



ENERGY
PART 1 OF 1
WITHOUT COMMENTS
Proposed Code Modifications

This document created by the Florida Department of Business and Professional Regulation -
850-487-1824

Total Mods for **Energy** in **Approved as Modified**: 10

Total Mods for report: 79

Sub Code: Energy Conservation

Date Submitted	8/1/2012	Section	C101.4.3	Proponent	Amanda Hickman
Chapter	1	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Modified				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications

5957

Summary of Modification

Adds exception to list for Additions, alterations, renovations or repairs to an existing building.

Rationale

Surface applied window film to existing fenestration has been added to the list because it can enhance the performance of existing single pane fenestration products for protection from injuries and property damage due to broken glass, reduces solar heat gain and energy use, and ultraviolet transmittance and glare.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

Beneficial. Provides clarity to code users.

Impact to building and property owners relative to cost of compliance with code

Beneficial. Provides clarity to code users.

Impact to industry relative to the cost of compliance with code

None. Provides clarity to code users.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Provides clarity.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Provides clarity.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not. Provides clarity.

Does not degrade the effectiveness of the code

It does not. Provides clarity.

Is the proposed code modification part of a prior code version? No

C101.4.3 Additions, alterations, renovations or repairs. Additions, alterations, renovations or repairs to an existing building, building system or portion thereof shall conform to the provisions of this code as they relate to new construction without requiring the unaltered portion(s) of the existing building or building system to comply with this code. Additions, alterations, renovations or repairs shall not create an unsafe or hazardous condition or overload existing building systems. An addition shall be deemed to comply with this code if the addition alone complies or if the existing building and addition comply with this code as a single building.

Exception: The following need not comply provided the energy use of the building is not increased:

1. Storm windows installed over existing fenestration.
2. Glass only replacements in an existing sash and frame.
3. Surface applied window film on existing fenestration assemblies.
- ~~3.~~ 4. Existing ceiling, wall or floor cavities exposed during construction provided that these cavities are filled with insulation.
- ~~4.~~ 5. Construction where the existing roof, wall or floor cavity is not exposed.
- ~~5.~~ 6. Reroofing for roofs where neither the sheathing nor the insulation is exposed. Roofs without insulation in the cavity and where the sheathing or insulation is exposed during reroofing shall be insulated either above or below the sheathing.
- ~~6.~~ 7. Replacement of existing doors that separate *conditioned space* from the exterior shall not require the installation of a vestibule or revolving door, provided, however, that an existing vestibule that separates a *conditioned space* from the exterior shall not be removed,
- ~~7.~~ 8. Alterations that replace less than 50 percent of the luminaires in a space, provided that such alterations do not increase the installed interior lighting power.
- ~~8.~~ 9. Alterations that replace only the bulb and ballast within the existing luminaires in a space provided that the *alteration* does not increase the installed interior lighting power.

1st Comment Period History

08/09/2012 - 09/23/2012

5959-A1

Proponent Amanda Hickman **Submitted** 8/13/2012 **Attachments** Yes

Rationale

Removes the words "single pane" from the proposed language in the original modification. The exception should apply to all fenestration assemblies not just single pane. Surface applied window film to existing fenestration has been added to the list because it can enhance the performance of existing single pane fenestration products for protection from injuries and property damage due to broken glass, reduces solar heat gain and energy use, and ultraviolet transmittance and glare.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

none. Inline with original modification.

Impact to building and property owners relative to cost of compliance with code

none. Inline with original modification.

Impact to industry relative to the cost of compliance with code

none. Inline with original modification.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

yes. inline with origianl modification.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

yes. inline with origianl modification.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

does not. Inline with origianl modification.

Does not degrade the effectiveness of the code

does not. Inline with origianl modification.

Is the proposed code modification part of a prior code version? No

1st Comment Period History

08/09/2012 - 09/23/2012

EN5959-G1

Proponent BOAF CDC **Submitted** 9/15/2012 **Attachments** No

Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g) The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

C101.4.3 Additions, alterations, renovations or repairs. Additions, alterations, renovations or repairs to an existing building, building system or portion thereof shall conform to the provisions of this code as they relate to new construction without requiring the unaltered portion(s) of the existing building or building system to comply with this code. Additions, alterations, renovations or repairs shall not create an unsafe or hazardous condition or overload existing building systems. An addition shall be deemed to comply with this code if the addition alone complies or if the existing building and addition comply with this code as a single building.

Exception: The following need not comply provided the energy use of the building is not increased:

1. Storm windows installed over existing fenestration.
2. Glass only replacements in an existing sash and frame.
3. Surface applied window film on existing single pane fenestration assemblies.
- ~~3.~~ 4. Existing ceiling, wall or floor cavities exposed during construction provided that these cavities are filled with insulation.
- ~~4.~~ 5. Construction where the existing roof, wall or floor cavity is not exposed.
- ~~5.~~ 6. Reroofing for roofs where neither the sheathing nor the insulation is exposed. Roofs without insulation in the cavity and where the sheathing or insulation is exposed during reroofing shall be insulated either above or below the sheathing.
- ~~6.~~ 7. Replacement of existing doors that separate conditioned space from the exterior shall not require the installation of a vestibule or revolving door, provided, however, that an existing vestibule that separates a conditioned space from the exterior shall not be removed,
- ~~7.~~ 8. Alterations that replace less than 50 percent of the luminaires in a space, provided that such alterations do not increase the installed interior lighting power.
- ~~8.~~ 9. Alterations that replace only the bulb and ballast within the existing luminaires in a space provided that the alteration does not increase the installed interior lighting power.

C101.4.3 Additions, alterations, renovations or repairs. Additions, alterations, renovations or repairs to an existing building, building system or portion thereof shall conform to the provisions of this code as they relate to new construction without requiring the unaltered portion(s) of the existing building or building system to comply with this code. Additions, alterations, renovations or repairs shall not create an unsafe or hazardous condition or overload existing building systems. An addition shall be deemed to comply with this code if the addition alone complies or if the existing building and addition comply with this code as a single building.

Exception: The following need not comply provided the energy use of the building is not increased:

1. Storm windows installed over existing fenestration.
2. Glass only replacements in an existing sash and frame.
3. Surface applied window film on existing fenestration assemblies.
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- ~~4.~~ 5. Construction where the existing roof, wall or floor cavity is not exposed.
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- ~~6.~~ 7. Replacement of existing doors that separate conditioned space from the exterior shall not require the installation of a vestibule or revolving door, provided, however, that an existing vestibule that separates a conditioned space from the exterior shall not be removed,
- ~~7.~~ 8. Alterations that replace less than 50 percent of the luminaires in a space, provided that such alterations do not increase the installed interior lighting power.
- ~~8.~~ 9. Alterations that replace only the bulb and ballast within the existing luminaires in a space provided that the alteration does not increase the installed interior lighting power.

Date Submitted	7/10/2012	Section	C101.4.7	Proponent	Ann Stanton
Chapter	1	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Modified				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications**Summary of Modification**

Add Building systems language for replacement equipment to code from 2010 FBC.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901, FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Proposed language is in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Florida-specific criteria are brought forward from the 2010 FBC for replacement equipment.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

C101.4.7 Building systems and components. Thermal efficiency standards are set for the following building systems and components where new products are installed or replaced in existing buildings, and for which a permit must be obtained. New products shall meet the minimum efficiencies allowed by this code for the following systems and components:

_____ Heating, ventilating or air conditioning systems;

_____ Service water or pool heating systems;

_____ Electrical systems and motors;

_____ Lighting systems.

Replacement Fenestration.

Exceptions:

1. Where part of a functional unit is repaired or replaced. For example, replacement of an entire HVAC system is not required because a new compressor or other part does not meet code when installed with an older system.

2. If the unit being replaced is itself a functional unit, such as a condenser, it does not constitute a repair. Outdoor and indoor units that are not designed to be operated together must meet the U.S. Department of Energy certification requirements contained in Section C403.2.3. Matched systems are required; this match may be verified by any one of the following means:

a. AHRI data

b. Accredited laboratory

c. Manufacturer's letter

d. Letter from registered P.E. State of Florida

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3. Where existing components are utilized with a replacement system, such as air distribution system ducts or electrical wiring for lights, such components or controls need not meet code if meeting code would require that component's replacement.

4. Replacement equipment that would require extensive revisions to other systems, equipment or elements of a building where such replacement is a like-for-like replacement, such as through-the-wall condensing units and PTACs, chillers, and cooling towers in confined spaces.

C101.4.7.1 Replacement HVAC equipment

C101.4.7.1.1 Existing equipment efficiencies. Existing cooling and heating equipment need not meet the minimum equipment efficiencies of Sections C403.2.3 except to preserve the original approval or listing of the equipment.

5065-A3

Proponent Eric Lacey **Submitted** 9/23/2012 **Attachments** Yes

Rationale

Proposals EN5806, EN5065, and EN5031 incorporate language from Florida Statutes, but eliminate critical terms. If adopted, these proposals would lead to conflict with the statute and more confusion in the regulation of building alterations.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This alternative should clarify the code and ensure that quality building materials are used in both new and existing buildings.

Impact to building and property owners relative to cost of compliance with code

There should be no negative cost impact on building owners.

Impact to industry relative to the cost of compliance with code

There should be no negative impact on industry.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This alternative language ensures consistency with Florida Statutes and clarity for code enforcers. It will help ensure energy and peak electricity savings in new and existing buildings undergoing alterations.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This alternative maintains the efficiencies of the 2012 IECC.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No.

Does not degrade the effectiveness of the code

No.

Is the proposed code modification part of a prior code version? No

5065-A2

Proponent Amy Schmidt **Submitted** 8/27/2012 **Attachments** Yes

Rationale

The way it is written it would not allow more efficient systems to be used when desired.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

none

Impact to building and property owners relative to cost of compliance with code

none

Impact to industry relative to the cost of compliance with code

none

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

yes, allows for more efficient products to be chosen

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

provides more options

Does not degrade the effectiveness of the code

does not degrade the effectiveness of the code

Is the proposed code modification part of a prior code version? No

C101.4.7 Building systems. Thermal efficiency standards are set for the following building systems where new products are installed or replaced in existing buildings, and for which a permit must be obtained. New products shall meet the minimum efficiencies allowed by this code for the following systems:

Heating, ventilating or air conditioning systems;

Service water or pool heating systems;

Electrical systems and motors;

Lighting systems.

Exceptions:

1. Where part of a functional unit is repaired or replaced. For example, replacement of an entire HVAC system is not required because a new compressor or other part does not meet code when installed with an older system.

2. If the unit being replaced is itself a functional unit, such as a condenser, it does not constitute a repair. Outdoor and indoor units that are not designed to be operated together must meet the U.S. Department of Energy certification requirements contained in Section C403.2.3. Matched systems are required; this match may be verified by any one of the following means:

a. AHRI data

b. Accredited laboratory

c. Manufacturer's letter

d. Letter from registered P.E. State of Florida

3. Where existing components are utilized with a replacement system, such as air distribution system ducts or electrical wiring for lights, such components or controls need not meet code if meeting code would require that component's replacement.

4. Replacement equipment that would require extensive revisions to other systems, equipment or elements of a building where such replacement is a like-for-like replacement, such as through-the-wall condensing units and PTACs, chillers, and cooling towers in confined spaces.

C101.4.7.1 Replacement HVAC equipment

C101.4.7.1.1 Existing equipment efficiencies. Existing cooling and heating equipment need not meet the minimum equipment efficiencies of Sections C403.2.3 except to preserve the original approval or listing of the equipment.

^dBuildings undergoing alteration that vary or change insulation, HVAC systems, water heating systems, or exterior envelope provided that the estimated cost exceeds 30 percent of the assessed value of the structure (See Ch. 2, Definitions).

C101.4.7 Building systems. Thermal efficiency standards are set for the following building systems where new products are installed or replaced in existing buildings, and for which a permit must be obtained. New products shall meet or exceed the minimum efficiencies allowed by this code for the following systems:

Modify Section 101.4.7 as follows:

101.4.7 Building systems and components. Thermal efficiency standards are set for the following building systems and components where new products are installed or replaced in existing buildings, and for which a permit must be obtained. New products shall meet the minimum efficiencies allowed by this code for the following systems and components:

Heating, ventilating or air conditioning systems;

Service water or pool heating systems;

Electrical systems and motors;

Lighting systems;

Replacement Fenestration.

EN5065

The RECA modification to EN 5806, EN5065, and EN5031 above uses the actual terms contained in Section 553.903 of Florida Statutes related to replacement systems and components. Without this change, the 2013 Florida Building Code could cause confusion over the applicability of the code's requirements in existing buildings.

The "Applicability" section of Florida Statutes outlines the categories of buildings, components, and systems over which the Commission has authority:

553.903 Applicability. – This part shall apply to all new and renovated buildings in the state, except exempted buildings, for which building permits are obtained after March 15, 1979, and to the installation or replacement of building systems and components with new products for which thermal efficiency standards are set by the Florida Energy Efficiency Code for Building Construction. The provisions of this part shall constitute a statewide uniform code.

Although the proponents of EN5806 and EN5056 repeat most of the terminology from this important section of Florida Statutes, neither proposal contains the actual language. Using the correct terminology is crucial because it will help Florida's Building Officials avoid confusion over the applicability of the code to replacement systems and components, including replacement fenestration. Section 403.2.6 of the 2012 *IECC* requires replacement fenestration in existing buildings to meet the same thermal efficiency requirements as required for new construction. While windows are commonly referred to as "fenestration systems" or part of the "thermal envelope system," the addition of the statutory term "component" and the inclusion of fenestration to the list of systems for which the Commission has set thermal efficiency standards will add important clarity to the code.

Date Submitted	7/10/2012	Section	C101.4.8	Proponent	Ann Stanton
Chapter	1	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Modified				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications**Summary of Modification**

Add Florida-specific code exemptions to the 2013 code.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901, FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Proposed language is in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

OTHER

Explanation of Choice

Some exempt buildings are covered by the IECC; however, not all are and they are not in a consistent section on exempt buildings.

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Proposed language is in the 2010 Florida Building Code.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

C101.4.8 Exempt buildings. Buildings exempt from the provisions of the *Florida Building Code, Energy Conservation*, include existing buildings except those considered renovated buildings, changes of occupancy type, or previously unconditioned buildings to which comfort conditioning is added. Exempt buildings include those specified in Sections C101.4.8.1 through C101.4.8.4.

C101.4.8.1 Federal standards. Any building for which federal mandatory standards preempt state energy codes

C101.4.8.2 Historic buildings. Any building meeting the criteria for historic buildings in Section C101.4.2.

C101.4.8.3 Low energy buildings as described in Section C101.5.2. Such buildings shall not contain electrical, plumbing or mechanical systems which have been designed to accommodate the future installation of heating or cooling equipment.

C101.4.8.4 Buildings designed for purposes other than general space comfort conditioning. Any building where heating or cooling systems are provided which are designed for purposes other than general space comfort conditioning. Buildings included in this exemption include:

1. Commercial service areas where only ceiling radiant heaters or spot coolers are to be installed which will provide heat or cool only to a single work area and do not provide general heating or cooling for the space.
2. Buildings heated with a system designed to provide sufficient heat only to prevent freezing of products or systems. Such systems shall not provide heating above 50°F (10°C).
3. Pre-manufactured freezer or refrigerated storage buildings and areas where the temperature is set below 40°F (4°C) and in which no operators work on a regular basis.
4. Electrical equipment switching buildings which provide space conditioning for equipment only and in which no operators work on a regular basis except that the provisions of Section C405 shall apply.
5. Buildings containing a system(s) designed and sold for dehumidification purposes only and controlled only by a humidistat. No thermostat shall be installed on systems thus exempted from this code.

5066-A2

Proponent Ann Stanton **Submitted** 9/4/2012 **Attachments** Yes

Rationale

The Energy TAC and Commission added C101.4.8.4 #5 back into the Code during the 2012 Glitch Fix cycle. It has been in the code for years and addresses a Florida-specific concern, humidity control.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None.

Impact to building and property owners relative to cost of compliance with code

None.

Impact to industry relative to the cost of compliance with code

None.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No.

Does not degrade the effectiveness of the code

No.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

This mod is Florida-specific and has been in the FBC-Energy for years.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

C101.4.8 Exempt buildings. Buildings exempt from the provisions of the *Florida Building Code, Energy Conservation*, include existing buildings except those considered renovated buildings, changes of occupancy type, or previously unconditioned buildings to which comfort conditioning is added. Exempt buildings include those specified in Sections C101.4.8.1 through C101.4.8.4.

C101.4.8.1 Federal standards. Any building for which federal mandatory standards preempt state energy codes

C101.4.8.2 Historic buildings. Any building meeting the criteria for historic buildings in Section C101.4.2.

C101.4.8.3 Low energy buildings as described in Section C101.5.2. Such buildings shall not contain electrical, plumbing or mechanical systems which have been designed to accommodate the future installation of heating or cooling equipment.

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3. Pre-manufactured freezer or refrigerated storage buildings and areas where the temperature is set below 40°F (4°C) and in which no operators work on a regular basis.

4. Electrical equipment switching buildings which provide space conditioning for equipment only and in which no operators work on a regular basis except that the provisions of Section C405 shall apply.

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C101.4.8.1 Federal standards. Any building for which federal mandatory standards preempt state energy codes

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1. Commercial service areas where only ceiling radiant heaters or spot coolers are to be installed which will provide heat or cool only to a single work area and do not provide general heating or cooling for the space.
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4. Electrical equipment switching buildings which provide space conditioning for equipment only and in which no operators work on a regular basis except that the provisions of Section C405 shall apply.
5. Buildings containing a system(s) designed and sold for dehumidification purposes only and controlled only by a humidistat. No thermostat shall be installed on systems thus exempted from this code.

Date Submitted	8/1/2012	Section	R101.4.3	Proponent	Amanda Hickman
Chapter	1	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Modified				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications**Summary of Modification**

Adds exception to list for Additions, alterations, renovations or repairs to an existing building.

Rationale

Surface applied window film to existing fenestration has been added to the list because it can enhance the performance of existing single pane fenestration products for protection from injuries and property damage due to broken glass, reduces solar heat gain and energy use, and ultraviolet transmittance and glare.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

Beneficial. Provides clarity to code users.

Impact to building and property owners relative to cost of compliance with code

Beneficial. Provides clarity to code users.

Impact to industry relative to the cost of compliance with code

None. Provides clarity to code users.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Provides clarity.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Provides clarity.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not. Provides clarity.

Does not degrade the effectiveness of the code

It does not. Provides clarity.

Is the proposed code modification part of a prior code version? No

R101.4.3 Additions, alterations, renovations or repairs. Additions, alterations, renovations or repairs to an existing building, building system or portion thereof shall conform to the provisions of this code as they relate to new construction without requiring the unaltered portion(s) of the existing building or building system to comply with this code. Additions, alterations, renovations or repairs shall not create an unsafe or hazardous condition or overload existing building systems. An addition shall be deemed to comply with this code if the addition alone complies or if the existing building and addition comply with this code as a single building.

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- ~~4.~~ 5. Construction where the existing roof, wall or floor cavity is not exposed.
- ~~5.~~ 6. Reroofing for roofs where neither the sheathing nor the insulation is exposed. Roofs without insulation in the cavity and where the sheathing or insulation is exposed during reroofing shall be insulated either above or below the sheathing.
- ~~6.~~ 7. Replacement of existing doors that separate *conditioned space* from the exterior shall not require the installation of a vestibule or revolving door, provided, however, that an existing vestibule that separates a *conditioned space* from the exterior shall not be removed,
- ~~7.~~ 8. Alterations that replace less than 50 percent of the luminaires in a space, provided that such alterations do not increase the installed interior lighting power.
- ~~8.~~ 9. Alterations that replace only the bulb and ballast within the existing luminaires in a space provided that the *alteration* does not increase the installed interior lighting power.

5957-A1

Proponent Amanda Hickman **Submitted** 8/13/2012 **Attachments** Yes

Rationale

Removes the words "single pane" from the proposed language in the original modification. The exception should apply to all fenestration assemblies not just single pane.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

none. Inline with original modification.

Impact to building and property owners relative to cost of compliance with code

none. Inline with original modification.

Impact to industry relative to the cost of compliance with code

none. Inline with original modification.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

yes. inline with original modification.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

yes. inline with original modification.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

does not. Inline with original modification.

Does not degrade the effectiveness of the code

does not. Inline with original modification.

Is the proposed code modification part of a prior code version? No

R101.4.3 Additions, alterations, renovations or repairs. Additions, alterations, renovations or repairs to an existing building, building system or portion thereof shall conform to the provisions of this code as they relate to new construction without requiring the unaltered portion(s) of the existing building or building system to comply with this code. Additions, alterations, renovations or repairs shall not create an unsafe or hazardous condition or overload existing building systems. An addition shall be deemed to comply with this code if the addition alone complies or if the existing building and addition comply with this code as a single building.

Exception: The following need not comply provided the energy use of the building is not increased:

1. Storm windows installed over existing fenestration.
2. Glass only replacements in an existing sash and frame.
3. Surface applied window film on existing single pane fenestration assemblies.
- ~~3.~~ 4. Existing ceiling, wall or floor cavities exposed during construction provided that these cavities are filled with insulation.
- ~~4.~~ 5. Construction where the existing roof, wall or floor cavity is not exposed.
- ~~5.~~ 6. Reroofing for roofs where neither the sheathing nor the insulation is exposed. Roofs without insulation in the cavity and where the sheathing or insulation is exposed during reroofing shall be insulated either above or below the sheathing.
- ~~6.~~ 7. Replacement of existing doors that separate conditioned space from the exterior shall not require the installation of a vestibule or revolving door, provided, however, that an existing vestibule that separates a conditioned space from the exterior shall not be removed,
- ~~7.~~ 8. Alterations that replace less than 50 percent of the luminaires in a space, provided that such alterations do not increase the installed interior lighting power.
- ~~8.~~ 9. Alterations that replace only the bulb and ballast within the existing luminaires in a space provided that the alteration does not increase the installed interior lighting power.

R101.4.3 Additions, alterations, renovations or repairs. Additions, alterations, renovations or repairs to an existing building, building system or portion thereof shall conform to the provisions of this code as they relate to new construction without requiring the unaltered portion(s) of the existing building or building system to comply with this code. Additions, alterations, renovations or repairs shall not create an unsafe or hazardous condition or overload existing building systems. An addition shall be deemed to comply with this code if the addition alone complies or if the existing building and addition comply with this code as a single building.

Exception: The following need not comply provided the energy use of the building is not increased:

1. Storm windows installed over existing fenestration.
2. Glass only replacements in an existing sash and frame.
3. Surface applied window film on existing fenestration assemblies.
- ~~3.~~ 4. Existing ceiling, wall or floor cavities exposed during construction provided that these cavities are filled with insulation.
- ~~4.~~ 5. Construction where the existing roof, wall or floor cavity is not exposed.
- ~~5.~~ 6. Reroofing for roofs where neither the sheathing nor the insulation is exposed. Roofs without insulation in the cavity and where the sheathing or insulation is exposed during reroofing shall be insulated either above or below the sheathing.
- ~~6.~~ 7. Replacement of existing doors that separate conditioned space from the exterior shall not require the installation of a vestibule or revolving door, provided, however, that an existing vestibule that separates a conditioned space from the exterior shall not be removed,
- ~~7.~~ 8. Alterations that replace less than 50 percent of the luminaires in a space, provided that such alterations do not increase the installed interior lighting power.
- ~~8.~~ 9. Alterations that replace only the bulb and ballast within the existing luminaires in a space provided that the alteration does not increase the installed interior lighting power.

Date Submitted	7/9/2012	Section	R101.4.7	Proponent	Ann Stanton
Chapter	1	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Modified				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language** No

Related Modifications**Summary of Modification**

Include provisions for new Building systems installed in existing buildings per Ch. 553.903, FS.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901, FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Proposed language is currently in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is currently in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is currently in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is currently in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Proposed language was in the 2010 FBC. It was processed in accordance with an approved plan from the Florida Building Commission for the purpose of maintaining Florida efficiencies.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

R101.4.7 Building systems and components. Thermal efficiency standards are set for the following building systems and components where new products are installed or replaced in existing buildings, and for which a permit must be obtained. New products shall meet the minimum efficiencies allowed by this code for the following systems and components:

Heating, ventilating or air conditioning systems;

Service water or pool heating systems;

Lighting systems.

Replacement Fenestration.

Exceptions:

1. Where part of a functional unit is repaired or replaced. For example, replacement of an entire HVAC system is not required because a new compressor or other part does not meet code when installed with an older system.

2. If the unit being replaced is itself a functional unit, such as a condenser, it does not constitute a repair. Outdoor and indoor units that are not designed to be operated together must meet the U.S. Department of Energy certification requirements contained in Section 403.6.2.1.1. Matched systems are required; this match may be verified by any one of the following means:

a. AHRI data

b. Accredited laboratory

c. Manufacturer's letter

d. Letter from registered P.E. State of Florida

3. Where existing components are utilized with a replacement system, such as air distribution system ducts or electrical wiring for lights, such components or controls need not meet code if meeting code would require that component's replacement.

4. Replacement equipment that would require extensive revisions to other systems, equipment or elements of a building where such replacement is a like-for-like replacement, such as through-the-wall condensing units and PTACs, chillers, and cooling towers in confined spaces.

R101.4.7.1 Replacement HVAC equipment

R101.4.7.1.1 Duct sealing upon equipment replacement (Mandatory). At the time of the total replacement of HVAC evaporators and condensing units for residential buildings, all accessible (a minimum of 30 inches clearance) joints and seams in the air distribution system shall be inspected and sealed where needed 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 has 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.

R101.4.7.1.2 Replacement equipment sizing (Mandatory). An A/C contractor or licensed Florida PE shall submit a nationally recognized method based sizing calculation to the code official at the time of permit application for total replacement of the condensing and evaporator components of HVAC systems for residential buildings in accordance with Florida law and the provisions of Section 403.6.1.

R101.4.7.1.3 Existing equipment efficiencies. Existing cooling and heating equipment need not meet the minimum equipment efficiencies of Sections 403.6.2.2 or 403.6.2.3 except to preserve the original approval or listing of the equipment.

5031-A3

Proponent Eric Lacey **Submitted** 9/23/2012 **Attachments** Yes

Rationale

Proposals EN5806, EN5065, and EN5031 incorporate language from Florida Statutes, but eliminate critical terms. If adopted, these proposals would lead to conflict with the statute and more confusion in the regulation of building alterations.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This alternative language will maintain consistency with Florida Statutes and will clarify the code.

Impact to building and property owners relative to cost of compliance with code

There should be no negative impact on building and property owners.

Impact to industry relative to the cost of compliance with code

There should be no impact on industry.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This alternative to EN5031 maintains consistency with Florida Statutes and the 2012 IECC. It also clarifies the code and ensures that quality building products are used in both new and existing buildings undergoing renovations.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This alternative maintains the efficiencies of the 2012 IECC and consistency with Florida Statutes.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No.

Does not degrade the effectiveness of the code

No.

Is the proposed code modification part of a prior code version? No

Alternate Language

5031-A2

Proponent Amy Schmidt **Submitted** 8/27/2012 **Attachments** Yes

Rationale

Allows those who choose to use more efficient equipment to do so and opens up duct sealing exception to other "code approved equivalent" products as the primary section R101.4.7.1.1 does.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

none

Impact to building and property owners relative to cost of compliance with code

none

Impact to industry relative to the cost of compliance with code

none

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

yes

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

does not restrict products as does the original language

Does not degrade the effectiveness of the code

no, it does not

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

YES

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

YES

NO

1st Comment Period History 08/09/2012 - 09/23/2012

	Proponent	Submitted	Attachments
EN5031-G1	BOAF CDC	9/15/2012	No
Comment:			
The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.			
The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)			
This section has some basis in F.S., but needs to be written consistent with the statute language.			
Sections 101.4.7.1 through 101.4.7.2 is based on language derived from F.S. 553.912. However, the statute does not require the building department to collect any documentation nor for the contractor to affix any documentation to the air handler in order to comply with the statute.			

1st Comment Period History 08/09/2012 - 09/23/2012

	Proponent	Submitted	Attachments
EN5031-G2	Joseph Eysie	9/23/2012	No
Comment:			
The Florida Natural Gas Association (FNGA) supports Mod EN5031, requiring minimum efficiency requirements for new products being installed in existing buildings.			

R101.4.7 Building systems. Thermal efficiency standards are set for the following building systems where new products are installed or replaced in existing buildings, and for which a permit must be obtained. New products shall meet the minimum efficiencies allowed by this code for the following systems:

Heating, ventilating or air conditioning systems;

Service water or pool heating systems;

Lighting systems.

Exceptions:

1. Where part of a functional unit is repaired or replaced. For example, replacement of an entire HVAC system is not required because a new compressor or other part does not meet code when installed with an older system.

2. If the unit being replaced is itself a functional unit, such as a condenser, it does not constitute a repair. Outdoor and indoor units that are not designed to be operated together must meet the U.S. Department of Energy certification requirements contained in Section 403.6.2.1.1. Matched systems are required; this match may be verified by any one of the following means:

a. AHRI data

b. Accredited laboratory

c. Manufacturer's letter

d. Letter from registered P.E. State of Florida

3. Where existing components are utilized with a replacement system, such as air distribution system ducts or electrical wiring for lights, such components or controls need not meet code if meeting code would require that component's replacement.

4. Replacement equipment that would require extensive revisions to other systems, equipment or elements of a building where such replacement is a like-for-like replacement, such as through-the-wall condensing units and PTACs, chillers, and cooling towers in confined spaces.

R101.4.7.1 Replacement HVAC equipment

R101.4.7.1.1 Duct sealing upon equipment replacement (Mandatory). At the time of the total replacement of HVAC evaporators and condensing units for residential buildings, all accessible (a minimum of 30 inches clearance) joints and seams in the air distribution system shall be inspected and sealed where needed 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 has 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.

R101.4.7.1.2 Replacement equipment sizing (Mandatory). An A/C contractor or licensed Florida PE shall submit a nationally recognized method based sizing calculation to the code official at the time of permit application for total replacement of the condensing and evaporator components of HVAC systems for residential buildings in accordance with Florida law and the provisions of Section 403.6.1.

R101.4.7.1.3 Existing equipment efficiencies. Existing cooling and heating equipment need not meet the minimum equipment efficiencies of Sections 403.6.2.2 or 403.6.2.3 except to preserve the original approval or listing of the equipment.

R101.4.7 Building systems. Thermal efficiency standards are set for the following building systems where new products are installed or replaced in existing buildings, and for which a permit must be obtained. New products shall meet or exceed the minimum efficiencies allowed by this code for the following systems:

...

R101.4.7.1.1 Duct sealing upon equipment replacement (Mandatory). At the time of the total replacement of HVAC evaporators and condensing units for residential buildings, all accessible (a minimum of 30 inches clearance) joints and seams in the air distribution system shall be inspected and sealed where needed 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 has been accomplished.

Exceptions:

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

Modify Section 101.4.7 as follows:

101.4.7 Building systems and components. Thermal efficiency standards are set for the following building systems and components where new products are installed or replaced in existing buildings, and for which a permit must be obtained. New products shall meet the minimum efficiencies allowed by this code for the following systems and components:

Heating, ventilating or air conditioning systems;

Service water or pool heating systems;

Electrical systems and motors;

Lighting systems;

Replacement Fenestration.

EN5031

The RECA modification to EN 5806, EN5065, and EN5031 above uses the actual terms contained in Section 553.903 of Florida Statutes related to replacement systems and components. Without this change, the 2013 Florida Building Code could cause confusion over the applicability of the code's requirements in existing buildings.

The "Applicability" section of Florida Statutes outlines the categories of buildings, components, and systems over which the Commission has authority:

553.903 Applicability. – This part shall apply to all new and renovated buildings in the state, except exempted buildings, for which building permits are obtained after March 15, 1979, and to the installation or replacement of building systems and components with new products for which thermal efficiency standards are set by the Florida Energy Efficiency Code for Building Construction. The provisions of this part shall constitute a statewide uniform code.

Although the proponents of EN5806 and EN5056 repeat most of the terminology from this important section of Florida Statutes, neither proposal contains the actual language. Using the correct terminology is crucial because it will help Florida's Building Officials avoid confusion over the applicability of the code to replacement systems and components, including replacement fenestration. Section 403.2.6 of the 2012 *IECC* requires replacement fenestration in existing buildings to meet the same thermal efficiency requirements as required for new construction. While windows are commonly referred to as "fenestration systems" or part of the "thermal envelope system," the addition of the statutory term "component" and the inclusion of fenestration to the list of systems for which the Commission has set thermal efficiency standards will add important clarity to the code.

Date Submitted 7/9/2012	Section R103.1.1	Proponent Ann Stanton
Chapter 1	Affects HVHZ No	Attachments No
TAC Recommendation Approved as Modified		
Commission Action Pending Review		

Comments

General Comments No	Alternate Language No
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Related Modifications**Summary of Modification**

Provides for Florida-specific code compliance certification.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901, FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Proposed language is in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

Explanation of Choice

Proposed language was in the 2010 FBC. It was processed in accordance with an approved plan from the Florida Building Commission for the purpose of maintaining Florida efficiencies.

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Proposed language was in the 2010 FBC. It was processed in accordance with an approved plan from the Florida Building Commission for the purpose of maintaining Florida efficiencies.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

R103.1.1 Compliance certification.

R103.1.1.1 Code compliance demonstration.

R103.1.1.1.1 Residential. No license or registration is required to prepare the code compliance form for single-family residential dwellings, duplexes and townhouses.

R103.1.1.1.2 Commercial and multiple-family residential. Completion of procedures demonstrating compliance with this code for multiple-family residential building shall be in accordance with the provisions of Section 481.229, *Florida Statutes*, or Section 471.003, *Florida Statutes*.

Exception: Where HVAC systems are nominal 15 tons per system *or smaller*, air conditioning or mechanical contractors licensed in accordance with Chapter 489, *Florida Statutes*, or State of Florida certified commercial building energy raters may prepare the code compliance form.

R103.1.1.2 Code compliance certification. The building's owner, the owner's architect, or other authorized agent legally designated by the owner shall certify that the building is in compliance with the code, as per Section 553.907, *Florida Statutes*, prior to receiving the permit to begin construction or renovation.

1st Comment Period History

08/09/2012 - 09/23/2012

5033-A1

Proponent Oscar Calleja **Submitted** 9/23/2012 **Attachments** Yes

Rationale

Clarified language to show individual capacity of HVAC equipment under the exception is: less than or equal to a nominal 15 ton system. Previous language showed = 15 tons.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Clarifies who can submit Energy Calculations and Heat Load Calculations.

Impact to building and property owners relative to cost of compliance with code

Neutral

Impact to industry relative to the cost of compliance with code

Neutral

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate

Does not degrade the effectiveness of the code

Does not defrade the effectiveness of the code.

Is the proposed code modification part of a prior code version? No

1st Comment Period History

08/09/2012 - 09/23/2012

EN5033-G1

Proponent BOAF CDC **Submitted** 9/15/2012 **Attachments** No

Comment:

Unnecessary, This is design criteria language already covered in part by F.S. 471 and 481.

The code compliance section (R103.1.1.2) is statute required. It does not need to be brought into the code for enforcement.

R103.1.1 Compliance certification.

R103.1.1.1 Code compliance demonstration.

R103.1.1.1.1 Residential. 103.2.3.1.1 Residential. No license or registration is required to prepare the code compliance form for single-family residential dwellings, duplexes and townhouses.

R103.1.1.1.2 Commercial and multiple-family residential. Completion of procedures demonstrating compliance with this code for multiple-family residential building shall be in accordance with the provisions of Section 481.229, *Florida Statutes*, or Section 471.003, *Florida Statutes*.

Exception: Where HVAC systems are = 15 tons per system, air conditioning or mechanical contractors licensed in accordance with Chapter 489, *Florida Statutes*, or State of Florida certified commercial building energy raters may prepare the code compliance form.

R103.1.1.2 Code compliance certification. The building's owner, the owner's architect, or other authorized agent legally designated by the owner shall certify that the building is in compliance with the code, as per Section 553.907, *Florida Statutes*, prior to receiving the permit to begin construction or renovation.

Text of Modification**R103.1.1 Compliance certification.****R103.1.1.1 Code compliance demonstration.**

R103.1.1.1.1 Residential. 103.2.3.1.1 Residential. No license or registration is required to prepare the code compliance form for single-family residential dwellings, duplexes and townhouses.

R103.1.1.1.2 Commercial and multiple-family residential. Completion of procedures demonstrating compliance with this code for multiple-family residential building shall be in accordance with the provisions of Section 481.229, *Florida Statutes*, or Section 471.003, *Florida Statutes*.

Exception: Where HVAC systems are nominal 15 tons per system *or smaller*, air conditioning or mechanical contractors licensed in accordance with Chapter 489, *Florida Statutes*, or State of Florida certified commercial building energy raters may prepare the code compliance form.

R103.1.1.2 Code compliance certification. The building's owner, the owner's architect, or other authorized agent legally designated by the owner shall certify that the building is in compliance with the code, as per Section 553.907, *Florida Statutes*, prior to receiving the permit to begin construction or renovation.

Date Submitted	7/30/2012	Section	C407.4	Proponent	Ann Stanton
Chapter	4	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Modified				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language** No

Related Modifications**Summary of Modification**

Make documentation of software Florida-specific.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901,FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Proposed language is currently in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is currently in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is currently in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is currently in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Proposed language was in the 2010 FBC. It was processed in accordance with an approved plan from the Florida Building Commission for the purpose of maintaining Florida efficiencies.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

C407.4 Documentation. Documentation verifying that the methods and accuracy of compliance software tools conform to the provisions of this section shall be provided to the Florida Building Commission ~~in accordance with the procedures contained in the Energy Simulation Tool Approval Technical Assistance Manual code official.~~ Computer software utilized for demonstration of code compliance shall have been approved by the Florida Building Commission in accordance with requirements of this code.

C407.4.1 Compliance report. Compliance software tools used to demonstrate code compliance by Section C407 shall generate a report that documents that the *proposed design* has annual energy costs less than or equal to the annual energy costs of the *standard reference design* (see Section C101.5.1). The compliance documentation shall include the following information:

1. Address of the building;
2. An inspection checklist documenting the building component characteristics of the *proposed design* as listed in Table C407.5.1(1). The inspection checklist shall show the estimated annual energy cost for both the *standard reference design* and the *proposed design*;
3. Name of individual completing the compliance report; and
4. Name and version of the compliance software tool.

C407.4.2 Additional documentation. The *code official* shall be permitted to require the following documents:

- ~~1. Documentation of the building component characteristics of the *standard reference design*;~~
12. Thermal zoning diagrams consisting of floor plans showing the thermal zoning scheme for *standard reference design* and *proposed design*;
23. Input and output report(s) from the energy analysis simulation program containing the complete input and output files, as applicable. The output file shall include energy use totals and energy use by energy source and end-use served, total hours that space conditioning loads are not met and any errors or warning messages generated by the simulation tool as applicable;
34. An explanation of any error or warning messages appearing in the simulation tool output; and
45. A certification signed by the builder providing the building component characteristics of the *proposed design* as given in Table C407.5.1(1).

EN5740-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

C407.4 Documentation. Documentation verifying that the methods and accuracy of compliance software tools conform to the provisions of this section shall be provided to the Florida Building Commission in accordance with the procedures contained in the Energy Simulation Tool Approval Technical Assistance Manual code official. ~~Computer software utilized for demonstration of code compliance shall have been approved by the Florida Building Commission in accordance with requirements of this code.~~

C407.4.1 Compliance report. Compliance software tools used to demonstrate code compliance by Section C407 shall generate a report that documents that the proposed design has annual energy costs less than or equal to the annual energy costs of the standard reference design (see Section C101.5.1). The compliance documentation shall include the following information:

1. Address of the building;
2. An inspection checklist documenting the building component characteristics of the proposed design as listed in Table C407.5.1(1). The inspection checklist shall show the estimated annual energy cost for both the standard reference design and the proposed design;
3. Name of individual completing the compliance report; and
4. Name and version of the compliance software tool.

C407.4.2 Additional documentation. The code official shall be permitted to require the following documents:

- ~~1. Documentation of the building component characteristics of the standard reference design;~~
12. Thermal zoning diagrams consisting of floor plans showing the thermal zoning scheme for standard reference design and proposed design;
23. Input and output report(s) from the energy analysis simulation program containing the complete input and output files, as applicable. The output file shall include energy use totals and energy use by energy source and end-use served, total hours that space conditioning loads are not met and any errors or warning messages generated by the simulation tool as applicable;
34. An explanation of any error or warning messages appearing in the simulation tool output; and
45. A certification signed by the builder providing the building component characteristics of the proposed design as given in Table C407.5.1(1).

Date Submitted	7/6/2012	Section	R402.1.1 & 402.1.3	Proponent	Michael Nau
Chapter	4	Affects HVHZ	Yes	Attachments	Yes
TAC Recommendation	Approved as Modified				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications**Summary of Modification**

This proposal establishes a U-factor for Climate Zone 1 and makes allowances for impact product in Florida in the 2013 Code.

Rationale

This keeps climate zone 1 consistent with the U-factors in current 2010 Florida Building Code. It also allows recognition of impact products throughout the state, a life safety issue that Florida currently recognizes and IECC neglected to include in the 2012 Code.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

This proposal simplifies enforcement, as it keeps climate zone 1 consistent with current 2010 Florida Building Code. It also allows recognition of impact products throughout the state, a practice that is also consistent with current code.

Impact to building and property owners relative to cost of compliance with code

No change from existing 2010 Code, no negative impact. This proposal allows a broader range of products than the current 2012 IECC.

Impact to industry relative to the cost of compliance with code

This proposal keeps the values in line with current 2010 Florida Building Code. Industry is already up to date.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, this provides a broader range of energy efficient products suited for the State of Florida.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal provides a more neutral ground for all common fenestration materials.

Does not degrade the effectiveness of the code

No, methodology is consistent with current 2010 code with some added stringency.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

TABLE R402.1.1 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT^a

CLIMATE ZONE	FENESTRATION <i>U</i> -FACTOR ^{bi}	SKYLIGHT ^T <i>U</i> -FACTOR	GLAZED FENESTRATION SHGC ^{b, e}	CEILING <i>R</i> -VALUE	WOOD FRAMING WALL <i>R</i> -VALUE	MASS WALL <i>R</i> -VALUE ⁱ	FLOOR <i>R</i> -VALUE	BASEMENT ^c WALL <i>R</i> -VALUE	SLAB ^d <i>R</i> -VALUE & DEPTH	CRAWL SPACE ^e WALL <i>R</i> -VALUE
1	NR.65	0.75	0.25	30	13	3/4	13	0	0	0
2	0.40	0.65	0.25	38	13	4/6	13	0	0	0
3	0.35	0.55	0.25	38	20 or 13+5 ^h	8/13	19	5/13 ^f	0	5/13
4 except Marine	0.35	0.55	0.40	49	20 or 13+5 ^h	8/13	19	10/13	10, 2 ft	10/13
5 and Marine 4	0.32	0.55	NR	49	20 or 13+5 ^h	13/17	30 ^g	15/19	10, 2 ft	15/19
6	0.32	0.55	NR	49	20+5 or 13+10 ^h	15/20	30 ^g	15/19	10, 4 ft	15/19
7 and 8	0.32	0.55	NR	49	20+5 or 13+10 ^h	19/21	38 ^g	15/19	10, 4 ft	15/19

For SI: 1 foot = 304.8 mm.

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

b. The fenestration *U*-factor column excludes skylights. The SHGC column applies to all glazed fenestration. Exception: Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through 2 where the SHGC for such skylights does not exceed 0.30.

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

d. R-5 shall be added to the required slab edge *R*-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less in Climate Zones 1 through 3 for heated slabs.

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

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

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

- h. First value is cavity insulation, second is continuous insulation or insulated siding, so "13+5" means R-13 cavity insulation plus R-5 continuous insulation or insulated siding. If structural sheathing covers 40 percent or less of the exterior, continuous insulation *R*-value shall be permitted to be reduced by no more than R-3 in the locations where structural sheathing is used – to maintain a consistent total sheathing thickness.
- i. The second *R*-value applies when more than half the insulation is on the interior of the mass wall.

j. For impact rated fenestration complying with Section R301.2.1.2 of the *Florida Building Code, Residential* or Section 1609.1.2 of the *Florida Building Code, Building the maximum U-factor shall be 0.75 in Climate Zone 1 and 0.65 in Climate Zone 2.*

4987-A3

Proponent Eric Lacey **Submitted** 9/23/2012 **Attachments** Yes

Rationale

This exception is unnecessary because there are products that meet both the efficiency and impact rating requirements of the 2012 IECC, and there are other paths to compliance that provide flexibility to products that do not meet these standards.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This alternative to EN4987 will make enforcement more uniform and will ensure that the correct windows are installed statewide.

Impact to building and property owners relative to cost of compliance with code

This alternative will clarify to building owners and operators exactly what the window efficiency requirements are.

Impact to industry relative to the cost of compliance with code

This alternative to EN4987 will add clarity to the code.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This alternative to EN4987 will improve the health, safety, and welfare of the general public by adding clarity to the code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This alternative maintains the efficiencies of the 2012 IECC.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No.

Does not degrade the effectiveness of the code

No.

Is the proposed code modification part of a prior code version? No

4987-A1

Proponent Michael Nau **Submitted** 8/21/2012 **Attachments** Yes

Rationale

This alternate language excludes the removal of Table 401.1.3. This keeps climate zone 1 consistent with U-factors in current 2010 Florida Building Code. It also allows recognition of impact products throughout the state, a life safety issue that Florida currently recognizes and IECC neglected to include in the 2012 Code.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This proposal simplifies enforcement, as it keeps climate zone 1 consistent with current 2010 Florida Building Code. It also allows recognition of impact products throughout the state, a practice that is also consistent with current code.

Impact to building and property owners relative to cost of compliance with code

No change from existing 2010 code, no negative impact. This proposal allows a broader range of products than the current 2012 IECC.

Impact to industry relative to the cost of compliance with code

This proposal keeps the values in line with current 2010 Florida Building Code. Industry is already up to date.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, this provides a broader range of energy efficient products suited for the State of Florida.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal provides a more neutral ground for all common fenestration materials.

Does not degrade the effectiveness of the code

No, methodology is consistent with current 2010 code with some added stringency.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

TABLE R402.1.1 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT^a

CLIMATE ZONE	FENESTRATION U-FACTOR ^{bL}	SKYLIGHT U-FACTOR ^b	GLAZED FENESTRATION SHGC ^{b, e}	CEILING R-VALUE	WOOD FRAMING WALL R-VALUE	MASS WALL R-VALUE ^f	FLOOR R-VALUE	BASEMENT WALL R-VALUE	SLAB R-VALUE & DEPTH ^d	CRAWL SPACE WALL R-VALUE
1	NR <u>0.65</u>	0.75	0.25	30	13	3/4	13	0	0	0
2	0.40	0.65	0.25	38	13	4/6	13	0	0	0
3	0.35	0.55	0.25	38	20 or 13+5^h	8/13	19	5/13^f	0	5/13
4 except Marine	0.35	0.55	0.40	49	20 or 13+5^h	8/13	19	10/13	10, 2 ft	10/13
5 and Marine 4	0.32	0.55	NR	49	20 or 13+5^h	13/17	30^g	15/19	10, 2 ft	15/19
6	0.32	0.55	NR	49	20+5 or 13+10^h	15/20	30^g	15/19	10, 4 ft	15/19
7 and 8	0.32	0.55	NR	49	20+5 or 13+10^h	19/21	38^g	15/19	10, 4 ft	15/19

For SI: 1 foot = 304.8 mm.

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

b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration. Exception: Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through ~~3-2~~ where the SHGC for such skylights does not exceed 0.30.

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

d. R-5 shall be added to the required slab edge R-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less in Climate Zones 1 through 3 for heated slabs.

~~e. There are no SHGC requirements in the Marine Zone.~~

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

~~g.~~ Or insulation sufficient to fill the framing cavity, R-19 minimum.

~~h.~~ First value is cavity insulation, second is continuous insulation or insulated siding, so "13+5" means R-13 cavity insulation plus R-5 continuous insulation or insulated siding.

If structural sheathing covers 40 percent or less of the exterior, continuous insulation R-value shall be permitted to be reduced by no more than R-3 in the locations where structural sheathing is used – to maintain a consistent total sheathing thickness.

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

i. For impact rated fenestration complying with Section R301.2.1.2 of the Florida Building Code, Residential or Section 1609.1.2 of the Florida Building Code, Building the maximum U-factor shall be 0.75 in Climate Zone 1 and 0.65 in Climate Zone 2.

R402.1.3 U-factor alternative.

An assembly with a U-factor equal to or less than that specified in Table R402.1.3 shall be permitted as an alternative to the R-value in Table R402.1.1.

TABLE R402.1.3 EQUIVALENT U-FACTORS^a

CLIMATE ZONE	FENESTRATION U-FACTOR	SKYLIGHT U-FACTOR	CEILING U-FACTOR	FRAME WALL U-FACTOR	MASS WALL U-FACTOR ^b	FLOOR U-FACTOR	BASEMENT WALL U-FACTOR	CRAWL SPACE WALL U-FACTOR
1	0.50	0.75	0.035	0.082	0.197	0.064	0.360	0.477
2	0.40	0.65	0.030	0.082	0.165	0.064	0.360	0.477
3	0.35	0.55	0.030	0.057	0.098	0.047	0.091 ^c	0.136
4 except Marine	0.35	0.55	0.026	0.057	0.098	0.047	0.059	0.065
5 and Marine 4	0.32	0.55	0.026	0.057	0.082	0.033	0.050	0.055
6	0.32	0.55	0.026	0.048	0.060	0.033	0.050	0.055
7 and 8	0.32	0.55	0.026	0.048	0.057	0.028	0.050	0.055

a. Nonfenestration U-factors shall be obtained from measurement, calculation or an approved source.

b. When more than half the insulation is on the interior, the mass wall U-factors shall be a maximum of 0.17 in Climate Zone 1, 0.14 in Climate Zone 2, 0.12 in Climate Zone 3, 0.087 in Climate Zone 4 except Marine, 0.065 in Climate Zone 5 and Marine 4, and 0.057 in Climate Zones 6 through 8.

c. Basement wall U-factor of 0.360 in warm-humid locations as defined by Figure R301.1 and Table R301.1.

TABLE R402.1.1 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT^a

CLIMATE ZONE	FENESTRATION U-FACTOR ^{b1}	SKYLIGHT ^b U-FACTOR	GLAZED FENESTRATION SHGC ^{b, e}	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE ^l	FLOOR R-VALUE	BASEMENT ^c WALL R-VALUE	SLAB ^d R-VALUE & DEPTH	CRAWL SPACE ^c WALL R-VALUE
1	NR 0.65	0.75	0.25	30	13	3/4	13	0	0	0
2	0.40	0.65	0.25	38	13	4/6	13	0	0	0
3	0.35	0.55	0.25	38	20 or 13+5 ^h	8/13	19	5/13 ^f	0	5/13
4 except Marine	0.35	0.55	0.40	49	20 or 13+5 ^h	8/13	19	10 /13	10, 2 ft	10/13
5 and Marine 4	0.32	0.55	NR	49	20 or 13+5 ^h	13/17	30 ^g	15/19	10, 2 ft	15/19
6	0.32	0.55	NR	49	20+5 or 13+10 ^h	15/20	30 ^g	15/19	10, 4 ft	15/19
7 and 8	0.32	0.55	NR	49	20+5 or 13+10 ^h	19/21	38 ^g	15/19	10, 4 ft	15/19

For SI: 1 foot = 304.8 mm.

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

b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration. Exception: Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through 2 where the SHGC for such skylights does not exceed 0.30.

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

d. R-5 shall be added to the required slab edge R-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less in Climate Zones 1 through 3 for heated slabs.

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

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

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

h. First value is cavity insulation, second is continuous insulation or insulated siding, so "13+5" means R-13 cavity insulation plus R-5 continuous insulation or insulated siding.

If structural sheathing covers 40 percent or less of the exterior, continuous insulation R-value shall be permitted to be reduced by no more than R-3 in the locations where structural sheathing is used – to maintain a consistent total sheathing thickness.

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

j. For impact rated fenestration complying with Section R301.2.1.2 of the Florida Building Code, Residential or Section 1609.1.2 of the Florida Building Code, Building the maximum U-factor shall be 0.75 in Climate Zone 1 and 0.65 in Climate Zone 2.

i. For fenestration required to meet the impact rating requirements of ~~rated fenestration complying with~~ Section R301.2.1.2 of the Florida Building Code, Residential or Section 1609.1.2 of the Florida Building Code, Building the maximum U-factor shall be 0.75 in Climate Zone 1 and 0.65 in Climate Zone 2.

.40 U Factor Verse .65 Impact Windows-Annual Energy SummaryRECAP

PGT Industries 7/6/12

City	Climate Zone	.40 U Factor/.25 SHGC			.65 U Factor/ .25 SHGC			Net
		Cooling	Heating	Total	Cooling	Heating	Total	Change
Venice	2	\$ 352.00	\$ 22.00	\$ 374.00	\$ 348.00	\$ 31.00	\$ 379.00	\$ 5.00
Fort Pierce	2	\$ 275.00	\$ 31.00	\$ 306.00	\$ 270.00	\$ 41.00	\$ 311.00	\$ 5.00
Tampa	2	\$ 360.00	\$ 26.00	\$ 386.00	\$ 355.00	\$ 37.00	\$ 392.00	\$ 6.00
Cape Canaveral	2	\$ 315.00	\$ 40.00	\$ 355.00	\$ 312.00	\$ 55.00	\$ 367.00	\$ 12.00
St Augustine	2	\$ 239.00	\$ 96.00	\$ 335.00	\$ 238.00	\$ 123.00	\$ 361.00	\$ 26.00
Pensacola	2	\$ 259.00	\$ 81.00	\$ 340.00	\$ 256.00	\$ 105.00	\$ 361.00	\$ 21.00

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
Venice, FL 34285-

Project Title:
40-25_Venice
Building Type: FLProp2010
Florida Code Example

TMY_City:FL_SARASOTA_BRADENTO
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	2403 kWh	\$288
Cooling Fan	530 kWh	\$64
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	2933 kWh	\$352
Heating Electric	155 kWh	\$19
Heating Fan/Pump	21 kWh	\$3
Mechanical Vent Fan	0 kWh	\$0
Total Heating		\$22
Hot Water	2493 kWh	\$299
Hot Water Pump	0 kWh	\$0
Total Hot Water		\$299
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	12273 kWh	\$1508
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
Assumes net metering		
Total Cost		\$1508

Emissions (Calculated as Total - PV Produced)	
SO2	48.82 Lbs
NOX	28.67 Lbs
CO2	8.29 Tons

EnergyGauge® / USRRPB v3.0

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
Venice, FL 34285-

Project Title:
65-25_Venice
Building Type: FLProp2010
Florida Code Example

TMY_City:FL_SARASOTA_BRADENTO
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	2374 kWh	\$285
Cooling Fan	523 kWh	\$63
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	2897 kWh	\$348
Heating Electric	225 kWh	\$27
Heating Fan/Pump	32 kWh	\$4
Mechanical Vent Fan	0 kWh	\$0
Total Heating		\$31
Hot Water	2494 kWh	\$299
Hot Water Pump	0 kWh	\$0
Total Hot Water		\$299
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	12318 kWh	\$1513
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
Assumes net metering		
Total Cost		\$1513
Emissions	(Calculated as Total - PV Produced)	
SO2	49.00 Lbs	
NOX	28.78 Lbs	
CO2	8.32 Tons	

EnergyGauge® / USRRPB v3.0

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
Fort Pierce, FL 34946-

Project Title:
40-25_StLucie
Building Type: FLProp2010
Florida Code Example

TMY_City:FL_ST_LUCIE_CO_INTL
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	1877 kWh	\$225
Cooling Fan	414 kWh	\$50
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	2291 kWh	\$275
Heating Electric	224 kWh	\$27
Heating Fan/Pump	30 kWh	\$4
Mechanical Vent Fan	0 kWh	\$0
Total Heating		\$31
Hot Water	2552 kWh	\$306
Hot Water Pump	0 kWh	\$0
Total Hot Water		\$306
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	11768 kWh	\$1447
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
<small>Assumes net metering</small>		
Total Cost		\$1447

Emissions	(Calculated as Total - PV Produced)
SO2	46.81 Lbs
NOX	27.50 Lbs
CO2	7.94 Tons

EnergyGauge@ / USRRPB v3.0

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
Fort Pierce, FL 34946-

Project Title:
65-25_StLucie
Building Type: FLProp2010
Florida Code Example

TMY_City:FL_ST_LUCIE_CO_INTL
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	1842 kWh	\$221
Cooling Fan	405 kWh	\$49
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	2247 kWh	\$270
Heating Electric	301 kWh	\$36
Heating Fan/Pump	43 kWh	\$5
Mechanical Vent Fan	0 kWh	\$0
Total Heating		\$41
Hot Water	2552 kWh	\$306
Hot Water Pump	0 kWh	\$0
Total Hot Water		\$306
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	11814 kWh	\$1452
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
<small>Assumes net metering</small>		
Total Cost		\$1452
Emissions (Calculated as Total - PV Produced)		
SO2	47.00 Lbs	
NOX	27.60 Lbs	
CO2	7.98 Tons	

EnergyGauge® / USRRPB v3.0

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
Tampa, FL

Project Title:
40-25_Tampa
Building Type: FLProp2010
Florida Code Example

TMY_City:FL_TAMPA_INTERNATION
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	2457 kWh	\$295
Cooling Fan	542 kWh	\$65
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	2999 kWh	\$360
Heating Electric	193 kWh	\$23
Heating Fan/Pump	26 kWh	\$3
Mechanical Vent Fan	0 kWh	\$0
Total Heating		\$26
Hot Water	2489 kWh	\$299
Hot Water Pump	0 kWh	\$0
Total Hot Water		\$299
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	12377 kWh	\$1520
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
<small>Assumes net metering</small>		
Total Cost		\$1520
Emissions (Calculated as Total - PV Produced)		
SO2	49.23 Lbs	
NOX	28.92 Lbs	
CO2	8.36 Tons	

EnergyGauge® / USRRPB v3.0

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
Tampa, FL

Project Title:
65-25_Tampa
Building Type: FLProp2010
Florida Code Example

TMY_City:FL_TAMPA_INTERNATION
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	2425 kWh	\$291
Cooling Fan	534 kWh	\$64
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	2959 kWh	\$355
Heating Electric	268 kWh	\$32
Heating Fan/Pump	38 kWh	\$5
Mechanical Vent Fan	0 kWh	\$0
Total Heating		\$37
Hot Water	2489 kWh	\$299
Hot Water Pump	0 kWh	\$0
Total Hot Water		\$299
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	12425 kWh	\$1526
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
<small>Assumes net metering</small>		
Total Cost		\$1526
Emissions	(Calculated as Total - PV Produced)	
SO2	49.42 Lbs	
NOX	29.03 Lbs	
CO2	8.39 Tons	

EnergyGauge® / USRRPB v3.0

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
Cape Canaveral, FL 32920-

Project Title:
40-25_Cape Canaveral
Building Type: FLProp2010
Florida Code Example

TMY_City:FL_NASA_SHUTTLE_FCLT
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	2153 kWh	\$258
Cooling Fan	479 kWh	\$57
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	2632 kWh	\$315
Heating Electric	295 kWh	\$35
Heating Fan/Pump	41 kWh	\$5
Mechanical Vent Fan	0 kWh	\$0
Total Heating		\$40
Hot Water	2546 kWh	\$306
Hot Water Pump	0 kWh	\$0
Total Hot Water		\$306
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	12185 kWh	\$1496
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
Assumes net metering		
Total Cost		\$1496
Emissions	(Calculated as Total - PV Produced)	
SO2	48.47 Lbs	
NOX	28.47 Lbs	
CO2	8.23 Tons	

EnergyGauge® / USRRPB v3.0

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
Cape Canaveral, FL 32920-

Project Title:
65-25_Cape Canaveral
Building Type: FLProp2010
Florida Code Example

TMY_City:FL_NASA_SHUTTLE_FCLT
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	2123 kWh	\$255
Cooling Fan	471 kWh	\$57
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	2594 kWh	\$312
Heating Electric	397 kWh	\$48
Heating Fan/Pump	57 kWh	\$7
Mechanical Vent Fan	0 kWh	\$0
Total Heating		\$55
Hot Water	2547 kWh	\$306
Hot Water Pump	0 kWh	\$0
Total Hot Water		\$306
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	12265 kWh	\$1508
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
<small>Assumes net metering</small>		
Total Cost		\$1508
Emissions (Calculated as Total - PV Produced)		
SO2	48.79 Lbs	
NOX	28.66 Lbs	
CO2	8.28 Tons	

EnergyGauge® / USRRPB v3.0

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
St Augustine, FL 32095-

Project Title:
40-25_StAugustine
Building Type: FLProp2010
Florida Code Example

TMY_City:FL_JACKSONVILLE_INTL
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	1634 kWh	\$196
Cooling Fan	358 kWh	\$43
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	1992 kWh	\$239
Heating Electric	701 kWh	\$84
Heating Fan/Pump	101 kWh	\$12
Mechanical Vent Fan	0 kWh	\$0
Total Heating	\$96	
Hot Water	2727 kWh	\$327
Hot Water Pump	0 kWh	\$0
Total Hot Water	\$327	
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	12192 kWh	\$1497
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
Assumes net metering		
Total Cost		\$1497

Emissions	(Calculated as Total - PV Produced)
SO2	48.50 Lbs
NOX	28.48 Lbs
CO2	8.23 Tons

EnergyGauge® / USRRPB v3.0

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
St Augustine, FL 32095-

Project Title:
65-25_StAugustine
Building Type: FLProp2010
Florida Code Example

TMY_City:FL_JACKSONVILLE_INTL
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	1629 kWh	\$195
Cooling Fan	356 kWh	\$43
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	1985 kWh	\$238
Heating Electric	892 kWh	\$107
Heating Fan/Pump	131 kWh	\$16
Mechanical Vent Fan	0 kWh	\$0
Total Heating		\$123
Hot Water	2727 kWh	\$327
Hot Water Pump	0 kWh	\$0
Total Hot Water		\$327
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	12406 kWh	\$1523
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
<small>Assumes net metering</small>		
Total Cost		\$1523
Emissions	(Calculated as Total - PV Produced)	
SO2	49.35 Lbs	
NOX	28.99 Lbs	
CO2	8.38 Tons	

EnergyGauge® / USRRPB v3.0

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
Pensacola, FL 32505-

Project Title:
40-25_Pensacola
Building Type: FLProp2010
Florida Code Example

TMY_City:FL_PENSACOLA_REGIONA
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	1767 kWh	\$212
Cooling Fan	388 kWh	\$47
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	2155 kWh	\$259
Heating Electric	595 kWh	\$71
Heating Fan/Pump	87 kWh	\$10
Mechanical Vent Fan	0 kWh	\$0
Total Heating		\$81
Hot Water	2672 kWh	\$321
Hot Water Pump	0 kWh	\$0
Total Hot Water		\$321
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	12180 kWh	\$1496
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
Assumes net metering		
Total Cost		\$1496

Emissions	(Calculated as Total - PV Produced)
SO2	48.45 Lbs
NOX	28.46 Lbs
CO2	8.22 Tons

EnergyGauge® / USRRPB v3.0

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
Pensacola, FL 32505-

Project Title:
65-25_Pensacola
Building Type: FLProp2010
Florida Code Example

TMY_City:FL_PENSACOLA_REGIONA
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	1749 kWh	\$210
Cooling Fan	384 kWh	\$46
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	2133 kWh	\$256
Heating Electric	758 kWh	\$91
Heating Fan/Pump	113 kWh	\$14
Mechanical Vent Fan	0 kWh	\$0
Total Heating		\$105
Hot Water	2673 kWh	\$321
Hot Water Pump	0 kWh	\$0
Total Hot Water		\$321
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	12348 kWh	\$1517
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
<small>Assumes net metering</small>		
Total Cost		\$1517
Emissions	(Calculated as Total - PV Produced)	
SO2	49.12 Lbs	
NOX	28.85 Lbs	
CO2	8.34 Tons	

EnergyGauge® / USRRPB v3.0

.40 U Factor Verse .65 Impact Windows-Annual Energy SummaryRECAP

PGT Industries 7/6/12

City	Climate Zone	.40 U Factor/.25 SHGC			.65 U Factor/ .25 SHGC			Net
		Cooling	Heating	Total	Cooling	Heating	Total	Change
Venice	2	\$ 352.00	\$ 22.00	\$ 374.00	\$ 348.00	\$ 31.00	\$ 379.00	\$ 5.00
Fort Pierce	2	\$ 275.00	\$ 31.00	\$ 306.00	\$ 270.00	\$ 41.00	\$ 311.00	\$ 5.00
Tampa	2	\$ 360.00	\$ 26.00	\$ 386.00	\$ 355.00	\$ 37.00	\$ 392.00	\$ 6.00
Cape Canaveral	2	\$ 315.00	\$ 40.00	\$ 355.00	\$ 312.00	\$ 55.00	\$ 367.00	\$ 12.00
St Augustine	2	\$ 239.00	\$ 96.00	\$ 335.00	\$ 238.00	\$ 123.00	\$ 361.00	\$ 26.00
Pensacola	2	\$ 259.00	\$ 81.00	\$ 340.00	\$ 256.00	\$ 105.00	\$ 361.00	\$ 21.00

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
Venice, FL 34285-

Project Title:
40-25_Venice
Building Type: FLProp2010
Florida Code Example

TMY_City: FL_SARASOTA_BRADENTO
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	2403 kWh	\$288
Cooling Fan	530 kWh	\$64
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	2933 kWh	\$352
Heating Electric	155 kWh	\$19
Heating Fan/Pump	21 kWh	\$3
Mechanical Vent Fan	0 kWh	\$0
Total Heating		\$22
Hot Water	2493 kWh	\$299
Hot Water Pump	0 kWh	\$0
Total Hot Water		\$299
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	12273 kWh	\$1508
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
Assumes net metering		
Total Cost		\$1508
Emissions (Calculated as Total - PV Produced)		
SO2	48.82 Lbs	
NOX	28.67 Lbs	
CO2	8.29 Tons	

EnergyGauge® / USRRPB v3.0

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
Venice, FL 34285-

Project Title:
65-25_Venice
Building Type: FLProp2010
Florida Code Example

TMY_City:FL_SARASOTA_BRADENTO
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	2374 kWh	\$285
Cooling Fan	523 kWh	\$63
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	2897 kWh	\$348
Heating Electric	225 kWh	\$27
Heating Fan/Pump	32 kWh	\$4
Mechanical Vent Fan	0 kWh	\$0
Total Heating		\$31
Hot Water	2494 kWh	\$299
Hot Water Pump	0 kWh	\$0
Total Hot Water		\$299
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	12318 kWh	\$1513
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
Assumes net metering		
Total Cost		\$1513
Emissions (Calculated as Total - PV Produced)		
SO2	49.00 Lbs	
NOX	28.78 Lbs	
CO2	8.32 Tons	

EnergyGauge® / USRRPB v3.0

Annual Energy Summary

Wholehouse Summary

Energy Gauge
 Anyplace
 Fort Pierce, FL 34946-

Project Title:
 40-25_StLucie
 Building Type: FLProp2010
 Florida Code Example

TMY_City:FL_ST_LUCIE_CO_INTL
 Elec Util: MyFloridaAverage
 Gas Util: MyFloridaAverage
 Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	1877 kWh	\$225
Cooling Fan	414 kWh	\$50
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	2291 kWh	\$275
Heating Electric	224 kWh	\$27
Heating Fan/Pump	30 kWh	\$4
Mechanical Vent Fan	0 kWh	\$0
Total Heating		\$31
Hot Water	2552 kWh	\$306
Hot Water Pump	0 kWh	\$0
Total Hot Water		\$306
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	11768 kWh	\$1447
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
<small>Assumes net metering</small>		
Total Cost		\$1447
Emissions (Calculated as Total - PV Produced)		
SO2	46.81 Lbs	
NOX	27.50 Lbs	
CO2	7.94 Tons	

EnergyGauge@ / USRRPB v3.0

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
Fort Pierce, FL 34946-

Project Title:
65-25_StLucie
Building Type: FLProp2010
Florida Code Example

TMY_City:FL_ST_LUCIE_CO_INTL
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	1842 kWh	\$221
Cooling Fan	405 kWh	\$49
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	2247 kWh	\$270
Heating Electric	301 kWh	\$36
Heating Fan/Pump	43 kWh	\$5
Mechanical Vent Fan	0 kWh	\$0
Total Heating		\$41
Hot Water	2552 kWh	\$306
Hot Water Pump	0 kWh	\$0
Total Hot Water		\$306
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	11814 kWh	\$1452
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
<small>Assumes net metering</small>		
Total Cost		\$1452
Emissions (Calculated as Total - PV Produced)		
SO2	47.00 Lbs	
NOX	27.60 Lbs	
CO2	7.98 Tons	

EnergyGauge® / USRRPB v3.0

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
Tampa, FL

Project Title:
40-25_Tampa
Building Type: FLProp2010
Florida Code Example

TMY_City:FL_TAMPA_INTERNATION
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Consumption	Annual Cost
Cooling Electric	2457 kWh	\$295
Cooling Fan	542 kWh	\$65
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	2999 kWh	\$360
Heating Electric	193 kWh	\$23
Heating Fan/Pump	26 kWh	\$3
Mechanical Vent Fan	0 kWh	\$0
Total Heating		\$26
Hot Water	2489 kWh	\$299
Hot Water Pump	0 kWh	\$0
Total Hot Water		\$299
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	12377 kWh	\$1520
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
Assumes net metering		
Total Cost		\$1520
Emissions	(Calculated as Total - PV Produced)	
SO2	49.23 Lbs	
NOX	28.92 Lbs	
CO2	8.36 Tons	

EnergyGauge® / USRRPB v3.0

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
Tampa, FL

Project Title:
65-25_Tampa
Building Type: FLProp2010
Florida Code Example

TMY_City:FL_TAMPA_INTERNATION
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	2425 kWh	\$291
Cooling Fan	534 kWh	\$64
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	2959 kWh	\$355
Heating Electric	268 kWh	\$32
Heating Fan/Pump	38 kWh	\$5
Mechanical Vent Fan	0 kWh	\$0
Total Heating		\$37
Hot Water	2489 kWh	\$299
Hot Water Pump	0 kWh	\$0
Total Hot Water		\$299
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	12425 kWh	\$1526
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
<small>Assumes net metering</small>		
Total Cost		\$1526
Emissions	(Calculated as Total - PV Produced)	
SO2	49.42 Lbs	
NOX	29.03 Lbs	
CO2	8.39 Tons	

EnergyGauge® / USRRPB v3.0

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
Cape Canaveral, FL 32920-

Project Title:
40-25_Cape Canaveral
Building Type: FLProp2010
Florida Code Example

TMY_City:FL_NASA_SHUTTLE_FCLT
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	2153 kWh	\$258
Cooling Fan	479 kWh	\$57
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	2632 kWh	\$315
Heating Electric	295 kWh	\$35
Heating Fan/Pump	41 kWh	\$5
Mechanical Vent Fan	0 kWh	\$0
Total Heating		\$40
Hot Water	2546 kWh	\$306
Hot Water Pump	0 kWh	\$0
Total Hot Water		\$306
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	12185 kWh	\$1496
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
<small>Assumes net metering</small>		
Total Cost		\$1496
Emissions (Calculated as Total - PV Produced)		
SO2	48.47 Lbs	
NOX	28.47 Lbs	
CO2	8.23 Tons	

EnergyGauge® / USRRPB v3.0

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
Cape Canaveral, FL 32920-

Project Title:
65-25_Cape Canaveral
Building Type: FLProp2010
Florida Code Example

TMY_City:FL_NASA_SHUTTLE_FCLT
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	2123 kWh	\$255
Cooling Fan	471 kWh	\$57
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	2594 kWh	\$312
Heating Electric	397 kWh	\$48
Heating Fan/Pump	57 kWh	\$7
Mechanical Vent Fan	0 kWh	\$0
Total Heating		\$55
Hot Water	2547 kWh	\$306
Hot Water Pump	0 kWh	\$0
Total Hot Water		\$306
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	12265 kWh	\$1508
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
<small>Assumes net metering</small>		
Total Cost		\$1508
Emissions (Calculated as Total - PV Produced)		
SO2	48.79 Lbs	
NOX	28.66 Lbs	
CO2	8.28 Tons	

EnergyGauge® / USRRPB v3.0

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
St Augustine, FL 32095-

Project Title:
40-25_StAugustine
Building Type: FLProp2010
Florida Code Example

TMY_City:FL_JACKSONVILLE_INTL
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	1634 kWh	\$196
Cooling Fan	358 kWh	\$43
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	1992 kWh	\$239
Heating Electric	701 kWh	\$84
Heating Fan/Pump	101 kWh	\$12
Mechanical Vent Fan	0 kWh	\$0
Total Heating	\$96	
Hot Water	2727 kWh	\$327
Hot Water Pump	0 kWh	\$0
Total Hot Water	\$327	
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	12192 kWh	\$1497
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
Assumes net metering		
Total Cost		\$1497

Emissions	(Calculated as Total - PV Produced)
SO2	48.50 Lbs
NOX	28.48 Lbs
CO2	8.23 Tons

EnergyGauge® / USRRPB v3.0

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
St Augustine, FL 32095-

Project Title:
65-25_StAugustine
Building Type: FLProp2010
Florida Code Example

TMY_City:FL_JACKSONVILLE_INTL
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	1629 kWh	\$195
Cooling Fan	356 kWh	\$43
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	1985 kWh	\$238
Heating Electric	892 kWh	\$107
Heating Fan/Pump	131 kWh	\$16
Mechanical Vent Fan	0 kWh	\$0
Total Heating		\$123
Hot Water	2727 kWh	\$327
Hot Water Pump	0 kWh	\$0
Total Hot Water		\$327
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	12406 kWh	\$1523
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
Assumes net metering		
Total Cost		\$1523
Emissions	(Calculated as Total - PV Produced)	
SO2	49.35 Lbs	
NOX	28.99 Lbs	
CO2	8.38 Tons	

EnergyGauge® / USRRPB v3.0

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
Pensacola, FL 32505-

Project Title:
40-25_Pensacola
Building Type: FLProp2010
Florida Code Example

TMY_City:FL_PENSACOLA_REGIONA
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	1767 kWh	\$212
Cooling Fan	388 kWh	\$47
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	2155 kWh	\$259
Heating Electric	595 kWh	\$71
Heating Fan/Pump	87 kWh	\$10
Mechanical Vent Fan	0 kWh	\$0
Total Heating	682 kWh	\$81
Hot Water	2672 kWh	\$321
Hot Water Pump	0 kWh	\$0
Total Hot Water	2672 kWh	\$321
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	12180 kWh	\$1496
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
Assumes net metering		
Total Cost		\$1496
Emissions (Calculated as Total - PV Produced)		
SO2	48.45 Lbs	
NOX	28.46 Lbs	
CO2	8.22 Tons	

EnergyGauge® / USRRPB v3.0

Annual Energy Summary

Wholehouse Summary

Energy Gauge
Anyplace
Pensacola, FL 32505-

Project Title:
65-25_Pensacola
Building Type: FLProp2010
Florida Code Example

TMY_City:FL_PENSACOLA_REGIONA
Elec Util: MyFloridaAverage
Gas Util: MyFloridaAverage
Run Date:

End-Use	Energy Consumption	Annual Cost
Cooling Electric	1749 kWh	\$210
Cooling Fan	384 kWh	\$46
Mechanical Vent Fan	0 kWh	\$0
Total Cooling	2133 kWh	\$256
Heating Electric	758 kWh	\$91
Heating Fan/Pump	113 kWh	\$14
Mechanical Vent Fan	0 kWh	\$0
Total Heating		\$105
Hot Water	2673 kWh	\$321
Hot Water Pump	0 kWh	\$0
Total Hot Water		\$321
Ceiling Fans	0 kWh	\$0
Clothes Washer	0 kWh	\$0
Dishwasher	0 kWh	\$0
Dryer	0 kWh	\$0
Miscellaneous Electric (including lighting)	6671 kWh	\$801
Miscellaneous Therms	20 Therms	\$34
Pool Pump	0 kWh	\$0
Range	0 kWh	\$0
Refrigerator	0 kWh	\$0
Total (kWh)	12348 kWh	\$1517
Total (Therms)	0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
Assumes net metering		
Total Cost		\$1517
Emissions	(Calculated as Total - PV Produced)	
SO2	49.12 Lbs	
NOX	28.85 Lbs	
CO2	8.34 Tons	

EnergyGauge® / USRRPB v3.0

EN4987

We do not think this exception is necessary because there are plenty of impact-rated products available that achieve the 0.40 U-factor/0.25 SHGC requirements of the 2012 *IECC*, and there are multiple other paths to compliance that would still allow windows with higher U-factor and/or SHGC values to be used. However, if an exception is to be created for these fenestration products, we recommend applying the exception only in those cases where windows are *required* to meet the impact rated fenestration requirements. There is no need to exempt large portions of the state from certain efficient window requirements if impact-rated fenestration is not required.

Date Submitted	7/27/2012	Section	R402.2.12	Proponent	Ann Stanton
Chapter	4	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Modified				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications

5051

Summary of Modification

Add Florida-specific criteria for installing air handlers in attics.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901,FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Proposed language is currently in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is currently in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is currently in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is currently in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Proposed language was in the 2010 FBC. It was processed in accordance with an approved plan from the Florida Building Commission for the purpose of maintaining Florida efficiencies.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

Previous Mod 5051 was overwritten due to data leakage. Since Mod 5697 reads the same as the current Mod 5051, Mod 5697 is not needed. Therefore, the alternate language proposed is justified because it was entered and verified in a timely manner, now becoming EN5697-R1 as follows. This requirement has been in the Florida Energy Code for many years; all questions and rationale found in Mod 5697 are true for this revision.

R402.2.12 Common walls/ceilings/floors. Walls, ceilings or floors common to separate conditioned tenancies shall be insulated to a minimum R-11, space permitting.

Exception: Mass common walls shall be insulated to a minimum of R-6.

R403.2.4 Air-handling units. Air handling units shall not be installed in the attic when a home is brought into code compliance by Section R402. Air-handling units shall be allowed in attics for compliance by Section R405 only if the following conditions are met:

1. The service panel of the equipment is located within 6 feet (1829 mm) of an attic access.
2. A device is installed to alert the owner or shut the unit down when the condensation drain is not working properly.
3. The attic access opening is of sufficient size to replace the air handler.
4. A notice is posted on the electric service panel indicating to the homeowner that the air handler is located in the attic. Said notice shall be in all capitals, in 16 point type, with the title and first paragraph in bold:

NOTICE TO HOMEOWNER

A PART OF YOUR AIR-CONDITIONING SYSTEM, THE AIR HANDLER, IS LOCATED IN THE ATTIC. FOR PROPER, EFFICIENT, AND ECONOMIC OPERATION OF THE AIR-CONDITIONING SYSTEM, YOU MUST ENSURE THAT REGULAR MAINTENANCE IS PERFORMED. YOUR AIR-CONDITIONING SYSTEM IS EQUIPPED WITH ONE OR BOTH OF THE FOLLOWING: (1) A DEVICE THAT WILL ALERT YOU WHEN THE CONDENSATION DRAIN IS NOT WORKING PROPERLY OR (2) A DEVICE THAT WILL SHUT THE SYSTEM DOWN WHEN THE CONDENSATION DRAIN IS NOT WORKING. TO LIMIT POTENTIAL DAMAGE TO YOUR HOME, AND TO AVOID DISRUPTION OF SERVICE, IT IS RECOMMENDED THAT YOU ENSURE PROPER WORKING ORDER OF THESE DEVICES BEFORE EACH SEASON OF PEAK OPERATION.

R402.2.12 Common walls/ceilings/floors. Walls, ceilings or floors common to separate conditioned tenancies shall be insulated to a minimum R-11, space permitting.

Exception: Mass common walls shall be insulated to a minimum of R-6.

EN5697-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g) The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

R403.2.4 Air-handling units. Air handling units shall not be installed in the attic when a home is brought into code compliance by Section R402. Air-handling units shall be allowed in attics for compliance by Section R405 only if the following conditions are met:

1. The service panel of the equipment is located within 6 feet (1829 mm) of an attic access.
2. A device is installed to alert the owner or shut the unit down when the condensation drain is not working properly.
3. The attic access opening is of sufficient size to replace the air handler.
4. A notice is posted on the electric service panel indicating to the homeowner that the air handler is located in the attic. Said notice shall be in all capitals, in 16 point type, with the title and first paragraph in bold:

NOTICE TO HOMEOWNER

A PART OF YOUR AIR-CONDITIONING SYSTEM, THE AIR HANDLER, IS LOCATED IN THE ATTIC. FOR PROPER, EFFICIENT, AND ECONOMIC OPERATION OF THE AIR-CONDITIONING SYSTEM, YOU MUST ENSURE THAT REGULAR MAINTENANCE IS PERFORMED. YOUR AIR-CONDITIONING SYSTEM IS EQUIPPED WITH ONE OR BOTH OF THE FOLLOWING: (1) A DEVICE THAT WILL ALERT YOU WHEN THE CONDENSATION DRAIN IS NOT WORKING PROPERLY OR (2) A DEVICE THAT WILL SHUT THE SYSTEM DOWN WHEN THE CONDENSATION DRAIN IS NOT WORKING. TO LIMIT POTENTIAL DAMAGE TO YOUR HOME, AND TO AVOID DISRUPTION OF SERVICE, IT IS RECOMMENDED THAT YOU ENSURE PROPER WORKING ORDER OF THESE DEVICES BEFORE EACH SEASON OF PEAK OPERATION.

Date Submitted	7/10/2012	Section	R403.4.3	Proponent	Ann Stanton
Chapter	4	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Modified				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications**Summary of Modification**

Add Florida-specific water heater efficiencies to the 2013 FBC.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901, FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Proposed language is in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

The IECC relies on federal law to deal with water heater efficiencies; historically, Florida has specified such requirements. At the least, the following Florida-specifics need to be maintained: R403.4.3.2.2.2 Combination service water heating systems, R403.4.3.2.3 Solar water heating systems, and R403.4.4 Heat traps. Combination systems are commonly used in Florida, solar systems are regulated by Florida law, and heat traps are required by Florida law.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

R403.4 Service hot water systems. Energy conservation measures for service hot water systems shall be in accordance with Sections R403.4.1 through R403.4.4 and R403.4.2.

R403.4.1 Circulating hot water systems. (Mandatory). [No change to IECC text]

R403.4.2 Hot water pipe insulation (Prescriptive). [new to code; hot water piping insulation required; no FL-specifics]

R403.4.34 Heat traps (Mandatory). Storage water heaters not equipped with integral heat traps and having vertical pipe risers shall have heat traps installed on both the inlets and outlets. External heat traps shall consist of either a commercially available heat trap or a downward and upward bend of at least 3½ inches (89 mm) in the hot water distribution line and cold water line located as close as possible to the storage tank.

R403.4.4 Water heater efficiencies (Mandatory).

R403.4.4.1 Storage water heater temperature controls.

403.4.4.1.1 Automatic controls. Service water heating systems shall be equipped with automatic temperature controls capable of adjustment from the lowest to the highest acceptable temperature settings for the intended use. The minimum temperature setting range shall be from 100°F to 140°F (38°C to 60°C).

R403.4.4.1.2 Shut down. A separate switch or a clearly marked circuit breaker shall be provided to permit the power supplied to electric service systems to be turned off. A separate valve shall be provided to permit the energy supplied to the main burner(s) of combustion types of service water heating systems to be turned off.

R403.4.4.2 Water heating equipment efficiencies. Water heating equipment installed in residential units shall meet the minimum efficiencies of Table C404.2 in Chapter 4 of the *Florida Building Code, Energy Conservation, Commercial Provisions*, for the type of equipment installed. Equipment used to provide heating functions as part of a combination system shall satisfy all stated requirements for the appropriate water heating category. Solar water heaters shall meet the criteria of Section R403.4.4.2.1.

Residential sized water heaters shall meet the minimum efficiencies of this section. Water heating systems not covered in this section shall meet the minimum efficiencies listed for that system in Section C404 of this code.

R403.4.3.2.1 Electric water heaters. All automatic electric storage water heaters having a storage capacity of 120 gallons (454 L) or less and an input rating of 12 kw or less shall, when tested in accordance with the DOE Uniform Test Method for Measuring the Energy Consumption of Water Heaters, Appendix E to Subpart B, 10 CFR Part 430, meet the performance minimums listed in Table 403.4.3.2.

R403.4.3.2.2 Gas and oil fired water heater efficiencies. All gas and oil fired automatic storage water heaters with capacities of 100 gallons or less and an input rating of 75,000 Btu/h or less (gas) or 105,000 Btu/h or less (oil) shall, when tested in accordance with the DOE Uniform Test Method for Measuring the Energy Consumption of Water Heaters, Appendix E to Subpart B, 10 CFR Part 430, meet the performance minimums listed in Table 403.4.3.2.

R403.4.3.2.2.1 Gas Instantaneous or Tankless Water Heaters. All gas-fired instantaneous (tankless) water heaters that a) initiate heating based on sensing water flow, b) are designed to deliver water at a controlled temperature of less than 180 °F (82 °C), c) have an input less than 200,000 Btu/h (210 MJ/h), d) have a manufacturer's specified storage capacity of less than 2 gallons (7.6 liters) and, e) have either a fixed or variable

burner input shall, when tested 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, meet the performance minimums established in Title 10 CFR 430.32, Energy and Water Conservation Standards and Effective Dates.

R403.4.3.2.2 Combination service water heating and space heating equipment. Service water heating equipment used to provide additional functions (e.g. space heating) as part of a combination (integrated) system shall comply with minimum performance requirements for water heating equipment. 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 Manufacturer's 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.

Combination systems utilizing a storage tank water heater as the heat source for space heating purposes with input ratings of 105,000 Btu/h (360m²/kW) or less shall utilize a water heater listed by the Gas Appliance Manufacturer's 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.

R403.4.3.2.13 Solar water heating systems. Solar systems for domestic hot water production are rated by the annual solar energy factor of the system. The solar energy factor of a system shall be determined from the Florida Solar Energy Center Directory of Certified Solar Systems. Solar collectors shall be tested in accordance with ISO Standard 9806, Test Methods for Solar Collectors, and SRCC Standard TM-1, Solar Domestic Hot Water System and Component Test Protocol. Collectors in installed solar water heating systems should meet the following criteria:

1. Be installed with a tilt angle between 10 degrees and 40 degrees of the horizontal; and
2. Be installed at an orientation within 45 degrees of true south.

TABLE 403.4.3.2

MINIMUM PERFORMANCE STANDARDS WATER HEATING EQUIPMENT:

FIRED STORAGE WATER HEATER MINIMUM ENERGY FACTORS (EF)

<u>TYPE / VOLUME</u>	<u>TANK VOLUME (GALLONS)</u>								
	<u>20</u>	<u>30</u>	<u>40</u>	<u>50</u>	<u>60</u>	<u>70</u>	<u>80</u>	<u>100</u>	<u>120</u>
<u>ELECTRIC: Up to 120 gallon or 12kW input</u>	<u>.94</u>	<u>.93</u>	<u>.92</u>	<u>.90</u>	<u>.88</u>	<u>.86</u>	<u>.84</u>	<u>.81</u>	<u>.78</u>
<u>GAS: Up to 100 gallon or 75,000 Btu/h input</u>	<u>.63</u>	<u>.61</u>	<u>.59</u>	<u>.58</u>	<u>.55</u>	<u>.53</u>	<u>.51</u>	<u>.48</u>	<u>.46</u>
<u>OIL: Up to 50 gallon or 75,000 Btu/h input</u>	<u>---</u>	<u>.53</u>	<u>.51</u>	<u>.50</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>

5053-A1

Proponent Ann Stanton **Submitted** 9/21/2012 **Attachments** Yes

Rationale

The proposed language would remove a lot of unnecessary detail while still ensuring that water heater efficiencies are maintained. Such detail is included in the test standards for the equipment as included in Table C404.2. Installation of heat traps is required by Florida law, as is testing of solar systems.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None. Simplifies the code.

Impact to building and property owners relative to cost of compliance with code

None. Simplifies the code.

Impact to industry relative to the cost of compliance with code

None. Simplifies the code.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Simplifies the code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Simplifies the code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Simplifies the code.

Does not degrade the effectiveness of the code

No. Simplifies the code.

Is the proposed code modification part of a prior code version? No

EN5053-G1

Proponent BOAF CDC **Submitted** 9/15/2012 **Attachments** No

Comment:

Unnecessary,

These changes do not make any difference to the energy efficiency of a building. Section R403.4.3.1.2 is for shutting off power, but does not say when or why. This requirement is already provided for servicing in the electrical code.

Water heater efficiencies are based on National Standards already covered by the IECC.

No reason to modify the base code.

R403.4 Service hot water systems. Energy conservation measures for service hot water systems shall be in accordance with Sections R403.4.1 through R403.4.4 and R403.4.2.

R403.4.1 Circulating hot water systems. (Mandatory). [No change to IECC text]

R403.4.2 Hot water pipe insulation (Prescriptive). [new to code; hot water piping insulation required; no FL-specifics]

R403.4.3 Water heater efficiencies.

R403.4.3.1 Storage water heater temperature controls.

403.4.3.1.1 Automatic controls. Service water heating systems shall be equipped with automatic temperature controls capable of adjustment from the lowest to the highest acceptable temperature settings for the intended use. The minimum temperature setting range shall be from 100°F to 140°F (38°C to 60°C).

403.4.3.1.2 Shut down. A separate switch or a clearly marked circuit breaker shall be provided to permit the power supplied to electric service systems to be turned off. A separate valve shall be provided to permit the energy supplied to the main burner(s) of combustion types of service water heating systems to be turned off.

R403.4.3.2 Water heater efficiencies. Residential sized water heaters shall meet the minimum efficiencies of this section. Water heating systems not covered in this section shall meet the minimum efficiencies listed for that system in Section C404 of this code.

R403.4.3.2.1 Electric water heaters. All automatic electric storage water heaters having a storage capacity of 120 gallons (454 L) or less and an input rating of 12 kw or less shall, when tested in accordance with the DOE *Uniform Test Method for Measuring the Energy Consumption of Water Heaters*, Appendix E to Subpart B, 10 CFR Part 430, meet the performance minimums listed in Table 403.4.3.2.

R403.4.3.2.2 Gas- and oil-fired water heater efficiencies. All gas- and oil-fired automatic storage water heaters with capacities of 100 gallons or less and an input rating of 75,000 Btu/h or less (gas) or 105,000 Btu/h or less (oil) shall, when tested in accordance with the DOE *Uniform Test Method for Measuring the Energy Consumption of Water Heaters*, Appendix E to Subpart B, 10 CFR Part 430, meet the performance minimums listed in Table 403.4.3.2.

R403.4.3.2.2.1 Gas Instantaneous or Tankless Water Heaters. All gas-fired instantaneous (tankless) water heaters that a) initiate heating based on sensing water flow, b) are designed to deliver water at a controlled temperature of less than 180 °F (82 °C), c) have an input less than 200,000 Btu/h (210 MJ/h), d) have a manufacturer's specified storage capacity of less than 2 gallons (7.6 liters) and, e) have either a fixed or variable burner input shall, when tested 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, meet the performance minimums established in Title 10 CFR 430.32, Energy and Water Conservation Standards and Effective Dates.

R403.4.3.2.2.2 Combination service water heating and space heating equipment. Service water heating equipment used to provide additional functions (e.g. space heating) as part of a combination (integrated) system shall comply with minimum performance requirements for water heating equipment. 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 Manufacturer's 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.

Combination systems utilizing a storage tank water heater as the heat source for space heating purposes with input ratings of 105,000 Btu/h (360m³/kW) or less shall utilize a water heater listed by the Gas Appliance Manufacturer's 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.

R403.4.3.2.3 Solar water heating systems. Solar systems for domestic hot water production are rated by the annual solar energy factor of the system. The solar energy factor of a system shall be determined from the Florida Solar Energy Center Directory of Certified Solar Systems. Solar collectors shall be tested in accordance with ISO Standard 9806, *Test Methods for Solar Collectors*, and SRCC Standard TM-1, *Solar Domestic Hot Water System and Component Test Protocol*. Collectors in installed solar water heating systems should meet the following criteria:

1. Be installed with a tilt angle between 10 degrees and 40 degrees of the horizontal; and
2. Be installed at an orientation within 45 degrees of true south.

TABLE 403.4.3.2

MINIMUM PERFORMANCE STANDARDS WATER HEATING EQUIPMENT:

FIRED STORAGE WATER HEATER MINIMUM ENERGY FACTORS (EF)

<u>TYPE / VOLUME</u>	<u>TANK VOLUME (GALLONS)</u>								
	<u>20</u>	<u>30</u>	<u>40</u>	<u>50</u>	<u>60</u>	<u>70</u>	<u>80</u>	<u>100</u>	<u>120</u>
<u>ELECTRIC: Up to 120 gallon or 12kW input</u>	<u>.94</u>	<u>.93</u>	<u>.92</u>	<u>.90</u>	<u>.88</u>	<u>.86</u>	<u>.84</u>	<u>.81</u>	
<u>GAS: Up to 100 gallon or 75,000 Btu/h input</u>	<u>.63</u>	<u>.61</u>	<u>.59</u>	<u>.58</u>	<u>.55</u>	<u>.53</u>	<u>.48</u>		
<u>OIL: Up to 50 gallon or 75,000 Btu/h input</u>	<u>---</u>	<u>.53</u>	<u>.51</u>	<u>.50</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>

R403.4.4 Heat traps. Storage water heaters not equipped with integral heat traps and having vertical pipe risers shall have heat traps installed on both the inlets and outlets. External heat traps shall consist of either a commercially available heat trap or a downward and upward bend of at least 3½ inches (89 mm) in the hot water distribution line and cold water line located as close as possible to the storage tank.

R403.4 Service hot water systems. Energy conservation measures for service hot water systems shall be in accordance with Sections R403.4.1 through R403.4.4 and R403.4.2.

R403.4.1 Circulating hot water systems. (Mandatory). [No change to IECC text]

R403.4.2 Hot water pipe insulation (Prescriptive). [new to code; hot water piping insulation required; no FL-specifics]

R403.4.34 Heat traps (Mandatory). Storage water heaters not equipped with integral heat traps and having vertical pipe risers shall have heat traps installed on both the inlets and outlets. External heat traps shall consist of either a commercially available heat trap or a downward and upward bend of at least 3½ inches (89 mm) in the hot water distribution line and cold water line located as close as possible to the storage tank.

R403.4.4 Water heater efficiencies (Mandatory).

R403.4.4.1 Storage water heater temperature controls.

403.4.4.1.1 Automatic controls. Service water heating systems shall be equipped with automatic temperature controls capable of adjustment from the lowest to the highest acceptable temperature settings for the intended use. The minimum temperature setting range shall be from 100°F to 140°F (38°C to 60°C).

403.4.4.1.2 Shut down. A separate switch or a clearly marked circuit breaker shall be provided to permit the power supplied to electric service systems to be turned off. A separate valve shall be provided to permit the energy supplied to the main burner(s) of combustion types of service water heating systems to be turned off.

R403.4.4.2 Water heating equipment efficiencies. Water heating equipment installed in residential units shall meet the minimum efficiencies of Table C404.2 in Chapter 4 of the Florida Building Code, Energy Conservation, Commercial Provisions, for the type of equipment installed. Equipment used to provide heating functions as part of a combination system shall satisfy all stated requirements for the appropriate water heating category. Solar water heaters shall meet the criteria of Section R403.4.4.2.1.

Residential sized water heaters shall meet the minimum efficiencies of this section. Water heating systems not covered in this section shall meet the minimum efficiencies listed for that system in Section C404 of this code.

R403.4.3.2.1 Electric water heaters. All automatic electric storage water heaters having a storage capacity of 120 gallons (454 L) or less and an input rating of 12 kw or less shall, when tested in accordance with the DOE Uniform Test Method for Measuring the Energy Consumption of Water Heaters, Appendix E to Subpart B, 10 CFR Part 430, meet the performance minimums listed in Table 403.4.3.2.

R403.4.3.2.2 Gas and oil fired water heater efficiencies. All gas and oil fired automatic storage water heaters with capacities of 100 gallons or less and an input rating of 75,000 Btu/h or less (gas) or 105,000 Btu/h or less (oil) shall, when tested in accordance with the DOE Uniform Test Method for Measuring the Energy Consumption of Water Heaters, Appendix E to Subpart B, 10 CFR Part 430, meet the performance minimums listed in Table 403.4.3.2.

R403.4.3.2.2.1 Gas Instantaneous or Tankless Water Heaters. All gas fired instantaneous (tankless) water heaters that a) initiate heating based on sensing water flow, b) are designed to deliver water at a controlled temperature of less than 180 °F (82 °C), c) have an input less than 200,000 Btu/h (210 MJ/h), d) have a manufacturer's specified storage capacity of less than 2 gallons (7.6 liters) and, e) have either a fixed or variable burner input shall, when tested 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, meet the performance minimums established in Title 10 CFR 430.32, Energy and Water Conservation Standards and Effective Dates.

R403.4.3.2.2 Combination service water heating and space heating equipment. Service water heating equipment used to provide additional functions (e.g. space heating) as part of a combination (integrated) system shall comply with minimum performance requirements for water heating equipment. 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_{ep}) listed for the appliance by the Gas Appliance Manufacturer's 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.

Combination systems utilizing a storage tank water heater as the heat source for space heating purposes with input ratings of 105,000 Btu/h (360m³/kW) or less shall utilize a water heater listed by the Gas Appliance Manufacturer's 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.

R403.4.43.2.13 Solar water heating systems. Solar systems for domestic hot water production are rated by the annual solar energy factor of the system. The solar energy factor of a system shall be determined from the Florida Solar Energy Center Directory of Certified Solar Systems. Solar collectors shall be tested in accordance with ISO Standard 9806, Test Methods for Solar Collectors, and SRCC Standard TM-1, Solar Domestic Hot Water System and Component Test Protocol. Collectors in installed solar water heating systems should meet the following criteria:

1. Be installed with a tilt angle between 10 degrees and 40 degrees of the horizontal; and
2. Be installed at an orientation within 45 degrees of true south.

TABLE 403.4.3.2

MINIMUM PERFORMANCE STANDARDS WATER HEATING EQUIPMENT:

FIRED STORAGE WATER HEATER MINIMUM ENERGY FACTORS (EF)

<u>TYPE / VOLUME</u>	<u>TANK VOLUME (GALLONS)</u>								
	<u>20</u>	<u>30</u>	<u>40</u>	<u>50</u>	<u>60</u>	<u>70</u>	<u>80</u>	<u>100</u>	<u>120</u>
<u>ELECTRIC: Up to 120 gallon or 12kW input</u>	<u>.94</u>	<u>.93</u>	<u>.92</u>	<u>.90</u>	<u>.88</u>	<u>.86</u>	<u>.84</u>	<u>.81</u>	
<u>GAS: Up to 100 gallon or 75,000 Btu/h input</u>	<u>.63</u>	<u>.61</u>	<u>.59</u>	<u>.58</u>	<u>.55</u>	<u>.53</u>	<u>—</u>	<u>.48</u>	<u>—</u>
<u>OIL: Up to 50 gallon or 75,000 Btu/h input</u>	<u>—</u>	<u>.53</u>	<u>.51</u>	<u>.50</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

Total Mods for **Energy** in **Approved as Submitted**: 40

Total Mods for report: 79

Sub Code: Energy Conservation

Date Submitted	8/2/2012	Section	Form R400D	Proponent	Ann Stanton
Chapter	9	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Submitted				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language** No

Related Modifications**Summary of Modification**

Need to update energy code form for residential prescriptive code compliance.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901,FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Proposed language is currently in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is currently in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is currently in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is currently in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Proposed language was in the 2010 FBC. It was processed in accordance with an approved plan from the Florida Building Commission for the purpose of maintaining Florida efficiencies.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

EN6010-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

[

FORM R400D-~~2013~~ 2010

DESUPERHEATER, HEAT RECOVERY UNIT (HRU) WATER HEATER

EFFICIENCY CERTIFICATION

TESTS CONDUCTED IN ACCORDANCE WITH

AHRI STANDARD 470

Laboratory: _____ Date of Test: _____

Report Approved By: _____ Report No: _____

Manufacturer: _____ Model No: _____

Construction Type: _____

Recommended for use with refrigeration system capacities of _____ tons.

Design Pressure: _____ Water side _____ psig

Refrigerant side _____ psig

Test results at Standard Conditions:

Test refrigerant designation: _____

Tested at system capacity: _____ Tons

Total system hot gas superheat: _____ Btu/h

Total useful heat exchange effect: _____ Btu/h

Water pump input: _____ Watts

NET SUPERHEAT RECOVERY: _____ %

Date Submitted 7/10/2012
Chapter 1

Section C101.4.10
Affects HVHZ No

Proponent Ann Stanton
Attachments No

TAC Recommendation Approved as Submitted
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

Summary of Modification

Add Florida-specific Limited or special use buildings category to the code from the 2010 FBC.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901, FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None. Proposed language is in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Proposed language is in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Florida-specific criteria provides an out for buildings that have special circumstances that make it difficult to comply with the code.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

EN5067-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

C101.4.10 Limited or special use buildings. Buildings determined by the code official to have a limited energy use potential based on size, configuration or time occupied, or to have a special use requirement shall be considered limited or special use buildings and shall comply with the code by Form C402. Code compliance requirements may be adjusted by the code official to handle such cases when nationally recognized energy analysis procedures have been used to demonstrate that the building would use less energy than a code compliant building of the same configuration.

Date Submitted	7/27/2012	Section	C101.4.9	Proponent	Ann Stanton
Chapter	1	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Submitted				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language** No

Related Modifications**Summary of Modification**

Add Florida-specific criteria for shell buildings.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901,FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Proposed language is currently in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is currently in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is currently in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is currently in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Proposed language was in the 2010 FBC. It was processed in accordance with an approved plan from the Florida Building Commission for the purpose of maintaining Florida efficiencies.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

EN5691-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.
This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g)

C101.4.9 Shell buildings. Nonresidential buildings that are permitted prior to design completion or which will be finished in sections at a time after construction of the shall comply with either Sections C402, C403, C404, C405 and C406 or with Section C407 prior to granting of a permit to build. If Sections C402, C403, C404, C405 and C406 are used, compliance with all applicable code requirements shall be demonstrated when completion of the building (or part of the building) is permitted. If Section C407 is used, all assumptions made about features not installed until later that are not on the building plans shall be listed and appended to the compliance form submitted to the building department. Unless the building is completed as per all assumptions made in the original code compliance submittal, a revised code submittal(s) shall be submitted when completion of the building (or part of the building) is permitted.

Date Submitted	7/10/2012	Section	C101.5.1	Proponent	Ann Stanton
Chapter	1	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Submitted				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications**Summary of Modification**

Add Florida-specific compliance matters requirements to the 2013 code.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901, FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Proposed language is in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

In order to maintain code compliance consistency statewide, responsibility for approving code compliance methodology belongs with the Florida Building Commission.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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EN5071-G1

Comment:

This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g)
The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process
The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

C101.5.1 Compliance materials. The Florida Building Commission code official shall be permitted to approve specific computer software, worksheets, compliance manuals and other similar materials that meet the intent of this code. Commission approved code compliance demonstration forms can be found in Table C101.5.1.

C101.5.1.1 Residential = 3 stories. See *Florida Building Code, Energy Conservation: Residential Provisions*.

C101.5.1.2 Commercial and residential >3 stories.

C101.5.1.2.1 Building thermal envelope alternative. An accurately completed Commercial Building Form C402 shall be submitted to the building official for to demonstrate code compliance by this method.

C101.5.1.2.2 Simulated performance alternative, commercial and high-rise residential. An accurately completed Commercial Building Form C407 (generated by Commission approved software) demonstrating that code compliance has been achieved shall be submitted to the building official for compliance by Section C407.

C101.5.1.2.3 ASHRAE 90.1 Alternative. An accurately completed ASHRAE 90.1 form approved by the Florida Building Commission shall be submitted for compliance by this alternative.

TABLE C101.5.1

INDEX TO CODE COMPLIANCE FORMS

<u>FORM</u>	<u>WHERE FOUND</u>
<u>Form C402</u>	-
<u>Florida EZ Com computer printout</u>	<u>Appendix C</u>
<u>Form C407 (Commission approved software printout)</u>	
<u>ASHRAE 90.1 alternative calculation printout</u>	

Date Submitted 7/10/2012
Chapter 1

Section C103.1.1
Affects HVHZ No

Proponent Ann Stanton
Attachments No

TAC Recommendation Approved as Submitted
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

Summary of Modification

Add Florida-specific commercial & residential highrise building certification criteria to the 2013 FBC.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901, FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None. Proposed language is in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Proposed language is in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Florida-specific certification criteria have been in effect for years and are proposed in accordance with the provisions of Chapters 481.229, FS, 471.003, F.S. and 489, F.S.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

EN5069-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

Unnecessary, This is a design limitation derived from Florida Statute. It is not a "Building Code" issue. Building Departments currently enforce the design requirements of F.S. 471 and 481 without having those incorporated into the base code.

C103.1.1 Compliance certification.

C103.1.1.1 Code compliance demonstration.

C103.1.1.1.1 Residential. *See Florida Building Code, Energy Conservation: Residential Provisions.*

C103.1.1.1.2 Commercial and multiple-family residential. Completion of procedures demonstrating compliance with this code for multiple-family residential building shall be in accordance with the provisions of Section 481.229, Florida Statutes, or Section 471.003, Florida Statutes.

Exception: Where HVAC systems are = 15 tons per system, air conditioning or mechanical contractors licensed in accordance with Chapter 489, Florida Statutes, or State of Florida certified commercial building energy raters may prepare the code compliance form.

Design professionals responsible under Florida law for the design of lighting, electrical, mechanical, and plumbing systems and the building shell, shall certify compliance of those building systems with the code by signing and providing their professional registration number on the energy code form provided as part of the plans and specifications to the building department.

C103.1.1.2 Code compliance certification. The building's owner, the owner's architect, or other authorized agent legally designated by the owner shall certify that the building is in compliance with the code, as per Section 553.907, Florida Statutes, prior to receiving the permit to begin construction or renovation.

Date Submitted 7/27/2012
Chapter 1

Section C107-109
Affects HVHZ No

Proponent Ann Stanton
Attachments No

TAC Recommendation Approved as Submitted
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

5069

Summary of Modification

Reserve FL-specific administrative provisions.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901,FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Proposed language is currently in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is currently in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is currently in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is currently in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Proposed language was in the 2010 FBC. It was processed in accordance with an approved plan from the Florida Building Commission for the purpose of maintaining Florida efficiencies.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

EN5695-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

This code requirement should not be removed per the Commission' 2013 FBC update process. "IBC requirements not applicable to Florida (i.e.; snow and seismic requirements) remain in the Code for purposes of formatting consistency with the Foundation Codes."

Commission Actions: on January 30, 2012.

Motion—The Commission voted unanimously 17 – 0 in favor, to adopt the package of recommendations proposed by the 2013 Code Update Process Ad Hoc Committee as presented.

SECTION C107

FEES

RESERVED [Delete section in its entirety]

SECTION C108

STOP WORK ORDER

C108.1 Authority. [No change]

C108.2 Issuance. [No change]

C108.3 Emergencies. Reserved.

C108.4 Failure to comply. Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to penalties as prescribed by law. ~~liable to a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.~~

SECTION C109

BOARD OF APPEALS

RESERVED [Delete section in its entirety]

Date Submitted	7/10/2012	Section	C110	Proponent	Ann Stanton
Chapter	1	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Submitted				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language** No

Related Modifications**Summary of Modification**

Add reporting requirements from the 2010 energy code.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901, FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Proposed language is in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

This Florida-specific requirement from the 2010 code provides for data tracking and reporting on construction trends in Florida.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

SECTION C110**REPORTING**

C110.0 Reporting to entity representing the Florida Building Commission. A reporting form shall be submitted to the local building department by the owner or owner's agent with the submittal certifying compliance with this code. Reporting forms shall be a copy of the front page of the form applicable for the code chapter under which compliance is demonstrated.

C110.1 Reporting schedule. It shall be the responsibility of the local building official to forward the reporting section of the proper form to the entity representing the Florida Building Commission on a quarterly basis as per the reporting schedule in Table C110.1.

TABLE C110.1**REPORTING SCHEDULE**

	Group I*	Group II*	Group III*
Quarter 1	12/31	1/31	2/28
Quarter 2	3/31	4/30	5/31
Quarter 3	6/30	7/31	8/31
Quarter 4	9/30	10/31	11/30

*See Appendix A of this chapter for group designations.

Date Submitted	7/9/2012	Section	R101.4.8	Proponent	Ann Stanton
Chapter	1	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Submitted				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language** No

Related Modifications**Summary of Modification**

Provides Florida-specific code exemptions per S. 553.905, FS, etc.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901, FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Proposed language is currently in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is currently in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is currently in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is currently in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

OTHER

Explanation of Choice

Some of the exemptions are in the IECC. They are referenced from the proposal.

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Proposed language was in the 2010 FBC. It was processed in accordance with an approved plan from the Florida Building Commission for the purpose of maintaining Florida efficiencies.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

R101.4.8 Exempt buildings. Buildings exempt from the provisions of the *Florida Building Code, Energy Conservation*, include existing buildings except those considered renovated buildings, changes of occupancy type, or previously unconditioned buildings to which comfort conditioning is added. Exempt buildings include those specified in Sections R101.4.8.1 through R101.4.8.4.

R101.4.8.1 Federal standards. Any building for which federal mandatory standards preempt state energy codes

R101.4.8.2 Hunting or recreational buildings < 1,000 square feet. Any building of less than 1,000 square feet (93 m²) whose primary use is not as a principal residence and which is constructed and owned by a natural person for hunting or similar recreational purposes is exempt from this code; however, no such person may build more than one exempt building in any 12-month period.

R101.4.8.3 Historic buildings. Any building meeting the criteria for historic buildings in Section R101.4.2.

R101.4.8.4 Low energy buildings as described in Section R101.5.2. Such buildings shall not contain electrical, plumbing or mechanical systems which have been designed to accommodate the future installation of heating or cooling equipment.

Date Submitted 7/27/2012	Section R101.5.1	Proponent Ann Stanton
Chapter 1	Affects HVHZ No	Attachments No
TAC Recommendation	Approved as Submitted	
Commission Action	Pending Review	

Comments

General Comments No **Alternate Language** No

Related Modifications**Summary of Modification**

Add Florida-specific code compliance forms for residential buildings.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901,FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Proposed language is currently in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is currently in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is currently in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is currently in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Proposed language was in the 2010 FBC. It was processed in accordance with an approved plan from the Florida Building Commission for the purpose of maintaining Florida efficiencies.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

EN5693-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g)

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)
The proposed amendment does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

R101.5.1 Compliance materials. The Florida Building Commission code official shall be permitted to approve specific computer software, worksheets, compliance manuals and other similar materials that meet the intent of this code. Commission approved code compliance demonstration forms can be found in Table R101.5.1.

R101.5.1.1 Residential = 3 stories.

R101.5.1.1.1 Building thermal envelope alternative. An accurately completed Residential Building Form R402 shall be submitted to the code official to demonstrate code compliance by this method. Alternatively, a Florida REScheck computer printout may be submitted to demonstrate compliance by Sections R402, R403 and R404.

R101.5.1.1.2 Simulated performance alternative. An accurately completed Residential Building Form R405 (generated by Commission approved software) demonstrating that code compliance has been achieved shall be submitted to the building official for compliance by Section R405.

R101.5.1.2 Commercial and residential >3 stories. See *Florida Building Code, Energy Conservation: Commercial Provisions.*

TABLE R101.5.1

INDEX TO CODE COMPLIANCE FORMS

<u>FORM</u>	<u>WHERE FOUND</u>
<u>Form R402</u>	<u>Appendix C</u>
<u>Florida REScheck computer printout</u>	
<u>Form R405 (Commission approved software printout)</u>	

Date Submitted	7/27/2012	Section	R107-109	Proponent	Ann Stanton
Chapter	1	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Submitted				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications

5695

Summary of Modification

Reserve FL-specific administrative provisions.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901,FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Proposed language is currently in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is currently in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is currently in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is currently in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Proposed language was in the 2010 FBC. It was processed in accordance with an approved plan from the Florida Building Commission for the purpose of maintaining Florida efficiencies.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

EN5696-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

This code requirement should not be removed per the Commission' 2013 FBC update process. "IBC requirements not applicable to Florida (i.e.; snow and seismic requirements) remain in the Code for purposes of formatting consistency with the Foundation Codes."

Commission Actions: on January 30, 2012.

Motion—The Commission voted unanimously 17 – 0 in favor, to adopt the package of recommendations proposed by the 2013 Code Update Process Ad Hoc Committee as presented.

The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

SECTION R107

FEES

RESERVED [Delete section in its entirety]

SECTION 108

STOP WORK ORDER

R108.1 Authority. [No change]

R108.2 Issuance. [No change]

R108.3 Emergencies. Reserved.

R108.4 Failure to comply. Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to penalties as prescribed by law. ~~liable to a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.~~

SECTION R109

BOARD OF APPEALS

RESERVED [Delete section in its entirety]

Date Submitted	7/10/2012	Section	R110	Proponent	Ann Stanton
Chapter	1	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Submitted				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications**Summary of Modification**

Add energy code reporting forms from 2010 code.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901, FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Proposed language is in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

This Florida-specific requirement provides for data tracking and reporting on construction trends for both residential and commercial building construction in Florida.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

SECTION R110**REPORTING**

R110.0 Reporting to entity representing the Florida Building Commission. A reporting form shall be submitted to the local building department by the owner or owner's agent with the submittal certifying compliance with this code. Reporting forms shall be a copy of the front page of the form applicable for the code chapter under which compliance is demonstrated.

R110.1 Reporting schedule. It shall be the responsibility of the local building official to forward the reporting section of the proper form to the entity representing the Florida Building Commission on a quarterly basis as per the reporting schedule in Table 110.1.

TABLE R110.1**REPORTING SCHEDULE**

	Group I*	Group II*	Group III*
Quarter 1	12/31	1/31	2/28
Quarter 2	3/31	4/30	5/31
Quarter 3	6/30	7/31	8/31
Quarter 4	9/30	10/31	11/30

*See Appendix A of this chapter for group designations.

Date Submitted	7/10/2012	Section	C304	Proponent	Ann Stanton
Chapter	3	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Submitted				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language** No

Related Modifications**Summary of Modification**

Add Florida-specific materials testing and thermal properties criteria from the 2010 FBC.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901, FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Proposed language is in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

The IECC does not provide criteria for determining U-factors, C-factors, F-factors or heat capacities as does the Florida energy code; the goal is a common testing and calculation set of criteria that will level the playing field among product manufacturers and provide guidance to designers as is included in ASHRAE 90.1.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

EN5077-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

SECTION C304**MATERIALS TESTING AND THERMAL PROPERTIES****C304.1 Building material thermal properties, general.**

C304.1.1 Commercial and residential high rise. *R-values for building materials* used to demonstrate code compliance with Chapter C4 shall be taken from ASHRAE 90.1 Normative Appendix A, from manufacturer's product literature or from other nationally recognized engineering sources. Assembly U-factor calculations shall follow the procedure(s) detailed in Section C304.3 or be tested in accordance with procedures(s) described in Section C304.2.

Concrete block R-values shall be calculated using the isothermal planes method or a two-dimensional calculation program, thermal conductivities from ASHRAE 90.1 Normative Appendix A and dimensions from ASTM C90. The parallel path calculation method is not acceptable.

Exception: *R-values for building materials* or thermal conductivities determined from testing in accordance with Section C304.2.

C304.2 Testing of Building Materials Thermal Properties.

C304.2.1 Single materials. If *building material* R-values or thermal conductivities are determined by testing, one of the following test procedures shall be used:

- a. ASTM C177
- b. ASTM C236
- c. ASTM C518

For concrete, the oven-dried conductivity shall be multiplied by 1.2 to reflect the moisture content as typically installed.

C304.2.2 Assembly U-factors. If assembly *U-factors* are determined by testing, ASTM C1363 shall be used. Product samples tested shall be production line material or representative of material as purchased by the consumer or contractor. If the assembly is too large to be tested at one time in its entirety, then either a representative portion shall be tested or different portions shall be tested separately and a weighted average determined. To be representative, the portion tested shall include edges of panels, joints with other panels, typical framing percentages, and thermal bridges.

C304.3 Calculation procedures and assumptions. The following procedures and assumptions shall be used for all Chapter 4 code calculations. R-values for air films, insulation, and *building materials* shall be taken from Sections C304.3.1 or C304.3.2, respectively. In addition, the appropriate assumptions listed, including framing factors, shall be used.

C304.3.1 Air Films: Prescribed R-values for air films shall be as follows:

<u>R-Value</u>	<u>Condition</u>
<u>0.17</u>	<u>All exterior surfaces</u>
<u>0.46</u>	<u>All semi-exterior surfaces</u>
<u>0.61</u>	<u>Interior horizontal surfaces, heat flow up</u>
<u>0.92</u>	<u>Interior horizontal surfaces, heat flow down</u>
<u>0.68</u>	<u>Interior vertical surfaces</u>

C304.3.1.1 Exterior surfaces are areas exposed to the wind.

C304.3.1.2 Semi-exterior surfaces are protected surfaces that face attics, crawl spaces, and parking garages with natural or mechanical ventilation.

C304.3.1.3 Interior surfaces are surfaces within enclosed spaces.

C304.3.1.4 The R-value for cavity airspaces shall be taken from ASHRAE 90.1 Normative Appendix A. No credit shall be given for airspaces in cavities that contain any insulation or less than 0.5 inch (12.7 mm). The values for 3.5 inch (84 mm) cavities shall be used for cavities of that width and greater.

C304.3.2 Assembly U-Factor, C-Factor and F-Factor Calculation

C304.3.2.1 Pre-calculated assembly U-factors, C-factors, F-factors, or heat capacities. The U-factors, C-factors, F-factors, and heat capacities for typical construction assemblies -from ASHRAE 90.1 Normative Appendix A shall be used for all calculations unless otherwise allowed by applicant-determined assembly U-factors, C-factors, F-factors, or heat capacities. Interpolation between values for rated R-values of insulation, including insulated sheathing is allowed; extrapolation beyond values in the ASHRAE 90.1 Normative Appendix A tables is not.

C304.3.2.2 Applicant-determined assembly U-factors, C-factors, F-factors, or heat capacities. If the building official determines that the proposed construction assembly is not adequately represented in the appropriate table of ASHRAE 90.1 Normative Appendix A, the applicant shall determine appropriate values for the assembly using the assumptions in ASHRAE 90.1 Normative Appendix A. An assembly is deemed to be adequately represented if:

a. the interior structure, hereafter referred to as the base assembly, for the class of construction is the same as described in Normative Appendix A and

b. changes in exterior or interior surface building materials added to the base assembly do not increase or decrease the R-value by more than 2 from that indicated in the descriptions in ASHRAE 90.1 Normative Appendix A.

Insulation, including insulated sheathing, is not considered a building material.

Date Submitted 7/5/2012
Chapter 4

Section C402.4.9 Building cavities
Affects HVHZ No

Proponent Kenneth Cureton
Attachments No

TAC Recommendation Approved as Submitted
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

None

Summary of Modification

Add section C402.4.9 Building cavities

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Proposed language is currently adopted by the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Proposed language is currently adopted by the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Proposed language is currently adopted by the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

Proposed language is currently adopted by the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

The proposed code change was submitted in accordance with the Commission's update process for the 2013 FBC in order to maintain the current Florida energy efficiency requirements.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

C402.4.9 Building cavities.

C402.4.9.1 Vented dropped ceiling cavities. Where vented dropped ceiling cavities occur over conditioned spaces, the ceiling shall be considered to be both the upper thermal envelope and pressure envelope of the building and shall contain a continuous air barrier between the conditioned space and the vented unconditioned space that is also sealed to the air barrier of the walls. See the definition of air barrier in Section C202.

C402.4.9.2 Unvented dropped ceiling cavities. Where unvented dropped ceiling cavities occur over conditioned spaces that do not have an air barrier between the conditioned and unconditioned space (such as T-bar ceilings), they shall be completely sealed from the exterior environment (at the roof plane) and adjacent spaces by a continuous air barrier that is also sealed to the air barrier of the walls. In that case, the roof assembly shall constitute both the upper thermal envelope and pressure envelope of the building.

C402.4.9.3 Separate tenancies. Unconditioned spaces above separate tenancies shall contain dividing partitions between the tenancies to form a continuous air barrier that is sealed at the ceiling and roof to prevent air flow between them.

C402.4.9.4 Air distribution system components. Building cavities designed to be air distribution system components shall be sealed according to the criteria for air ducts, plenums, etc. in Section C403.2.7.

Date Submitted 7/6/2012
Chapter 4

Section C403.2.1
Affects HVHZ No

Proponent Ken Cureton
Attachments No

TAC Recommendation Approved as Submitted
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

None

Summary of Modification

MODIFY section C403.2.1 as follows:

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901 and in accordance with the Commission's approved code change process.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

It does not. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

The proposed code change was submitted in accordance with the Commission's update process for the 2013 FBC in order to maintain the current Florida energy efficiency requirements.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

C403.2.1 Calculation of heating and cooling loads. Design loads shall be determined in accordance with the procedures described in the ASHRAE/ACCA Standard 183 or ACCA Manual N and shall be attached to the code compliance form submitted to the building department when the building is permitted or, in the event the mechanical permit is obtained at a later time, the sizing calculation shall be submitted with the application for the mechanical permit. ~~The design loads shall account for the building envelope, lighting, ventilation and occupancy loads based on the project design.~~ Heating and cooling loads shall be adjusted to account for load reductions that are achieved when energy recovery systems are utilized in the HVAC system in accordance with the ASHRAE HVAC Systems and Equipment Handbook. Alternatively, design loads shall be determined by an approved equivalent computation procedure, using the design parameters specified in Chapter

3. **Exception:** Where mechanical systems are designed by a registered engineer, the engineer has the option of submitting a signed and sealed summary sheet to the building department in lieu of the complete sizing calculation(s). Such summary sheet shall include the following (by zone):

1. Project name/owner

2. Project address

3. Area in square feet

4. Sizing method used

5. Outdoor dry bulb use

6. Indoor dry bulb

7. Outdoor wet bulb used

8. Grains water (difference)

9. Total sensible gain

10. Total latent gain

11. Relative humidity

12. Total cooling required with outside air

13. Total heating required with outside air

Date Submitted 7/6/2012
Chapter 4

Section C403.2.4.3.4
Affects HVHZ No

Proponent Ken Cureton
Attachments No

TAC Recommendation Approved as Submitted
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

None

Summary of Modification

Add Section C403.2.4.3.4 Humidistatic Control

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901 and in accordance with the Commission's approved code change process.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

It does not. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

The proposed code change was submitted in accordance with the Commission's update process for the 2013 FBC in order to maintain the current Florida energy efficiency requirements.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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EN4968-G1

Comment:

The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

C403.2.4.3.4 Humidistatic control. Where humidification, or dehumidification, or both is provided, the following shall be met:

1. At least one humidity control device shall be provided for each humidity control system.
2. Controls shall be provided capable of preventing simultaneous operation of humidification and dehumidification equipment.

Exceptions:

1. Zones served by desiccant systems, used with direct evaporative cooling in series.
2. Systems serving zones where specific humidity levels are required, such as computer rooms, museums and hospitals, as approved by the building official.

Date Submitted	7/6/2012	Section	C403.2.7	Proponent	Ken Cureton
Chapter	4	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Submitted				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications

None

Summary of Modification

MODIFY section C403.2.7 Duct and plenum insulation and sealing as follows

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901 and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

It does not. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

The proposed code change was submitted in accordance with the Commission's update process for the 2013 FBC in order to maintain the current Florida energy efficiency requirements.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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EN4969-G1

Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g) The proposed amendment does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

2012 IECC Proposed Code Modifications

Section C403 – Building Mechanical Systems

C403.2.7 Duct and plenum insulation, construction and sealing (Mandatory).

All supply and return air ducts and plenums shall be insulated with a minimum of R-6 insulation where located in unconditioned spaces and a minimum of R-8 insulation where located outside the building. Where located within a building envelope assembly, the duct or plenum shall be separated from the building exterior or unconditioned or exempt spaces by a minimum of R-8 insulation.

Exceptions:

1. Where located within equipment.
2. Where the design temperature difference between the interior and exterior of the duct or plenum does not exceed 15°F (8°C).

All ducts, air handlers and filter boxes shall be sealed. Joints and seams shall comply with section 603.9 of the International Mechanical Code.

C403.2.7.1 Duct construction.

Ductwork shall be constructed and erected in accordance with the International Mechanical Code.

C403.2.7.1 Insulation.

C403.2.7.1.1 Low pressure duct systems.

All longitudinal and transverse joints, seams and connections of supply and return ducts operating at a static pressure less than or equal to 2 inches water gauge (w.g.) (500 Pa) shall be securely fastened and sealed with welds, gaskets, mastics (adhesives), mastic plus embedded fabric systems or tapes installed in accordance with the manufacturer's installation instructions. Pressure classifications specific to the duct system shall be clearly indicated on the construction documents in accordance with the International Mechanical Code.

Exception: Continuously welded and locking type longitudinal joints and seams on ducts operating at static pressures less than 2 inches water gauge (w.g.) (500 Pa) pressure classification.

C403.2.7.1.1 Insulation required. All supply and return air ducts and plenums shall be insulated to the levels shown in Table C403.2.7.1.

Exceptions:

1. When located within equipment.
2. When the design temperature difference between the interior and exterior of the duct or plenum does not exceed 15°F (8°C).

3. For runouts less than 10 feet (3048 mm) in length to air terminals or air outlets, the rated R-value of insulation need not exceed R-5.

4. Backs of air outlets and outlet plenums exposed to unconditioned or indirectly conditioned spaces with face areas exceeding 5 square feet (.46 m²) need not exceed R-2; those 5 square feet (.46 m²) or smaller need not be insulated.

5. Return air ducts meeting all the requirements for building cavities which will be used as return air plenums.

~~**C403.2.7.1.2 Medium pressure duct systems.**~~

~~All ducts and plenums designed to operate at a static pressure greater than 2 inches water gauge (w.g.) (500 Pa) but less than 3 inches w.g. (750 Pa) shall be insulated and sealed in accordance with Section C403.2.7. Pressure classifications specific to the duct system shall be clearly indicated on the construction documents in accordance with the International Mechanical Code.~~

TABLE C403.2.7.1

MINIMUM DUCT INSULATION R-VALUES,

HEATING AND COOLING SUPPLY AND RETURN DUCTS

<u>Location</u>	<u>Supply Duct</u>	<u>Return Duct</u>
<u>Exterior of building</u>	<u>R-6</u>	<u>R-4.2</u>
<u>Ventilated Attic</u>	<u>R-6</u>	<u>R-4.2</u>
<u>Unvented attic above insulated ceiling</u>	<u>R-6</u>	<u>R-4.2</u>
<u>Unvented attic with roof insulation</u>	<u>R-4.2</u>	<u>None</u>
<u>Unconditioned spaces¹</u>	<u>R-4.2</u>	<u>R-4.2</u>
<u>Indirectly conditioned spaces²</u>	<u>None</u>	<u>None</u>
<u>Conditioned spaces</u>	<u>R-4.2</u>	<u>None</u>
<u>Buried</u>		

¹ Includes crawl spaces, both ventilated and non-ventilated.

² Includes return air plenums with or without exposed roofs above.

C403.2.7.1.2 Insulation protection. Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind, but not limited to the following:

1. Insulation exposed to weather shall be suitable for outdoor service, e.g., protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation shall be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation that can cause degradation of the material.

2. Insulation covering cooling ducts located outside the conditioned space shall include a vapor retardant located outside the insulation (unless the insulation is inherently vapor retardant), all penetrations and joints of which shall be sealed.

~~**C403.2.7.1.3 High-pressure duct systems.**~~

~~Ducts designed to operate at static pressures in excess of 3 inches water gauge (w.g.) (750 Pa) shall be insulated and sealed in accordance with Section C403.2.7. In addition, ducts and plenums shall be leak tested in accordance with the SMACNA HVAC Air Duct Leakage Test Manual with the rate of air leakage (CL) less than or equal to 6.0 as determined in accordance with Equation 4-5.~~

$$CL = F/P^{0.65} \quad (\text{Equation 4-5})$$

where:

~~F = The measured leakage rate in cfm per 100 square feet of duct surface.~~

~~P = The static pressure of the test.~~

~~Documentation shall be furnished by the designer demonstrating that representative sections totaling at least 25 percent of the duct area have been tested and that all tested sections meet the requirements of this section.~~

C403.2.7.1.3 Condensation control. Additional insulation with vapor barrier shall be provided where the minimum duct insulation requirements of Section C403.2.7.1.1 are determined to be insufficient to prevent condensation.

C403.2.7.2 Duct construction. All ducts, air handlers, filter boxes, building cavities, mechanical closets and enclosed support platforms that form the primary air containment passageways for air distribution systems shall be considered ducts or plenum chambers and shall be constructed and erected in accordance with Table C403.2.7.2 and with Chapter 6 of the International Mechanical Code. Ducts shall be constructed, braced, reinforced and installed to provide structural strength and durability. All transverse joints, longitudinal seams and fitting connections shall be securely fastened in accordance with the applicable standards of this section.

TABLE C403.2.7.2

DUCT SYSTEM CONSTRUCTION AND SEALING

<u>DUCT TYPE/CONNECTION</u>	<u>SEALING REQUIREMENTS</u>	<u>MECHANICAL ATTACHMENT</u>	<u>TEST STANDARD</u>
<u>Metal duct, rigid and flexible</u>			

<u>Pressures less than 1-inch water gauge</u>	<p>Closure systems as described in Section C403.2.7.3:</p> <ol style="list-style-type: none"> 1. <u>Continuous welds.</u> 2. <u>Snaplock seams, and grooved, standing, double-corner, single-corner and Pittsburgh-lock seams and all other rolled mechanical seams.</u> 3. <u>Mastic, mastic-plus-embedded fabric, or mastic ribbons.</u> 4. <u>Gaskets.</u> 5. <u>Pressure-sensitive tape.</u> 6. <u>Aerosol sealant</u> 	<p><u>Mechanical attachments approved:</u></p> <ol style="list-style-type: none"> 1. <u>Continuous welds.</u> 2. <u>Snaplock seams, and grooved, standing, double-corner, single-corner and Pittsburgh-lock seams and all other rolled mechanical seams.</u> <p><u>Crimp joints for round metal ducts shall have a contact lap of at least 1½ inches (38 mm).</u></p> <p><u>Round metal ducts shall be mechanically fastened by means of at least three sheet-metal screws or rivets equally spaced around the joint.</u>¹</p>	<p><u>SMACNA HVAC Air Duct Leakage Test Manual</u></p>
<u>Pressures 1-inch water gauge or greater</u>	<p>Closure systems as described in Section C403.2.7.3:</p> <ol style="list-style-type: none"> 1. <u>Continuous welds.</u> 2. <u>Mastic or mastic-plus-embedded fabric systems.</u> 3. <u>Gaskets.</u> 	<p><u>Mechanical attachments approved:</u></p> <p><u>Continuous welds.</u></p> <p><u>Round metal ducts shall be mechanically fastened by means of at least three sheet-metal screws or rivets equally spaced around the joint.</u>¹</p>	<p><u>SMACNA HVAC Air Duct Leakage Test Manual</u></p>
<u>High pressure duct systems designed to operate at pressures greater than 3-inch water gauge (4-inch water gauge pressure class)</u>	<p><u>The tested duct leakage class, at a test pressure equal to the design duct pressure class rating, shall be equal to or less than Leakage Class 6. Leakage testing may be limited to representative sections of the duct system but in no case shall such tested sections include less than 25 percent of the total installed duct area for the designated pressure class.</u></p>		<p><u>SMACNA HVAC Air Duct Leakage Test Manual</u></p>
<u>Plastic duct</u>	<p><u>See Section 603.8.3 of the <i>International Mechanical Code.</i></u></p>	<p><u>Joints between plastic ducts and plastic fittings shall be made in accordance with the manufacturer's installation instructions.</u></p>	<p><u>ASTM D 2412</u></p>
<u>Fibrous glass duct.</u>	<p><u>All joints, seams and duct wall penetrations between sections of</u></p>	<p><u>Mechanically fastened per standard to secure the sections</u></p>	<p><u>NAIMA Fibrous Glass</u></p>

<u>rigid.</u>	<p>duct and between duct and other distribution system components shall be sealed with</p> <p>closure systems as described in Section C403.2.7.3:</p> <ol style="list-style-type: none"> 1. Heat-activated tapes. 2. Pressure-sensitive tapes. 3. Mastics or mastic-plus-embedded fabric systems. 	<p>independent of the closure system(s).</p> <p>Attachments of ductwork to air-handling equipment shall be by mechanical fasteners. Where access is limited, two fasteners on one side shall be acceptable.</p>	<p><u>Duct Construction Standards.</u></p> <p>UL 181</p> <p>UL 181A</p>
<u>Flexible duct systems, nonmetal.</u>	<p>All duct collar fittings shall have a minimum 5/8 inch (16 mm) integral flange for sealing to other components and a minimum 3-inch (76 mm) shaft for insertion into the inner duct core.</p> <p>Flexible ducts having porous inner cores shall not be used.</p> <p>Exception: Ducts having a nonporous liner between the porous inner core and the outer jacket. Fastening and sealing requirements shall be applied to such intermediate liners.</p>	<p>Flexible nonmetal ducts shall be joined to all other air distribution system components by either terminal or intermediate fittings.</p> <p>Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL 181B and shall be marked 181B-C.</p> <p>See Section 603.6 of the <i>International Mechanical Code</i> for duct support requirements.</p>	<p>UL 181</p> <p>UL 181B</p> <p>ADC FDPIS</p>
<u>Duct core to duct fitting</u>	<p>The reinforced lining shall be sealed to the duct fitting using one of the following sealing materials which conforms to the approved closure and mechanical attachment requirements of Section C403.2.7.3:</p> <ol style="list-style-type: none"> 1. Gasketing. 2. Mastic, mastic-plus-embedded fabric, or mastic ribbons. 3. Pressure-sensitive tape. 4. Aerosol sealants, provided that their use is consistent with UL 181. 	<p>The reinforced core shall be mechanically attached to the duct fitting by a drawband installed directly over the wire-reinforced core and the duct fitting. The duct fitting shall extend a minimum of 2 inches (51 mm) into each section of duct core. When the flexible duct is larger than 12 inches (303 mm) in diameter or the design pressure exceeds 1-inch water gauge, the drawband shall be secured by a raised bead or indented groove on the fitting.</p>	
<u>Duct outer jacket to duct collar fitting</u>	<p>The outer jacket of a flexible duct section shall be secured at the juncture of the air distribution system</p>		

	<p><u>component and intermediate or terminal fitting in such a way as to prevent excess condensation. The outer jacket of a flexible duct section shall not be interposed between the flange of the duct fitting and the flexible duct, rigid fibrous glass duct board, or sheet metal to which it is mated.</u></p>		
<p><u>Duct collar fitting to rigid duct</u></p>	<p>The duct collar fitting's integral flange shall be sealed to the rigid duct board or sheet metal using one of the following closure systems/materials which conforms to the approved closure and mechanical attachment standards of Section C403.2.7.3:</p> <ol style="list-style-type: none"> 1. Gasketing. 2. Mastic or mastic-plus-embedded fabric systems. 3. Mastic ribbons when used to attach a duct collar to sheet metal. 4. Pressure-sensitive tape. 5. Aerosol sealants, provided that their use is consistent with UL 181. 	<p>The duct collar fitting shall be mechanically attached to the rigid duct board or sheet metal by appropriate mechanical fasteners, either screws, spin-in flanges, or dovetail flanges.</p>	
<p><u>Terminal and intermediate fittings.</u> <u>Fittings and joints between dissimilar duct types</u></p>	<p>Approved closure systems shall be as designated by air distribution system component material type in Section C403.2.7.3.</p> <p>Exception: When the components of a joint are fibrous glass duct board and metal duct, including collar fittings and metal equipment housings, the closure systems approved for fibrous glass duct shall be used.</p> <p>Terminal fittings and air ducts which penetrate the building envelope shall</p>		

<p><u>Terminal fittings and air ducts to building envelope components</u></p>	<p><u>be mechanically attached to the structure and sealed to the envelope component penetrated and shall use one of the following closure systems/materials which conform to the approved closure and mechanical application requirements of Section C403.2.7.3:</u></p> <ol style="list-style-type: none"> <u>1. Mastics or mastic-plus-embedded fabrics.</u> <u>2. Gaskets used in terminal fitting/grille assemblies which compress the gasket material between the fitting and the wall, ceiling or floor sheathing.</u> 		
<p><u>Air-handling units.</u></p>	<p><u>Air-handling units located outside the conditioned space shall be sealed using approved closure systems described in Section C403.2.7.3 for metallic ducts.</u></p>	<p><u>All air-handling units shall be mechanically attached to other air distribution system components.</u></p>	
<p><u>Return plenums.</u></p>	<p><u>Building cavities which will be used as return air plenums shall be lined with a continuous air barrier made of durable nonporous materials. All penetrations to the air barrier shall be sealed with a suitable long-life mastic material.</u></p> <p><u>Exception: Surfaces between the plenum and conditioned spaces from which the return/mixed air is drawn.</u></p> <p><u>Roof decks above building cavities used as a return air plenum shall be insulated to at least R-19.</u></p>		
<p><u>Mechanical closets.</u></p>	<p><u>All joints between the air barriers of walls, ceiling, floor and door framing and all penetrations of the air barrier shall be sealed to the air barrier with approved closure systems. Through-wall, through-floor and through-ceiling air passageways into the closet shall be framed and sealed to form an</u></p>		

	<p><u>air-tight passageway.</u></p> <p><u>Exception: Air passageways into the closet from conditioned space that are specifically designed for return air flow.</u></p> <p><u>The following air barriers are approved for use in mechanical closets:</u></p> <p><u>1. One-half-inch-thick (12.7 mm) or greater gypsum wallboard, taped and sealed with joint compound over taped joints between gypsum wallboard panels.</u></p> <p><u>2. Other panelized materials having inward facing surfaces with an air porosity no greater than that of a duct product meeting Section 22 of UL 181 which are sealed on all interior surfaces to create a continuous air barrier by one of the following:</u></p> <p><u>a. Sealants complying with the product and application standards of this table for fibrous glass ductboard or</u></p> <p><u>b. A suitable long-life caulk or mastic for all applications.</u></p>		
<p><u>Enclosed support platforms in unconditioned spaces.</u></p>	<p><u>Enclosed support platforms located between the return air inlet(s) from conditioned space and the inlet of the air-handling unit or furnace, shall contain a duct section constructed entirely of rigid metal, rigid fibrous glass duct board, or flexible duct which is constructed and sealed according to the respective requirements of Section C403.2.7.2 and insulated according to the requirements of Section C403.2.7.1.</u></p> <p><u>1. No portion of the building structure, including adjoining walls,</u></p>		

	<p><u>floors and ceilings, shall be in contact with the return air stream or function as a component of this duct section</u></p> <p><u>2. The duct section shall not be penetrated by a refrigerant line, chase, refrigerant line, wiring, pipe or any object other than a component of the air distribution system.</u></p> <p><u>3. Through-wall, through-floor and through ceiling penetrations into the duct system shall contain a branch duct fabricated of rigid fibrous glass duct board or rigid metal and shall extend to and be sealed by both the duct section and the grille side wall surface.</u></p>		
		<p><u>The branch duct shall be fabricated and attached to the duct insert in accordance with requirements for the duct type used.</u></p>	

¹ Where a duct connection is made that is partially inaccessible, three screws or rivets shall be equally spaced on the exposed portion of the joint so as to prevent a hinge effect.

C403.2.7.3 Sealing, general (Mandatory). All ducts, air handlers, filter boxes, building cavities, mechanical closets and enclosed support platforms that form the primary air containment passageways for air distribution systems shall be sealed in accordance with the applicable criteria of this section and Table C403.2.7.2.

C403.2.7.3.1 Mechanical fastening. All joints between sections of air ducts and plenums, between intermediate and terminal fittings and other components of air distribution systems, and between subsections of these components shall be mechanically fastened to secure the sections independently of the closure system(s).

C403.2.7.3.2 Sealing. Air distribution system components shall be sealed with approved closure systems.

C403.2.7.3.3 Space provided. Sufficient space shall be provided adjacent to all mechanical components located in or forming a part of the air distribution system to assure adequate access for: (1) construction and sealing in

accordance with the requirements of Section C403.2.7; (2) inspection; and (3) cleaning and maintenance. A minimum of 4 inches (102 mm) is considered sufficient space around air-handling units.

Exception: Retrofit or replacement units not part of a renovation.

C403.2.7.3.4 Product application. Closure products shall be applied to the air barriers of air distribution system components being joined in order to form a continuous barrier or they may be applied in accordance with the manufacturer's instructions or appropriate industry installation standard where more restrictive.

C403.2.7.3.5 Surface preparation. The surfaces upon which closure products are to be applied shall be clean and dry in accordance with the manufacturer's installation instructions.

C403.2.7.3.6 Approved mechanical attachments. Approved mechanical attachments for air distribution system components include screws, rivets, welds, interlocking joints crimped and rolled, staples, twist in (screw attachment), and compression systems created by bend tabs or screw tabs and flanges or by clinching straps. Mechanical attachments shall be selected from Table C403.2.7.2 to be appropriate to the duct system type.

C403.2.7.3.7 Approved closure systems. The following closure systems and materials are approved for air distribution construction and sealing for the applications and pressure classes shown in Table C403.2.7.2

1. Metal closures.

a. Welds applied continuously along metal seams or joints through which air could leak.

b. Snaplock seams, and grooved, standing, double-corner, single-corner and Pittsburgh-lock seams, as defined by SMACNA, as well as all other rolled mechanical seams. All seams shall be rolled or crimped.

2. Gasketing, which achieves a 25/50 flame spread/smoke-density-development rating under ASTM E 84 or UL 723, provided that it is used only between mated surfaces which are mechanically fastened with sufficient force to compress the gasket and to fill all voids and cracks through which air leakage would otherwise occur.

3. Mastic closures. Mastics shall be placed over the entire joint between mated surfaces. Mastics shall not be diluted. Approved mastics include the following:

a. Mastic or mastic-plus-embedded fabric systems applied to fibrous glass ductboard that are listed and labeled in accordance with UL 181A, Part III.

b. Mastic or mastic-plus-embedded fabric systems applied to nonmetal flexible duct that are listed and labeled in accordance with UL 181B, Part II.

c. Mastic ribbons, which achieve a 25/50 flame spread/smoke density development rating under ASTM E 84 or UL 723, provided that they may be used only in flange-joints and lap-joints, such that the mastic resides between two parallel surfaces of the air barrier and that those surfaces are mechanically fastened.

4. Tapes. Tapes shall be applied such that they extend not less than 1 inch onto each of the mated surfaces and shall totally cover the joint. When used on rectangular ducts, tapes shall be used only on joints between parallel rigid surfaces and on right angle joints. Approved tapes include the following:

a. Pressure-sensitive tapes.

i.) Pressure-sensitive tapes applied to fibrous glass ductboard that are listed and labeled in accordance with UL 181A, Part I.

ii.) Pressure-sensitive tapes applied to nonmetal flexible duct that are listed and labeled in accordance with UL 181B, Part I.

b. Heat-activated tapes applied to fibrous glass ductboard that are listed and labeled in accordance with UL 181A, Part II.

5. Aerosol sealant. Such sealants shall be installed by manufacturer-certified installers following manufacturer instructions and shall achieve 25/50 flame spread/smoke-density-development ratings under ASTM E 84 or UL 723.

C403.2.7.4 Cavities of the building structure. Cavities in framed spaces, such as dropped soffits and walls, shall not be used to deliver air from or return air to the conditioning system unless they contain an air duct insert which is insulated in accordance with Section C403.2.7.1 and constructed and sealed in accordance with the requirements of Section C403.2.7.2 appropriate for the duct materials used.

Exception: Return air plenums beneath a roof deck that is insulated to at least R-19.

C403.2.7.5 Air distribution system sizing and design. All air distribution systems shall be sized and designed in accordance with recognized engineering standards such as ACCA Manual D or other standards based on the following:

1. Calculation of the supply air for each room shall be based on the greater of the heating load or sensible cooling load for that room.

2. Duct size shall be determined by the supply air requirements of each room, the available static pressure and the total equivalent length of the various duct runs.

3. Friction loss data shall correspond to the type of material used in duct construction.

C403.2.7.6 Air-handling units. Air-handling units shall not be allowed in attics of commercial buildings.

Date Submitted 7/6/2012
Chapter 4

Section C403.4.8
Affects HVHZ No

Proponent Ken Cureton
Attachments No

TAC Recommendation Approved as Submitted
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

None

Summary of Modification

ADD section C403.4.8 - Condensing coils installed in cool air stream of another air-conditioning unit as follows

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901 and in accordance with the Commission's approved code change process.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

It does not. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

The proposed code change was submitted in accordance with the Commission's update process for the 2013 FBC in order to maintain the current Florida energy efficiency requirements.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

EN4970-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

The proposed amendment does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

C403.4.8 Condensing coils installed in cool air stream of another air-conditioning unit. The condensing coil of one air-conditioning unit shall not be installed in the cool air stream of another air-conditioning unit.

Exceptions:

1. Where condenser heat reclaim is used in a properly designed system including enthalpy control devices to achieve requisite humidity control for process, special storage or equipment spaces and occupant comfort within the criteria of Standard ASHRAE Standard 55. Such systems shall result in less energy use than other appropriate options.
2. For computer or clean rooms whose location precludes the use of systems which would not reject heat into conditioned spaces.

Date Submitted 7/10/2012
Chapter 4

Section C404.7
Affects HVHZ No

Proponent Ann Stanton
Attachments No

TAC Recommendation Approved as Submitted
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

Summary of Modification

Add Florida-specific language that requires pool heaters to meet minimum efficiencies as in the 2010 FBC.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901, FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None. Proposed language is in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Proposed language is in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

OTHER

Explanation of Choice

Although generally covered, no reference is made to efficiencies in Table C404.2.

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

The IECC has not updated to the new federal requirements for swimming pool heaters effective 4/16/13. Also, the 2010 Florida code requires that a copy of a test report be provided for heat pump pool heaters.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

EN5060-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

C404.7 Pools and inground permanently installed spas (Mandatory). Pools and inground permanently installed spas shall comply with Sections C404.7.1 through C404.7.3.

C404.7.1 Pool heaters. All pool heaters shall meet the minimum efficiency listed for that type of pool heater in Table C404.2 and be equipped with a readily accessible on-off switch that is mounted outside of the heater to allow shutting off the heater without adjusting the thermostat setting. Gas-fired heaters shall not be equipped with constant burning pilot lights.

C404.7.2 – C404.7.3 [No change to IECC text]

TABLE C404.2

Minimum Performance of Water-Heating Equipment

[No change to rest of table]

Equipment Type	Size Category (input)	Subcategory or Rating Condition	Performance Required ¹	Test Procedure ^{a,b}
Pool heaters, Gas and Oil	All	--	78% E _t	ASHRAE 146
			82% E _t	
Heat pump pool heaters	All	---	4.0 COP	AHRI 1160 ^d
			<u>At low air temperature</u>	

For SI: 1 Btu/h=.2931W, °C=[(°F) – 32]/1.8

a - c [No change]

^dTest report from independent laboratory is required to verify procedure compliance.

Date Submitted 7/6/2012
Chapter 4

Section C404.8
Affects HVHZ No

Proponent Ken Cureton
Attachments No

TAC Recommendation Approved as Submitted
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

None

Summary of Modification

ADD section C404.8 Water flow rate controls as follows

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901 and in accordance with the Commission's approved code change process.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

It does not. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

The proposed code change was submitted in accordance with the Commission's update process for the 2013 FBC in order to maintain the current Florida energy efficiency requirements.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

EN4971-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

C404.8 Water flow rate controls.

C404.8.1 Showers. Showers used for other than safety reasons shall be equipped with flow control devices to limit the water discharge to a maximum of 2.5 gpm (.16 L/S) per shower head at a distribution pressure of 80 psig (552 kPa) when tested in accordance with the procedures of ANSI A112.18.1M. Flow restricting inserts used as a component part of a showerhead shall be mechanically retained at the point of manufacture.

C404.8.2 Lavatories or restrooms of public facilities. Lavatories or restrooms of public facilities shall:

1. Be equipped with outlet devices which limit the flow of hot water to a maximum of 0.5 gpm (.03 L/S) or be equipped with self-closing valves that limit delivery to a per cycle maximum of 0.25 gallons (.95 L) of hot water for recirculating systems and to a maximum of 0.50 gallons (1.9 L) for non-recirculating systems.

Exception: Separate lavatories for physically handicapped persons shall not be equipped with self-closing valves.

2. Be equipped with devices which limit the outlet temperature to a maximum of 110°F (43°C).

3. Meet the provisions of 42 CFR 6295 (k), Standards for Water Closets and Urinals.

Date Submitted	7/6/2012	Section	C405.7	Proponent	Ken Cureton
Chapter	4	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Submitted				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications

None

Summary of Modification

MODIFY section C405.7 Electrical power as follows

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901 and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

It does not. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

The proposed code change was submitted in accordance with the Commission's update process for the 2013 FBC in order to maintain the current Florida energy efficiency requirements.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

EN4989-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

The proposed amendment does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

2012 IECC Proposed Code Modifications

Section C405 – Electrical Power and Lighting Systems

C405.7 Electrical energy consumption (Mandatory).

~~In buildings having individual dwelling units, provisions shall be made to determine the electrical energy consumed by each tenant by separately metering individual dwelling units.~~

C405.7 Electrical power (Mandatory)

C405.7.1 Applicability. This section applies to all building power distribution systems. The provisions for electrical distribution for all sections of this code are subject to the design conditions in ASHRAE Standard 90.1.

C405.7.2 Electrical metering. In buildings having individual dwelling units, provisions shall be made to determine the electrical energy consumed by each tenant by separately metering individual dwelling units.

C405.7.3 Voltage drop.

C405.7.3.1 Feeders and customer owned service conductors. Feeder and customer owned service conductors shall be sized for a maximum voltage drop of 2 percent at design load.

C405.7.3.2 Branch Circuits. Branch circuit conductors shall be sized for a maximum voltage drop of 3 percent at design load.

C405.7.4 Completion requirements.

C405.7.4.1 Drawings. Construction documents shall require that within 30 days after the date of system acceptance, record drawings of the actual installation shall be provided to the building owner, including:

1. a single-line diagram of the building electrical distribution system and
2. floor plans indicating location and area served for all distribution.

C405.7.4.2 Manuals. Construction documents shall require that an operating manual and maintenance manual be provided to the building owner. The manuals shall include, at a minimum, the following:

1. Submittal data stating equipment rating and selected options for each piece of equipment requiring maintenance.
2. Operation manuals and maintenance manuals for each piece of equipment requiring maintenance. Required routine maintenance actions shall be clearly identified.
3. Names and addresses of at least one qualified service agency.

Note: Enforcement agencies should only check to be sure that the construction documents require this information to be transmitted to the owner and should not expect copies of any of the materials.

C405.7.5 Electric motors. Electric motors shall comply with the requirements of the Energy Policy Act of 1992 where applicable, as shown in Table C405.7.5. Motors that are not included in the scope of the Energy Policy Act have no performance requirements in this section.

TABLE C405.7.5**MINIMUM NOMINAL EFFICIENCY FOR****GENERAL PURPOSE Design A and Design B Motors¹**

Number of Poles Synchronous speed (RPM)	Minimal Nominal Full-Load Efficiency (%)					
	Open Motors			Enclosed Motors		
	2 3600	4 1800	6 1200	2 3600	4 1800	6 1200
	<u>Motor Horsepower</u>					
<u>1.0</u>	---	<u>82.5</u>	<u>80.0</u>	<u>75.5</u>	<u>82.5</u>	<u>80.0</u>
<u>1.5</u>	<u>82.5</u>	<u>84.0</u>	<u>84.0</u>	<u>82.5</u>	<u>84.0</u>	<u>85.5</u>
<u>2.0</u>	<u>84.0</u>	<u>84.0</u>	<u>85.5</u>	<u>84.0</u>	<u>84.0</u>	<u>86.5</u>
<u>3.0</u>	<u>84.0</u>	<u>86.5</u>	<u>86.5</u>	<u>85.5</u>	<u>87.5</u>	<u>87.5</u>
<u>5.0</u>	<u>85.5</u>	<u>87.5</u>	<u>87.5</u>	<u>87.5</u>	<u>87.5</u>	<u>87.5</u>
<u>7.5</u>	<u>87.5</u>	<u>88.5</u>	<u>88.5</u>	<u>88.5</u>	<u>89.5</u>	<u>89.5</u>
<u>10.0</u>	<u>88.5</u>	<u>89.5</u>	<u>90.2</u>	<u>89.5</u>	<u>89.5</u>	<u>89.5</u>
<u>15.0</u>	<u>89.5</u>	<u>91.0</u>	<u>90.2</u>	<u>90.2</u>	<u>91.0</u>	<u>90.2</u>
<u>20.0</u>	<u>90.2</u>	<u>91.0</u>	<u>91.0</u>	<u>90.2</u>	<u>91.0</u>	<u>90.2</u>
<u>25.0</u>	<u>91.0</u>	<u>91.7</u>	<u>91.7</u>	<u>91.0</u>	<u>92.4</u>	<u>91.7</u>
<u>30.0</u>	<u>91.0</u>	<u>92.4</u>	<u>92.4</u>	<u>91.0</u>	<u>92.4</u>	<u>91.7</u>
<u>40.0</u>	<u>91.7</u>	<u>93.0</u>	<u>93.0</u>	<u>91.7</u>	<u>93.0</u>	<u>93.0</u>
<u>50.0</u>	<u>92.4</u>	<u>93.0</u>	<u>93.0</u>	<u>92.4</u>	<u>93.0</u>	<u>93.0</u>
<u>60.0</u>	<u>93.0</u>	<u>93.6</u>	<u>93.6</u>	<u>93.0</u>	<u>93.6</u>	<u>93.6</u>
<u>75.0</u>	<u>93.0</u>	<u>94.1</u>	<u>93.6</u>	<u>93.0</u>	<u>94.1</u>	<u>93.6</u>
<u>100.0</u>	<u>93.0</u>	<u>94.1</u>	<u>94.1</u>	<u>93.6</u>	<u>94.5</u>	<u>94.1</u>

<u>125.0</u>	<u>93.6</u>	<u>94.5</u>	<u>94.1</u>	<u>94.5</u>	<u>94.5</u>	<u>94.1</u>
<u>150.0</u>	<u>93.6</u>	<u>95.0</u>	<u>94.5</u>	<u>94.5</u>	<u>95.0</u>	<u>95.0</u>
<u>200.0</u>	<u>94.5</u>	<u>95.0</u>	<u>94.5</u>	<u>95.0</u>	<u>95.0</u>	<u>95.0</u>

¹ Nominal efficiencies shall be established in accordance with NEMA Standard MG1. Design A and Design B are National Electric Manufacturers Association (NEMA) design class designations for fixed frequency small and medium AC squirrel-cage induction motors.

Date Submitted 7/17/2012
Chapter 4

Section C407.2.1
Affects HVHZ No

Proponent Ann Stanton
Attachments No

TAC Recommendation Approved as Submitted
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

Summary of Modification

The performance method of the IECC has no code minimum for insulation in the roof. The Florida-specific from the 2010 FBC-Energy Conservation is proposed.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901,FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None. This provision is in the 2010 Florida Building Code, Energy Conservation.

Impact to building and property owners relative to cost of compliance with code

None. This provision is in the 2010 Florida Building Code, Energy Conservation.

Impact to industry relative to the cost of compliance with code

None. This provision is in the 2010 Florida Building Code, Energy Conservation.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. This provision is in the 2010 Florida Building Code, Energy Conservation.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. This provision is in the 2010 Florida Building Code, Energy Conservation.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. This provision is in the 2010 Florida Building Code, Energy Conservation.

Does not degrade the effectiveness of the code

No. This provision is in the 2010 Florida Building Code, Energy Conservation.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Proposed language was in the 2010 FBC. It was processed in accordance with an approved plan from the Florida Building Commission for the purpose of maintaining Florida efficiencies.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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EN5215-G1

Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g)

The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

C407.2.1 Roof/ceiling thermal envelope. The roof or ceiling which functions as the building's thermal envelope shall be insulated to an R-value of at least R-10. Multiple-family residential roofs/ceilings shall be insulated to an R-value of at least R-19, space permitting. Where cavities beneath a roof deck are ventilated, the ceiling shall be considered the envelope component utilized in the Commission approved compliance software tools.

Date Submitted 7/31/2012	Section C407.3	Proponent Muthusamy Swami
Chapter 4	Affects HVHZ No	Attachments No
TAC Recommendation Approved as Submitted		
Commission Action Pending Review		

Comments

General Comments No	Alternate Language No
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Related Modifications

Summary of Modification

Modifies C407.3 Performance-based compliance to make energy cost used in the calculation uniform.

Rationale

To make compliance comparable across users

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None

Impact to building and property owners relative to cost of compliance with code

None

Impact to industry relative to the cost of compliance with code

None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Provides a basis for complying with the code on a uniform basis for the public.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by keeping the cost basis same and not allowing differential cost across users

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

The uniformity in energy cost is same across users and so does not discriminate.

Does not degrade the effectiveness of the code

It does not degrade the code. On the contrary it makes the stringency uniform across users

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

NO

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

YES

1st Comment Period History

08/09/2012 - 09/23/2012

Proponent BOAF CDC	Submitted 9/15/2012	Attachments No
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Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g)

The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

EN5837-G1

C407.3 Performance-based compliance. Compliance based on total building performance requires that a proposed building (*proposed design*) be shown to have an annual energy cost that is less than or equal to the annual energy cost of the *standard reference design*. Energy prices used shall be those approved by the Florida Building Commission. ~~taken from a source approved by the code official, such as the Department of Energy, Energy Information Administration's State Energy Price and Expenditure Report. Code officials shall be permitted to require time-of-use pricing in energy cost calculations.~~ Nondepletable energy collected off site shall be treated and priced the same as purchased energy. Energy from nondepletable energy sources collected on site shall be omitted from the annual energy cost of the *proposed design*.

Date Submitted 7/31/2012
Chapter 4

Section C407.5.1(1)
Affects HVHZ No

Proponent Muthusamy Swami
Attachments No

TAC Recommendation Approved as Submitted
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

Summary of Modification

TABLE C407.5.1(1)—continued SPECIFICATIONS FOR THE STANDARD REFERENCE AND PROPOSED DESIGNS to make calculation process uniform

Rationale

To make compliance comparable across users

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None

Impact to building and property owners relative to cost of compliance with code

None

Impact to industry relative to the cost of compliance with code

None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Provides a basis for complying with the code on a uniform basis for the public.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by keeping the calculation basis same

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

There is uniformity across users and so does not discriminate.

Does not degrade the effectiveness of the code

It does not degrade the code. On the contrary it makes the stringency uniform across users

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

NO

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

YES

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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EN5845-G1

Comment:

The proposed amendment does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g) This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g)

IECC:

TABLE C407.5.1(1)—continued

SPECIFICATIONS FOR THE STANDARD REFERENCE AND PROPOSED DESIGNS

Heating System	Fuel type: same as proposed design	As proposed
	Equipment type ^c : from Tables C407.5.1(2) and C407.5.1(3)	As proposed
	Efficiency: from Tables C403.2.3(4), and C403.2.3(5)	As proposed
	Capacity ^b : sized proportionally to the capacities in the proposed design based on sizing runs, and shall be established such that no smaller number of unmet heating load hours and no larger heating capacity safety factors are provided than in the proposed design.	

Cooling System	Fuel type: same as proposed design	As proposed
	Equipment type ^c : from Tables C407.5.1(2) and C407.5.1(3)	As proposed
	Efficiency: from Tables C403.2.3(1), C403.2.3(2) and C403.2.3(3)	As proposed
	Capacity ^b : sized proportionally to the capacities in the proposed design based on sizing runs, and shall be established such that no smaller number of unmet heating load hours and no larger cooling capacity safety factors are provided than in the proposed design.	

Date Submitted 7/31/2012	Section C407.5.2.4	Proponent Muthusamy Swami
Chapter 4	Affects HVHZ No	Attachments No
TAC Recommendation Approved as Submitted		
Commission Action Pending Review		

Comments

General Comments No	Alternate Language No
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Related Modifications

Summary of Modification

Adds section C407.5.2.4 to deal with vegetative roofs and ERV credit

Rationale

Provides additional options for compliance to save energy.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None

Impact to building and property owners relative to cost of compliance with code

None

Impact to industry relative to the cost of compliance with code

None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Provides a basis for added energy savings

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by allowing additional energy saving options

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

There is uniformity across users and so does not discriminate.

Does not degrade the effectiveness of the code

It does not degrade the code. On the contrary, it allows additional savings

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

NO

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

YES

1st Comment Period History 08/09/2012 - 09/23/2012

Proponent BOAF CDC	Submitted 9/15/2012	Attachments No
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Comment:
 The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process
 The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

EN5849-G1

EN5849-G2

Proponent	Joseph Eysie	Submitted	9/23/2012	Attachments	No
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Comment:

The Florida Natural Gas Association (FNGA) supports Mod EN5849 and feels the Mod could serve as a mechanism to encourage the installation of the Enthalpy Recovery Systems in Commercial Buildings.

C407.5.2.4 Requirements specific to credit options. Credit may be claimed in the compliance calculation for technologies that meet the criteria for various options specified below.

C407.5.2.4.1 Vegetative roofs. Credit may be claimed in whole building performance method calculations for the area of a proposed building's roof that is covered with a vegetative roof that is designed and installed in accordance with ANSI/SPRI VF-1, with a minimum growth media depth of 4 inches. The credit shall provide a 45% reduction in the heating and cooling roof heat flux rates for the roof area covered with the vegetative roof. Minimum roof/ceiling insulation levels shall be code minimums as per Section C407.2.1.

C407.5.2.4.2 Enthalpy Recovery Ventilation systems (ERVs). Credit may be claimed in the whole building performance method calculations for Enthalpy Recovery Ventilation systems used in the proposed building. This credit is applicable for buildings in which every HVAC system has a design supply air flow of less than 5,000 CFM. The credit shall also be applicable to buildings where one or more HVAC system in the building has a design supply flow equal to 5,000 CFM or greater but shall have minimum outdoor air supply to be less than 70 percent of the design supply air flow for that HVAC system.

The credit shall provide for a reduction of 6 percent of total HVAC annual energy use for buildings located in Climate Zone 1 and 4 percent of total HVAC annual energy use for buildings located in Climate Zone 2.

Date Submitted 7/31/2012	Section C407.5.3.2	Proponent Muthusamy Swami
Chapter 4	Affects HVHZ No	Attachments No
TAC Recommendation Approved as Submitted		
Commission Action Pending Review		

Comments

General Comments No	Alternate Language No
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Related Modifications

Summary of Modification

Adds new Section C407.5.3 that modifies section 11.3.2 from the referenced standard ASHRAE 90.1

Rationale

To make compliance comparable across users and provide benefit for efficient fans

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None

Impact to building and property owners relative to cost of compliance with code

None

Impact to industry relative to the cost of compliance with code

None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Provides a basis for complying with the code on a uniform basis for the public and provides credit for efficient equipment

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by encouraging efficient products

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not specify any particular equipment type or product.

Does not degrade the effectiveness of the code

It does not degrade the code. On the contrary it encourages efficient products

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

NO

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

YES

1st Comment Period History

08/09/2012 - 09/23/2012

Proponent BOAF CDC	Submitted 9/15/2012	Attachments No
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Comment:

The proposed amendment does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g) This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g)

EN5860-G1

C407.5.3.2 HVAC Systems. The following changes shall be made to ASHRAE 90.1 Section 11.3.2:

h. Fan *system efficiency* (bhp per cfm of supply air including the effect of belt losses but excluding motor and motor drive losses) shall be ~~the same as the proposed building design or up to~~ the limit prescribed in Section 6.5.3.1, ~~whichever is smaller. If this limit is reached, each fan shall be proportionally reduced in brake horsepower until the limit is met. Fan electrical power shall then be determined by adjusting the calculated fan hp by the minimum efficiency prescribed by Section 10.4 for the appropriate motor size for each fan.~~

i. The *equipment capacities* for the *budget building design* shall be sized proportionally to the capacities in the *pro-posed building design* based on sizing runs, i.e., the ratio between the capacities used in the annual simulations and the capacities determined by the sizing runs shall be the same for both the *proposed building design* and *budget building design*. ~~Unmet load hours for the proposed design or baseline building designs shall not exceed 300. The unmet load hours for the proposed design shall not exceed the unmet load hours for the budget building. Alternatively, unmet load hours exceeding these limits may be accepted at the discretion of the rating authority provided that sufficient justification is given indicating that the accuracy of the simulation is not significantly compromised by these unmet loads.~~

Date Submitted 7/31/2012	Section C407.5.3	Proponent Muthusamy Swami
Chapter 4	Affects HVHZ No	Attachments No
TAC Recommendation Approved as Submitted		
Commission Action Pending Review		

Comments

General Comments No	Alternate Language No
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Related Modifications

Summary of Modification

Adds table Table C407.5.3.1 HVAC Systems to modify referenced ASHRAE standard 90.1

Rationale

To make compliance comparable across users

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None

Impact to building and property owners relative to cost of compliance with code

None

Impact to industry relative to the cost of compliance with code

None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Provides a basis for complying with the code on a uniform basis for the public.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by keeping the calculation basis same.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

There is uniformity across users and so does not discriminate.

Does not degrade the effectiveness of the code

It does not degrade the code. On the contrary it makes the stringency uniform across users

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

NO

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

YES

1st Comment Period History

08/09/2012 - 09/23/2012

Proponent BOAF CDC	Submitted 9/15/2012	Attachments No
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Comment:

The proposed amendment does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g) This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g)

EN5853-G1

C407.5.3 Compliance by ASHRAE 90.1. If ASHRAE 90.1 is utilized to demonstrate code compliance per Section C401.2, #1, Florida-specific criteria from Section C407.5.3.1 and C407.5.3.2 shall be used in the Standard Reference Design from ASHRAE Tables 11.3.1 and Section 11.3.2.

C407.5.3.1 Modeling Requirements for Calculating Design Energy Cost and Energy Cost Budget. The following change shall be made to ASHRAE 90.1 Table 11.3.1.

4. Schedules

Schedules

The schedule types listed in Section 11.2.1.1 (b) shall be required input. The schedules shall be typical of the proposed building type as determined by the designer and approved by the authority having jurisdiction. Required schedules shall be identical for the proposed building design and budget building design.

Same as proposed building design

Date Submitted	7/30/2012	Section	C407.6.1	Proponent	Ann Stanton
Chapter	4	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Submitted				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications

5740, 5067

Summary of Modification

Make "specific approvals" Florida specific.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901,FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Proposed language is currently in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is currently in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is currently in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is currently in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Proposed language was in the 2010 FBC. It was processed in accordance with an approved plan from the Florida Building Commission for the purpose of maintaining Florida efficiencies.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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EN5778-G1

Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

The proposed amendment does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g)

C407.6.1 Specific approval. Performance analysis tools meeting the applicable subsection of Section C407 and tested according to ASHRAE Standard 140 shall be permitted to be approved by the Florida Building Commission. ~~Tools are permitted to be approved based on meeting a specified threshold for a jurisdiction.~~ The code official shall be permitted to approve tools for a specified application or limited scope in accordance with Section C101.4.10, Limited and special use buildings.

Date Submitted	7/6/2012	Section	C408.2.2	Proponent	Ken Cureton
Chapter	4	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Submitted				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language** No

Related Modifications

None

Summary of Modification

MODIFY section C408.2.2 Air distribution system testing, adjusting and balancing as follows

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901 and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

It does not. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

The proposed code change was submitted in accordance with the Commission's update process for the 2013 FBC in order to maintain the current Florida energy efficiency requirements.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

EN4990-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g)

~~C408.2.2 Systems adjusting and balancing.~~

~~HVAC systems shall be balanced in accordance with generally accepted engineering standards. Air and water flow rates shall be measured and adjusted to deliver final flow rates within the tolerances provided in the product specifications. Test and balance activities shall include air system and hydronic system balancing.~~

C408.2.2 Air distribution system testing, adjusting and balancing. Construction documents shall require that a written balance report be provided to the owner or the designated representative of the building owner for HVAC systems serving zones with a total conditioned area exceeding 5000 square feet (465 m²). Air distribution systems shall be tested, adjusted, and balanced by a licensed engineer or a company or individual holding a current certification from a recognized testing and balancing agency organization in accordance with generally accepted engineering standards.

Exceptions:

1. Buildings with cooling or heating system capacities of 15 tons or less per system may be tested and balanced by a mechanical contractor licensed to design and install such system(s).
2. Buildings with cooling or heating system capacities of 65,000 Btu/h or less per system are exempt from the requirements of this section.

~~C408.2.2.1 Air systems balancing.~~

~~Each supply air outlet and zone terminal device shall be equipped with means for air balancing in accordance with the requirements of Chapter 6 of the International Mechanical Code. Discharge dampers are prohibited on constant volume fans and variable volume fans with motors 10 hp (18.6 kW) and larger. Air systems shall be balanced in a manner to first minimize throttling losses then, for fans with system power of greater than 1 hp (0.74 kW), fan speed shall be adjusted to meet design flow conditions.~~

~~**Exception:** Fans with fan motors of 1 hp (0.74 kW) or less.~~

C408.2.2.1 Air system balancing shall be accomplished in a manner to first minimize throttling losses, then for fans with fan system power greater than 1 hp, fan speeds shall be adjusted to meet design flow conditions. Balancing procedures shall be in accordance with the National Environmental Balancing Bureau (NEBB) Procedural Standards, the Associated Air Balance Council (AABC) National Standards, or equivalent procedures.

Exception: Damper throttling may be used for air system balancing with fan motors of 1 hp or less, or if throttling results in no greater than 1/3 hp fan horsepower draw above that required if the fan speed were adjusted.

Notes:

1. Building envelope pressurization should be either neutral or positive to prevent infiltration of excess latent load.
2. Commercial kitchen hood exhaust cfm should be sized to prevent depressurization. Discharge dampers are prohibited on constant volume fans and variable volume fans with motors 10 horsepower (hp) (7.5 kW) and larger.

Date Submitted	7/10/2012	Section	R401.3	Proponent	Ann Stanton
Chapter	4	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Submitted				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language** No

Related Modifications**Summary of Modification**

Replace IECC requirement for certificate with Florida requirement for EPL Display Card as required by Florida law.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901, FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Proposed language is in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Proposed language is in the 2010 Florida Building Code and is required by Florida law.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

EN5050-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

Unnecessary. Adding the statute language to the code is not needed as building departments are required to comply with statute as well as code.

R401.3 Energy performance level (EPL) display card (Mandatory). The building official shall require that an energy performance level (EPL) display card be completed and certified by the builder to be accurate and correct before final approval of the building for occupancy. Florida law (Section 553.9085, *Florida Statutes*) requires the EPL display card to be included as an addendum to each sales contract for both presold and nonpresold residential buildings. The EPL display card contains information indicating the energy performance level and efficiencies of components installed in a dwelling unit. The building official shall verify that the EPL display card completed and signed by the builder accurately reflects the plans and specifications submitted to demonstrate code compliance for the building. A copy of the EPL Display Card can be found in Appendix C.

R401.3 Certificate (Mandatory). A permanent certificate shall be completed and posted on or in the electrical distribution panel by the builder or registered design professional. The certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels. The certificate shall list the predominant R-values of insulation installed in or on ceiling/roof, walls, foundation (slab, basement wall, crawlspace wall and/or floor) and ducts outside conditioned spaces; U-factors for fenestration and the solar heat gain coefficient (SHGC) of fenestration, and the results from any required duct system and building envelope air leakage testing done on the building. Where there is more than one value for each component, the certificate shall list the value covering the largest area. The certificate shall list the types and efficiencies of heating, cooling and service water heating equipment. Where a gas fired unvented room heater, electric furnace, or baseboard electric heater is installed in the residence, the certificate shall list "gas fired unvented room heater," "electric furnace" or "baseboard electric heater," as appropriate. An efficiency shall not be listed for gas-fired unvented room heaters, electric furnaces or electric baseboard heaters.

Date Submitted	7/23/2012	Section	R402.5 and R405.5.3	Proponent	Jeff Sonne / FSEC
Chapter	4	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Submitted				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications

EN5047

Summary of Modification

THIS MODIFICATION APPLIES STRICTLY TO THE PERFORMANCE METHOD. This modification removes irrelevant climate-zone U-factor requirements from the performance method and moves performance compliance maximum fenestration SHGC requirement to Section R405.5.3 and provides overhang depth alternative.

Rationale

Prescriptive compliance already has separate window U-factor and SHGC requirements stipulated in Table R402.1.1, so section R402.5 only applies to performance compliance; this mod moves the requirement to Section 405 (performance) for clarity.

Removing the irrelevant climate-zone U-factor requirement makes the section appropriate for Florida performance compliance specifically.

Porches provide shade for windows. Relaxing the SHGC requirement for performance compliance only for dwellings with large overhangs will help lower costs and typically increase visible light in these dwellings, preserving Florida vernacular architecture while still upholding energy performance.

Similar language is already in the 2010 Florida Building Code (in Section 402.5 instead of Section 405).

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None; similar language is in the 2010 Florida Building Code (in Section 402.5 instead of Section 405).

Impact to building and property owners relative to cost of compliance with code

None; similar language is in the 2010 Florida Building Code (in Section 402.5 instead of Section 405).

Impact to industry relative to the cost of compliance with code

None; similar language is in the 2010 Florida Building Code (in Section 402.5 instead of Section 405).

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Clarifies code and alternative provides builders of Florida vernacular architecture more choices of how to achieve code compliance. Similar language is in the 2010 Florida Building Code (in Section 402.5 instead of Section 405).

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Clarifies code and alternative provides builders of Florida vernacular architecture more choices of how to achieve code compliance. Similar language is in the 2010 Florida Building Code (in Section 402.5 instead of Section 405).

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Neutral; alternative increases options in applicable cases. Similar language is in the 2010 Florida Building Code (in Section 402.5 instead of Section 405).

Does not degrade the effectiveness of the code

Performance code must still be met. Similar language is in the 2010 Florida Building Code (in Section 402.5 instead of Section 405).

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

OTHER

Explanation of Choice

Clarifies code and makes section specific to Florida.

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Changes make section Florida specific and reduce confusion by eliminating non-Florida climate zones. Modification allows credit for Florida vernacular architecture shading methods.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

1st Comment Period History

08/09/2012 - 09/23/2012

EN5605-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

This code requirement should not be removed per the Commission' 2013 FBC update process. "IBC requirements not applicable to Florida (i.e.; snow and seismic requirements) remain in the Code for purposes of formatting consistency with the Foundation Codes."

~~**R402.5 Maximum fenestration U-factor and SHGC (Mandatory).** The area-weighted average maximum fenestration U-factor permitted using tradeoffs from Section R402.1.4 or R405 shall be 0.48 in Climate Zones 4 and 5 and 0.40 in Climate Zones 6 through 8 for vertical fenestration, and 0.75 in Climate Zones 4 through 8 for skylights. The area-weighted average maximum fenestration SHGC permitted using tradeoffs from Section R405 in Climate Zones 1 through 3 shall be 0.50.~~

R405.5 Calculation procedure. Calculations of the performance design shall be in accordance with Sections R405.5.1 and through R405.5.32.

R405.5.3.4 Maximum fenestration SHGC. The Proposed Design must have either an area-weighted average maximum fenestration SHGC of 0.50 or a window area-weighted average overhang depth of 4.0 feet or greater (all conditioned space windows must be included in the calculation).

Date Submitted 7/31/2012	Section R403.6.1.2 & R403.6.1.3	Proponent Cheryl Harris
Chapter 4	Affects HVHZ No	Attachments No
TAC Recommendation Approved as Submitted		
Commission Action Pending Review		

Comments

General Comments No	Alternate Language No
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Related Modifications

Summary of Modification

To maintain Florida Specific Code related to heating equipment capacity

Rationale

To provide clarification on sizing heating equipment for Florida buildings.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Neutral

Impact to building and property owners relative to cost of compliance with code

More cost effective

Impact to industry relative to the cost of compliance with code

More cost effective

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate

Does not degrade the effectiveness of the code

Does not degrade the effectiveness of the code

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

1st Comment Period History

08/09/2012 - 09/23/2012

Proponent BOAF CDC	Submitted 9/15/2012	Attachments No
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Comment:

This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g) See R403.6 Equipment Sizing (Mandatory)
 The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

EN5844-G1

Residential 403.6.1.2 Heating equipment capacity.

403.6.1.2.1 Heat Pumps. Heat pump sizing shall be based on the cooling requirements as calculated according to Section 403.6.1.1 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.

403.6.1.2.2 Electric resistance furnaces. Electric resistance furnaces shall be sized within 4 kW of the design requirements calculated according to the procedure selected in Section 403.6.1.

403.6.1.2.3 Fossil fuel heating equipment. 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 403.6.1.

403.6.1.3 Extra capacity required for special occasions. Residences requiring excess cooling or heating equipment capacity on an intermittent basis, such as anticipated additional loads caused by major entertainment events, shall have equipment sized or controlled to prevent continuous space cooling or heating within that space by one or more of the following options:

1. A separate cooling or heating system is utilized to provide cooling or heating to the major entertainment areas.
2. A variable capacity system sized for optimum performance during base load periods is utilized.

Date Submitted 7/10/2012
Chapter 4

Section R403.6.1
Affects HVHZ No

Proponent Ann Stanton
Attachments No

TAC Recommendation Approved as Submitted
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

Summary of Modification

Add Florida-specific equipment sizing criteria from the 2010 code.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901, FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None. Proposed language is in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Proposed language is in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Florida has had significantly expanded requirements for equipment sizing for years.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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EN5057-G1

Comment:

This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g)
The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

R403.6 Heating and Cooling Equipment (Mandatory).

R403.6.1 Equipment sizing (Mandatory). Heating and cooling equipment shall be sized in accordance with ACCA Manual S based on ~~the equipment-building~~ loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies, based on building loads for the directional orientation of the building. 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 in Section R302.1. This Code does not allow designer safety factors, provisions for future expansion or other factors which affect equipment sizing. System sizing calculations shall not include loads created by local intermittent mechanical ventilation such as standard kitchen and bathroom exhaust systems.

R403.6.1.1 Cooling equipment capacity. Cooling only equipment shall be selected so that its total capacity is not less than the calculated total load but not more than 1.15 times greater than the total load calculated according to the procedure selected in Section 403.6, 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 AHRI 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 return duct(s) is installed in an unconditioned space.

Exceptions:

1. Attached single- and multiple-family residential equipment sizing may be selected so that its cooling capacity is less than the calculated total sensible load but not less than 80 percent of that load.

2. When signed and sealed by a Florida-registered engineer, in attached single- and multiple-family units, the capacity of equipment may be sized in accordance with good design practice.

R403.6.1.2 Heating equipment capacity.

R403.6.1.2.1 Heat Pumps. Heat pump sizing shall be based on the cooling requirements as calculated according to Section R403.6.1.1 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.

R403.6.1.2.2 Electric resistance furnaces. Electric resistance furnaces shall be sized within 4 kW of the design requirements calculated according to the procedure selected in Section R403.6.1.

R403.6.1.2.3 Fossil fuel heating equipment. 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 R403.6.1.

R403.6.1.3 Extra capacity required for special occasions. Residences requiring excess cooling or heating equipment capacity on an intermittent basis, such as anticipated additional loads caused by major entertainment events, shall have equipment sized or controlled to prevent continuous space cooling or heating within that space by one or more of the following options:

1. A separate cooling or heating system is utilized to provide cooling or heating to the major entertainment areas.
2. A variable capacity system sized for optimum performance during base load periods is utilized.

Date Submitted 7/10/2012
Chapter 4

Section R405.2.1
Affects HVHZ No

Proponent Ann Stanton
Attachments No

TAC Recommendation Approved as Submitted
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

Summary of Modification

Include Florida minimum ceiling R-value of R-19, space permitting, which has been in Florida law since 1980.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901, FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None. Proposed language is in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Proposed language is in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Proposed language was in the 2010 FBC. It was processed in accordance with an approved plan from the Florida Building Commission for the purpose of maintaining Florida efficiencies.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

EN5046-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

R405.2.1 Ceiling insulation. Ceilings shall have an insulation level of at least R-19, space permitting. For the purposes of this code, types of ceiling construction that are considered to have inadequate space to install R-19 include single assembly ceilings of the exposed deck and beam type and concrete deck roofs. Such ceiling assemblies shall be insulated to at least a level of R-10.

Date Submitted	7/27/2012	Section	R405.3, Appendix B B-1	Proponent	Jeff Sonne / FSEC
Chapter	4	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Submitted				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications

None.

Summary of Modification

Modify section R405.3 to mirror the compliance calculation method used in the 2010 FEC and add Appendix B from 2010 FEC to specify the calculation methods.

Rationale

The compliance calculation procedure used by the 2010 FEC is proposed. The 2012 IECC requires the use of energy cost budgets or, as an exception, the use of source energy for compliance calculations. However, energy prices may vary substantially from time to time and from location to location making the use of energy cost problematic from a calculation perspective and subject to significant argument across fuel and power providers. Likewise, the use of source energy as specified by the 2012 IECC will also be subject to significant argument among impacted parties as Florida utilities do not necessarily line up with national source energy multipliers. The proposed normalized Modified Loads calculation procedure has been in effect in Florida since the 2008 code and it is highly recommended that Florida not change from this procedure.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None.

Impact to building and property owners relative to cost of compliance with code

None, there is no substantive change in code stringency proposed by this modification.

Impact to industry relative to the cost of compliance with code

None, there is no substantive change in code stringency proposed by this modification.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes, the welfare of the general public is protected by the proposed Mod.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

No, the same compliance and calculation procedure is used in the 2010 FEC

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No, it does not discriminate against any material, product, method or system of construction.

Does not degrade the effectiveness of the code

No, it maintains the same code effectiveness.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

EN5699-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g) The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

EN5699-G2

Proponent	Arlene Stewart	Submitted	9/19/2012	Attachments	No
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Comment:

This language is a very substantive regulation over how the calculation is does, effectively blocking many other calculations that could be recognized by AHJ. Given that the IECC has either has not heard or not approved of such restrictive language, it may be unnecessary to do so as it does not appear to contain information geared to Florida weather. Utilities in other states face the same variations.

[Modify section R405.3 as follows]

R405.3 Performance-based compliance. Compliance based on simulated energy performance requires that a proposed residence (proposed design) be shown to have ~~an annual energy cost total~~ normalized Modified Loads that ~~is~~ are less than or equal to the annual ~~energy cost total load~~ of the standard reference design as calculated in accordance with Appendix B of this standard. ~~Energy prices shall be taken from a source approved by the code official, such as the Department of Energy, Energy Information Administration's State Energy Price and Expenditure Report. Code officials shall be permitted to require time of use pricing in energy cost calculations.~~

~~**Exception:** The energy use based on source energy expressed in Btu or Btu per square foot of conditioned floor area shall be permitted to be substituted for the energy cost. The source energy multiplier for electricity shall be 3.16. The source energy multiplier for fuels other than electricity shall be 1.1.~~

[Add Appendix B from the 2010 FEC as follows]

B-1 Calculation of end use energy loads for code compliance determination.

The energy loads for heating, cooling and hot water in the Proposed Design home shall be normalized to account for the differences in improvement potential that exist across equipment types using the following formula in accordance with the paper "The HERS Rating Method and the Derivation of the Normalized Modified Loads Method," Research Report No. FSEC-RR-54-00, Florida Solar Energy Center.

$$nMEUL = REUL * (nEC_x / EC_r)$$

where:

nMEUL = normalized Modified End Use Loads (for heating, cooling or hot water) as computed using Commission approved compliance software.

REUL = Standard Reference Design Home End Use Loads (for heating, cooling or hot water) as computed using Commission approved compliance software.

EC_r = estimated Energy Consumption for the Standard Reference Design Home's end uses (for heating, including auxiliary electric consumption, cooling or hot water) as computed using Commission approved compliance software.

and where: $nEC_x = (a * EEC_x - b) * (EC_x * EC_r * DSE_r) / (EEC_x * REUL)$

where:

nEC_x = normalized Energy Consumption for *Proposed Design's* end uses (for heating, including auxiliary electric consumption, cooling or hot water) as computed using Commission approved compliance software.

EC_r = estimated Energy Consumption for Standard Reference Design home's end uses (for heating, including auxiliary electric consumption, cooling or hot water) as computed using Commission approved compliance software.

EC_x = estimated Energy Consumption for the Proposed Design home's end uses (for heating, including auxiliary electric consumption, cooling or hot water) as computed using Commission approved compliance software.

EEC_x = Equipment Efficiency Coefficient for the Standard Reference Design home's equipment, such that $EEC_x = \frac{\text{energy consumption per unit load in like units as the load, and as derived from the Manufacturer's Equipment Performance Rating (MEPR) such that } EEC_x = 1.0 / \text{MEPR for AFUE, COP or EF ratings, or such that } EEC_x \text{ equals } 3.413 / \text{MEPR for HSPF, EER or SEER ratings.}}$

$$DSE_r = REUL / EC_r * EEC_r$$

For simplified system performance methods, DSE_r equals 0.80 for heating and cooling systems. However, for detailed modeling of heating and cooling systems, DSE_r may be less than 0.80 as a result of part load performance degradation, coil air flow degradation, improper system charge and auxiliary resistance heating for heat pumps. Except as otherwise provided by these Standards, where detailed systems modeling is employed, it must be applied equally to both the Standard Reference Design and the Proposed Design homes.

EEC_r=Equipment Efficiency Coefficient for the Standard Reference Design home’s equipment, such that EEC_r equals the energy consumption per unit load in like units as the load, and as derived from the Manufacturer’s Equipment Performance Rating (MEPR) such that EEC_r equals 1.0 / MEPR for AFUE, COP or EF ratings, or such that EEC_r equals 3.413 / MEPR for HSPF, EER or SEER ratings.

REUL_r=Standard Reference Design home End Use Loads (for heating or cooling) as computed using Commission approved compliance software.

and where the coefficients ‘a’ and ‘b’ are as defined by Table B-1(1).

TABLE B-1(1) COEFFICIENTS ‘a’ AND ‘b’

<u>Fuel type and End Use</u>	<u>a</u>	<u>b</u>
<u>Electric space heating</u>	<u>2.2561</u>	<u>0</u>
<u>Fossil fuel* space heating</u>	<u>1.0943</u>	<u>0.4043</u>
<u>Biomass space heating</u>	<u>0.8850</u>	<u>0.4047</u>
<u>Electric air conditioning</u>	<u>3.8090</u>	<u>0</u>
<u>Electric water heating</u>	<u>0.9200</u>	<u>0</u>
<u>Fossil fuel* water heating</u>	<u>1.1877</u>	<u>1.0130</u>
<u>* Such as natural gas, LP, fuel oil</u>		

B-2

Following normalization of the heating, cooling and hot water energy consumptions for the Proposed Design as specified in Section B-1 above, the Standard Reference Design home’s total reference end use loads for heating, cooling and hot water (REUL_{tot}) shall be compared with the Proposed Design home’s total normalized modified end use loads for heating, cooling and hot water (nMEUL_{tot}). If the total normalized modified loads of the Proposed Design home (nMEUL_{tot}) are equal to or less than the total reference loads of the Standard Reference Design home (REUL_{tot}), the Proposed Design complies with this code.

Date Submitted	7/20/2012	Section	R405.5.2(1)	Proponent	Mark Nowak
Chapter	4	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Submitted				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications**Summary of Modification**

Reintroduces mechanical equipment efficiency as a variable in the simulated performance option.

Rationale

This proposal will restore reasonable performance criteria to the energy code that existed in the foundation code prior to 2009 and that were adopted as a Florida-specific amendment in the 2010 Florida Energy Code. Without these provisions that differentiate between mechanical equipment efficiency in the proposed design and the standard reference design, there is little incentive to use the simulated performance option that typically provides a better performing building over prescriptive designs in a more cost-effective manner. If the owner or builder will not receive compliance credit for such measures, the current foundation code will result in a disincentive to use higher-performing equipment that typically far exceeds the impact of envelope improvements on energy savings. Although this proposal by definition will deliver an equivalent building in terms of energy use, in reality it will result in higher-performing buildings in many cases because of the higher savings at lower cost from equipment efficiency improvements compared to envelope or other improvements.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. The same submittals will be required as currently in the code and no additional inspections will be required.

Impact to building and property owners relative to cost of compliance with code

The proposal provides more options to meet the code in the most cost-effective manner.

Impact to industry relative to the cost of compliance with code

None.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

The proposal offers at least equivalent performance to the foundation code and in many cases will improve over the foundation code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

The proposal offers at least equivalent performance to the foundation code and in many cases will improve over the foundation code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

The proposal provides greater flexibility and choice of products than the foundation code.

Does not degrade the effectiveness of the code

The proposal provides equivalent or better performance than the foundation code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

YES

1st Comment Period History

08/09/2012 - 09/23/2012

Page 208 of 345

EN5445-G1

Proponent	Ann Stanton	Submitted	9/4/2012	Attachments	Yes
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Comment:

Support for this modification can be found in federal law. Section 327(c) of the Energy Policy and Conservation Act (see attached file) requires energy codes with baseline features that include "covered" products (including HVAC and water heating equipment) to be at the federal code minimums.

1st Comment Period History

08/09/2012 - 09/23/2012

EN5445-G2

Proponent	Eric Lacey	Submitted	9/23/2012	Attachments	Yes
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Comment:

This proposal should be disapproved because it re-introduces an energy efficiency loophole that is not allowed in either the 2009 or 2012 IECC.

Modify TABLE R405.5.2(1)— SPECIFICATIONS FOR THE STANDARD REFERENCE AND PROPOSED DESIGNS as follows:

BUILDING COMPONENT	STANDARD REFERENCE DESIGN	PROPOSED DESIGN
Heating systems ^{f, g}	<p><u>Efficiency: In accordance with prevailing Federal minimum standards</u></p> <p>As proposed for other than electric heating without a heat pump. Where the proposed design utilizes electric heating without a heat pump the standard reference design shall be an air source heat pump meeting the requirements of Section R403 of the IECC— Commercial Provisions. Capacity: sized in accordance with Section R403.6</p> <p><u>Fuel type: same as proposed</u></p>	<p><u>As proposed</u></p> <p>As proposed</p> <p><u>As proposed</u></p>
Cooling systems ^{f, h}	<p><u>Fuel Type: Electric</u></p> <p>Capacity: sized in accordance with Section R403.6.</p> <p><u>Efficiency: In accordance with prevailing Federal minimum standards</u></p>	<p>As proposed</p> <p><u>As proposed</u></p> <p>As proposed</p>
Service water Heating ^{f, g, h, i}	<p>As proposed <u>Fuel Type: As proposed</u></p> <p>Use: same as proposed design</p>	<p>As proposed</p>

		gal/day = 30 + (10 × N _{br})
	<u>Efficiency: In accordance with prevailing Federal minimum standards</u>	<u>As proposed</u>

All other parts of the table to remain unchanged.

Section 327 (c) of the Energy Policy and Conservation Act (EPCA) reads as follows:

(c) GENERAL RULE OF PREEMPTION FOR ENERGY CONSERVATION STANDARDS WHEN FEDERAL STANDARD BECOMES EFFECTIVE FOR A PRODUCT. Except as provided in section 325(b)(3)(A)(ii) and effective on the effective date of an energy conservation standard established in or prescribed under section 325 for any covered product, **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--**

(1)-(2) NA

(3) **is in a building code for new construction described in subsection (f)(3).**

Subsection (f)(3) reads, in part, as follows:

(f) EXCEPTION FOR CERTAIN BUILDING CODE REQUIREMENTS.--

(3) Effective on the effective date of an energy conservation standard for a covered product established in or prescribed under section 325, a regulation or other requirement contained in a State or local building code for new construction concerning the energy efficiency or energy use of such covered product is not superseded by this part if the code complies with all of the following requirements:

(A) The code permits a builder to meet an energy consumption or conservation objective for a building by selecting items whose combined energy efficiencies meet the objective.

(B) **The code does not require that the covered product have an energy efficiency exceeding the applicable energy conservation standard established in or prescribed under section 325,** except that the required efficiency may exceed such standard up to the level required by a regulation of that State for which the Secretary has issued a rule granting a waiver under subsection (d).

(C) The credit to the energy consumption or conservation objective allowed by the code for installing covered products having energy efficiencies exceeding such energy conservation standard established in or prescribed under section 325 or the efficiency level required in a State regulation referred to in subparagraph (B) is on a one-for-one equivalent energy use or equivalent cost basis.

(D) **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** or the efficiency level required by a regulation of that State for which the Secretary has issued a rule granting a waiver under subsection (d).

(E) If the code sets forth one or more optional combinations of items which meet the energy consumption or conservation objective, for every combination which includes a covered product the efficiency of which exceeds either standard or level referred to in subparagraph (D), there also shall be at least one combination which includes such covered product the efficiency of which does not exceed such standard or level by more than 5 percent, except that at least one combination shall include such covered product the efficiency of which meets but does not exceed such standard.

(F) The energy consumption or conservation objective is specified in terms of an estimated total consumption of energy (which may be calculated from energy loss- or gain-based codes)

EN5445

Proposal EN5445 is intended to continue to permit the ability to trade away envelope efficiency for more efficient equipment in Florida, even though this is not permitted by the *IECC* and even though Florida is unable (because of federal preemption) to set the equipment efficiency requirements at a reasonable level. Under the Florida statute, the proponent must show that this modification to the *IECC* is needed to accommodate the specific needs of this state. We are aware of no evidence that distinguishes Florida from all other states that adopt the *IECC* that would justify continuing this approach. It is a good time for Florida to drop these trade-offs, save more energy and achieve greater consistency with the national approach.

The elimination of the equipment trade-off in the 2009 *IECC* and 2012 *IECC* closes a significant compliance loophole that had been used for many years to weaken building efficiency. Higher efficiency air conditioners, furnaces, and water heating equipment can be tremendous energy savers. However, Federal law preempts states from setting efficiency requirements any higher than the federal minimums (which typically lag behind common builder practice by years, even decades). The inability of states to set higher efficiency requirements leaves a “trade-off gap” within any code that allows equipment trade-offs – a gap that has been exploited to install low-quality fenestration and insufficient insulation in houses all over Florida (and nationwide) for many years. In short, since the code must specify an inefficient unit due to federal minimum standards, any builder who would otherwise use a better unit, because of utility incentives or consumer demand, is actually given a strong incentive to reduce the efficiency of insulation, windows or other measures. This is the definition of a free-rider, and in each case, the home will use more energy (and cost the homeowner more) over its lifetime than if the trade-off were not available.

The amount of energy efficiency lost through free-ridership is substantial. According to a comprehensive analysis by ICF International, the efficiency impact of an air conditioner at the federal minimum (13 SEER), versus a more common 16 SEER typically installed in Florida is an efficiency difference of 13.1% in climate zone 1 and 7.7% in climate zone 2. Under proposal EN5445, a 13.1% or 7.7% “credit” could result in a 7.7-13.1% weakening of the remainder of the home’s efficiency through trade-offs (typically inadequate insulation or poorly-performing windows). Even if the homeowner later replaces the original furnace with a unit with equivalent or superior energy savings, the home would continue to have a 7.7-13.1% less efficient thermal envelope than a home built to the code without the equipment trade-off. The results are similar for water heaters. The difference between the federal minimum efficiency and a common efficiency level for storage water heaters in climate zones 1 and 2 is 7.6-7.7%. The combination of potential air conditioner and water heater credit is between 15.4 and 20.7% in Florida’s climate zones – a significant gap that could be detrimentally exploited if the equipment trade-offs are reinserted into the 2012 *IECC* before it is incorporated into the Florida Building Code, Energy Efficiency.

Date Submitted	7/10/2012	Section	R405.5.3	Proponent	Ann Stanton
Chapter	4	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Submitted				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications**Summary of Modification**

Adds Florida-specific calculation procedures for glazing.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901, FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Proposed language is in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Proposed language was in the 2010 FBC. It was processed in accordance with an approved plan from the Florida Building Commission for the purpose of maintaining Florida efficiencies.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

EN5047-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

405.5 Calculation procedure. Calculations of the performance design shall be in accordance with Sections R405.5.1 and R405.5.3~~2~~.

405.5.3 Calculation requirements for glazing.

405.5.3.1 Glass areas. All glazing areas of a residence, including windows, sliding glass doors, glass in doors, skylights, etc. shall include the manufacturer's frame area in the total window area. Window measurements shall be as specified on the plans and specifications for the residence.

Exception: When a window in existing exterior walls is enclosed by an addition, an amount equal to the area of this window may be subtracted from the glazing area for the addition for that overhang and orientation.

405.5.3.2 Overhangs. Overhang effect is measured by Overhang Separation, which is the vertical measure of the distance from the top of a window to the bottom of the overhang. The overhang for adjustable exterior shading devices shall be determined at its most extended position. Nonpermanent shading devices such as canvas awnings shall not be considered overhangs. Permanently attached wood and metal awnings may be considered overhangs.

405.5.3.3 Doors with glazing. For doors that are opaque or where the glass is less than one-third of the area of the door, the total door area shall be included in the door calculation. For unlabeled sliding glass doors or when glass areas in doors is greater than or equal to one-third of the area of the door, the glazing portion shall be included in the glazing calculation and the opaque portion of the door shall be included in the door calculation. When glass area in doors is greater than or equal to one-third of the area of the door, the door shall be included in the glazing calculation as a total fenestration using the tested U-factor and solar heat gain coefficient.

Date Submitted	8/1/2012	Section	R405.6.3	Proponent	Jeff Sonne / FSEC
Chapter	4	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Submitted				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications

None.

Summary of Modification

Reduce Energy Factors of proposed home instantaneous water heaters for performance compliance calculations.

Rationale

There is empirical evidence that instantaneous water heaters do not perform at their rated efficiency when subjected to realistic hot water draw profiles. The DOE procedure for establishing the Energy Factor prescribes six equal, hourly draws totaling 64.3 gallons during the first 5 hours of a 24-hour testing period. Occupants more commonly make dozens of smaller draws throughout a day. Instantaneous water heaters are subject to significant thermal loss directly following a draw. The DOE procedure does not adequately capture the totality of thermal losses stemming from typical residential use. Based on results of lab and field testing conducted by Davis Energy Group (and limited tests by the Florida Solar Energy Center using DOE/NREL draw profiles) an adjustment factor of 0.92 to the Energy Factor for gas, oil and electric instantaneous water heaters is recommended. The Florida Building Commission passed a similar modification for the 2010 Florida Building Code, and in April 2012 RESNET passed a 0.92 adjustment factor for energy ratings.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None; similar modification was approved for the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None; similar modification was approved for the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None; similar modification was approved for the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Public is benefited by more accurate energy code calculations. A similar modification was approved for the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves accuracy of energy code calculations.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Neutral; only improves accuracy of code calculations.

Does not degrade the effectiveness of the code

Improves code effectiveness by providing more accurate energy code calculations.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Florida lab tests have indicated that the reduction factor is warranted.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

EN5943-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

R405.6.3 Input values. When calculations require input values not specified by Sections R402, R403, R404 and R405, those input values shall be taken from an approved source.

R405.6.3.1 Water Heating EF adjustment factors. The Energy Factor (EF) of an instantaneous water heater (those with capacity of two gallons or less) in the Proposed home shall be reduced to 92% of the value in the manufacturer's documentation or AHRI Directory of Certified Product Performance.

Date Submitted	7/10/2012	Section	R405.7	Proponent	Ann Stanton
Chapter	4	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Submitted				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications**Summary of Modification**

Add requirements for residential energy code credit options from 2010 code.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901, FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Proposed language is in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Proposed language was in the 2010 FBC. It was processed in accordance with an approved plan from the Florida Building Commission for the purpose of maintaining Florida efficiencies.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

1st Comment Period History

08/09/2012 - 09/23/2012

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Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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EN5049-G1

Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

1st Comment Period History

08/09/2012 - 09/23/2012

Proponent	Eric Lacey	Submitted	9/23/2012	Attachments	Yes
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EN5049-G2

Comment:

Although we do not specifically oppose the individual components and practices outlined by EN5049, the Commission must ensure that the assumptions behind these measures (and the resulting credits in the performance path) are "needed to accommodate the specific needs of this state." Where these options are not included in the 2012 IECC, the proponent should also be required to show that they do not weaken the code.

R405.7 Requirements specific to credit options. Credit may be claimed in the software compliance calculation for technologies that meet prescriptive criteria specified below for various options.

R405.7.1 Installation criteria for homes claiming the radiant barrier option. The sheet radiant barrier or IRCC options may be claimed where the radiant barrier system is to be installed in one of the configurations depicted in Figure R405.7.1 and the following conditions are met:

1. It shall be fabricated over a ceiling insulated to a minimum of R-19 with conventional insulation and shall not be used as a means to achieve partial or whole compliance with a minimum attic insulation level of R-19. Either a sheet type or spray applied interior radiation control coating (IRCC) may be used.
2. If the radiant barrier material has only one surface with high reflectivity or low emissivity it shall be facing downward toward the ceiling insulation.
3. The attic airspace shall be vented in accordance with Section R806 of the *Florida Building Code, Residential*.
4. The radiant barrier system shall conform to ASTM C 1313, Standard Specification for Sheet Radiant Barriers for Building Construction Applications, or ASTM C 1321, Standard Practice for Installation and Use of Interior Radiation Control Coating Systems (IRCCS) in Building Construction as appropriate for the type of radiant barrier to be installed. The operative surface shall have an emissivity not greater than 0.06 for sheet radiant barriers or 0.25 for interior radiation control coatings as demonstrated by independent laboratory testing according to ASTM C 1371.
5. The radiant barrier system (RBS) shall conform with ASTM C 1158, Use and Installation of Radiant Barrier Systems (RBS) in Building Constructions for Sheet Radiant Barriers, or ASTM C 1321, Standard Practice for Installation and Use of Interior Radiation Control Coating Systems (IRCCS) in Building Construction for IRCC systems.
6. The radiant barrier shall be installed so as to cover gable ends without closing off any soffit, gable or roof ventilation.

FIGURE R405.7.1

ACCEPTABLE ATTIC RADIANT BARRIER CONFIGURATIONS

R405.7.2 Installation criteria for homes claiming the cool roof option. The cool roof option may be claimed where the roof to be installed has a tested solar reflectance of greater than 4 percent when evaluated in accordance with ASTM methods E-903, C-1549, E-1918 or CRRC Method #1. Emissance values provided by the roofing manufacturer in accordance with ASTM C 1371 shall be used when available. In cases where the appropriate data are not known, emissance shall be the same as the Standard Reference Design. Testing of a qualifying sample of the roofing

material shall be performed by an approved independent laboratory with these results provided by the manufacturer.

R405.7.3 Installation criteria for homes using the unvented attic assembly option. The unvented attic assembly option may be used if the criteria in Section R806.5 of the *Florida Building Code, Residential*, have been met.

R405.7.4 Installation criteria for homes using the cross ventilation option. The cross ventilation option may be used if the following criteria have been met.

1. Operable aperture areas totaling a minimum of 12 percent of the floor area of the room shall be provided for all primary living areas and main bedrooms.

2. Insect screens shall be provided for all windows and doors to be considered operable aperture area. All screened entry doors and interior doors in the ventilated areas shall be provided with either (1) mechanically attached door stops (or similar devices) to hold the door in an open position or (2) operable louvers.

3. The total aperture area shall be provided by a minimum of two distinct windows. Each window shall provide not more than 70 percent of the total aperture area. The windows (or sliding glass doors) shall be placed in adjacent or opposite walls. The windows may be placed on a single outside wall if wing walls are used.

4. Where wing walls are included in the building design for ventilation purposes, they shall be placed between windows to create a high-pressure and a low-pressure zone on each window. Wing walls shall extend from the ground to eave height, be located on the windward side of the building, and extend outward from the building a distance at least equal to one-half the width of the window. NOTE: This technique is effective only for areas which experience significant and continuous winds during the cooling months.

R405.7.5 Installation criteria for homes using the whole house fan option. The whole house fan option may be used if the following criteria have been met.

1. The whole house fan has been sized to provide a minimum of 20 air changes per hour for the entire house.

2. The fan installed shall have a free air cfm rating of at least three times the square footage of the conditioned area of the house.

3. To ensure adequate air exhaust, the house attic shall have gable, ridge or wind turbine vents whose total opening area is equal to four times the ceiling cutout area for the whole house fan. Soffit vents shall not be included in the exhaust vent area.

R405.7.6 Installation criteria for homes using the ceiling fan option. The ceiling fan option shall apply a 2% reduction in cooling energy use for the proposed design if one or more ceiling fans are installed in each of the bedrooms and a minimum of one ceiling fan is installed in all primary living areas (living rooms, family rooms, or great rooms). This shall not include spaces designed to be dining rooms or dining areas. Areas separated by permanently fixed archways, walls, or dividers shall be considered separate rooms. The following criteria shall be met:

1. Ceiling fans shall be installed with minimum fan blade diameters of no less than those listed in Table R405.7.5 for the size and shape of the room.

2. Where a primary living area is an "L-shaped" room and the smaller portion of this area is 8 feet by 10 feet (2438 mm by 3048 mm) or larger, a fan shall be installed in both the larger and smaller portions of the primary living area.

Exception: Credit shall not be taken for both ceiling fans and cross ventilation.

TABLE R405.7.6

FAN SIZING TABLE

<u>LONGEST WALL LENGTH (feet)</u>	<u>MINIMUM FAN SIZE (inches)</u>
<u>= 12</u>	<u>36</u>
<u>> 12 – 16</u>	<u>48</u>
<u>> 16 – 17.5</u>	<u>52</u>
<u>> 17.5 – 25</u>	<u>56</u>
<u>> 25</u>	<u>2 fans (minimum of 48 inches each)</u>

For SI: 1 inch = 25.4mm, 1 foot = 304.8 mm.

R405.7.7 Installation criteria for homes claiming the heat recovery unit (HRU) option. The heat recovery unit option may be used for installation of a waste heat recovery unit (HRU) on either an air conditioner or a heat pump where the heat recovery unit has a minimum net useful heat exchange effect of 50 percent and meets the following criteria:

1. The net useful heat exchange effect shall be demonstrated by either a Form 400D-2013 prominently displayed on the unit with test results clearly visible for inspection or by an ARDM certified refrigerant desuperheater seal affixed to the unit.
2. The net useful heat exchange effect shall have been determined by an independent laboratory testing to AHRI Standard 470. -
3. If more than one air conditioning system is installed in a residence and only one HRU is installed, energy load shall be based on the gallon capacity of the water heater to which it is coupled and the total capacity of the water heaters in the residence. In such case, the HRU shall be attached to the system serving the daytime primary living areas (family room, living room, kitchen, dining room and adjacent bedrooms and bathrooms).

405.7.8 Installation criteria for homes claiming the dedicated heat pump option. The dedicated heat pump option may be used for a dedicated heat pump (also known as a heat pump water heater) installed either with a tank (an integral unit) or without tank (add on to another water heater) based on the COP or energy factor (EF) of the system on which it is installed. No minimum rating is required for this equipment.

EN5049

Proposal EN5049 should be disapproved unless it can be demonstrated that each measure does not weaken the efficiency of the 2012 *IECC* and is needed to meet the specific needs of the state. Florida Statutes set a high threshold for amendments to the latest *IECC*:

The commission shall select the most current version of the International Energy Conservation Code (IECC) as a foundation code; however, the IECC shall be modified by the commission to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901.

... The commission may modify any portion of the foundation codes only as needed to accommodate the specific needs of this state. Fla. Stat. ch. 553.73(7)(a), (7)(c).

The proposal awards performance path credit for measures that are not recognized in the 2012 *IECC*, such as ceiling fans, but the proponent has not provided any data or justification other than a simple statement that these changes will “maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction ...” Although we do not oppose the individual components and practices outlined by EN5049, the proponent should be required to demonstrate that the assumptions behind these measures (and the resulting credits in the performance path) are “needed to accommodate the specific needs of this state.” If there is no Florida-specific need for the component, or if the component cannot be shown to improve energy efficiency, that part of EN5049 should be rejected.

Date Submitted	7/31/2012	Section	R-RESNET	Proponent	Jeff Sonne / FSEC
Chapter	5	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Submitted				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications

EN5677, EN5687

Summary of Modification

Add RESNET 2006 Mortgage Industry National Home Energy Rating Systems Standards as duct airtightness testing reference.

Rationale

Provides standard reference for duct leakage testing in code mods EN5677 and EN5687.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None; reference only.

Impact to building and property owners relative to cost of compliance with code

None; reference only.

Impact to industry relative to the cost of compliance with code

None; reference only.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Helps the public by providing a duct leakage testing standard reference.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Helps clarify the code by providing a duct leakage testing standard reference.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No; reference only.

Does not degrade the effectiveness of the code

No; reference only.

Is the proposed code modification part of a prior code version? No

1st Comment Period History

08/09/2012 - 09/23/2012

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g) The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

1st Comment Period History

08/09/2012 - 09/23/2012

Proponent	Jeff Sonne / FSEC	Submitted	9/21/2012	Attachments	No
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Comment:

Section 803 of the RESNET 2006 Mortgage Industry National Home Energy Rating Systems Standards is referenced in two code mods: EN5677 and EN5687. The RESNET Standards document can be found at: http://www.resnet.us/standards/RESNET_Mortgage_Industry_National_HERS_Standards.pdf (Section 803 is on page 8-11).

<p><u>RESNET</u></p>	<p><u>Residential Energy Services Network, Inc.</u></p> <p>2170 E. El Camino Real</p> <p>Oceanside, CA 92054</p>	
<p><u>Standard reference number</u></p>	<p><u>Title</u></p>	<p><u>Referenced in code section number</u></p>
<p>N/A</p>	<p><u>2006 Mortgage Industry National Home Energy Rating Systems Standards (March 2, 2012 edition).</u></p>	<p><u>R403.2.2, R405 Table R405.5.2(1)</u></p>

Date Submitted	7/31/2012	Section	1106	Proponent	Ken Cureton
Chapter	11	Affects HVHZ	No	Attachments	No
TAC Recommendation	Approved as Submitted				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications

None

Summary of Modification

Modify SECTION 1106.1

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Existing Building Code (IEBC) base code with Florida specific requirements in accordance with the Commission's approved code change process for the update to the 2013 Florida Building Code. The proposed modification is necessary in order to implement legislative mandates as well as the Florida Building Codes – Accessibility and Energy Conservation.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is currently adopted by the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

It does not. The Proposed language for this Modification is currently included in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

The proposed code change was submitted in accordance with the Commission's update process for the 2013 FBC in order to implement legislative mandates as well as the Florida Building Codes – Accessibility and Energy Conservation.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

EN5871-G1

Proponent	BOAF CDC	Submitted	9/17/2012	Attachments	No
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Comment:

The Florida existing code supplement will have the same intro stating where the code proscribe the use of the International code use the corresponding Florida code.

Modify SECTION 1106.1 as follows:

1106.1 Minimum requirements. Additions to existing buildings or structures shall ~~conform to the energy~~ comply with the requirements of the ~~International Energy Conservation Code or International Residential Code as they relate to new construction.~~ Florida Building Code, Energy Conservation.

Total Mods for **Energy** in **No Affirmative Recommendation with a Second**: 11

Total Mods for report: 79

Sub Code: Energy Conservation

Date Submitted 7/10/2012
Chapter 1

Section C101.4.1
Affects HVHZ No

Proponent Ann Stanton
Attachments No

TAC Recommendation No Affirmative Recommendation with a Second
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

Summary of Modification

Add Florida-specific table, Applicability, Existing Buildings, from 2010 code.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901, FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None. Proposed language is in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Proposed language is in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Florida-specific requirements are brought forward from the 2010 code.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

1st Comment Period History

08/09/2012 - 09/23/2012

5059-A1

Proponent Eric Lacey **Submitted** 9/23/2012 **Attachments** Yes

Rationale

Proposals EN5030 and EN5059 are inconsistent with DBPR's recently-established position on replacement fenestration, and they introduce language into the Florida Building Code that conflicts with Florida law and with other provisions of the Code. The proposed language may be read to exempt replacement windows from having to meet any efficiency requirements except in very rare cases, which will reduce energy efficiency and is inconsistent with Florida statutes.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This modification to EN5059 should make enforcement more consistent.

Impact to building and property owners relative to cost of compliance with code

This modification to EN5059 clarifies the code and makes it more uniform. There should be no negative cost impact.

Impact to industry relative to the cost of compliance with code

There should be no negative cost impact to industry. In fact, uniform efficiency targets for products used in new and existing buildings should lead to economies of scale.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This modification to EN5059 ensures that quality windows are installed in new buildings and in alterations to existing buildings. This will help curb the need for Florida to build additional peak electrical capacity and keep energy costs low for all citizens.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This modification to EN5059 maintains the efficiencies of the 2012 IECC.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No.

Does not degrade the effectiveness of the code

No.

Is the proposed code modification part of a prior code version? No

1st Comment Period History

08/09/2012 - 09/23/2012

EN5059-G1

Proponent BOAF CDC **Submitted** 9/15/2012 **Attachments** No

Comment:

The changes to this section are made to keep the changes required by F.S. 553.9061. However, this statute has been repealed, and therefore the changes are no longer a Florida specific issue and we should return to the base code. Bringing this forward at this point is only justified due to having been included in a previous edition of the FBC. Previous amendments have sunset provisions now.

The provision this is based upon has sunset with the other Florida Changes to the 2010 FBC

1st Comment Period History

08/09/2012 - 09/23/2012

EN5059-G3

Proponent Ann Stanton **Submitted** 9/21/2012 **Attachments** No

Comment:

In proposed Table 101.4.1 under the category "New building systems", the term "meeting the definition of Renovation" does not belong there and should be removed.

C101.4.1 Existing buildings. Existing buildings shall meet the criteria in Table C101.4.1 as appropriate to the condition described. Except as specified in this chapter, this code shall not be used to require the removal, alteration or abandonment of, nor prevent the continued use and maintenance of, an existing building or building system lawfully in existence at the time of adoption of this code.

TABLE C101.4.1

APPLICABILITY, EXISTING BUILDINGS^a

<u>Not previously conditioned</u> (See Section C101.4.5)	<u>Unconditioned space altered to become conditioned space shall be brought into full compliance with current code^c.</u>
<u>Occupancy type change</u> (See Section C101.4.4)	<u>Spaces that will result in an increase in demand for fossil fuel or electrical energy shall meet current code^c.</u>
<u>Addition</u>	<u>Meet code for addition^{b,c}</u>
<u>Renovation^{a,d}</u>	<u>Where a building meets the definition of renovation^d, minimum code envelope, equipment and lighting efficiency levels shall be met for components being changed^c:</u> <u>Envelope: Section C402</u> <u>Equipment: Section C403, C404</u> <u>Lighting: Section C405</u>
<u>New building systems^a</u> (HVAC, service hot water or pool heating, lighting, motors)	<u>Where new products are installed or replaced in existing buildings or structures meeting the definition of Renovation^d, they shall meet the minimum efficiency allowed for that system:</u> <u>Equipment: Sections C101.4.7, C403, C404</u> <u>Lighting: Section C405</u>

^a An existing building or portion thereof shall not be altered such that the building becomes less energy efficient than its existing condition.

^b Minimum equipment efficiencies shall be met only when equipment is installed to specifically serve the addition or is being installed in conjunction with the construction of the addition.

^c If an existing building is unable to meet one or more current prescriptive code minimum requirements, it may be exempt from those minimum requirements if the entire building is brought into compliance by Section C406.

^dBuildings undergoing alteration that vary or change insulation, HVAC systems, water heating systems, or exterior envelope provided that the estimated cost exceeds 30 percent of the assessed value of the structure (See Ch. 2, Definitions).

Amend Table R101.4.1 as follows:

Table R101.4.1
~~Applicability~~, Existing Buildings

Not previously conditioned (See Section R101.4.5)	Unconditioned space altered to become conditioned space shall be brought into full compliance with current code ^c .
Occupancy type change (See Section R101.4.4)	Spaces that will result in an increase in demand for fossil fuel or electrical energy shall meet current code ^c .
Addition	Meet code for addition ^{b, c}
Renovated Building Renovation ^{a, d}	Where a building meets the definition of renovated building renovation ^d , minimum code envelope, equipment and lighting efficiency levels shall be met for components being changed ^c : Envelope: Section R402 Equipment: Section R403 Lighting: Section R404
<u>Installation or replacement of building systems and components</u> New building systems ^a (HVAC, service hot water or pool heating, fenestration)	Where new products are installed or replaced in existing buildings or structures they shall meet the minimum efficiency allowed for that <u>replacement system or component</u> : Equipment: Sections R101.4.7, R403.4.3, R403.6.2, R403.9.1 Fenestration: Section 402.3.6

- a. An existing building or portion thereof shall not be altered such that the building becomes less energy efficient than its existing condition.
- b. Minimum equipment efficiencies shall be met only when equipment is installed to specifically serve the addition or is being installed in conjunction with the construction of the addition.
- c. If an existing building is unable to meet one or more current prescriptive code minimum requirements, it may be exempt from those minimum requirements if the entire building is brought into compliance by Section R405.
- d. Buildings undergoing alteration that vary or change insulation, HVAC systems, water heating systems, or exterior envelope provided that the estimated cost exceeds 30 percent of the assessed value of the structure (See Ch. 2, Definitions).

Amend Chapter 2 as follows:

Renovated Building. A residential or nonresidential building undergoing alteration that varies or changes insulation, HVAC systems, water heating systems, or exterior envelope conditions, provided the estimated cost of renovation exceeds 30 percent of the assessed value of the structure.

EN 5059

RECA recommends that EN5030 and EN5059 be withdrawn by Staff. We believe that both of these proposals conflict with direction given by legal counsel at the August 7, 2012 Commission meeting. The Commission and stakeholders had debated language very similar to what is being proposed in EN5030 and EN5059 for several months. At that meeting, legal counsel for the DBPR Staff took the following position:

1. All staff comments, proposals, interpretations or opinions, written or oral, relative to window replacement issues are withdrawn and of no effect.
2. Local building officials continue to have the authority and responsibility to apply energy regulations as they apply to window replacement.

Unless that position has changed, we hope that DBPR will withdraw or properly modify these proposals. However, if these concepts go forward, we submit that EN5030 and 5059 should both be amended to make the 2013 FBC-EC consistent with both the foundation code (2012 *IECC*) and Florida law by adopting the specific statutory language found in Sections 553.902 and 553.903 of Florida Statutes.

Proposals EN5030 and EN5059 introduce language into the Florida Building Code that conflicts with Florida law, the 2010 FB-EC, and with other provisions of the Code. The *IECC* has required replacement fenestration to meet the same requirements as fenestration used in new construction in every edition of the *IECC* since 2000. Florida law directs the Commission to select the most current version of the *IECC* as the “foundation code,” and to modify the code only “to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction.” 553.73(7)(a). The law also limits modifications to any foundation code “only as needed to accommodate the specific needs of this state.” 553.73(7)(c). We interpret this to mean that modifications are only permitted to maintain efficiencies in the Florida code that are more stringent than the current version of the *IECC*, unless some distinct Florida-specific state need is identified. In applying these considerations in the 2010 version of the code, the Commission did not attempt to limit the application of the replacement window provisions of the 2009 *IECC*. Section 402.3.6 of the 2009 *IECC* sets the requirements for replacement fenestration, and is also identical to Section 402.3.6 of the 2010 FBC-EC. The 2012 *IECC* has the same provision. There is no Florida-specific reason why this section should not be applied to all replacement fenestration in Florida. In fact, to amend the section in a manner that would exempt fenestration from complying with the code would actually weaken the 2010 FBC-EC, violating the statute’s requirement that any modification maintain the efficiencies of the FBC-EC.

RECA’s proposed modification to EN5030 and EN5059 (if these proposals are not withdrawn) accomplishes several things:

1. It makes terminology in the 2013 FBC-EC related to alterations consistent with Florida Statutes. The term “renovation” is not defined by Florida Statutes, but

Date Submitted 7/9/2012	Section R101.4.1	Proponent Ann Stanton
Chapter 1	Affects HVHZ No	Attachments No
TAC Recommendation	No Affirmative Recommendation with a Second	
Commission Action	Pending Review	

Comments

General Comments No **Alternate Language** No

Related Modifications**Summary of Modification**

Clarify Florida-specific applicability of energy code criteria for existing buildings .

Rationale

To comply with . 553.73(7)(a), Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to S. 553.901, FS, and in accordance with the Commission's approve code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. The proposed language is currently in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. The proposed language is currently in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not. The proposed language is currently in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

It does not. The proposed language is currently in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

OTHER

Explanation of Choice

Some provisions are Florida specific and some are contained in the IECC.

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Ch 553.903, F.S., contains applicability criteria above that in the IECC.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

5030-A1

Proponent Eric Lacey **Submitted** 9/23/2012 **Attachments** Yes

Rationale

Proposals EN5030 and EN5059 are inconsistent with DBPR's recently-established position on replacement fenestration, and they introduce language into the Florida Building Code that conflicts with Florida law and with other provisions of the Code. The proposed language may be read to exempt replacement windows from having to meet any efficiency requirements except in very rare cases, which will reduce energy efficiency and is inconsistent with Florida statutes.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

The proposed modification to EN5030 should clarify and simplify enforcement.

Impact to building and property owners relative to cost of compliance with code

There should be no impact on building and property owners relative to cost.

Impact to industry relative to the cost of compliance with code

Industry will benefit from having uniform, clear standards for certain products used in new and existing buildings.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

EN5030 affects the types of products used in existing buildings. Because existing buildings make up such a disproportionate share of the energy savings potential, it is important to ensure clarity and uniformity in the application of the code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This modification to EN5030 ensures that the code is enforced correctly.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This modification to EN5030 does not discriminate against products or materials.

Does not degrade the effectiveness of the code

No.

Is the proposed code modification part of a prior code version? No

EN5030-G1

Proponent BOAF CDC **Submitted** 9/15/2012 **Attachments** No

Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g) The proposed amendment does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process. This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g)

R101.4.1 Existing buildings. Existing buildings shall meet the criteria in Table R101.4.1 as appropriate to the condition described. Except as specified in this chapter, this code shall not be used to require the removal, alteration or abandonment of, nor prevent the continued use and maintenance of, an existing building or building system lawfully in existence at the time of adoption of this code.

TABLE R101.4.1

APPLICABILITY, EXISTING BUILDINGS^a

<u>Not previously conditioned</u> (See Section R101.4.5)	<u>Unconditioned space altered to become conditioned space shall be brought into full compliance with current code^c.</u>
<u>Occupancy type change</u> (See Section R101.4.4)	<u>Spaces that will result in an increase in demand for fossil fuel or electrical energy shall meet current code^c.</u>
<u>Addition</u>	<u>Meet code for addition^{b,c}</u>
<u>Renovation^{a,d}</u>	<u>Where a building meets the definition of renovation^d, minimum code envelope, equipment and lighting efficiency levels shall be met for components being changed^c:</u> Envelope: <u>Section R402</u> Equipment: <u>Section R403</u> Lighting: <u>Section R404</u>
<u>New building systems^a</u> (HVAC, service hot water or pool heating)	<u>Where new products are installed or replaced in existing buildings or structures they shall meet the minimum efficiency allowed for that system:</u> Equipment: <u>Sections R101.4.7, R403.4.3, R403.6.2, R403.9.1</u>

^a An existing building or portion thereof shall not be altered such that the building becomes less energy efficient than its existing condition.

^b Minimum equipment efficiencies shall be met only when equipment is installed to specifically serve the addition or is being installed in conjunction with the construction of the addition.

^c If an existing building is unable to meet one or more current prescriptive code minimum requirements, it may be exempt from those minimum requirements if the entire building is brought into compliance by Section R405.

^dBuildings undergoing alteration that vary or change insulation, HVAC systems, water heating systems, or exterior envelope provided that the estimated cost exceeds 30 percent of the assessed value of the structure (See Ch. 2, Definitions).

Amend Table R101.4.1 as follows:

Table R101.4.1
~~Applicability~~, Existing Buildings

Not previously conditioned (See Section R101.4.5)	Unconditioned space altered to become conditioned space shall be brought into full compliance with current code ^c .
Occupancy type change (See Section R101.4.4)	Spaces that will result in an increase in demand for fossil fuel or electrical energy shall meet current code ^c .
Addition	Meet code for addition ^{b, c}
Renovated Building Renovation ^{a, d}	Where a building meets the definition of renovated building renovation ^d , minimum code envelope, equipment and lighting efficiency levels shall be met for components being changed ^c : Envelope: Section R402 Equipment: Section R403 Lighting: Section R404
<u>Installation or replacement of building systems and components</u> New building systems ^a (HVAC, service hot water or pool heating, fenestration)	Where new products are installed or replaced in existing buildings or structures they shall meet the minimum efficiency allowed for that <u>replacement system or component</u> : Equipment: Sections R101.4.7, R403.4.3, R403.6.2, R403.9.1 Fenestration: Section 402.3.6

- a. An existing building or portion thereof shall not be altered such that the building becomes less energy efficient than its existing condition.
- b. Minimum equipment efficiencies shall be met only when equipment is installed to specifically serve the addition or is being installed in conjunction with the construction of the addition.
- c. If an existing building is unable to meet one or more current prescriptive code minimum requirements, it may be exempt from those minimum requirements if the entire building is brought into compliance by Section R405.
- d. Buildings undergoing alteration that vary or change insulation, HVAC systems, water heating systems, or exterior envelope provided that the estimated cost exceeds 30 percent of the assessed value of the structure (See Ch. 2, Definitions).

Amend Chapter 2 as follows:

Renovated Building. A residential or nonresidential building undergoing alteration that varies or changes insulation, HVAC systems, water heating systems, or exterior envelope conditions, provided the estimated cost of renovation exceeds 30 percent of the assessed value of the structure.

EN 5030

RECA recommends that EN5030 and EN5059 be withdrawn by Staff. We believe that both of these proposals conflict with direction given by legal counsel at the August 7, 2012 Commission meeting. The Commission and stakeholders had debated language very similar to what is being proposed in EN5030 and EN5059 for several months. At that meeting, legal counsel for the DBPR Staff took the following position:

1. All staff comments, proposals, interpretations or opinions, written or oral, relative to window replacement issues are withdrawn and of no effect.
2. Local building officials continue to have the authority and responsibility to apply energy regulations as they apply to window replacement.

Unless that position has changed, we hope that DBPR will withdraw or properly modify these proposals. However, if these concepts go forward, we submit that EN5030 and 5059 should both be amended to make the 2013 FBC-EC consistent with both the foundation code (2012 *IECC*) and Florida law by adopting the specific statutory language found in Sections 553.902 and 553.903 of Florida Statutes.

Proposals EN5030 and EN5059 introduce language into the Florida Building Code that conflicts with Florida law, the 2010 FB-EC, and with other provisions of the Code. The *IECC* has required replacement fenestration to meet the same requirements as fenestration used in new construction in every edition of the *IECC* since 2000. Florida law directs the Commission to select the most current version of the *IECC* as the “foundation code,” and to modify the code only “to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction.” 553.73(7)(a). The law also limits modifications to any foundation code “only as needed to accommodate the specific needs of this state.” 553.73(7)(c). We interpret this to mean that modifications are only permitted to maintain efficiencies in the Florida code that are more stringent than the current version of the *IECC*, unless some distinct Florida-specific state need is identified. In applying these considerations in the 2010 version of the code, the Commission did not attempt to limit the application of the replacement window provisions of the 2009 *IECC*. Section 402.3.6 of the 2009 *IECC* sets the requirements for replacement fenestration, and is also identical to Section 402.3.6 of the 2010 FBC-EC. The 2012 *IECC* has the same provision. There is no Florida-specific reason why this section should not be applied to all replacement fenestration in Florida. In fact, to amend the section in a manner that would exempt fenestration from complying with the code would actually weaken the 2010 FBC-EC, violating the statute’s requirement that any modification maintain the efficiencies of the FBC-EC.

RECA’s proposed modification to EN5030 and EN5059 (if these proposals are not withdrawn) accomplishes several things:

1. It makes terminology in the 2013 FBC-EC related to alterations consistent with Florida Statutes. The term “renovation” is not defined by Florida Statutes, but

Date Submitted 7/31/2012
Chapter 1

Section R101.4.7.1.1
Affects HVHZ No

Proponent Cheryl Harris
Attachments No

TAC Recommendation No Affirmative Recommendation with a Second
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

Summary of Modification

To modify Florida specific code related to duct sealing

Rationale

To clarify whose responsibility it is to provide the certification form and that a standard form is not required.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Reduces responsibility for entity to develop forms

Impact to building and property owners relative to cost of compliance with code

Neutral

Impact to industry relative to the cost of compliance with code

Lowers cost of compliance

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate

Does not degrade the effectiveness of the code

Does not degrade the effectiveness of the code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

5807-A1

Proponent	Submitted	Attachments
Amy Schmidt	8/27/2012	Yes
Rationale		
Code approved equivalents are allowed in charging section and should be allowed in the exceptions. As written the exception is limiting products.		
Fiscal Impact Statement		
Impact to local entity relative to enforcement of code		
none		
Impact to building and property owners relative to cost of compliance with code		
none		
Impact to industry relative to the cost of compliance with code		
none		
Requirements		
Has a reasonable and substantial connection with the health, safety, and welfare of the general public		
yes		
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction		
yes		
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities		
does not discriminate		
Does not degrade the effectiveness of the code		
does not degrade but improves the code		
Is the proposed code modification part of a prior code version?		
YES		
The provisions contained in the proposed amendment are addressed in the applicable international code?		
NO		

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?
 YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?
 NO

EN5807-G1

Proponent	Submitted	Attachments
BOAF CDC	9/15/2012	No
Comment:		
The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.		
This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g)		

Residential 101.4.7.1.1 Duct sealing upon equipment replacement (Mandatory). At the time of the total replacement of HVAC evaporators and condensing units all accessible (a minimum of 30 inches clearance) joints and seams in the air distribution system shall be inspected and sealed where needed using reinforced mastic or code approved equivalent and shall include a signed certification by the contractor in a format of the contractor's choosing that is attached to the air handler unit stipulating that this work has 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.

Residential 101.4.7.1.1 Duct sealing upon equipment replacement (Mandatory). At the time of the total replacement of HVAC evaporators and condensing units all accessible (a minimum of 30 inches clearance) joints and seams in the air distribution system shall be inspected and sealed where needed using reinforced mastic or code approved equivalent and shall include a signed certification by the contractor in a format of the contractor's choosing that is attached to the air handler unit stipulating that this work has been accomplished.

Exceptions:

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

Date Submitted 7/31/2012	Section R101.4.7.1.2	Proponent Cheryl Harris
Chapter 1	Affects HVHZ No	Attachments No
TAC Recommendation	No Affirmative Recommendation with a Second	
Commission Action	Pending Review	

Comments

General Comments	No	Alternate Language	No
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Related Modifications

Summary of Modification

To modify the Florida Specific Code related to replacement equipment sizing

Rationale

To clarify format of report and how calculations were performed for sizing in the Florida specific cod.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Improve enforcement

Impact to building and property owners relative to cost of compliance with code

Neutral

Impact to industry relative to the cost of compliance with code

Lower costs

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate

Does not degrade the effectiveness of the code

Does not degrade the effectiveness of the code

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

1st Comment Period History

08/09/2012 - 09/23/2012

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

Until Florida Statute 553.912 is revised, this section cannot be allowed to restrict the application to only residential units. The statute is clear the legislature intended this requirement for "All air conditioners". Also, restricting the forms to computer generated would require all contractors to purchase a program for this. There are a number of hand forms out there that would comply with the required calculation procedure.

EN5809-G1

Residential 101.4.7.1.2 Replacement equipment sizing (Mandatory). An A/C contractor or licensed Florida PE shall submit a nationally recognized method based sizing calculation summary (generated by computer software optional) to the code official at the time of permit application for total replacement of the condensing and evaporator components of HVAC systems in accordance with Florida law and the provisions of Section 403.6.1 or Section 503.2.1, as applicable.

Date Submitted 7/6/2012
Chapter 4

Section R402.3.6
Affects HVHZ Yes

Proponent Michael Nau
Attachments No

TAC Recommendation No Affirmative Recommendation with a Second
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

Summary of Modification

This proposal establishes the current 2010 code values for replacement fenestration in the 2013 Code

Rationale

This modification clarifies the current confusion regarding replacement fenestration, confining the requirements into one section and table. This mod allows industry to provide products that meet the values that were already in the earlier 2010 code.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This clarifies what is currently under contention in the 2010 Energy Code. Enforcement officials will already be familiar with the standard from the previous 2010 Code.

Impact to building and property owners relative to cost of compliance with code

This is actually a clarification from the 2010 Code; there should be little impact relative to availability and cost. Industry is already moving to meet these values in the 2010 Code.

Impact to industry relative to the cost of compliance with code

Industry is already aware of this requirement and is either already up to date or working toward compliance. This brings replacement in line with the intent of the 2010 code.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This proposal makes clear requirements for energy efficiency for replacement fenestration and ensures the public upgraded performance without unjustifiable stringency or expense.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Sets clear requirements for energy efficiency in replacement windows and doors.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

All materials commonly used in fenestration can meet the stringency of this code.

Does not degrade the effectiveness of the code

On the contrary, it improves it.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

5000-A4

Proponent Eric Lacey **Submitted** 9/23/2012 **Attachments** Yes

Rationale

Replacement fenestration should meet the same U-factor and SHGC requirements as windows used in new construction. RECA agrees with the proponent that the 2010 Florida Building Code, Energy Conservation currently requires replacement windows to meet a U-factor of 0.65 and a SHGC of 0.30. These are the same requirements that apply to windows used in new construction. We also agree that placing the replacement fenestration requirements directly in Section 402.3.6 of the 2013 code will bring additional clarity. However, we believe that replacement fenestration and windows used in new construction should both meet the improved requirements of the 2012 IECC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

There should be no impact related to the enforcement of the code.

Impact to building and property owners relative to cost of compliance with code

Code-compliant windows are readily available in Florida, and the cost of compliance will be more than offset by energy savings over the useful life of the windows.

Impact to industry relative to the cost of compliance with code

Uniform requirements for windows used in new and existing buildings will provide consistent efficiency targets for manufacturers and retailers and should lead to economies of scale.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

The proposal saves energy and peak electricity demand, which will benefit all citizens by helping curb the need to build new peak generation.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

The modification to EN5000 restores an important requirement to the 2012 IECC.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

A variety of products from multiple manufacturers are capable of meeting or exceeding these standards.

Does not degrade the effectiveness of the code

No.

Is the proposed code modification part of a prior code version? **No**

5000-A2

Proponent Roger LeBrun **Submitted** 9/20/2012 **Attachments** Yes

Rationale

The change covers products that perform better than current code allows, even though the lower proposed U-factor is still 40% LESS efficient than the new construction requirements.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Does not change current enforcement practice.

Impact to building and property owners relative to cost of compliance with code

Life cycle costs will be less under the proposed change.

Impact to industry relative to the cost of compliance with code

No known impact on industry, since compliant products are widely available.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Better comfort for occupants.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Increases energy efficiency cost effectively.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No effect on marketability of most currently available compliant products.

Does not degrade the effectiveness of the code

Strengthens the effectiveness of the code by saving more energy.

Is the proposed code modification part of a prior code version? **No**

EN5000-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

R402.3.6 Replacement fenestration.

Where some or all of an existing fenestration unit is replaced with a new fenestration product, including sash and glazing, the replacement fenestration unit shall meet the ~~following applicable~~ requirements for U-factor and SHGC in Table R402.~~3+.~~~~6+.~~

Table 402.3.6

<u>Climate Zone</u>	<u>U-Factor^a</u>	<u>SHGC</u>
<u>1 & 2</u>	<u>.65</u>	<u>.30</u>

a. For impact rated fenestration complying with Section R301.2.1.2 of the Florida Building Code, Residential or Section 1609.1.2 of the Florida Building Code, Building the maximum U-factor shall be 0.75.

R402.3.6 Replacement fenestration.

Where some or all of an existing fenestration unit is replaced with a new fenestration product, including sash and glazing, the replacement fenestration unit shall ~~meet~~ not exceed the following~~applicable~~ requirements for *U*-factor and SHGC in Table R402.3.6~~1~~.

Table 402.3.6

<u>Climate Zone</u>	<u>U-Factor^a</u>	<u>SHGC</u>
<u>1 & 2</u>	<u>.65 0.55</u>	<u>.30</u>

a. For impact rated fenestration complying with Section R301.2.1.2 of the *Florida Building Code, Residential* or Section 1609.1.2 of the *Florida Building Code*, Building the maximum *U*-factor shall be 0.75.

Amend Table 402.3.6 as follows:

Table 402.3.6

Climate Zone	U-Factor ^a	SHGC
1 & 2	0.40 0.65	0.25 0.30

- a. For fenestration required to meet the impact rating requirements of ~~rated fenestration complying with~~ Section R301.2.1.2 of the Florida Building Code, Residential or Section 1609.1.2 of the Florida Building Code, Building the maximum U-factor shall be 0.75.

EN 5000

RECA agrees with the proponent that the 2010 Florida Building Code, Energy Conservation currently requires replacement windows to meet a U-factor of 0.65 and a SHGC of 0.30. These are the same requirements that apply to windows used in new construction. We also agree that placing the replacement fenestration requirements directly in Section 402.3.6 of the 2013 code will bring additional clarity. However, we believe that replacement fenestration and windows used in new construction should both meet the improved requirements of the 2012 *IECC*. The alternative proposal above brings consistency to the requirements for windows used in new construction and in replacement projects by updating the U-factor and SHGC requirements with the 2012 *IECC* values.

Replacement fenestration currently accounts for a much higher percentage of all windows sold in Florida, and offers a much higher potential for energy savings as compared to new construction. According to Ducker Research, each year over the last three years, over 2.45 million windows were installed in residential buildings in Florida. Of that total, over 75% of these windows (an average of 1.81 million windows per year) were replacement windows. It does not make sense to increase window efficiency requirements for only 25% of the windows installed. The more reasonable approach is to ensure that all windows installed in Florida, whether in new construction or in a replacement context, are moderately efficient. Windows that meet the 0.40 U-factor/0.25 SHGC are already manufactured and sold in Florida by Florida companies, so we see no need to freeze the efficiency standard at the 2010 level. A uniform standard for windows used in new construction and replacement projects will also lead to economies of scale because it will allow manufacturers and retailers to focus on a single set of efficiency requirements.

We also believe that there are plenty of impact-rated products available that achieve the 0.40/0.25 requirements, so we see no need for the exception, but if an exception is to be created for them, we recommend applying the exception only in those cases where windows are *required* to meet the impact rated fenestration requirements.

Date Submitted	8/2/2012	Section	R402.3.6	Proponent	Joseph Belcher
Chapter	4	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	No Affirmative Recommendation with a Second				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications

None

Summary of Modification

Modification to replacement window provisions.

Rationale

See uploaded file.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

No impact.

Impact to building and property owners relative to cost of compliance with code

Will result in a reduction in costs to building and property owners to replace fenestration where replacement of fenestration is the only renovation to the structure and the replacement is not a renovation as defined by the code.

Impact to industry relative to the cost of compliance with code

Approval of the proposed change will reduce costs relative to compliance with the code when only partial or total replacement of fenestration is desired provided the replacement does not meet the code definition of renovation.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

The proposed amendment will positively affect the health, safety, and welfare of the general public by eliminating a glitch by clarifying the application of Section 402.3.6 is limited to the replacement of fenestration when such replacement meets the code definition of building renovation.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

The proposed amendment will improve the code by eliminating a glitch by clarifying the application of Section 402.3.6 is limited to the replacement of fenestration when such replacement meets the code definition of building renovation.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

The proposed amendment does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities.

Does not degrade the effectiveness of the code

The proposed amendment will eliminate a conflict by clarifying the application of Section 402.3.6 is limited to the replacement of fenestration when such replacement meets the code definition of building renovation which improves the effectiveness of the code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

NO

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

1st Comment Period History

08/09/2012 - 09/23/2012

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Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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EN6022-G1

Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g) This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g) The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

1st Comment Period History

08/09/2012 - 09/23/2012

Proponent	Eric Lacey	Submitted	9/23/2012	Attachments	Yes
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EN6022-G2

Comment:

Replacement windows can have a huge impact on Florida's energy efficiency. These products should not be exempt from regulation by the Florida Building Commission.

402.3.6 Replacement fenestration. Where some or all of an existing fenestration unit is replaced with a new fenestration product including sash and glazing, and the estimated cost of the replacement fenestration exceeds 30 percent of the assessed value of the structure over a 1-year period or the replacement of the fenestration is part of a larger project exceeding 30 percent of the assessed value over a 1-year period, the replacement fenestration units shall meet the applicable requirements for U-factor and SHGC in Table 402.1.1.

EN6022

This proposal attempts to exempt over 75% of all windows sold in Florida from meeting any efficiency requirements under the Florida Building Code, Energy Efficiency. It attempts to apply the statutory definition of “Renovated Building” to replacement fenestration, wiping out the potential energy and peak electricity demand savings from window replacement statewide. There is no good reason to single out window replacement as being exempt from the energy code.

To the contrary, there are many reasons why replacement fenestration should be required to meet the same efficiency requirements as windows used in new construction.

- The 2009 and 2012 *IECC*, as well as earlier versions, all contain requirements for all replacement fenestration – the applicable Florida statute requires the Commission to adopt the provisions of the foundation code (*IECC*) and make modifications only to “maintain” the efficiencies of the existing Florida code or to meet specific state needs. Limiting replacement fenestration requirements only to “Renovated Buildings” would not meet this statutory requirement.
- Replacement windows account for over 75% of all windows sold in Florida. An average of 1.81 million windows were replaced in Florida over the last three years.
- Replacement windows can account for substantial energy savings when moderately efficient windows are used. According to an analysis by the Efficient Windows Collaborative on the 2010 FBC-EC requirements for replacement windows, Florida citizens stand to save \$100 million per year in energy costs if every window replaced meets the 2010 efficiency requirements. If the requirements from the 2012 *IECC* are adopted, the savings number will be even higher.
- If every replacement window in Florida meets the SHGC requirements from the 2010 FBC-EC (≤ 0.30), Florida could avoid the equivalent of building an additional 100MW of peak electrical power every year. This will help keep the cost of electricity low for everyone in the state – not just homeowners who replace their windows.

The proponent claims that this proposal would “eliminate a conflict” with the statute, but that is simply not the case. Florida statutes direct the Florida Building Commission to “prepare a thermal efficiency code to provide for a statewide uniform standard for energy efficiency in the thermal design and operation of all buildings statewide, consistent with energy conservation goals” and the Department of Business and Professional Regulation shall “at least triennially, determine the most cost-effective energy-saving equipment and techniques available and report its determinations to the commission, which shall update the code to incorporate such equipment and techniques.” 553.901.

The current provisions create a conflict within the code. Chapter 1 at Table 101.4 Note d incorporates statutory language defining renovations. The language of Note d limits the application of the energy provisions of the code to alterations to the building envelope to those exceeding 30 percent of the assessed value of the structure over a 1-year period. Section 402.3.6 requires all replaced fenestration to meet the current energy provisions of the code.

The change has a Florida specific need to allow conformance with the definition and requirements for renovated buildings as renovations relate to energy code compliance contained in Chapters 553.902(3) and 553.906, Florida Statute

“(3) “Renovated building” means a residential or nonresidential building undergoing alteration that varies or changes insulation, HVAC systems, water heating systems, or exterior envelope conditions, provided the estimated cost of renovation exceeds 30 percent of the assessed value of the structure.”

“553.906 Thermal efficiency standards for renovated buildings.—Thermal designs and operations for renovated buildings for which building permits are obtained after March 15, 1979, shall take into account insulation; windows; infiltration; HVAC, service water heating, energy distribution, lighting, energy managing, and auxiliary systems design and equipment selection and performance. Such buildings shall not be required to meet standards more stringent than the provisions of the Florida Energy Efficiency Code for Building Construction. These standards apply only to those portions of the structure which are actually renovated” (Emphasis provided.)

The impact on small business if this glitch is allowed to stand will be a chilling effect on the fenestration replacement market for small contractors, distributors, dealers specializing in fenestration replacement, and some window manufacturers. In the current state of the economy, requiring the upgrade of replacement fenestration to meet the criteria for new construction will increase the cost by estimates ranging from 15 percent to 45 percent and more. The fragile market for the small businesses specializing in alterations involving the replacement of fenestration cannot withstand any increase.

In addition, I have been involved with codes for more than 35 years. I spent ten years in the public sector culminating as the building official for the City of Gainesville before entering the private sector and establishing a codes program for a statewide trade association. In my view the proper application of the existing code is as follows.

The FBC-EC Section 101.4.1, Existing Buildings, is a sub-section to the section entitled Applicability. The section clearly states existing buildings SHALL meet the criteria in Table 101.4.1. Table 101.4.1 contains a row entitled Renovation which applies to the building exterior envelope and other items when components are being changed. The title of the row, Renovation, is annotated with a Note d superscript. Note d, among other items, states that changes to the exterior envelope are covered, PROVIDED, the renovation exceeds 30 percent of the assessed value of structure. The note further refers the user to the definition for renovation in Chapter 2, Definitions. The code definition of renovation in part states “Any structural repair, reconstruction, or restoration to a structure, the costs of which equals or exceeds, over a 1-year period, a cumulative total of 30 percent of the assessed value of the structure...” The definition goes on to describe the when of applying the assessed value.

The permit applicant replacing the fenestration should check the value of the fenestration replacement against the assessed value of the structure. If the fenestration replacement project is less than 30 percent of the assessed value of the structure, the FBC-EC does not apply. The other requirements of the code such as wind and water resistance apply, the Florida Building Code – Energy Conservation does not apply. The user never gets to Chapter 4 in this scenario.

Date Submitted 7/24/2012
Chapter 4

Section R402.4.1.2
Affects HVHZ No

Proponent Arlene Stewart
Attachments No

TAC Recommendation No Affirmative Recommendation with a Second
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

Summary of Modification

Proposal cross references Florida statute on certified professionals as applicable to the IECC provision

Rationale

Florida statute provides a mechanism for training and certifying professional on whole house testing. This cross reference ensures continued compliance with Florida law.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

none, this statute has been in place for more than a decade.

Impact to building and property owners relative to cost of compliance with code

None, this statute has been in place for more than a decade.

Impact to industry relative to the cost of compliance with code

None this statute has been in place for more than a decade.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. There are many unregulated house testers in the state of Florida who may or may not have adequate training and competency. By cross referencing FS statute, FBC will ensure that this provision is executed by qualified professionals.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes because it ensures that professionals that conduct the tests have regulatory oversight by DPBR where they have to prove competency for the task required by code

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate. In fact, it supports the "demonstrated capabilities" concept

Does not degrade the effectiveness of the code

No

Is the proposed code modification part of a prior code version? No

R402.4.1.2 Testing.

The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 5 air changes per hour in Climate Zones 1 and 2, and 3 air changes per hour in Climate Zones 3 through 8. Testing shall be conducted with a blower door at a pressure of 0.2 inches w.g. (50 Pascals). ~~Where required by the code official,~~ Testing shall be conducted by an approved third party that is a certified Class 1 BERS rater in accordance with FS 553.995. A written report of the results of the test shall be signed by the party conducting the test and provided to the code official. Testing shall be performed at any time after creat

Date Submitted 8/2/2012
Chapter 4

Section R403.2.1
Affects HVHZ No

Proponent Jeff Sonne / FSEC
Attachments No

TAC Recommendation No Affirmative Recommendation with a Second
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

EN5662

Summary of Modification

Prescriptive compliance duct location and insulation.

Rationale

Makes this section consistent with the duct requirements of Table 402.1.1 of the 2010 FEC and 2013 code mod EN5662 which is in part intended to provide the same duct requirements as Table 402.1.1.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None; consistent with Table 402.1.1 of the 2010 FEC.

Impact to building and property owners relative to cost of compliance with code

None; consistent with Table 402.1.1 of the 2010 FEC.

Impact to industry relative to the cost of compliance with code

None; consistent with Table 402.1.1 of the 2010 FEC.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes; provides consistency with Table 402.1.1 of the 2010 FEC and will provide consistency for 2013 FEC if code mod EN5662 is approved.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes; provides consistency with Table 402.1.1 of the 2010 FEC and will provide consistency for 2013 FEC if code mod EN5662 is approved.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No; provides consistency only.

Does not degrade the effectiveness of the code

Improves code effectiveness by providing consistency between code sections.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Provides consistency with 2010 FEC and will provide consistency for 2013 FEC if code mod EN5662 is approved.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

1st Comment Period History

08/09/2012 - 09/23/2012

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Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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EN6015-G1**Comment:**

The proposed amendment does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g)

1st Comment Period History

08/09/2012 - 09/23/2012

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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EN6015-G2**Comment:**

The proposed amendment does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g)

R403.2.1 Insulation (Prescriptive).

~~Supply ducts in attics shall be insulated to a minimum of R-8. All other ducts shall be insulated to a minimum of R-6. Ducts shall be located in conditioned space and insulated to a minimum of R-6.~~

~~**Exception:** Ducts or portions thereof located completely inside the building thermal envelope.~~

Date Submitted 7/24/2012
Chapter 4

Section R403.2.2
Affects HVHZ No

Proponent Arlene Stewart
Attachments Yes

TAC Recommendation No Affirmative Recommendation with a Second
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

Summary of Modification

Proposal cross references Florida statute on certified professionals as applicable to the IECC provision

Rationale

Florida statute provides a mechanism for certifying professionals on duct testing. This cross reference ensures continued compliance with Florida law.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

none, this BERS statute has been in place for more than a decade and the AC contractors licensing provision was added in the 2012 legislative session.

Impact to building and property owners relative to cost of compliance with code

None, this BERS statute has been in place for more than a decade and the AC contractors licensing provision was added in the 2012 legislative session.

Impact to industry relative to the cost of compliance with code

None, this BERS statute has been in place for more than a decade and the AC contractors licensing provision was added in the 2012 legislative session.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. There are many unregulated duct testers in the state of Florida who may or may not have adequate training and competency. By cross referencing these two FS statute, FBC will ensure that this provision is executed by qualified professionals.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes because it ensures that professionals that conduct the tests have regulatory oversight by DPBR

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate. In fact, it supports the "demonstrated capabilities" concept

Does not degrade the effectiveness of the code

No

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

Proponent	BOAF CDC	Submitted	9/19/2012	Attachments	No
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EN5628-G1

Comment:

Codes in general do not cross reference for professional credentialing provisions that are found in State Statute. Further, while the BERS program may provide certification for these skill sets and trades, BERS is completely voluntarily as a residential program and not mandated to be completed as part of normal residential construction. It is not the intent to have a code mandated sole source for compliance. Rather, it allows the tester to be approved by the AHJ and it should remain that way. Original language should be preserved to allow for greater choice in the marketplace and maintain the building official's authority to recognize such entities.

R403.2.2 Sealing (Mandatory).

[no change]

Duct tightness shall be verified by a Florida certified Class 1 BERS rater in accordance with FS 553.995 or a Florida-licensed AC contractor in accordance with FS 489 by either of the following:

[no change]

2. The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state.

Florida has two laws that regulate the certification and/or licensing of professionals that conduct the type of work outlined in this code provision. The code should be cross referenced to reduce unlicensed and uncertified activity. If the law exists, it needs to be complied with in all applicable circumstances.

1. The provisions contained in the proposed amendment are addressed in the applicable international code?

Currently, the IECC does not provide certification parameters on duct testers, nor is there a corresponding Federal law. A number of national certifications do exist for the work, but only one is recognized by Florida law.

3. The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

This provision will not be submitted to the IECC because it is inappropriate to subject other states to Florida's laws. It would also conflict with California law which also regulates the industry in that state.

Date Submitted	8/1/2012	Section	R403.9	Proponent	Representing FL Swimming Pool Assoc
Chapter	4	Affects HVHZ	No	Attachments	No
TAC Recommendation	No Affirmative Recommendation with a Second				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications**Summary of Modification**

Moves swimming pool and spa criteria from 2010 code, with exception of APSP-15 reference, forward into the 2013 code.

Rationale

To comply with s. 553.73(7)(a), F.S., the proposed modification will supplement the most current version of the IECC with FL specific requirements in order to ensure the efficiencies of the FEEC are maintained, pursuant to s. 553.901., F.S. Eliminating the reference to APSP-15, but bringing all other pool/spa energy language forward, eliminates duplication and unnecessary provisions not needed to comply with the intent of the legislature.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

Will eliminate confusion and therefore building department man hours by not including reference to APSP-15, but keeping the remaining proposed language that is in the 2010 FL Building Code.

Impact to building and property owners relative to cost of compliance with code

Will decrease cost to owners by eliminating reference to APSP-15, but keeping the remaining proposed language that is in the 2010 FL Building Code.

Impact to industry relative to the cost of compliance with code

Will decrease cost to industry by eliminating reference to APSP-15, but keeping the remaining proposed language that is in the 2010 FL Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes, proposed language is in the 2010 FL Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, proposed language is in the 2010 FL Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No, proposed language is in the 2010 FL Building Code.

Does not degrade the effectiveness of the code

No, proposed language is in the 2010 FL Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Proposed language was in the 2010 FBC. It was processed in accordance with an approved plan from the FL Building Commission for the purpose of maintaining FL efficiencies, based on the 2008 legislative mandate to incorporate efficiencies for pools and spas.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

EN5814-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

R403.9 Swimming pools, and inground permanently installed spas, and portable spas (Mandatory). The energy requirements for residential pools and inground spas shall be as specified in Sections R403.9.1 through R403.9.4. The energy requirements for portable spas shall be in accordance with Section R403.9.5 and ANSI/APSP-14. ~~Pools and inground permanently installed spas shall comply with Sections R403.9.1 through R403.9.3.~~

R403.9.1 Pool and spa heaters. All pool heaters shall be equipped with a readily *accessible* on-off switch that is mounted outside the heater to allow shutting off the heater without adjusting the thermostat setting. [Replace IECC R403.9.1 in its entirety]

R403.9.1.1 Gas and oil-fired pool and spa heaters. All gas- and oil-fired pool and spa heaters shall have a minimum thermal efficiency of 82 percent for heaters manufactured on or after April 16, 2013 when tested in accordance with ANSI Z 21.56. Pool heaters fired by natural or LP gas shall not have continuously burning pilot lights.

R403.9.1.2 Heat pump pool heaters. Heat pump pool heaters shall have a minimum COP of 4.0 when tested in accordance with ARI 1160, Table 2, Standard Rating Conditions-Low Air Temperature. A test report from an independent laboratory is required to verify procedure compliance.

R403.9.2 Time switches. Time switches or other control method that can automatically turn off and on heaters and pumps according to a preset schedule shall be installed on all heaters and pumps. Heaters, pumps and motors that have built in timers shall be deemed in compliance with this requirement

Exceptions:

1. Where public health standards require 24-hour pump operation.
2. Where pumps are required to operate solar- and waste-heat-recovery pool heating systems.
3. Where pumps are powered exclusively from on-site renewable generation.

R403.9.3 Covers. Heated swimming pools and inground permanently installed spas shall be equipped ~~provided~~ with a vapor-retardant cover on or at the water surface or a liquid cover or other means proven to reduce heat loss. -

Exception: Outdoor pools deriving over 70 percent of the energy for heating from site-recovered energy, such as a heat pump or solar energy source computed over an operating season.

R403.9.4 Residential pool pumps and pump motors. Pool filtration pump motors shall meet the following requirements:

1. Pool pump motors shall not be split-phase, shaded-pole or capacitor start-induction run types.
2. Pool pumps and pool pump motors with a total horsepower (HP) of = 1 HP shall have the capability of operating at two or more speeds. The low speed shall have a rotation rate of no more than ½ of the motor's maximum rotation rate.

3. Pool pumps motor controls shall have the capability of operating the pool pump at a minimum of two speeds. The default circulation speed shall be the residential filtration speed, with a higher speed override capability for a temporary period not to exceed one normal cycle or 24 hours, whichever is less.

Exception: Solar pool heating systems shall be permitted to run at higher speeds during periods of usable solar heat gain.

R403.9.5 Portable spa standby power. Portable electric spa standby power shall not be greater than $5(V^{2/3})$ watts where V = the total volume, in gallons, when spas are measured in accordance with the spa industry test protocol provided in ANSI/APSP-14.

Date Submitted 7/30/2012
Chapter 4

Section R405.4
Affects HVHZ No

Proponent Ann Stanton
Attachments No

TAC Recommendation No Affirmative Recommendation with a Second
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

Summary of Modification

Make documentation of software Florida-specific.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901,FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is currently in the 2010 Florida Building Code.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Proposed language is currently in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is currently in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is currently in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is currently in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

Proposed language was in the 2010 FBC. It was processed in accordance with an approved plan from the Florida Building Commission for the purpose of maintaining Florida efficiencies.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

R405.4 Documentation. Documentation of the software used for the performance design and the parameters for the building shall be in accordance with Sections R405.4.1 through R405.4.3 ~~and procedures contained in the Energy Simulation Tool Approval Technical Assistance Manual.~~

R405.4.1 Compliance software tools. ~~Computer software utilized for demonstration of code compliance shall have been approved by the Florida Building Commission in accordance with requirements of this code. Documentation verifying that the methods and accuracy of the compliance software tools conform to the provisions of this section shall be provided to the code official.~~

R405.4.2 Compliance report. Compliance software tools used to demonstrate code compliance by Section R405 shall generate a report that documents that the *proposed design* complies with Section R405.3 (see Section R101.5.1). The compliance documentation shall include the following information:

1. Address or other identification of the residence;
2. An inspection checklist documenting the building component characteristics of the *proposed design* as listed in Table R405.5.2(1). The inspection checklist shall show results for ~~both the standard reference design and the proposed design~~, and shall document all inputs entered by the user necessary to reproduce the results;
3. Name of individual completing the compliance report; and
4. Name and version of the compliance software tool.

Exception: Multiple orientations. When an otherwise identical building model is offered in multiple orientations compliance for any orientation shall be permitted by documenting that the building meets the performance requirements in each of the four cardinal (north, east, south and west) orientations.

R405.4.3 Additional documentation. The *code official* shall be permitted to require the following documents:

~~1. Documentation of the building component characteristics of the standard reference design.~~

1.2 Verification that an EPL Display Card signed by the builder providing the building component characteristics of the *proposed design* will be provided to the purchaser of the home at time of title transfer. A certification signed by the builder providing the building component characteristics of the proposed design as given in Table R405.5.2(1).

2. Documentation of the component efficiencies actual values used in the software calculations for the *proposed design*.

EN5741-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

R405.4 Documentation. Documentation of the software used for the performance design and the parameters for the building shall be in accordance with Sections R405.4.1 through R405.4.3 and procedures contained in the Energy Simulation Tool Approval Technical Assistance Manual.

R405.4.1 Compliance software tools. Computer software utilized for demonstration of code compliance shall have been approved by the Florida Building Commission in accordance with requirements of this code. ~~Documentation verifying that the methods and accuracy of the compliance software tools conform to the provisions of this section shall be provided to the code official.~~

R405.4.2 Compliance report. Compliance software tools used to demonstrate code compliance by Section R405 shall generate a report that documents that the *proposed design* complies with Section R405.3 (see Section R101.5.1). The compliance documentation shall include the following information:

1. Address or other identification of the residence;
2. An inspection checklist documenting the building component characteristics of the *proposed design* as listed in Table R405.5.2(1). The inspection checklist shall show results for ~~both the *standard reference design* and the *proposed design*~~, and shall document all inputs entered by the user necessary to reproduce the results;
3. Name of individual completing the compliance report; and
4. Name and version of the compliance software tool.

Exception: Multiple orientations. When an otherwise identical building model is offered in multiple orientations compliance for any orientation shall be permitted by documenting that the building meets the performance requirements in each of the four cardinal (north, east, south and west) orientations.

R405.4.3 Additional documentation. The *code official* shall be permitted to require the following documents:

~~1. Documentation of the building component characteristics of the *standard reference design*.~~

1.2 Verification that an EPL Display Card signed by the builder providing the building component characteristics of the *proposed design* will be provided to the purchaser of the home at time of title transfer. A certification signed by the builder providing the building component characteristics of the *proposed design* as given in Table R405.5.2(1).

2. Documentation of the component efficiencies ~~actual values~~ used in the software calculations for the *proposed design*.

Total Mods for **Energy** in **Withdrawn**: 2

Total Mods for report: 79

Sub Code: Energy Conservation

Date Submitted 7/17/2012	Section C403.2.3(7)	Proponent jerry paul
Chapter 4	Affects HVHZ No	Attachments No
TAC Recommendation Withdrawn		
Commission Action Pending Review		

Comments

General Comments No	Alternate Language No
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Related Modifications

Remove "centrifugal" from section C403.2.3.1 and from the footnotes in Table C403.2.3(7). Delete section C403.2.3.2.

Summary of Modification

In Table C403.2.3(7), combine the water cooled, electrically operated, positive displacement and centrifugal chiller categories into a single category, "Water cooled electrically operated chillers" with the higher energy efficiency requirements now achievable by all.

Rationale

The current version of the table results in preferential treatment for one type of compressor (positive displacement) by allowing lower energy efficiency solely for that compressor type, therefore discriminating against other compressor types (such as centrifugal compressors) which are required to meet a HIGHER efficiency standard. The Code should not pick one over the other. All compressor types should be treated equally pursuant to a single category. The higher efficiency standard should apply to all compressor types as a matter of fair competition and consistent with Florida policy of promoting higher commercial building energy efficiency.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Increased energy efficiencies for commercial buildings should be expected. Also, reduced part-load capacities will result, therefore conserving electrical capacity and improving load management for utilities. No costs are expected.

Impact to building and property owners relative to cost of compliance with code

Reduced energy consumption resulting in savings in electric bill.

Impact to industry relative to the cost of compliance with code

There should be no additional impact relative to cost.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Government should not pick winners and losers through code provisions that provide preferences for technology types. Free market competition is a more fair and cost effective model for technology selection.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Higher efficiency centrifugal, oil-free compressors would no longer be at a regulatory disadvantage. The same efficiency requirements would apply equally to all compressor types therefore increasing the certainty and fairness of the Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This modification removes a policy which currently discriminates against one compressor type.

Does not degrade the effectiveness of the code

The Code would become more effective because building owners would have freedom to choose compressor technologies based upon merit rather than artificially differing efficiency standards that favor a single technology.

Is the proposed code modification part of a prior code version? No

1st Comment Period History

08/09/2012 - 09/23/2012

Proponent BOAF CDC	Submitted 9/15/2012	Attachments No
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Comment:

This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g)

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

EN5125-G1

Proponent	Submitted	Attachments
jerry paul	9/21/2012	No

EN5125-G2

Comment:

Comment EN5125-G1 relies on criterion from F.S. 553.73(g) that apply when "...amendments that expire pursuant to this para are resubmitted through the FBC code adoption process". The mod does not "resubmit an amendment that has expired" so the criterion does not apply to this mod.

The comment asserts the inapplicable criteria that "[t]he code change is unnecessary as the provisions are adequately addressed in the applicable icode". The mod itself is not addressed in the icode. Although the code includes the referenced table, the mod corrects a portion that discriminates between different eqpmt types for water cooled chillers. The section for air cooled chillers does not include those distinctions (therefore does not discriminate) and neither should the water cooled section.

The comment also asserts inapplicable criteria that "[t]he amendment does not demonstrate that the FL geographical jurisdiction exhibits need to strengthen the code..." FL's climate and heating/cooling needs are indeed unique. FL is the only state w/in the Tropical Climate Class Regime (Koppen Aw). FL has the largest popul and most buildings w/in the Humid Subtropical Regime (Koppen Cfa). FL's Pub Svc Commission recognizes the variations between FL and other states for heating/cooling energy consumption. See http://www.psc.state.fl.us/publications/pdf/electricgas/DSM_Peer_Report_201_01_20_final.pdf including: "FL's energy usage exhibits higher variation than other states due to FL's weather, customer base, and high reliance on electricity for cooling & heating; Elec cooling & heating load contribute significantly to elec peak demand and the need for new power plants; FL has a unique weather profile compared to other states, with the highest cooling degree days and lowest heating degree days of any state in the U.S.; Given the greater variation in customer usage patterns, the benefits associated with reducing peak demand are particularly important in FL."

1st Comment Period History

08/09/2012 - 09/23/2012

Proponent	Submitted	Attachments
Richard Lord	9/21/2012	Yes

EN5125-G3

Comment:

The proposed modification to the table should be rejected. AHRI has developed a revision that has been approved unamously buy the chiller section which will be presented to ASHRAE 90.1 on Oct 5. We strongly recommend it be considered in place of the proposed flawed table modifications.

1st Comment Period History

08/09/2012 - 09/23/2012

Proponent	Submitted	Attachments
Ralph Breisch	9/22/2012	No

EN5125-G4

Comment:

The proposed changes to code will have two MAJOR impacts. It will force end-users to switch to less efficient air-cooled equipment when systems require less than 200 tons of cooling, or it will require them to pay a very significant premium to switch from positive displacement compressor technology to centrifugal technology. In fact in some instances, less than 150 tons, centrifugal chiller technology does NOT exist that can meet the proposed standard. I know this because I work for a major OEM chiller manufacturer that utilizes the Danfoss-Turbocor centrifugal compressor.

In simple terms it has been proposed that ALL positive displacement chillers be eliminated by setting efficiency goals so high that they cannot be met. This means that the efficiency levels achievable by positive displacement technology available today will not meet the proposed guidelines. It will be illegal under the proposed energy code to sell any: water-cooled scroll, water-cooled screw, or water-cooled reciprocating chillers. They will not meet the proposed guidelines.

Also, many flooded magnetic centrifugal chillers under 200 Tons will be non-compliant depending upon the choice of compressors. At a minimum, the cost of flooded magnetic centrifugal chillers under 200 Tons will rise significantly in order to meet the proposed efficiency levels.

We believe that energy efficiency is important both environmentally and financially but the implementation of energy code that eliminates good chiller solutions by imposing unachievable efficiency levels that favor equipment unsuited for the application is foolish. Smaller water-cooled applications will be forced to use a very, very limited portfolio of equipment and will likely force much of that market segment to air-cooled. This will limit competition in this segment and consequently drive up the price of water-cooled solutions.

Ralph Breisch
Executive Vice President
Multistack, LLC

Proponent	Submitted	Attachments
Karim Amrane	9/22/2012	Yes

EN5125-G5

Comment:

See attached comments

1st Comment Period History

08/09/2012 - 09/23/2012

Proponent	Submitted	Attachments
Dennis Manthei	9/22/2012	No

EN5125-G6

Comment:

I am a senior staff engineer working for a chiller supplier that will be prevented from supplying chiller products in Florida if revisions to the Florida Building Code, revision 05125, are enacted. There have been changes proposed to the Florida Building Code (energy code) that are unreasonable and will be detrimental to all positive displacement chiller business in Florida. In simple terms it has been proposed that ALL positive displacement chillers be eliminated by setting efficiency goals so high that they cannot be met. They will not meet the proposed guidelines. The method of changing the rules to simply eliminate the positive displacement portion means there no longer is any competition for chillers in Florida. Also, many flooded magnetic centrifugal chillers under 200 tons will be non-compliant depending upon the choice of compressors. At a minimum, the cost of flooded magnetic centrifugal chillers under 200 tons will rise significantly in order to meet the proposed efficiency levels. Leveling the playing field by eliminating the competition is not the free enterprise solution. Energy efficiency is important both environmentally and financially but the implementation of energy code that eliminates good chiller solutions by imposing unachievable efficiency levels that favor equipment unsuited for the application is foolish. Smaller water-cooled applications will be forced to use a very, very limited portfolio of equipment and will likely force much of that market segment to air-cooled. This will limit competition in this segment and consequently drive up the price of water-cooled solutions.

1st Comment Period History

08/09/2012 - 09/23/2012

Proponent	Submitted	Attachments
William Martin	9/23/2012	No

EN5125-G7

Comment:

As a person who has used oil free, magnetic centrifugal technology for the past 12 years, re writing the code to where it favors this technology makes no sense. There are many applications where this compressor type does not work well. Furthermore, due to the higher cost of this type of equipment, there are applications where this equipment will never payback to the owners for installing it without large financial incentives. The financial incentives become the responsibility of the utilities and or the government. When the equipment does not perform as promised, a financial problem will occur.

Creating a monopoly for one product type is unethical. In the lower tonnage ranges of 200 tons and below, the majority of the market is scroll and screw compressors. These compressors can get very close to the efficiencies as magnetic bearing machines especially with digital scroll and vfd driven screws.

1st Comment Period History

08/09/2012 - 09/23/2012

Proponent	Submitted	Attachments
Clatworthy Michael	9/23/2012	No

EN5125-G8

Comment:

These changes are unreasonable and will be detrimental to all positive displacement chiller business in Florida. In many small to medium tonnage applications positive displacement is the ONLY choice. The proposed change seems to favor a single Florida-based manufacturer.

In simple terms it has been proposed that ALL positive displacement chillers be eliminated by setting efficiency goals so high that they cannot be met. This means that the efficiency levels achievable by positive displacement technology available today will not meet the proposed guidelines. It will be illegal under the proposed energy code to sell any: water-cooled scroll, water-cooled screw, or water-cooled reciprocating chillers. They will not meet the proposed guidelines.

Also, many flooded magnetic centrifugal chillers under 200 Tons will be non-compliant depending upon the choice of compressors. At a minimum, the cost of flooded magnetic centrifugal chillers under 200 Tons will rise significantly in order to meet the proposed efficiency levels.

We believe that energy efficiency is important both environmentally and financially but the implementation of energy code that eliminates good chiller solutions by imposing unachievable efficiency levels that favor equipment unsuited for the application is foolish. Smaller water-cooled applications will be forced to use a very, very limited portfolio of equipment and will likely force much of that market segment to air-cooled. This will limit competition in this segment and consequently drive up the price of water-cooled solution.

These proposed changes have NOT been thought through. I urge you to carefully analyze the real impact this will have on manufacturers and building owners.

TABLE C403.2.3(7) WATER CHILLING PACKAGES, EFFICIENCY REQUIREMENTS^a

[Delete entire column "Before 1/1/2010" and column heading "As of 1/1/2012"]

Equipment Type	Size Category	Units	Path A		Path B		Test Procedure
			Full Load	IPLV	Full Load	IPLV	
Air-cooled chillers	< 150 tons	EER	= 9.562	= 12.500	NA ^d	NA ^d	AHRI 550/590
	= 150 tons	EER	= 9.562	= 12.500, 750	NA ^d	NA ^d	
Air cooled without condenser, electrically operated	All capacities	EER	Air-cooled chillers without condensers must <u>shall</u> be rated with matching condensers and comply with the air-cooled chiller efficiency requirements				
Water cooled, electrically operated, reciprocating	All capacities	kW/ton	Reciprocating units must <u>shall</u> comply with water cooled positive displacement efficiency requirements.				
Water cooled, electrically operated, positive displacement	< 75 tons	kW/ton	= 0.780	= 0.630	= 0.800	= 0.600	
	= 75 tons and < 150 tons	kW/ton	= 0.775	= 0.615	= 0.790	= 0.586	
	= 150 tons and < 300 tons	kW/ton	= 0.680	= 0.580	= 0.718	= 0.540	
	= 300 tons	kW/ton	= 0.620	= 0.540	= 0.639	= 0.490	
Water cooled, electrically operated chillers, centrifugal	< 300 tons	kW/ton	= 0.634	= 0.596	= 0.639	= 0.450	
	= 300 tons and < 600 tons	kW/ton	= 0.576	= 0.549	= 0.600	= 0.400	
	= 600 tons	kW/ton	= 0.570	= 0.539	= 0.590	= 0.400	
Air cooled, absorption single effect	All capacities	COP	= 0.600	NR ^d	NA ^d	NA ^d	AHRI 560
Water-cooled, absorption single effect	All capacities	COP	= 0.700	NR ^d	NA ^d	NA ^d	
Absorption double effect, indirect-fired	All capacities	COP	= 1.000	= 1.050	NA ^d	NA ^d	
Absorption double effect, direct-fired	All capacities	COP	= 1.000	= 1.000	NA ^d	NA ^d	

For SI: 1 ton = 3517W, 1 British thermal unit per hour = 0.2931 W. °C=[(°F)-32]/1.8.

a. The chiller equipment requirements, after adjustments in accordance with Section 403.2.3.1, do not apply for chillers used in low-temperature applications where the design leaving fluid temperature is < 40 36°F. The requirements do not apply to absorption chillers with design leaving fluid temperatures less than 40°F.

c. Chapter 6 of the referenced standard contains a complete specification of the referenced test procedure, including the referenced year version of the test procedure.

b. Compliance with this standard can be obtained by meeting the minimum requirements of Path A or B. However,

both the full load and IPLV ~~must~~ shall be met to fulfill the requirements of Path A or B.

d. NA means that this requirement is not applicable and cannot be used for compliance.

e. NR means that there are no minimum requirements for this category.

Comments Regarding Florida Code Change 5125

UTC Climate, Controls & Security and its Carrier business is pleased to provide comments on the proposed changes to Florida Code 5125.

It is our understanding that the primary purpose of the proposed change is to implement common efficiency requirements for water cooled positive displacement chillers and water cooled centrifugal chillers; our comments below address this proposed change. We note that there was also a minor change to the IPLV requirements for ≥ 150 ton air cooled chillers, with respect to which we note only that the proposed IPLV will likely be less efficient than a new industry recommendation, which will be discussed below.

Under the proposed change for water cooled chillers, common efficiency requirements for water cooled positive displacement chillers and water cooled centrifugal water cooled chillers would be accomplished by eliminating the category for positive displacement chillers from Table C403.2.3(7). As a result of this change, all water cooled chillers would be required to comply with the water cooled centrifugal chiller efficiency requirements.

This change to the requirements likely would result in the total elimination of small screw and scroll chillers in Florida. More specifically, because there are no centrifugal water cooled products below 60 tons, this change would effectively make water cooled chillers in the less than 60 ton range unavailable in Florida and force building owners to continue to use existing equipment or to change to other HVAC systems approaches for cooling. Above 60 tons, there is a new technology that uses small variable speed centrifugal compressors, but the compressor used in these chillers is only available from one compressor supplier, posing competitive product option issues for building owners. Moreover, these units are very expensive relative to the positive displacement chillers in the same size range. AHRI Industry data for 2011 shows that they are approximately 225% more expensive than positive displacement chillers at 75 tons, and are 200% more expensive at 150 tons. Accordingly, a comprehensive cost and market impact analysis should be performed. Note that justification for the proposal indicated no cost increase which is not correct.

In addition to cost and product option considerations, it is also important to consider that very few centrifugal chillers are sold at small capacities due to application limitations of variable speed centrifugal chillers, as further described below. AHRI industry statistics bear this out, showing that, in the less than 150 ton range, fewer than 10 centrifugals were shipped in vs. over 1000 positive displacement chillers in 2011.

One could incorrectly assume that industry volume would switch to centrifugal chillers with the proposed code change, but at the high price as shown by the AHRI historical data and efficiency improvements as listed in the proposal, it is questionable that the change will provide an acceptable payback. The proposed change would therefore likely have unintended and adverse results, including old and inefficient units not being replaced.



September 22, 2012

RE: Comments on Florida Building Code Proposal 5125

The Air-Conditioning, Heating, and Refrigeration Institute (AHRI) would like to express deep concerns with proposal 5125 and request that it be rejected in its entirety. AHRI is a trade association representing manufacturers of heating, cooling and refrigeration equipment including chiller manufacturers. Proposal 5125 modifies Table C403.2.3(7) by eliminating the category for water-cooled positive displacement chillers and requiring all water-cooled chillers to meet the current requirements for centrifugal chillers. However, given that the vast majority of positive displacement water-cooled chillers cannot meet the proposed minimum efficiencies, the proposal is in fact totally eliminating screw and scroll chillers from the Florida market. In addition, no analysis was provided to economically justify the proposal. Changes of this magnitude cannot be accepted without economic justification. Since no analysis was provided to justify the proposal, it should be rejected without hesitation.

The efficiencies listed in Table C403.2.3(7) were developed by the ASHRAE 90.1 committee. Considerable efforts went into the development of these efficiencies, including economic and energy saving analyses. In addition, particular attention was put into ensuring that efficiency levels can be met by more than one manufacturer. These efficiencies are periodically revised. AHRI encourages states to adopt efficiency requirements that are consistent with ASHRAE 90.1 to avoid a patchwork of standards across the USA, with undue burden on manufacturers to maintain product lines that meet a wide range of requirements. ASHRAE Standard 90.1 is the original source of HVACR equipment minimum efficiency requirements that are found in the 2012 IECC. The standard and its requirements are developed through a consensus based process with input from all stakeholders and go through an economic and technical justification. As such, AHRI strongly recommends that the proposal be rejected and that the proposer be encouraged to submit the proposal to ASHRAE 90.1 for consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "K Amrane", is positioned below the word "Sincerely,".

Karim Amrane
Vice President, Regulatory & Research
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Date Submitted 7/27/2012	Section R402.1.1	Proponent Dwight Wilkes
Chapter 4	Affects HVHZ Yes	Attachments Yes
TAC Recommendation Withdrawn		
Commission Action Pending Review		

Comments

General Comments No	Alternate Language No
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Related Modifications

Summary of Modification

To reinstate the current Florida footnote to Table R402.1.1 in the Base code [2012 IECC] for impact rated fenestration products with modification to U-factor.

Rationale

If the current Florida footnote for impact fenestration in the wind-borne debris regions is not reinserted into the Florida Codes and the maximum U-factor of the window is lowered to 0.40, it may require the window manufacturer to change the glass package and framing types they are using and have their product re-evaluated in accordance with NFRC procedures for thermal performance. They may then have to have their product recertified for impact resistance because they were now being required to use a new glass package and/or frame type to meet more restrictive thermal performance requirements. So in essence, the manufacturer of impact resistant products would need to have them recertified twice to meet new, lower maximum U-factor criteria and impact requirements.

Fiscal Impact Statement

- Impact to local entity relative to enforcement of code**
No impact to local entity as building officials are already familiar with an allowance for impact products as they exist in the current 2010 code.
- Impact to building and property owners relative to cost of compliance with code**
If the footnote is not reinstated and the U-factor remains this could increase the cost to property owners by reducing the products available.
- Impact to industry relative to the cost of compliance with code**
If the footnote is not reinstated and the U-factor remains this could increase the cost to industry.

Requirements

- Has a reasonable and substantial connection with the health, safety, and welfare of the general public**
yes, allows recognition of impact products throughout the state, a life safety issue that Florida currently recognizes.
- Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction**
Yes, as this proposed modification provides a wider range of energy efficient products suited for the State of Florida.
- Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities**
This will provide an opportunity for more products without discriminating against materials, methods or systems.
- Does not degrade the effectiveness of the code**
Does not degrade the code as this is consistent with the current 2010 Florida code with some additional strengthening to the code.

Is the proposed code modification part of a prior code version?
YES

The provisions contained in the proposed amendment are addressed in the applicable international code?
NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?
YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?
YES

5698-A2

Proponent Eric Lacey Submitted 9/23/2012 Attachments Yes

Rationale

This exception is unnecessary because there are products that meet both the efficiency and impact rating requirements of the 2012 IECC, and there are other paths to compliance that provide flexibility to products that do not meet these standards.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This alternative should add clarity to the code, improving compliance and enforcement.

Impact to building and property owners relative to cost of compliance with code

There should be no impact on property owners.

Impact to industry relative to the cost of compliance with code

This alternative should add clarity to the code, improving compliance and enforcement.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This alternative to EN5698 will add clarity to the code and will ensure that efficient windows are installed wherever possible.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This alternative to EN5698 maintains the efficiencies of the 2012 IECC.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No.

Does not degrade the effectiveness of the code

No.

Is the proposed code modification part of a prior code version? No

EN5698-G1

Proponent BOAF CDC Submitted 9/15/2012 Attachments No

Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

MODIFICATION TEXT:

TABLE R402.1.1 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT^a

CLIMATE ZONE	FENESTRATION U-FACTOR ^b	SKYLIGHT ^b U-FACTOR	GLAZED FENESTRATION SHGC ^{b, e}	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE ^f	FLOOR R-VALUE	BASEMENT ^c WALL R-VALUE
1	NR	0.75	0.25	30	13	3/4	13	0
2	0.40 ^d	0.65	0.25	38	13	4/6	13	0
3	0.35	0.55	0.25	38	20 or 13+5 ^h	8/13	19	5/13 ^g
4 except Marine	0.35	0.55	0.40	49	20 or 13+5 ^h	8/13	19	10/13
5 and Marine 4	0.32	0.55	NR	49	20 or 13+5 ^h	13/17	30 ^g	15/19
6	0.32	0.55	NR	49	20+5 or 13+10 ^h	15/20	30 ^g	15/19
7 and 8	0.32	0.55	NR	49	20+5 or 13+10 ^h	19/21	38 ^g	15/19

For SI: 1 foot = 304.8 mm.

b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration. Exception: Skylights may be excluded from glazed fenestration

SHGC requirements in Climate Zones 1 through 3 where the SHGC for such skylights does not exceed 0.30.

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

d. R-5 shall be added to the required slab edge R-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less in Climate Zones 1 through 3 for heated slabs.

~~e. There are no SHGC requirements in the Marine Zone.~~

~~f. g.~~ Basement wall insulation is not required in warm-humid locations as defined by Figure R301.1 and Table R301.1.

~~g. f.~~ Or insulation sufficient to fill the framing cavity, R-19 minimum.

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

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

h. i. In Climate Zone 2, impact rated fenestration in wind-borne debris regions shall comply Wind Zone 4 in ASTM E1996 or TAS 201 & TAS 203 requirements. The maximum U-Factor shall be 0.65.

Amend footnote i of Table R402.1.1 as follows:

- i. In Climate Zone 2, when impact rated fenestration is required in wind-borne debris regions, it shall comply with Wind Zone 4 in ASTM E1996 or TAS 201 & TAS 203 requirements. The maximum U-Factor shall be 0.65.

MODIFICATION TEXT:
TABLE R402.1.1 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT^a

CLIMATE ZONE	FENESTRATION U-FACTOR ^b	SKYLIGHT ^b U-FACTOR	GLAZED FENESTRATION SHGC ^{b, c, e}	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE ⁱ	FLOOR R-VALUE	BASEMENT ^g WALL R-VALUE	SLAB ^d R-VALUE & DEPTH	CRAWL SPACE ^c WALL R-VALUE
1	NR	0.75	0.25	30	13	3/4	13	0	0	0
2	0.40 ^j	0.65	0.25	38	13	4/6	13	0	0	0
3	0.35	0.55	0.25	38	20 or 13+5 ^h	8/13	19	5/13 ^f	0	5/13
4 except Marine	0.35	0.55	0.40	49	20 or 13+5 ^h	8/13	19	10/13	10, 2 ft	10/13
5 and Marine 4	0.32	0.55	NR	49	20 or 13+5 ^h	13/17	30 ^e	15/19	10, 2 ft	15/19
6	0.32	0.55	NR	49	20+5 or 13+10 ^h	15/20	30 ^e	15/19	10, 4 ft	15/19
7 and 8	0.32	0.55	NR	49	20+5 or 13+10 ^h	19/21	38 ^e	15/19	10, 4 ft	15/19

For SI: 1 foot = 304.8 mm.

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

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

d. R-5 shall be added to the required slab edge R-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less in Climate Zones 1 through 3 for heated slabs.

~~e. There are no SHGC requirements in the Marine Zone.~~

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

g. f. Or insulation sufficient to fill the framing cavity, R-19 minimum.

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

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

j. i. In Climate Zone 2, impact rated fenestration in wind-borne debris regions shall comply Wind Zone 4 in ASTM E1996 or TAS 201 & TAS 203 requirements. The maximum U-Factor shall be 0.65.

EN5698

We do not think this exception is necessary because there are plenty of impact-rated products available that achieve the 0.40 U-factor/0.25 SHGC requirements of the 2012 *IECC*, and there are multiple other paths to compliance that would still allow windows with higher U-factor and/or SHGC values to be used. However, if an exception is to be created for these fenestration products, we recommend applying the exception only in those cases where windows are *required* to meet the impact rated fenestration requirements. There is no need to exempt large portions of the state from certain efficient window requirements if impact-rated fenestration is not required.

Total Mods for **Energy** in **No Affirmative Recommendation without a Second**: 16

Total Mods for report: 79

Sub Code: Energy Conservation

Date Submitted 7/31/2012
Chapter 1

Section C103.2.1
Affects HVHZ No

Proponent Cheryl Harris
Attachments No

TAC Recommendation No Affirmative Recommendation without a Second
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

Summary of Modification

To maintain Florida Specific Code related to Code Compliance forms for Energy Calculations

Rationale

To maintain Florida specific code that allows performance based method in addition to prescriptive method energy calculations for Florida buildings.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Neutral

Impact to building and property owners relative to cost of compliance with code

More cost effective

Impact to industry relative to the cost of compliance with code

More cost effective

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate

Does not degrade the effectiveness of the code

Does not degrade the effectiveness of the code

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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EN5876-G1

Comment:

This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g)

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)
The proposed amendment does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

Commercial 103.2.1 Code demonstration forms. See Table 103.2.1.

103.2.1.2 Commercial and residential >3 stories.

103.2.1.2.1 Building thermal envelope alternative. An accurately completed Commercial Building Form 502 shall be submitted to the building official for to demonstrate code compliance by this method.

103.2.1.2.2 Simulated performance alternative, commercial and high-rise residential. An accurately completed Commercial Building Form 506 (generated by Commission approved software) demonstrating that code compliance has been achieved shall be submitted to the building official for compliance by Section 506.

Date Submitted 7/31/2012	Section C103.2.3	Proponent Cheryl Harris
Chapter 1	Affects HVHZ No	Attachments No
TAC Recommendation No Affirmative Recommendation without a Second		
Commission Action Pending Review		

Comments

General Comments No	Alternate Language No
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Related Modifications

Summary of Modification

To maintain Florida Specific Code related to energy calculations

Rationale

To provide clarification who may perform and submit energy calculations for Florida buildings

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Neutral

Impact to building and property owners relative to cost of compliance with code
Neutral

Impact to industry relative to the cost of compliance with code
More costly to comply

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Improves the code

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
Does not discriminate

Does not degrade the effectiveness of the code
Does not degrade the effectiveness of the code

Is the proposed code modification part of a prior code version?
YES

The provisions contained in the proposed amendment are addressed in the applicable international code?
NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?
YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?
NO

1st Comment Period History 08/09/2012 - 09/23/2012

Proponent BOAF CDC	Submitted 9/15/2012	Attachments No
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Comment:
Unnecessary. It is a design licensing provision and need not be included in the code, when the statute already provides the design limitations. Additionally, this submission does not cover all of the design limitations the statute sets forth for Mechanical contractors (\$125,000 value and greater than 100 person occupancy).

EN5825-G1

Commercial 103.2.3 Compliance certification.

103.2.3.1 Code compliance demonstration.

103.2.3.1.2 Commercial and multiple-family residential. Completion of procedures demonstrating compliance with this code for commercial buildings and multiple-family residential shall be in accordance with the provisions of Section 481.229, Florida Statutes, or Section 471.003, Florida Statutes.

Exception: Where HVAC systems are = 15 tons per system, air conditioning or mechanical contractors licensed in accordance with Chapter 489, Florida Statutes, or State of Florida certified commercial building energy raters may prepare the code compliance form.

Design professionals responsible under Florida law for the design of lighting, electrical, mechanical, and plumbing systems and the building shell, shall certify compliance of those building systems with the code by signing and providing their professional registration number on the energy code form provided as part of the plans and specifications to the building department.

103.2.3.2 Code compliance certification. The building's owner, the owner's architect, or other authorized agent legally designated by the owner shall certify that the building is in compliance with the code, as per Section 553.907, Florida Statutes, prior to receiving the permit to begin construction or renovation.

Date Submitted 7/31/2012
Chapter 1

Section R101.4.7.1.2
Affects HVHZ No

Proponent Cheryl Harris
Attachments No

TAC Recommendation No Affirmative Recommendation without a Second
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

Summary of Modification

To modify the Florida Specific Code related to replacement equipment sizing

Rationale

To allow certification that sizing was performed rather than submit actual calculations in the Florida Specific Code.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Improve enforcement

Impact to building and property owners relative to cost of compliance with code

Neutral

Impact to industry relative to the cost of compliance with code

Lower costs

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate

Does not degrade the effectiveness of the code

Does not degrade the effectiveness of the code

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

Residential 101.4.7.1.2 Replacement equipment sizing (Mandatory).

An A/C contractor or licensed Florida PE shall submit a signed certification that a nationally recognized method based sizing calculation was performed to the code official at the time of permit application for total replacement of the condensing and evaporator components of HVAC systems accordance with Florida law and the provisions of Section 403.6.1 or Section 503.2.1, as applicable.

Date Submitted 7/31/2012	Section R101.4.7.1.3	Proponent Cheryl Harris
Chapter 1	Affects HVHZ No	Attachments No
TAC Recommendation No Affirmative Recommendation without a Second		
Commission Action Pending Review		

Comments

General Comments No	Alternate Language No
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Related Modifications

Summary of Modification

To maintain the Florida Specific Code related to replacement equipment efficiencies.

Rationale

To provide economical option for replacement equipment as long as it maintains no less than current efficiency rating in Florida Buildings.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Neutral

Impact to building and property owners relative to cost of compliance with code

Significant cost savings

Impact to industry relative to the cost of compliance with code

Neutral

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate

Does not degrade the effectiveness of the code

Does not degrade the effectiveness of the code

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

1st Comment Period History 08/09/2012 - 09/23/2012

Proponent BOAF CDC	Submitted 9/15/2012	Attachments No
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Comment:

an attempt at writing into code the requirements of F.S. 553.912. The language from the statute should be brought forward into the code. Then let each AHJ determine how it will enforce the code requirement.

EN5820-G1

EN5820-G2

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

101.4.7.1.3 Existing equipment efficiencies. Existing cooling and heating equipment need not meet the minimum equipment efficiencies of Sections 403.6.2.2 or 403.6.2.3 except to preserve the original approval or listing of the equipment.

Date Submitted 7/31/2012
Chapter 1

Section R101.4.7
Affects HVHZ No

Proponent Cheryl Harris
Attachments No

TAC Recommendation No Affirmative Recommendation without a Second
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

Summary of Modification

To maintain Florida Specific code related to Building Systems

Rationale

To provide Florida specific conditions for building systems thermal efficiency standards.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Neutral

Impact to building and property owners relative to cost of compliance with code

Neutral

Impact to industry relative to the cost of compliance with code

Neutral

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate

Does not degrade the effectiveness of the code

Does not degrade the effectiveness of the code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

5806-A2

Proponent Eric Lacey **Submitted** 9/23/2012 **Attachments** Yes

Rationale

Proposals EN5806, EN5065, and EN5031 incorporate language from Florida Statutes, but eliminate critical terms. If adopted, these proposals would lead to conflict with the statute and more confusion in the regulation of building alterations.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

The modification to EN5806 should clarify and strengthen the code, making enforcement more straightforward.

Impact to building and property owners relative to cost of compliance with code

There should be no negative cost impact to this modification.

Impact to industry relative to the cost of compliance with code

There should be minimal impact on industry.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This modification to EN5806 provides clarity and ensures that quality windows are installed in both new and existing buildings undergoing alteration. Lower energy costs and a reduced need to build and site peak electric power generation will help all citizens.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This modification to EN5806 maintains the efficiency of the 2012 IECC.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No.

Does not degrade the effectiveness of the code

No.

Is the proposed code modification part of a prior code version? No

Proponent Amy Schmidt **Submitted** 8/27/2012 **Attachments** Yes

Rationale

Allows flexibility for those wishing go beyone the minumum efficiency level.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

none

Impact to building and property owners relative to cost of compliance with code

none

Impact to industry relative to the cost of compliance with code

none

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

yes

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

does not discriminate, allows more options

Does not degrade the effectiveness of the code

code is more effective

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process? Page 312 of 345
NO

1st Comment Period History

08/09/2012 - 09/23/2012

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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EN5806-G1

Comment:

The proposed amendment does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g)

101.4.7 Building systems. Thermal efficiency standards are set for the following building systems where new products are installed or replaced in existing buildings, and for which a permit must be obtained. New products shall meet the minimum efficiencies allowed by this code for the following systems:

Heating, ventilating or air conditioning systems;

Service water or pool heating systems;

Electrical systems and motors;

Lighting systems.

Exceptions:

1. Where part of a functional unit is repaired or replaced. For example, replacement of an entire HVAC system is not required because a new compressor or other part does not meet code when installed with an older system.

2. If the unit being replaced is itself a functional unit, such as a condenser, it does not constitute a repair. Outdoor and indoor units that are not designed to be operated together must meet the U.S. Department of Energy certification requirements contained in Section 403.6.2.1.1. Matched systems are required; this match may be verified by any one of the following means:

a. AHRI data

b. Accredited laboratory

c. Manufacturer's letter

d. Letter from registered P.E. State of Florida

3. Where existing components are utilized with a replacement system, such as air distribution system ducts or electrical wiring for lights, such components or controls need not meet code if meeting code would require that component's replacement.

4. Replacement equipment that would require extensive revisions to other systems, equipment or elements of a building where such replacement is a like-for-like replacement, such as through-the-wall condensing units and PTACs, chillers, and cooling towers in confined spaces.

101.4.7 Building systems. Thermal efficiency standards are set for the following building systems where new products are installed or replaced in existing buildings, and for which a permit must be obtained. New products shall meet or exceed the minimum efficiencies allowed by this code for the following systems:

Modify Section 101.4.7 as follows:

101.4.7 Building systems and components. Thermal efficiency standards are set for the following building systems and components where new products are installed or replaced in existing buildings, and for which a permit must be obtained. New products shall meet the minimum efficiencies allowed by this code for the following systems and components:

Heating, ventilating or air conditioning systems;

Service water or pool heating systems;

Electrical systems and motors;

Lighting systems;

Replacement Fenestration.

EN5806

The RECA modification to EN 5806, EN5065, and EN5031 above uses the actual terms contained in Section 553.903 of Florida Statutes related to replacement systems and components. Without this change, the 2013 Florida Building Code could cause confusion over the applicability of the code's requirements in existing buildings.

The "Applicability" section of Florida Statutes outlines the categories of buildings, components, and systems over which the Commission has authority:

553.903 Applicability. – This part shall apply to all new and renovated buildings in the state, except exempted buildings, for which building permits are obtained after March 15, 1979, and to the installation or replacement of building systems and components with new products for which thermal efficiency standards are set by the Florida Energy Efficiency Code for Building Construction. The provisions of this part shall constitute a statewide uniform code.

Although the proponents of EN5806 and EN5056 repeat most of the terminology from this important section of Florida Statutes, neither proposal contains the actual language. Using the correct terminology is crucial because it will help Florida's Building Officials avoid confusion over the applicability of the code to replacement systems and components, including replacement fenestration. Section 403.2.6 of the 2012 *IECC* requires replacement fenestration in existing buildings to meet the same thermal efficiency requirements as required for new construction. While windows are commonly referred to as "fenestration systems" or part of the "thermal envelope system," the addition of the statutory term "component" and the inclusion of fenestration to the list of systems for which the Commission has set thermal efficiency standards will add important clarity to the code.

Date Submitted	7/31/2012	Section	R103.2.1	Proponent	Cheryl Harris
Chapter	1	Affects HVHZ	No	Attachments	No
TAC Recommendation	No Affirmative Recommendation without a Second				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications**Summary of Modification**

To maintain Florida Specific Code related to Code Compliance forms for Energy Calculations

Rationale

To maintain Florida specific code that allows performance based method in addition to prescriptive method energy calculations for Florida buildings.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

Neutral

Impact to building and property owners relative to cost of compliance with code

More cost effective

Impact to industry relative to the cost of compliance with code

More cost effective

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate

Does not degrade the effectiveness of the code

Does not degrade the effectiveness of the code

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

1st Comment Period History

08/09/2012 - 09/23/2012

5824-A1

Proponent	Roger LeBrun	Submitted	9/20/2012	Attachments	Yes
Rationale					
Add precision to the statement					
Fiscal Impact Statement					
Impact to local entity relative to enforcement of code					
None					
Impact to building and property owners relative to cost of compliance with code					
None					
Impact to industry relative to the cost of compliance with code					
None					
Requirements					
Has a reasonable and substantial connection with the health, safety, and welfare of the general public					
Neutral					
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction					
Neutral					
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities					
Neutral					
Does not degrade the effectiveness of the code					
Adds precision and clarity					
Is the proposed code modification part of a prior code version? No					

1st Comment Period History

08/09/2012 - 09/23/2012

EN5824-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
Comment:					
The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)					
The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.					
This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g)					

Residential 103.2.1 Code demonstration forms. See Table 103.2.1.

103.2.1.1 Residential = 3 stories

103.2.1.1.1 Building thermal envelope alternative. An accurately completed Residential Building Form 402 shall be submitted to the building official to demonstrate code compliance by this method.

103.2.1.1.2 Simulated performance alternative. An accurately completed Residential Building Form 405 shall be submitted to the building official to demonstrate code compliance by Section 405.

103.2.1.1 Residential = 3 stories or fewer

Date Submitted 7/31/2012	Section R103.2.3	Proponent Cheryl Harris
Chapter 1	Affects HVHZ No	Attachments No
TAC Recommendation No Affirmative Recommendation without a Second		
Commission Action Pending Review		

Comments

General Comments No	Alternate Language No
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Related Modifications

Summary of Modification

To maintain Florida Specific Code related to energy calculations

Rationale

To provide clarification who may perform and submit energy calculations for Florida buildings

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Neutral

Impact to building and property owners relative to cost of compliance with code
Neutral

Impact to industry relative to the cost of compliance with code
More costly to comply

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Improves the code

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
Does not discriminate

Does not degrade the effectiveness of the code
Does not degrade the effectiveness of the code

Is the proposed code modification part of a prior code version?
YES

The provisions contained in the proposed amendment are addressed in the applicable international code?
NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?
YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?
NO

1st Comment Period History 08/09/2012 - 09/23/2012

Proponent BOAF CDC	Submitted 9/15/2012	Attachments No
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Comment:

This change does not reflect the requireemnts of FS 553.907 "553.907 Compliance.—Each local enforcement agency shall report to the department any information concerning compliance certifications and amendments at such intervals as the department designates by rule adopted in accordance with chapter 120."

EN5829-G1

Residential 103.2.3 Compliance certification.**103.2.3.1 Code compliance demonstration.**

103.2.3.1.1 Residential. No license or registration is required to prepare the code compliance form for single-family residential dwellings, duplexes and townhouses.

vided as part of the plans and specifications to the building department.

103.2.3.2 Code compliance certification. The building's owner, the owner's architect, or other authorized agent legally designated by the owner shall certify that the building is in compliance with the code, as per Section 553.907, Florida Statutes, prior to receiving the permit to begin construction or renovation.

Date Submitted 7/31/2012	Section C303.2.3	Proponent Cheryl Harris
Chapter 3	Affects HVHZ No	Attachments No
TAC Recommendation No Affirmative Recommendation without a Second		
Commission Action Pending Review		

Comments

General Comments No	Alternate Language No
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Related Modifications

Summary of Modification

To maintain Florida Specific Code related to recessed equipment and insulation requirements

Rationale

To provide clarification on recessed equipment installation in insulated areas.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Neutral

Impact to building and property owners relative to cost of compliance with code
More cost effective

Impact to industry relative to the cost of compliance with code
More cost effective

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
improves the code

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
Does not discriminate

Does not degrade the effectiveness of the code
Does not degrade the effectiveness of the code

Is the proposed code modification part of a prior code version?
YES

The provisions contained in the proposed amendment are addressed in the applicable international code?
NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?
YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?
NO

1st Comment Period History 08/09/2012 - 09/23/2012

Proponent BOAF CDC	Submitted 9/15/2012	Attachments No
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Comment:
The proposed amendment does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

EN5833-G1

Commercial 303.2.3 Recessed Equipment. Lighting fixtures; heating, ventilating, and air-conditioning equipment, including wall heaters, ducts, and plenums; and other equipment shall not be recessed in such a manner as to affect the insulation thickness unless:

1. The total combined area affected (including necessary clearances) is less than one percent of the opaque area of the assembly, or
2. The entire roof, wall, or floor is covered with insulation to the full depth required, or
3. The effects of reduced insulation are included in calculations using an area-weighted average method and compressed insulation values obtained from Table 303.2.1.1.

In all cases, air leakage through or around the recessed equipment to the conditioned space shall be limited in accordance with Section 404.2.5 or 502.3.8, as applicable.

Date Submitted 7/31/2012	Section R303.2.3	Proponent Cheryl Harris
Chapter 3	Affects HVHZ No	Attachments No
TAC Recommendation No Affirmative Recommendation without a Second		
Commission Action Pending Review		

Comments

General Comments No	Alternate Language No
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Related Modifications

Summary of Modification

To maintain Florida Specific Code related to recessed equipment and insulation requirements

Rationale

To provide clarification on recessed equipment installation in insulated areas.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Neutral

Impact to building and property owners relative to cost of compliance with code

More cost effective

Impact to industry relative to the cost of compliance with code

More cost effective

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

improves the code

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate

Does not degrade the effectiveness of the code

Does not degrade the effectiveness of the code

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

1st Comment Period History 08/09/2012 - 09/23/2012

Proponent BOAF CDC	Submitted 9/15/2012	Attachments No
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Comment:

The proposed amendment does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

EN5832-G1

Residential 303.2.3 Recessed Equipment. Lighting fixtures; heating, ventilating, and air-conditioning equipment, including wall heaters, ducts, and plenums; and other equipment shall not be recessed in such a manner as to affect the insulation thickness unless:

1. The total combined area affected (including necessary clearances) is less than one percent of the opaque area of the assembly, or
2. The entire roof, wall, or floor is covered with insulation to the full depth required, or
3. The effects of reduced insulation are included in calculations using an area-weighted average method and compressed insulation values obtained from Table 303.2.1.1.

In all cases, air leakage through or around the recessed equipment to the conditioned space shall be limited in accordance with Section 404.2.5 or 502.3.8, as applicable.

Date Submitted 7/31/2012	Section C403.2.1	Proponent Cheryl Harris
Chapter 4	Affects HVHZ No	Attachments No
TAC Recommendation No Affirmative Recommendation without a Second		
Commission Action Pending Review		

Comments

General Comments No	Alternate Language No
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Related Modifications

Summary of Modification

To maintain Florida specific code related to calculation of heating and cooling loads

Rationale

To provide relevant Florida data to be used in calculating heating and cooling loads for Florida buildings

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Neutral

Impact to building and property owners relative to cost of compliance with code

More cost effective

Impact to industry relative to the cost of compliance with code

More cost effective

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate

Does not degrade the effectiveness of the code

Does not degrade the effectiveness of the code

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

1st Comment Period History 08/09/2012 - 09/23/2012

Proponent BOAF CDC	Submitted 9/15/2012	Attachments No
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Comment:

This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g)
 The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)
 The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

EN5848-G1

Commercial 403.2.1 Calculation of heating and cooling loads. Design loads shall be determined in accordance with the procedures described in the ANSI/ASHRAE/ACCA Standard 183 or ACCA Manual N and shall be attached to the code compliance form submitted to the building department when the building is permitted or, in the event the mechanical permit is obtained at a later time, the sizing calculation shall be submitted with the application for the mechanical permit. The design loads shall account for the building envelope, lighting, ventilation and occupancy loads based on the project design. Heating and cooling loads shall be adjusted to account for load reductions that are achieved when energy recovery systems are utilized in the HVAC system in accordance with the ASHRAE HVAC Systems and Equipment Handbook. Alternatively, design loads shall be determined by an approved equivalent computation procedure, using the design parameters specified in Chapter 3.

Exception:

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 to the building department in lieu of the complete sizing calculation(s). Such summary sheet shall include the following (by zone):

<u>Project name/owner</u>	<u>Outdoor dry bulb used</u>	<u>Indoor dry bulb</u>
<u>Project address</u>	<u>Outdoor wet bulb used</u>	<u>Total cooling required with outside air</u>
<u>Total sensible gain</u>	<u>Grains water (difference)</u>	<u>Total heating required with outside air</u>
<u>Sizing method used</u>	<u>Relative humidity</u>	
<u>Total latent gain</u>	<u>Area in sq.ft.</u>	

Date Submitted 7/31/2012	Section C403.2.2	Proponent Cheryl Harris
Chapter 4	Affects HVHZ No	Attachments No
TAC Recommendation No Affirmative Recommendation without a Second		
Commission Action Pending Review		

Comments

General Comments No	Alternate Language No
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Related Modifications

Summary of Modification

To maintain Florida Specific code relate to equipment sizing

Rationale

To provide a clarification on sizing equipment for Florida Buildings

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Neutral

Impact to building and property owners relative to cost of compliance with code

More cost effective

Impact to industry relative to the cost of compliance with code

More cost effective

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate

Does not degrade the effectiveness of the code

Does not degrade the effectiveness of the code

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

1st Comment Period History 08/09/2012 - 09/23/2012

Proponent BOAF CDC	Submitted 9/15/2012	Attachments No
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Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

The proposed amendment was does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

EN5851-G1

Commercial 403.2.2 Equipment and system sizing. The output capacity of heating and cooling equipment and systems shall not exceed the loads calculated in accordance with Section C403.2.1. A single piece of equipment providing both heating and cooling shall satisfy this provision for one function with the capacity for the other function as small as possible, within available equipment options.

Exceptions:

1. Required standby equipment and systems provided with controls and devices that allow such systems or equipment to operate automatically only when the primary equipment is not operating.
2. Multiple units of the same equipment type with combined capacities exceeding the design load and provided with controls that have the capability to sequence the operation of each unit based on load.
3. When the equipment selected is the smallest size needed to meet the load within available options of the desired equipment line.

Date Submitted 7/31/2012	Section C403.2.4	Proponent Robert Volin
Chapter 4	Affects HVHZ No	Attachments No
TAC Recommendation No Affirmative Recommendation without a Second		
Commission Action Pending Review		

Comments

General Comments No	Alternate Language No
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Related Modifications

Summary of Modification

Add sizing calculations as per current code

Rationale

It is already in energy code 403.2.5

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None

Impact to building and property owners relative to cost of compliance with code
Already in code

Impact to industry relative to the cost of compliance with code
If enforced, could save homeowners 20% to 30% on energy bills and save homeowners on costly repair cost on their A/C system

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
None

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Already in Florida Code

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
No

Does not degrade the effectiveness of the code
No

Is the proposed code modification part of a prior code version?
YES

The provisions contained in the proposed amendment are addressed in the applicable international code?
NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?
NO

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?
NO

1st Comment Period History

08/09/2012 - 09/23/2012

Proponent BOAF CDC	Submitted 9/15/2012	Attachments No
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Comment:

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

The proposed amendment does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

EN5877-G1

C403.2.4 Air distribution system sizing and design. (Mandatory) All air distribution systems shall be sized and designed in accordance with recognized engineering standards such as ACCA Manual D or other standards based on the following:

1. Calculation of the supply air for each room shall be based on the greater of the heating load or sensible cooling load for that room.

2. Duct size shall be determined by the supply air requirements of each room, the available static pressure and the total equivalent length of the various duct runs.

3. Friction loss data shall correspond to the type of material used in duct construction.

Date Submitted	7/31/2012	Section	R403.2.4	Proponent	Cheryl Harris
Chapter	4	Affects HVHZ	No	Attachments	No
TAC Recommendation	No Affirmative Recommendation without a Second				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications**Summary of Modification**

To maintain Florida Specific Code related to air handling units in attics

Rationale

To provide for air handling units to be installed in attics under certain conditions for Florida Buildings.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

Neutral

Impact to building and property owners relative to cost of compliance with code

More cost effective

Impact to industry relative to the cost of compliance with code

More cost effective

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate

Does not degrade the effectiveness of the code

Does not degrade the effectiveness of the code

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

YES

Explanation of Choice

Proposed language is in the 2010 Florida Building Code. Common walls, ceilings and floors are not included in the energy performance calculation because they typically fall between two conditioned spaces. However, Florida has long treated such common walls, ceilings and floors with a prescriptive insulation requirement because the adjacent unit may be unoccupied when "snowbirds" go north during the summers.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

EN5051-G1

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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Comment:

The proposed amendment does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.

The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

Residential 403.2.4 Air-handling units. Air handling units shall not be installed in the attic when a home is brought into code compliance by Section 402. Air-handling units shall be allowed in attics for compliance by Section 405 only if the following conditions are met:

1. The service panel of the equipment is located within 6 feet (1829 mm) of an attic access.
2. A device is installed to alert the owner or shut the unit down when the condensation drain is not working properly.
3. The attic access opening is of sufficient size to replace the air handler.
4. A notice is posted on the electric service panel indicating to the homeowner that the air handler is located in the attic. Said notice shall be in all capitals, in 16 point type, with the title and first paragraph in bold:

NOTICE TO HOMEOWNER

A PART OF YOUR AIR-CONDITIONING SYSTEM, THE AIR HANDLER, IS LOCATED IN THE ATTIC. FOR PROPER, EFFICIENT, AND ECONOMIC OPERATION OF THE AIR-CONDITIONING SYSTEM, YOU MUST ENSURE THAT REGULAR MAINTENANCE IS PERFORMED. YOUR AIR-CONDITIONING SYSTEM IS EQUIPPED WITH ONE OR BOTH OF THE FOLLOWING: (1) A DEVICE THAT WILL ALERT YOU WHEN THE CONDENSATION DRAIN IS NOT WORKING PROPERLY OR (2) A DEVICE THAT WILL SHUT THE SYSTEM DOWN WHEN THE CONDENSATION DRAIN IS NOT WORKING. TO LIMIT POTENTIAL DAMAGE TO YOUR HOME, AND TO AVOID DISRUPTION OF SERVICE, IT IS RECOMMENDED THAT YOU ENSURE PROPER WORKING ORDER OF THESE DEVICES BEFORE EACH SEASON OF PEAK OPERATION.

Date Submitted 7/31/2012	Section R403.2.4	Proponent Robert Volin
Chapter 4	Affects HVHZ No	Attachments No
TAC Recommendation No Affirmative Recommendation without a Second		
Commission Action Pending Review		

Comments

General Comments No	Alternate Language No
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Related Modifications

Summary of Modification

Add sizing calculations as per current code

Rationale

It is already in energy code 403.2.5

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None

Impact to building and property owners relative to cost of compliance with code

Already in code

Impact to industry relative to the cost of compliance with code

If enforced, could save homeowners 20% to 30% on energy bills and save homeowners on costly repair cost on their A/C system

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

None

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Already in Florida Code

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No

Does not degrade the effectiveness of the code

No

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

NO

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

1st Comment Period History 08/09/2012 - 09/23/2012

Proponent BOAF CDC	Submitted 9/15/2012	Attachments No
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Comment:
 The proposed amendment does not appear to have been submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process.
 The amendment does not demonstrate by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variations addressed by the foundation code. Per FS 553.73 (7) (g)

EN5873-G1

403.2.4 Air distribution system sizing and design. (Mandatory) All air distribution systems shall be sized and designed in accordance with recognized engineering standards such as ACCA Manual D or other standards based on the following:

1. Calculation of the supply air for each room shall be based on the greater of the heating load or sensible cooling load for that room.

2. Duct size shall be determined by the supply air requirements of each room, the available static pressure and the total equivalent length of the various duct runs.

3. Friction loss data shall correspond to the type of material used in duct construction.

Date Submitted 7/31/2012
Chapter 4

Section R403.6.1
Affects HVHZ No

Proponent Cheryl Harris
Attachments No

TAC Recommendation No Affirmative Recommendation without a Second
Commission Action Pending Review

Comments

General Comments No

Alternate Language No

Related Modifications

Summary of Modification

To maintain Florida Specific Code related to equipment sizing

Rationale

To provide clarification on equipment sizing for the Florida Buildings.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Neutral

Impact to building and property owners relative to cost of compliance with code

More cost effective

Impact to industry relative to the cost of compliance with code

More costly

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate

Does not degrade the effectiveness of the code

Does not degrade the effectiveness of the code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

YES

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

NO

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

5843-A1

Proponent Oscar Calleja **Submitted** 9/23/2012 **Attachments** Yes

Rationale

Clarifies selection of variable capacity cooling equipment to satisfy special occasions. Section was in 2010 FEC but placed under 403.6.1.3 Heating Capacity only.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Neutral

Impact to building and property owners relative to cost of compliance with code

Neutral

Impact to industry relative to the cost of compliance with code

Neutral

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate

Does not degrade the effectiveness of the code

Does not degrade the effectiveness of the code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

YES

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

EN5843-G1

Proponent BOAF CDC **Submitted** 9/15/2012 **Attachments** No

Comment:

This code change is unnecessary as the provisions contained in the proposed amendment are adequately addressed in the applicable international code. Per FS 553.73 (7) (g)

Residential 403.6 Heating and Cooling Equipment (Mandatory).

403.6.1 Equipment sizing. Heating and cooling equipment shall be sized in accordance with ACCA Manual S based on the equipment loads calculated in accordance with Manual J or other approved heating and cooling calculation methodologies, based on building loads for the directional orientation of the building. 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 in Section 302.1. This Code does not allow designer safety factors, provisions for future expansion or other factors which affect equipment sizing. System sizing calculations shall not include loads created by local intermittent mechanical ventilation such as standard kitchen and bathroom exhaust systems.

403.6.1.1 Cooling equipment capacity. Cooling only equipment shall be selected so that its total capacity is not less than the calculated total load but not more than 1.15 times greater than the total load calculated according to the procedure selected in Section 403.6, 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 return duct(s) is installed in an unconditioned space.

Exceptions:

1. Attached single- and multiple-family residential equipment sizing may be selected so that its cooling capacity is less than the calculated total sensible load but not less than 80 percent of that load.
2. When signed and sealed by a Florida-registered engineer, in attached single- and multiple-family units, the capacity of equipment may be sized in accordance with good design practice.

Text of Modification

Residential 403.6 Heating and Cooling Equipment (Mandatory).

403.6.1 Equipment sizing. Heating and cooling equipment shall be sized in accordance with ACCA Manual S based on the equipment loads calculated in accordance with Manual J or other approved heating and cooling calculation methodologies, based on building loads for the directional orientation of the building. 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 in Section 302.1. This Code does not allow designer safety factors, provisions for future expansion or other factors which affect equipment sizing. System sizing calculations shall not include loads created by local intermittent mechanical ventilation such as standard kitchen and bathroom exhaust systems.

403.6.1.1 Cooling equipment capacity. Cooling only equipment shall be selected so that its total capacity is not less than the calculated total load but not more than 1.15 times greater than the total load calculated according to the procedure selected in Section 403.6, 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 return duct(s) is installed in an unconditioned space.

Exceptions:

1. Attached single- and multiple-family residential equipment sizing may be selected so that its cooling capacity is less than the calculated total sensible load but not less than 80 percent of that load.

2. When signed and sealed by a Florida-registered engineer, in attached single- and multiple-family units, the capacity of equipment may be sized in accordance with good design practice.

403.6.1.2 Extra capacity required for special occasions. Residences requiring excess cooling equipment capacity on an intermittent basis, such as anticipated additional loads caused by major

entertainment events, shall have equipment sized or controlled to prevent continuous space cooling or heating within that space by one or more of the following options:

1. A separate cooling system is utilized to provide cooling to the major entertainment areas.
2. A variable capacity system sized for optimum performance during base load periods is utilized.

Date Submitted	7/10/2012	Section	R403.6.2	Proponent	Ann Stanton
Chapter	4	Affects HVHZ	No	Attachments	No
TAC Recommendation	No Affirmative Recommendation without a Second				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications**Summary of Modification**

Add Florida-specific efficiencies for HVAC equipment fro 2010 code.

Rationale

To comply with s. 553.73(7)(a) Florida Statutes, the proposed modification will supplement the most current version of the International Energy Conservation Code (IECC) base code with Florida specific requirements in order to maintain the efficiencies of the Florida Energy Efficiency Code for Building Construction adopted and amended pursuant to s. 553.901, FS, and in accordance with the Commission's approved code change process.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None. Proposed language is in the 2010 Florida Building Code.

Impact to building and property owners relative to cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Impact to industry relative to the cost of compliance with code

None. Proposed language is in the 2010 Florida Building Code.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Yes. Proposed language is in the 2010 Florida Building Code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Proposed language is in the 2010 Florida Building Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Proposed language is in the 2010 Florida Building Code.

Does not degrade the effectiveness of the code

No. Proposed language is in the 2010 Florida Building Code.

Is the proposed code modification part of a prior code version?

YES

The provisions contained in the proposed amendment are addressed in the applicable international code?

NO

The amendment demonstrates by evidence or data that the geographical jurisdiction of Florida exhibits a need to strengthen the foundation code beyond the needs or regional variation addressed by the foundation code and why the proposed amendment applies to the state?

OTHER

Explanation of Choice

While the IECC relies totally on minimum federal standards for residential HVAC equipment efficiencies, Florida has specified minimum equipment efficiencies since the energy code's inception. Given the incidence of large Florida homes (many as large as 6,000 to 10,000 s.f.), many types of commercial equipment are installed in such dwellings. By referencing the Commercial Provisions of the Florida Building Code, Energy Conservation, Florida maintains those efficiencies where warranted while allowing the market for "residential"-sized equipment regulated by the US Dept of Energy to prevail for more typical applications.

The proposed amendment was submitted or attempted to be included in the foundation codes to avoid resubmission to the Florida Building Code amendment process?

NO

Proponent	BOAF CDC	Submitted	9/15/2012	Attachments	No
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EN5056-G1

Comment:

Unnecessary, All equipment efficiencies are set by Federal Law and States cannot make the requirements more stringent as to minimum standards. The efficiency of the equipment is determined based on its listing. Therefore, if a "commercial" unit was used on a residential building, then the equipment must meet the efficiency values for the type of unit, in this case commercial.

R403.6.2 Equipment performance standards.

R403.6.2.1 Equipment ratings. Equipment efficiency ratings shall be obtained from a nationally recognized certification program directory, or from a manufacturer's rating certified to be in compliance with an approved Department of Energy (DOE) or Air-conditioning, Heating and Refrigeration Institute (AHRI) rating procedure. Equipment efficiencies shall be based on the standard rating conditions contained in the test standard referenced in Chapter 6 that is appropriate for that equipment. Minimum ratings for products covered under the National Appliance Energy Conservation Act of 1987 shall be those determined for Region IV and used for the Federal Trade Commission's required appliance labeling.

R403.6.2.1.1 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 a certification program exists for a product covered in Tables C403.2.3, 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 C403.2.3, the equipment efficiency ratings shall be supported by data furnished by the manufacturer. Where components such as indoor or outdoor coils from different manufacturers are used, a Florida-registered engineer shall specify component efficiencies whose combined efficiency meets the minimum equipment efficiency requirements.

R403.6.2.2 Minimum efficiencies for cooling equipment. Cooling equipment installed in residential units shall meet the minimum efficiencies of Tables C403.2.3(1) through C403.2.3(3) and C403.2.3(6) through C403.2.3(9) in Chapter 4 of the *Florida Building Code, Energy Conservation, Commercial Provisions*, for the type of equipment installed. Equipment used to provide water heating functions as part of a combination system shall satisfy all stated requirements for the appropriate space heating or cooling category.

R403.6.2.3 Minimum efficiencies for heating equipment. Heating equipment installed in residential units shall meet the minimum efficiencies of Tables C403.2.3(2) through C403.2.3(5) of Chapter 4 of the *Florida Building Code, Energy Conservation, Commercial Provisions* for the type of equipment installed.

R403.6.2.3.1 Gas and oil-fired furnaces. Gas-fired and oil-fired forced air furnaces with input ratings >225,000 Btu/h shall also have an intermittent ignition or interrupted device (IID) and have either power venting or a flue damper. A vent damper is an acceptable alternative to a flue damper for furnaces where combustion air is drawn from the conditioned space. All furnaces with input ratings >225,000 Btu/h, including electric furnaces, that are not located within the conditioned space shall have jacket losses not exceeding 0.75 percent of the input.

R403.6.2.3.2 Central electric furnaces. Central electric furnaces greater than 10 kW shall be divided into at least two stages and controlled by an outdoor thermostat, multistage indoor thermostat, or combinations thereof.