC.3.2.	**[Mod 1754]** Proposal would update the code to addenda b of ASHRAE 90.1-01 for clarification purposes. The proponent of addenda b felt certain cooling towers were not required to certify their product, making the market an unfair one. Also, the proposed language adjusts the code to avoid conflict with the US Dept. of Energy equipment certification requirements.	Clarify equipment efficiency verification for equipment covered by EPACT as per Addenda b to ASHRAE 90.1-2001.
13-202 DEFINITIONS **SPACE CONSTRAINED PRODUCT** – means a central air conditioner or heat pump: 1) that has rated cooling capabilities no greater than 30,000 BTU/h; 2) that has an outdoor or indoor unit having at least two overall exterior dimensions or an overall displacement that (a) is substantially smaller than those of other units that are either currently usually installed in site-built single family homes, and of a similar cooling and, if heat pump, heating capacity; and (b) if increased, would certainly result in a considerable increase in the usual cost of installation or would certainly result in a significant loss in the utility of the product to the consumer, and 3) is of a product type that was available for purchase in the United States as of December 1, 2000.	**[Mod 1753]** The U.S. Department of Energy has ruled that central air conditioners and central air conditioning heat pumps manufactured on or after January 23, 2006 shall have Seasonal Energy Efficiency Ratio and Heating Seasonal Performance Factors no less than the levels shown in this proposal. The 2004 *Florida Building Cod*e does not yet reflect these efficiencies because states' energy code equipment efficiency minimums and baselines may not be more stringent than current federal	Revise minimum efficiency ratings for cooling and heating equipment <65,000 Btu/h as required by the US Dept. of Energy. Add definitions.

Section	Rationale	Summary

levels.

THROUGH-THE-WALL AIR CONDITIONER and HEAT PUMP – means a central air conditioner or heat pump that is designed to be installed totally or partially within a fixed-size opening in an exterior wall, and:

1) is manufactured prior to January 23, 2010;
2) is not weatherized;
3) is clearly and permanently marked for installation-0nly through an exterior wall;
4) has a rated cooling capacity no greater than 30,000 BTU/h;
5) exchanges all of its outdoor air across a single surface of the equipment cabinet, and
6) has a combined outdoor air exchange area of less than 800 square inches (split systems) or less than 1,210 square inches (single packaged systems) as measured on the surface described in 5) above.

Change Tables 13-407.1.ABC.3.2A and 13-607.1.ABC.3.2A as follows:

Table 13-407.1.ABC.3.2A [13-607.1.ABC.3.2A] ELECTRICALLY OPERATED UNITARY AIR CONDITIONERS AND CONDENSING UNITS– MINIMUM EFFICIENCY REQUIREMENTS

Equipment Type	**Size Category**	**Heating Section Type**	**Subcategory or Rating Condition**	**Minimum Efficiency** [2]	**Test Procedure** [1]
Air Conditioners, **Air Cooled**	<65,000Btu/h[3]	All	**Split System**	13.0 ~~10.0~~ SEER	**ARI 210/240**
			Single Package	13.0 ~~9.7~~ SEER	
Through-the-Wall, Air Cooled	<30,000 Btu/h[3]	All	Split System	10.9 SEER	ARI 210/240
			Single Package	10.6 SEER	
Small-Duct High-Velocity, Air Cooled*	<65,000 Btu/h[3]	All	Split System or Single Package	11.0 SEER	ARI 210/240
Space constrained products, air conditioners	<65,000 Btu/h[3]	All	Split System or Single Package	12.0 SEER[4]	ARI 210/240

[4] As granted by U.S. Department of Energy letter of exception, specific to individual companies. S without a letter of exception shall have the same efficiency as Air-Cooled Air-conditioners.

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2/24/06

Section	Rationale	Summary

[Rest of table unchanged]

Change Tables 13-407.1.ABC.3.2B and 13-607.1.ABC.3.2B as follows:

Table 13-407.1.ABC.3.2B [13-607.1.ABC.3.2B] ELECTRICALLY OPERATED UNITARY A APPLIED HEAT PUMPS– MINIMUM EFFICIENCY REQUIREMENTS

Equipment Type	Size Category	Heating Section Type	Subcategory or Rating Condition	Minimum Efficiency[2]		Test Procedure[1]
Air Cooled (Cooling mode)	<65,000 Btu/h[3]	All	**Split System**	13.0 ~~10.0~~ SEER		**ARI 210/240**
			Single Package	13.0 ~~9.7~~ SEER		
Through-the-Wall, Air Cooled	≤30,000 Btu/h[3]	All	Split System	10.9 SEER		ARI 210/240
			Single Package	10.6 SEER		
Small-Duct High-Velocity, Air Cooled, Cooling Mode*	≤65,000 Btu/h[3]	All	Split System	***10 SEER***		ARI 210/240
Air Cooled (Heating Mode)	<65,000 Btu/h[3] (cooling cap.)		Split System	7.7 ~~6.8~~ HSPF		**ARI 210/240**
			Single Package	7.7 ~~6.6~~ HSPF		
Through-the-Wall (Air Cooled, Heating Mode)	≤30,000 Btu/h[3] (cooling capacity)		Split System	7.1 HSPF		ARI 210/240
			Single Package	7.0 HSPF		
Small-Duct High-Velocity (Air Cooled, Heating Mode)	≤65,000 Btu/h[3] (cooling capacity)		Split System or Single Package	6.8 HSPF[4]		ARI 210/240
Space constrained products, heat pumps	<65,000Btu/h[3]		Split System or Single Package	7.4 HSPF		ARI 210/240

[4] As granted by U.S. Department of Energy letter of exception, specific to individual companies . SDHV products without a letter of exception shall have the same efficiency as Air-Cooled Air-conditioners.

[Rest of table unchanged]

<table>
<tr>
<td>Change Tables 13-407.1.ABC.3.2D and 13-607.1.ABC.3.2D as follows:

Table 13-407.1.ABC.3.2D [13-607.1.ABC.3.2D] ELECTRICALLY OPERATED PACKAGED TERMINAL AIR CONDITONERS, PACKAGED TERMINAL HEAT PUMPS, SINGLE-PACKAGE VERTICAL AIR CONDITIONERS, SINGLE-PACKAGE VERTICAL HEAT PUMPS, ROOM AIR CONDITIONERS, AND ROOM AIR CONDITIONER HEAT PUMPS – MINIMUM EFFICIENCY REQUIREMENTS
<table>
<tr><th>Equipment Type</th><th>Size Category (Input)</th><th>Subcategory or Rating Condition</th><th>Minimum Efficiency</th><th>Test Procedure</th></tr>
<tr><td>SPVAC (Cooling Mode)</td><td>≥65,000 Btu/h
All Capacities</td><td>95°F db/75°F wb
Outdoor Air</td><td>8.6 EER</td><td rowspan="3">ARI 390</td></tr>
<tr><td>SPVHP (Cooling Mode)</td><td>≥65,000 Btu/h
All Capacities</td><td>95°F db/75°F wb
Outdoor Air</td><td>8.6 EER</td></tr>
<tr><td>SPVHP (Heating Mode)</td><td>≥65,000 Btu/h
All Capacities</td><td>47°F db/43°F wb
Outdoor Air</td><td>2.7 COP</td></tr>
</table>
[Rest of table unchanged.]

Add to Subchapter 3:
ARI
Standard Reference Number | Title | Referenced in code section number
ARI 390-2001 | Single Package Vertical Air-Conditioners and Heat Pumps | 407.1.ABC.3.2D, 607.1.ABC.3.2D</td>
<td>[Mod 1081]
ASHRAE broke this type of equipment out from other packaged terminal units with separate test conditions and efficiencies in 2002 (ASHRAE 90.1 Addendum d). This is the appropriate test standard and rating efficiency for single-package vertical air conditioners and heat pumps and should be included in the code.</td>
<td>Update standard reference and efficiencies for single-package vertical air conditioners and heat pumps to ASHRAE 90.1-2001, addenda d.</td>
</tr>
<tr>
<td>13-407.1.ABC.3.2 Mandatory provisions. Equipment shown in Tables 407.1.ABC.3.2A through 407.1.ABC.3.2D shall have a minimum performance at the specified rating conditions….cooling category. [no change to first paragraph]

Tables 407.1.ABC.3.2A through 407.1.ABC.3.2D contain the minimum efficiency requirements for equipment covered by this section of the standard. The tables are organized to cover the following types of equipment:
Table 407.1.ABC.3.2A, Air Conditioners and Condensing Units.
Table 407.1.ABC.3.2B, Heat Pumps
Table 407.1.ABC.3.2C, Water Chilling Packages
Table 407.1.ABC.3.2D, Packaged Terminal and Room Air Conditioners and Heat Pumps
Exception: Water-cooled centrifugal water-chilling packages that are not designed for operatio ARI 550/590 test conditions (and thus cannot be tested to meet the requirements of Table</td>
<td>[Mod 1755]
This proposed code change constitutes Addendum z to ASHRAE 90.1-2001. The language is changed to clearly show that applications requiring secondary coolants (e.g. glycol or brine) for freeze protection are excluded from the standard. This exclusion was previously implied by the word “Water” in the labels of “Leaving Chiller Water Temperature, Entering Condenser Water Temperature, and Condensing Water Temperature Rise, but is now more</td>
<td>Expands exceptions to chiller requirements per Addenda z to ASHRAE 90.1-2001.</td>
</tr>
</table>

407.1.ABC.3.2C) of 44oF (7oC) leaving chilled water temperature and 85oF (29oC) entering condenser water temperature shall have a minimum full-load COP as shown in Tables 407.1.ABC.3.2H, I and J and a minimum (NPLV) rating as shown in Tables 407.1.ABC.3.2K, L M. The table values are only applicable over the following full-load design ranges: Leaving chiller water temperature: 40°F to 48°F (4°C to 9°C) Condenser water temperature: 75°F to 85°F (24°C to 29°C) Condensing water temperature rise: 5°F to 15°F (-15°C to 9°C) Chillers designed to operate outside of these ranges or applications utilizing fluids or solu with secondary coolants (e.g. glycol solutions or brines) with a freeze point of 27°F (-2.8°C) or freeze protection are not covered by this standard.	clearly defined.	
13-408.1.ABC.2.2 Heat pump auxiliary heat control. Heat pumps equipped with internal electric resistance heaters shall have controls that prevent supplemental heater operation when the heating load can be met by the heat pump alone during both steady-state operation and setback recovery. Supplemental heater operation is permitted during outdoor coil defrost cycles. Two means of meeting this requirement are (1) a digital or electronic thermostat designed for heat pump use that energizes auxiliary heat only when the heat pump has insufficient capacity to maintain setpoint or to warm up the space at a sufficient rate or (2) a multi-stage space thermostat and an outdoor air thermostat wired to energize auxiliary heat only on the last stage of the space thermostat and when outside air temperature is less than 40° F (4° C). **Exception**: Heat pumps whose minimum efficiency is regulated by NAECA and whose HSPF rating both meets the requirements shown in Table 407.1.ABC.3.2B and includes all usage of internal electric resistance heating.	**[Mod 1756]** This proposal constitutes Addendum n to ASHRAE 90.1-2001. The addition of detailed explanations of control means clarifies the intent of the supplemental heater control requirements. The additional exemption of NAECA-regulated equipment is justified since the heat pump and controls are tested for the required functionality as part of the heating seasonal performance factor (HSPF) rating.	Add two means of achieving auxiliary heat control for heat pumps as per Addenda n to ASHRAE 90.1-2001.
13-410.1.ABC.1.2.1 Part-load fan power limitation. Individual VAV fans with motors 15 ~~30~~ hp (11 ~~23~~ kW) and larger shall meet one of the following: 1. The fan shall be driven by a mechanical or electrical variable-speed drive. 2. The fan shall be a vane-axial fan with variable-pitch blades. 3. The fan shall have other controls and devices that will result in fan motor demand of no more than 30 percent of design wattage at 50 percent of design air volume when static pressure set point equals one-third of the total design static pressure, based on manufacturer's certified fan data.	**[Mod 1769]** This Mod proposal constitutes Addenda y to ASHRAE Standard 90.1-2001. It changes the limitation on VAV fan motor requirements from 30 hp to 15 hp. The reduction is justifiable since the cost of variable-frequency drives has decreased significantly in the last several years.	Change part-load fan power limitation requirements to apply to motors 15 hp and larger as per Addenda y to ASHRAE 90.1-2001.
13-415.1.ABC.1.1 Automatic lighting shutoff. Interior lighting in buildings larger than 5,000 square feet (465 m^2) shall be controlled with an automatic control device to shut off building lighting in all spaces. This automatic control device shall function on either: 1. A scheduled basis using a time-of-day operated control device that turns lighting off at specific programmed times—an independent program schedule shall be provided for areas of no more than 25,000 square feet (2323 m^2) but not more than	**[Mod 1774]** The proposed mod constitutes Addendum t to ASHRAE 90.1-2001. The addendum adds specific exceptions to the requirements for automatic lighting shutoff devices. Exception c	Revise exceptions for automatic lighting shutoff per Addenda t to ASHRAE 90.1-2001.

one floor. 2. An occupant sensor that shall turn lighting off within 30 minutes of an occupant leaving a space. 3. A signal from another control or alarm system that indicates the area is unoccupied. Exceptions: The following shall not require an automatic control device. a. Lighting intended for 24-hour operation ~~shall not require an automatic control device~~. b. Lighting in spaces where patient care is rendered. c. Spaces where an automatic shutoff would endanger the safety or security of the room or building occupant(s).	addresses critical maintenance areas and other areas with dangerous equipment or materials, such as elevator machine rooms, mechanical rooms, electrical rooms, industrial processes, and hazardous materials storage. Exception b addresses spaces where patient care is rendered. Hospitals may have three different power sources feeding lighting for equipment areas—normal, life safety, and critical branches—that need to be independently routed, circuited, and switched. Health care clientele have expressed concern over the safety and practicality of introducing an automatic shutoff of lighting in patient care areas.	
13-415.1.ABC.1.2 Space control. Each space enclosed by ceiling-height partitions shall have at least one control device to independently control the general lighting within the space. Each manual device shall be readily accessible and located so the occupants can see the controlled lighting. ~~Each control device shall be activated either manually by an occupant or automatically by sensing an occupant. Each control device shall:~~ ~~1. Control a maximum of 2,500 square feet (232 m^2) area for a space 10,000 square feet (929 m^2) or less and a maximum of 10,000 square feet (929 m^2) area for a space greater than 10,000 square feet (929 m^2), and~~ ~~2. Be capable of overriding any time-of-day scheduled shut-off control for no more than four hours.~~ a. A control device shall be installed that automatically turns lighting off within 30 minutes of all occupants leaving a space, except spaces with multi-scene control, in: 1. Classrooms (not including shop classrooms, laboratory classrooms, and preschool through 12th grade classrooms) 2. Conference/meeting rooms. 3. Employee lunch and break rooms. These spaces are not required to be connected to other automatic lighting shutoff controls. b. For all other spaces, each control device shall be activated either manually by an occupant or automatically by sensing an occupant. Each control device shall control a maximum of 2,500 square feet (232 m^2) area for a space 10,000 square feet (929 m^2) or less and a maximum of 10,000 square feet (929 m^2) area for a space greater than 10,000 square feet (929 m^2), and be capable of overriding any time-of-day scheduled shut-off	**[Mod 1776]** The proposed mod constitutes Addendum ae to ASHRAE 90.1-2001. The addendum provides limited application of occupancy sensors to provide more complete energy savings than the automatic shutoff control. Much research and study has been done on the effectiveness and cost justification of occupancy sensor controls in building spaces.	Revise requirements for lighting space control as per Addenda ae to ASHRAE 90.1-2001.

control for no more than four hours. ~~Each manual control device shall be readily accessible and located so the occupant can see the controlled lighting.~~ **Exception:** Remote location shall be permitted for reasons of safety or security when the remote control device has an indicator pilot light as part of or next to the control device and the light is ~~it shall be~~ clearly labeled to identify the controlled lighting.		
13-415.1.ABC.1.4 Exterior lighting control. Lighting for all exterior applications not exempted in section 415.0 shall have automatic controls capable of turning off exterior lighting when sufficient daylight is available or when the lighting is not required during nighttime hours. Lighting not designated for dusk-to-dawn operation shall be controlled by an astronomical time switch. Lighting designated for dusk-to-dawn operation shall be controlled by an astronomical time switch or photosensor. Astronomical time switches shall be capable of retaining programming and the time setting during loss of power for a period of at least 10 hours. ~~Lighting for all exterior applications not exempted under 415.0 and 415.2.ABC.1.3 shall be controlled by a photosensor or astronomical a time switch that is capable of automatically turning off the exterior lighting when sufficient daylight is available or the lighting is not required.~~ **Exception**: Lighting for covered vehicle entrances or exits from buildings or parking structures where required for safety, security, or eye adaptation. **13-415.2.ABC.1.3 Exterior building lighting power.** ~~The exterior building façade lighting power shall not exceed 0.25 watts per square feet of the illuminated area.~~ The total exterior lighting power allowance for all ~~other~~ exterior building applications is the sum of the individual lighting power densities ~~limits~~ permitted ~~and specified~~ in Table 415.2.ABC.1.3 for these applications plus an additional unrestricted allowance of 5% of that sum. Trade-offs are allowed only among exterior lighting applications listed in the Table 415.2.ABC.1.3 "Tradable Surfaces" section. Exterior lighting for all applications (except those included in the exceptions to Section 415.0 and 415.2.ABC.1.3) shall comply with the requirements of Section 415.1.ABC.2. **Exceptions**: Lighting used for the following exterior applications is exempt when equipped with ~~an independent~~ control device independent of the control of the nonexempt lighting: (a) specialized signal, directional, and marker lighting associated with transportation; ~~(b) lighting used to highlight features of public monuments and registered historic landmark structures or buildings; and~~ (b) ~~(c) lighting that is integral to~~ advertising signage or directional signage; (c) Lighting that is integral to equipment or instrumentation and is installed by its manufacturer. (d) Lighting for theatrical purposes, including performance, stage, film, and video production; (e) Lighting for athletic playing areas; (f) Temporary lighting; (g) Lighting for industrial production, material handling, transportation sites, and associated	**[Mod 1771]** This proposed Mod would update section 13-415.2.ABC.1.3 to Addendum q to ASHRAE Standard 90.1-2001. The addendum is an extensive revision of the 90.1-2001 Exterior Lighting Requirements. It was prompted by comments and continuous maintenance proposals the committee received about the deficiencies of the exterior lighting requirements in the standard. The addendum increases the stringency of the section. Where LPD values existed in the 2001 standard, these values were reduced or maintained based on current design criteria and current lighting equipment efficiency. All of the other exterior lighting in the existing 2001 lighting section was only regulated as a light source efficacy. This addendum enhances this requirement with specific LPD values that provide definite limits for exterior lighting use.	Significant revision to the exterior lighting control requirements per Addenda q to ASHRAE 90.1-2001.

storage areas;

(h) Theme elements in theme/amusement parts; and

(i) Lighting used to highlight features of public monuments and registered historic landmark structures or buildings.

Replace Table 13-415.2.ABC.1.3 in its entirety with the following:

TABLE 13-415.2.ABC.1.3 LIGHTING POWER DENSITIES ~~LIMITS~~ FOR BUILDING EXTERIORS

Applications	**Lighting Power Densities**
Tradable Surfaces (Lighting Power Densities for uncovered parking areas, building grounds, building entrances and exits, canopies and overhangs, and outdoor sales areas may be traded.)	
Uncovered Parking Areas	
Parking lots and drives	0.15 W/ft^2
Building Grounds	
Walkways less than 10 feet wide	1.0 watts per linear foot
Walkways 10 feet wide or greater, plaza areas, and special feature areas	0.2 W/ft^2
Stairways	1.0 W/ft^2
Building Entrances and Exits	
Main entries	30 watts per linear foot of door width
Other doors	20 watts per linear foot of door width
Canopies and Overhangs	
Canopies (freestanding and attached and overhangs)	1.25 W/ft^2
Outdoor Sales	
Open areas (including vehicle sales lots)	0.5 W/ft^2
Street frontage for vehicle sales lots in addition to "open area" allowance	20 watts per linear foot
Non-Tradable Surfaces (Lighting Power Density calculations for the following applications can be used only for the specific application and cannot be traded between surfaces or with other exterior lighting. The following allowances are in addition to any allowance otherwise permitted in the "Tradable Surfaces" section of this table.)	
Building facades	0.2 W/ft^2 for each illuminated wall or surface or 5.0 watts per linear foot for each illuminated wall or surface length
Automated teller machines and night depositories	270 watts per location plus 90 watts per additional ATM per location
Entrances and gatehouse inspection stations at guarded facilities	1.25 W/ft^2 of uncovered area (covered areas are included in the "Canopies and Overhangs" section of "Tradable Surfaces")

Loading areas for law enforcement, fire, ambulance, and other emergency service vehicles	0.5 W/ft^2 of uncovered area (covered areas are included in the Canopies and Overhangs" section of "Tradable Surfaces")	
Drive-up windows at fast food restaurants	400 watts per drive-through	
Parking near 24-hour retail entrances	800 watts per main entry	

13-415.1.ABC.4 Exit signs. Internally illuminated exit signs shall not exceed 5 watts per face. ~~Exit sign luminaries operating at greater than 20 watts shall have a minimum source efficacy of 35 lm/W.~~	**[Mod 1775]** The proposed mod constitutes Addendum ai to ASHRAE 90.1-01. The requirement significantly changes the ASHRAE 90.1 standard, but would return Florida's code to a level slightly more stringent than that in the 2001 FBC. Lighting for building exit signs is a significant energy load because they are always on.	Revise exit sign requirements as per Addenda ai to ASHRAE 90.1-2001.
Table 13-415.2.B **LIGHTING POWER DENSITIES USING THE SPACE-BY-SPACE METHOD** **Building Specific Space Types (Continued)** — **LPD (W/ft^2)** Retail (for accent lighting see Sec. 415.2.B.2) Sales area — 1.7 ~~2.1~~ Mall concourse — 1.7 [other lighting categories in table are unchanged]	**[Mod 1777]** The proposed mod constitutes Addendum ag to ASHRAE 90.1-2001. The addendum corrects the "retail sales area" LPD value that was published in the previously approved Addendum g to the 90.1-2001 standard that is included in Table 13-415.2.B. When the initial table of space-by-space LPDs was prepared for Addendum g, the "Retail Sales area" value was inadvertently left at the previous 90.1-2001 value of 2.1 W/ft^2 (23 W/m^2). The correct value produced by the applicable space type models if 1.7 W/ft^2 (18 W/m^2), which should have been included in Addendum g. This proposal corrects the ASHRAE 90.1 Addendum g oversight in Florida's energy code.	Correct error in Lighting Power Density table for retail lighting as per Addenda ag to ASHRAE 90.1-2001.
607.1.ABC.1 Equipment Sizing. A cooling and heating load ~~An HVAC sizing~~ calculation shall be performed on the building and shall be attached to the Form 600 submitted when application is made for a building permit, or in the event the mechanical permit is obtained at a later time,	**[Mod 1792]** Research has shown higher annual and peak energy use from system	This change clarifies language so as to reduce instances of

the sizing calculation shall be submitted with the application for the mechanical permit. Cooling and heating design loads, for the purpose of sizing HVAC equipment and designing HVAC systems, shall be determined for the dwelling spaces (typically rooms or zones) served by each piece of equipment ~~each zone within a dwelling~~ in accordance with ACCA Manual J, ACCA Manual N, or the ASHRAE Cooling and Heating Load Calculation Manual, Second Edition. This Code does not allow designer safety factors, provisions for future expansion or other factors which affect equipment sizing in excess of the capacity limitations in Section 607.1.ABC.1.1. System sizing calculations shall not include loads created by local intermittent mechanical ventilation such as standard kitchen and bathroom exhaust systems. The engineered ventilation requirement of the various procedures shall not be used as an infiltration rate when estimating infiltration loads. **Exceptions:** 1. Where mechanical systems are designed by an engineer registered in the State of Florida, the engineer has the option of submitting a signed and sealed summary sheet in lieu of the complete sizing calculation(s). Such summary sheet shall include the following (by zone): Project name/owner Outdoor dry bulb used Total heating required with outside air Project address Outdoor wet bulb used Total sensible gain Sizing method used Relative humidity Total latent gain Area in sq.ft. Indoor dry bulb Total cooling required with outside air Grains water (difference) 2. Systems installed in existing buildings not meeting the definition of renovation in Section 202. **607.1.ABC.1.1 Cooling Equipment Capacity.** Cooling only equipment shall be selected so that its total capacity ~~sensible capacity~~ is not less than the calculated total ~~sensible~~ load but not more than 1.15 times greater than the ~~120 percent of the design of the design~~ total ~~sensible~~ load calculated according to the procedure selected in Section 607.1.ABC.1., or the closest available size provided by the manufacturer's product lines. The corresponding latent capacity of the equipment shall not be less than the calculated latent load.. The published value for ARI total capacity is a nominal, rating-test value and shall not be used for equipment sizing. Manufacturer's expanded performance data shall be used to select cooling-only equipment. This selection shall be based on the outdoor design dry bulb temperature for the load calculation (or entering water temperature for water-source equipment), the blower CFM provided by the expanded performance data, the design value for entering wet bulb temperature and the design value for entering dry bulb temperature. Design values for entering wet bulb and dry bulb temperature shall be for the indoor dry bulb and relative humidity used for the load calculation and shall be adjusted for return side gains if the	oversizing. Despite code language, oversizing is still common, This change clarifies the language so as to reduce instances of oversized systems and make proper sizing easier to enforce. This also fixes an inconsistency between heat pump and straight cool sizing, that was, in my opinion, illogical. It also takes away a method frequently used to oversize –using the kitchen or bath fans as cfm load, which is against recommended sizing procedures. Spelling it out in the code will increase the likelihood of building officials rejecting such inputs to sizing calculations.	oversized systems and make proper sizing easier to enforce. This also fixes an inconsistency between heat pump and straight cool sizing and takes away a method frequently used to oversize

return duct(s) is installed in an unconditioned space. The manufacturer and model number of the outdoor and indoor units (if split system) shall be submitted along with the sensible and total cooling capacities at the design conditions described herein. Exceptions: 1: Attached single family and multifamily residential equipment sizing may be selected so that its cooling capacity is less than the calculated total ~~sensible~~ load but not less than 80% of that load. 2: When signed and sealed by a Florida-registered engineer, in attached single family and multifamily units, the capacity of equipment may be sized in accordance with good design practice. **608.1.ABC.1 Equipment Sizing.** An HVAC equipment sizing calculation shall be performed on the building in accordance with the criteria in Section 607.1.ABC.1 and shall be attached to the Form 600 submitted when application is made for a building permit. This Code does not allow designer safety factors, provisions for future expansion or other factors which affect equipment sizing in excess of the capacity limitations in Sections 608.1.ABC.1.1 through 608.1.ABC.1.4. System sizing calculations shall not include loads created by local intermittent mechanical ventilation such as standard kitchen and bathroom exhaust systems. The engineered ventilation requirement of the various procedures shall not be used as an infiltration rate when estimating infiltration loads. **608.1.ABC.1.1 Heat Pumps.** Heat pump sizing shall be based on the cooling requirements as calculated according to Section 607.1.ABC.1 and the heat pump total cooling capacity shall not be more than 1.15 times greater than the design cooling load even if the design heating load is 1.15 times greater than the design cooling load. ~~unless the refrigeration cycle heating capacity is less than the heating requirements of the conditioned space at design conditions. In that case, the refrigeration cycle heating capacity shall be sized to provide the lowest possible balance point on heating without exceeding 12.5% of the cooling load at design conditions. Capacity at the design heating temperature may be determined by interpolation or extrapolation of manufacturers' performance data if these data are not available for design temperatures.~~ The published value for ARI total capacity is a nominal, rating-test value and shall not be used for equipment sizing. Manufacturer's expanded performance data shall be used to determine heat pump cooling capacity. This selection shall be based on the outdoor design dry bulb temperature for the load calculation (or entering water temperature for water-source equipment), the blower CFM provided by the expanded performance data, the design value for entering wet bulb temperature and the design value for entering dry bulb temperature.		

The design values for entering wet bulb temperature shall be for the indoor dry bulb and relative humidity used for the load calculation and shall be adjusted for return side gains if the return duct(s) is installed in an unconditioned space. Capacity at the design heating temperature may be determined by interpolation or extrapolation of manufacturers' performance data, as allowed by the manufacturer, if these data are not available for the design temperature. The auxiliary capacity plus refrigeration cycle heating capacity shall not exceed 120% of the calculated heating requirements at the 99 percent design dry bulb temperature. The manufacturer and model number of the outdoor and indoor units (if split system) shall be submitted along with the sensible and total cooling capacities at the design conditions described herein.		
1) Modify Section 13-608.1.ABC.1.3 Fossil fuel heating equipment, to read: The capacity of fossil fuel heating equipment with natural draft atmospheric burners shall not be less than the design load calculated in accordance with Section 13-608.1.ABC.1. ~~more than 120 percent of the design load calculated at the 99 percent dry bulb temperature, or the closest available size provided by the manufacturer's product lines.~~	**[Mod 1806]** As noted above, the Florida Energy Code has adopted an atmospheric furnace sizing standard that is substantially more restrictive than the nationally recognized standard adopted in ASHRAE Standard 90.2 Section 6.4.2.1 Fossil Fuel Fired Heating Equipment. Prior to 2001, The ASHRAE standard restricted heating equipment sizing to 170% of design load, a significant improvement to the current Florida 120% sizing restriction. However, the current ASHRAE Standard 90.2 has adopted language virtually identical to that proposed in this code modification. ASHRAE 90.2 is a consensus national standard developed with technical input from many sources, including the heating, ventilating and air conditioning manufacturing industry. In the gas industry's view, standards that impact heating systems manufactured and distributed on a nation-wide	Revise capacity sizing requirements for fossil fuel space heating equipment to be consistent with ASHRAE Standard 90.2-2001

	scale should be established through a nationally recognized standard setting process. In the case of the furnace sizing restrictions addressed in this proposed code modification, ASHRAE Standard 90.2 is the most appropriate reference standard and should be adopted by the FBC in the Energy Code.	
13-608.1.ABC.2.1 Heat pump auxiliary heat control. Heat pumps equipped with internal electric resistance heaters shall have controls that prevent supplemental heater operation when the heating load can be met by the heat pump alone during both steady-state operation and setback recovery. Supplemental heater operation is permitted during outdoor coil defrost cycles. Two means of meeting this requirement are (1) a digital or electronic thermostat designed for heat pump use that energizes auxiliary heat only when the heat pump has insufficient capacity to maintain setpoint or to warm up the space at a sufficient rate or (2) a multi-stage space thermostat and an outdoor air thermostat wired to energize auxiliary heat only on the last stage of the space thermostat and when outside air temperature is less than 40^{o} F (4^{o} C). **Exception**: Heat pumps whose minimum efficiency is regulated by NAECA and whose HSPF rating both meets the requirements shown in Table 607.1.ABC.3.2B and includes all usage of internal electric resistance heating.	**[Mod 1767]** The proposal lines residential heat pump auxiliary heat control requirements up with those for commercial buildings and replaces the heat pump auxiliary control requirements that were inadvertently removed from subchapter 6 in the 2001 code.	Add heat pump auxiliary heat control requirement to subchapter 6 for consistency with subchapter 4.
1) Modify Section 13-608.2.A.3.5 Hydronic space gas water heating to read: Heating system credit multipliers to be used for combined gas storage tank water heating and space heating systems shall be determined from Table 6A-18 on Form 600A based on ~~those listed in~~ the effective space heating efficiency (CAafue) as listed by the GAMA where the system has been tested to ANSI/ASHRAE 124 or may utilize the heating system credit multipliers for the water heater recovery efficiency and climate zone on Table 6C-15~~12~~ in Section 5.1.2 of Appendix 13-C of this chapter if not so tested. Heating system multipliers for combined gas instantaneous (tankless) water heating and space heating systems shall be determined from Table 6C-15.1 in section 5.1.2 of Appendix 13-C based on the Thermal Efficiency (E_t) rating of the gas instantaneous (tankless) water heater in accordance with ANSI test method Z21.10.3. A gas instantaneous (tankless) water heater shall be as defined in Section 13-612.1.ABC.3.2.3. **2) Incorporate the ETAC approved multipliers into the Energy Code in Appendix 13-C (13-C5.1.2 Combination gas hydronic multipliers) as a new Table 13-6C-15.1 Heating System Credit Multipliers For Combined Hydronic Instantaneous (Tankless) Gas Water Heating, as follows:**	**[Mod 1720]** The current edition of the Florida Energy Code does not appropriately distinguish between storage tank and tankless water heaters used as the heat source in a combination appliance. Section 13-612.1.ABC.3.5, at present, provides that "Combination systems with input ratings greater than 105,000 Btu/h (360 m3/kW) shall comply with the criteria of Section 412.1.ABC.3.4, Subchapter 13-4." Section 412 applies to commercial building water heating systems. The proposed modifications would establish rating and compliance standards for residential	Revises energy code compliance standards and method A multiplier for combination heating systems using a gas instantaneous water heater.

Table 13-6C-15.1 Heating System Credit Multipliers for Combined Hydronic Instantaneous (Tankless) Gas Water Heating

Tankless Water Heater Thermal Efficiency (Et)	Zones 123	Zones 456	Zones 789
.78	.52	.55	.57
.80	.51	.54	.57
.84 and up	.49	.52	.56

3) Add a new definition of Thermal Efficiency (Et) in Section 13-202 Definitions to read as follows:

Thermal Efficiency. For the purposes of this Code, Thermal Efficiency shall be defined as included in the American National Standards Institute, Inc. standard ANSI Z 21.10.3-2001.

4) Add a new reference section site to Section 13.301 Referenced Standards as follows:

ANSI

Standard reference number	**Title**	**Referenced in Code Section Number**
ANSI Z21.10.3-2001	**Gas Water Heater, Volume 3, Storage with input ratings above 75,000 Btu/h, Circulating and Instantaneous Water Heaters**	**Table 412.1.ABC.3 612.1.ABC.3.2E, 608.2.A.3.5**

5) Change Section 13-608.1.B.2 to read:

13-608.1.B.2 Gas and oil space heating. Gas and oil heating systems may be installed for all compliance packages. If installed, they shall have a minimum annual fuel utilization efficiency (AFUE) as listed on Table 13-6B-1 of Form 600B ~~and described below~~. ~~Gas and oil-fired furnaces and vented equipment = Minimum AFUE 0.78~~ ~~Gas and oil-fired direct heating equipment = Minimum AFUE 0.73~~

Gas Instantaneous (Tankless) Water Heaters that meet the requirements established for such equipment by this Code, may be installed for all compliance packages.

instantaneous (tankless) water heating systems. The market for tankless water heaters as part of a combined water and space heating system is growing in Florida. The mild climate conditions, and high energy efficiency ratings of the gas tankless combined systems offer an excellent heating system alternative to Florida consumers. The natural and propane gas industries are interested in actively promoting the systems. Many builders and homeowners use the Energy Code performance calculations to evaluate potential equipment selections. It is important that the Energy Code accurately depict the performance of instantaneous (tankless) combined systems relative to competing alternatives. Use of the DOE EF ratings and the FSEC developed calculation multipliers would be a significant step toward providing appropriate recognition of tankless water heater combination appliance technology.

6) Modify Section 13-612.1.ABC.3.5 Combination service water heating and space heating equipment to read:

Combination ~~water and space heating~~ systems utilizing a storage tank water heater as the heat source for space heating purposes with input ratings of 105,000 Btu/h (360 m3/kW) or less shall utilize a water heater listed by the Gas Appliance Manufacturers Association (GAMA). Changeouts of burners or heating elements to increase capacity shall not be made unless the unit has been listed at that capacity by GAMA.

Combination systems utilizing a storage tank water heater as the heat source for space heating purposes with input ratings greater than 105,000 Btu/h (360 m3/kW) shall comply with the criteria of Section 412.1.ABC.3.4, Subchapter 13-4.

Combination systems utilizing a gas-fired instantaneous (tankless) water heater (defined in Section 13-612.1.ABC.3.2.3) as the heat source for space heating purposes shall comply with the criteria of Section 13-608.2.A.3.5.

7) Modify Section 13-612.2.A.1 Water heater types and multipliers, to read:

Water heating systems are characterized as ~~either~~ electric resistance, natural gas, other fuels (including propane and oil) (with tank), gas instantaneous (tankless), integral heat pump water heater (with tank), or solar water heating systems (with tank). HWM or HWCM for the water heating system to be installed shall be determined from Table 6A-22~~-9~~ and Table 6A-23, as applicable, on Form 600A based on the EF of the system. For combined gas storage tank water heating and space heating systems tested to ANSI/ASHRAE 124, the EF used shall be the effective water heating efficiency (CA ef) listed for the appliance by the Gas Appliance Manufactures Association (GAMA). For combined gas instantaneous (tankless) water heating and space heating systems, the EF used shall be determined in accordance with the DOE Uniform Test Method for Measuring the Energy Consumption of Water Heaters, Appendix E to Subpart B, Title 10 CFR 430.

8) Modify the FLA/RES-04 computer program referenced in Section 13-600.3 Certification of Compliance, to incorporate the Gas Instantaneous (Tankless) Combination Appliance calculation multipliers included in this proposed code modification.

Add a category to TABLE 13-412.1.ABC.3, Performance Requirements for Water Heating Equipment, to read as follows:

Equipment Type	Size	Subcategory	Performanc	Test Procedure

[Mod 1114r]
The heat pump pool heater technology has considerably matured in the last decade to become one of

Require that heat pump water heaters be tested to ARI Std. 1160 to achieve a minimum 4.0

	Category (input)	or rating condition	e Required			
Heat Pump Pool Heaters	All	---	4.0 COP At low air temperature	ARI 1160[5]	the preferred choices used to heat swimming pools. Florida has a preponderance of swimming pools for which heating uses significant amounts of energy. Until recently, there were no standard procedures to rate and test heat pump pool heaters. ARI 1160, which was published in 2004, establishes testing and rating requirements for heat pump pool heaters. ARI is in the process of launching a third-party certification program to in dependently verify the performance ratings (heating capacity and coefficient of performance) of heat pump pool heaters claimed by manufacturers. The minimum performance of conventional oil and gas pool heaters is already covered in the energy code. This proposal would add performance and test procedure requirements for heat pump pool heaters as well. These proposed requirements are consistent with addendum m to ASHRAE 90.1-2001.	COP as per addendum m to ASHRAE Std. 90.1-2001.

5. Test reports from independent laboratories are required to verify procedure compliance.

13-301.0 Add a reference to read as follows:

ARI

Standard Reference Number	**Title**	**Referenced in code section no.**
ARI Std. 1160-2004	Performance Rating of Heat Pump Pool Heaters	Table 13-412.1.ABC.3 13-612.1.ABC.2.3.4

Change Section 13-612.1.ABC.2.3.1 to include a separate section for pool heater efficiency as follows:

13-612.1.ABC.2.3.1 On-off switch required. All pool and spa heaters shall be equipped with an on-off switch mounted for easy access to allow the heater to be shut off without adjusting the thermostat setting and to allow restarting without relighting the pilot light.

13-612.1.ABC.2.3.4 Pool heater efficiency.

All gas- and oil-fired pool heaters when tested in accordance with ANSI Z 21.56 shall have a minimum thermal efficiency of 78 percent.

Heat pump pool heaters shall be tested in accordance with ARI 1160, Table 2. Standard Rating Conditions-Low Air Temperature, and shall have a minimum COP of 4.0.

Change Appendix A to add or change jurisdictions to read as follows: PERMITTING OFFICE	JURISDICTION NUMBER	CLIMATE ZONE	REPORTING GROUP .	**[Mod 1778]** These towns were left out of the list of jurisdictions and need jurisdiction numbers.	Add jurisdiction numbers for code jurisdictions omitted from the 2004 FBC.

FLAGLER COUNTY	281100	3	III		
Palm Coast	281500	3	III		
MIAMI-DADE COUNTY	231000	8	III		
Doral	231410	8	III		
Miami Gardens	232510	8	III		
Palmetto Bay	233110	8	III		
Pinecrest	233250	8	III		
PASCO COUNTY	611000	4	I		
St. Leo	611400	4	I		

13-C1.1 Baseline features. The following features are utilized in compliance Method A of subcha the code as "baseline" features. These features are not code minimum efficiencies; rather, they rep standard reference design building component options utilized in establishing a budget that the buil not exceed to comply with the code. Windows — 18% of conditioned floor area Equal distribution, 8 cardinal directi No overhang U-factor 0.75 SHGC 0.40 Walls, wood frame — R-11 Doors: North FL — Wood Central, South FL — Insulated Ceiling, flat — R-30 Floor, Slab-on-grade North, Central FL — R-3.5 South FL — R-0 Internal gains — Summer / Winter South — CFA * 11.36 / CFA * (-0.38) Central — CFA * 9.14 / CFA * (-1.15) North — CFA * 6.77 / CFA * (-2.72) Cooling system — SEER 13.0 Heating system, heat pump — HSPF 7.7 Air distribution system — R-6 duct Air handler location — In the garage Duct sealing — Distribution system efficiency 0.80 Service water heating, electric — EF 0.92	**[Mod 1779]** The window industry and the Florida Home Builders Association have requested that the baseline features built into the residential compliance Method A calculation be visible within the body of the code. Consequently, staff is proposing language that would clarify the baseline features used to establish the maximum standard for energy efficiency (the budget) in subchapter 6 of Chapter 13 of the code. Because the language is new, it is all underlined. However, all but the heating, cooling and window U-factor features are the same, which are proposed to be changed elsewhere, are as they were in the 2001 code. This mod is simple for clarification purposes.	Add section to Appendix C describing the residential Method A Baselines.

Change the baseline multipliers on Form 600A for all climate zones to reflect SEER 13/ HSPF 7.7:

SUMMER BASELINE CALCULATION

COOLING SYSTEM	Base Cooling System Multiplier	Total Base Summer Points	BASE COOLING POINTS
	.325 ~~.43~~ [all zones]		

WINTER BASELINE CALCULATION

HEATING SYSTEM	Base Heating System Multiplier	Total Base Winter Points	BASE HEATING POINTS
	.554 ~~.63~~ [all zones]		

[Mod 1780]
The U.S. Department of Energy has ruled that effective January 23, 2006, no air conditioners will be manufactured having efficiencies less than 13.0 SEER, 7.7 HSPF. The 2004 *Florida Building Cod*e does not reflect these efficiencies because states' energy code equipment efficiency minimums and baselines may not be more stringent than current federal levels. Federal law (Section 327 (c) of the Energy Policy and Conservation Act (EPCA)) provides that "no State regulation concerning the energy efficiency or energy use of such covered product shall be effective with respect to such product unless the regulation… .(3) is in a building code for new construction described in subsection (f)(3). Subsection (f)(3)(D) states : "If the code uses one or more baseline building designs against which all submitted building designs are to be evaluated and such baseline building designs contain a covered product subject to an energy conservation standard established in or prescribed under section 325, the baseline building designs are based on the efficiency level for such covered product which meets but does not exceed such standard …." Over the years, Florida has changed the code compliance baselines to be consistent with the federal minimum efficiency rating for equipment.

Change the Baseline multipliers to reflect a SEER 13 cooling baseline and an HSPF 7.7 heating baseline as per federal law.

	Periodically the US Department of Energy, by law, requires states to certify that their residential energy code meets or exceeds the International Energy Conservation Code (IECC). The IECC specifies its "Standard Reference Design" for equipment (Florida's "baseline") is the same as the federal minimum standard. This change is needed to certify Florida's code to the US Department of Energy when such notice is posted in the Federal Register. This proposal would provide equivalence with the national standard by changing the residential cooling and heating baseline features from a 10.0SEER/6.8 HSPF to a 13.0 SEER/7.7 HSPF. Without changing this baseline, the overall stringency of the residential code would be significantly diminished because people would be forced to install higher efficiency units and still be compared to SEER 10 baseline units in the Method A calculation. The baseline multipliers provided include the energy effects of the baseline duct system, air handler location and duct leakage.	

Appendix D: Change Form 600A GLASS multipliers to read as shown:
CLIMATE ZONES 1,2,3

SUMMER CALCULATIONS [baseline]

GLASS	.18 X	COND. FLOOR AREA X	WEIGHTED GLASS MULTIPLIER =	BASE GLASS SUBTOTAL
	.18		**18.59** ~~**20.04**~~	

WINTER CALCULATIONS [baseline]

GLASS	.18 X	COND. FLOOR AREA X	WEIGHTED GLASS MULTIPLIER =	BASE GLASS SUBTOTAL
	.18		**20.17** ~~**12.74**~~	

CLIMATE ZONES 4,5,6

SUMMER CALCULATIONS [baseline]

GLASS	.18 X	COND. FLOOR AREA X	WEIGHTED GLASS MULTIPLIER =	BASE GLASS SUBTOTAL
	.18		**24.35** ~~**25.78**~~	

WINTER CALCULATIONS [baseline]

GLASS	.18 X	COND. FLOOR AREA X	WEIGHTED GLASS MULTIPLIER =	BASE GLASS SUBTOTAL
	.18		**9.11** ~~**5.86**~~	

CLIMATE ZONES 7,8,9

SUMMER CALCULATIONS [baseline]

GLASS	.18 X	COND. FLOOR AREA X	WEIGHTED GLASS MULTIPLIER =	BASE GLASS SUBTOTAL
	.18		**30.53** ~~**32.50**~~	

WINTER CALCULATIONS [baseline]

GLASS	.18 X	COND. FLOOR AREA X	WEIGHTED GLASS MULTIPLIER =	BASE GLASS SUBTOTAL
	.18		**3.60** ~~**2.36**~~	

[Mod 1781]
This change lines Florida's energy code baseline for glazing up with the Standard Reference Design utilized in the International Energy Conservation Code (IECC). The increase in code stringency by moving to the SEER 13/HSPF 7.7 baseline is in excess of 10 percent, which tightens Florida's code. By moving to the IECC's Standard ~~Reference Design~~ for glazing at the ~~same time the baseline~~ is being raised to the national standard for equipment, the impact of increased costs due to higher efficiency overall will be slightly offset. This seems a ~~good move~~ to align the glazing baseline to be consistent with the IECC ~~and keep the~~ Florida code from being too "tight". Changes are not proposed to the percentage of glass (18 percent of floor area facing the 8 cardinal orientations) or to the overhang (0')

Revise Glass baseline multipliers for all climate zones to reflect a 0.75 U-factor to line up with the IECC baseline criteria.

Appendix D: Change Form 600B to read as follows: **PAGE 1** [all climate zones]**:** No changes are proposed to the front of the form except the date and the following: Instructions: " 2. Choose one of the component packages "A" through "C ~~F~~" from Table 6B-1…." 8. Glass type and area: ~~Single Pane Double Pane~~ a. U-factor (or DEFAULT) ~~Clear glass~~ 8a._____ ~~sq.ft ____sq.ft.~~ b. SHGC (or DEFAULT) ~~Tint, film or solar creen~~ 8b._____ ~~sq.ft._____sq.ft.~~ c. Glass area 8c._____ sq.ft. **PAGE 2** [all climate zones]**:** **TABLE 6B-1** Delete table 6B-1 for all climate zones and replace with the proposed tables shown below. **DESCRIPTION OF BUILIDNG COMPONENTS LISTED** [Text remains the same except for the following] **Floor:** Slab-on-grade floors without edge insulation are acceptable. Raised wood floors are not allowed when complying by Method B ~~shall have continuous stem walls with insulation placed on the stem wall or under the floor except Package D~~. ~~**Electric Resistance Hot Water Option**: For packages designated "Not Allowed", an electric resistance hot water system may be installed only in conju8nciton with one of the "Other Hot Water System Options". See below.~~ **TABLE 6B-2** [Unchanged]	**[Mod 1782]** Updating the residential heating and cooling efficiency baselines in compliance Method A will make the energy code more stringent overall. Because of this increase in code stringency, homes built to the current compliance Method B prescriptive packages will no longer meet code after the baseline changes become effective. Thus, new Method B packages must be redeveloped concurrently	Revise Form 600B to reflect new baseline efficiencies in Method A.

Form 600B-04R

NORTH 1,2,3

Table 6B-1 [Replace the current table and footnotes with the following]

COMPONENT	PACKAGE A	PACKAGE B	PACKAGE C	TO BE INSTALLED
Glass	≤ 18% glass to floor area	≤ 18% glass to floor area	≤ 18% glass to floor area	GFA %
Overhang	2' overhang required	2' overhang required	2' overhang required	OH ft.
U-factor	U-factor 0.65	U-factor 0.65	Double pane (Default)	U-factor:
Solar Heat Gain Coefficient	SHGC 0.40	SHGC 0.65	Clear (Default)	SHGC:
Walls (exterior or adjacent)				Exterior Adjacent
Wood frame	R-value R-13	R-value R-13	R-value R-13	R=
CBS				
Insulation on interior of wall	R-value R-7	R-value R-7	R-value R-7	R=
Doors	Solid wood or insulated	Solid wood or insulated	Solid wood or insulated	
Ceilings				
Under attic/single assembly	R-value R-30	R-value R-38	R-value R-38	R=
Floor				
Slab-on-grade	R-value R-0	R-value R-0	R-value R-0	R=
Raised floors	Not allowed	Not allowed	Not allowed	Not allowed
Cooling system	SEER 13.0	SEER 13.65	SEER 15.0	SEER:
Heating system				
Electric heat pump	HSPF 7.7	HSPF 8.1	HSPF 8.5	HSPF:
Gas furnace	AFUE 0.78 (LP gas not allowed)	Nat. gas AFUE 0.78 (LP gas not allowed)	Nat. gas AFUE 0.78 LP gas 0.80	AFUE: AFUE:
Water heater				
Electric water heater	EF 0.94	EF 0.92	EF 0.92	EF=
Gas water heater	Nat. gas EF 0.59	Nat. gas EF 0.59	Nat. gas EF 0.59	EF=
Other (see below)	(LP gas not allowed)	(LP gas not allowed)	LP gas 0.63	EF=
Air distribution system			TESTED (LP gas only)	< TESTED
Ducts in attic	R-value R-6	R-value R-6	R-value R-6	R =
Air handler location	AHU in the garage or inside conditioned space	AHU in the garage or inside conditioned space	AHU in the garage or inside conditioned space	Location:

Same as next above.

This is only to provide rationale for code change proposals submitted. For final language specific to the 2004 code, more details regarding the sections in the code, and correct wording, please see the 2006 Supplement. Please see the proposed code change modifications for text submitted for consideration by the Florida Building Commission.

2/24/06

Form 600B-04R

Same as next above.

CENTRAL 4,5,6

31 [Replace the current table and footnotes with the following]

COMPONENT	**PACKAGE A**	**PACKAGE B**	**PACKAGE C**	**TO BE INSTALLED**
Glass Overhang U-factor Solar Heat Gain Coefficient	< 18% glass to floor area 2' overhang required U-factor 0.65 SHGC 0.40	<18% glass to floor area 2' overhang U-factor 0.98 SHGC 0.45	< 18% glass to floor area 2' overhang required Double pane (Default) Clear (Default)	GFA % OH ft. U-factor: SHGC:
Walls (exterior or adjacent) Wood frame CBS Insulation on interior of wall	R-value R-11 R-value R-4.1	R-value R-13 R-value R-7	R-value R-11 R-value R-4.1	Exterior Adjacent R= R=
Doors	Solid wood or insulated	Solid wood or insulated	Solid wood or insulated	
Ceilings Under attic/single assembly	R-value R-30	R-value R-30	R-value R-30	R=
Floor Slab-on-grade Raised floors	R-value R-0 Not allowed	SOG R-0 Not allowed	SOG R-0 Not allowed	R= Not allowed
Cooling system	SEER 13.0	SEER 13.65	SEER 15.0	SEER:
Heating system Electric heat pump Gas furnace	HSPF 7.7 Nat. gas AFUE 0.78 LP gas 0.80	HSPF 8.1 Nat. gas AFUE 0.78 LP gas 0.80	HSPF 8.5 Nat. gas AFUE 0.78 LP gas 0.80	HSPF: AFUE: AFUE:
Water heater Electric water heater Gas water heater Natural gas LP gas Other (see below)	EF 0.92 EF 0.59 EF 0.59	EF 0.92 EF 0.59 EF 0.63	EF 0.94 EF 0.59 EF 0.63	EF= EF= EF=
Air distribution system Ducts in attic Air handler location	R-value R-6 AHU in the garage or inside conditioned space	R-value R-6 AHU in the garage or inside conditioned space	R-value R-6 AHU in the garage or inside conditioned space	R = Location:

This is only to provide rationale for code change proposals submitted. For final language specific to the 2004 code, more details regarding the sections in the code, and correct wording, please see the 2006 Supplement. Please see the proposed code change modifications for text submitted for consideration by the Florida Building Commission.

2/24/06

Form 600B-04R

SOUTH 7,8,9

Table 6B1 [Replace the current table and footnotes with the following]

COMPONENT	PACKAGE A	PACKAGE B	PACKAGE C	TO BE INSTALLED
Glass	<18% glass to floor area	<18% glass to floor area	<18% glass to floor area	GFA_____ %
Overhang	2' overhang required	2' Overhang required	2' Overhang required	OH _____ ft.
U-factor	U-factor 0.75	U-factor 0.75	U-factor 0.98	U-factor:_____
Solar Heat Gain Coefficient	SHGC 0.25	SHGC 0.45	SHGC 0.55	SHGC: _____
Walls (exterior or adjacent)	R-value R-11	R-value R-13	R-value R-11	Exterior Adjacent R= _____ _____
Wood frame CBS	R-value R-4.1	R-value R-7	R-value R-4.1	R= _____
Insulation on interior of wall				
Doors	Solid wood or insulated	Solid wood or insulated	Solid wood or insulated	
Ceilings				
Under attic or single assembly	R-value R-30	R-value R-30	R-value R-30	R= _____
Floors				
Slab-on-grade only	R-value R-0	R-value R-0	R-value R-0	R= _____
Raised floors	Not allowed	Not allowed	Not allowed	Not allowed
Cooling system	SEER 13.0	SEER 13.65	SEER R-15	SEER: _____
Heating system				
Electric	Electric resistance	Electric resistance	Electric resistance	HSPF: _____
Gas furnace	AFUE 0.78	AFUE 0.78	AFUE 0.78	AFUE: _____
				AFUE: _____
Water heater				
Electric water heater	EF 0.92	EF 0.92	EF 0.94	EF= _____
Gas water heater	EF 0.59	EF 0.59	EF 0.59	EF= _____
Other (see below)				EF= _____
Air distribution system				
Ducts in attic	R-value R-6	R-value R-6	R-value R-6	R = _____
Air handler location	AHU in the garage or inside conditioned space	AHU in the garage or inside conditioned space	AHU in the garage or inside conditioned space	Location: _____

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