

July 7, 2015

**PETITION FOR DECLARATORY STATEMENT BEFORE FLORIDA BUILDING COMMISSION**

Mr. Mo Madani  
Office of Codes and Standards  
Department of Business and Professional Regulation  
1940 North Monroe Street  
Tallahassee, Florida 32399  
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**DS 2015-079**

**Submitted by:**

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**The statutory provision(s), agency rule(s), or agency order(s) on which the declaratory statement is sought:**

2014 Florida Building Code – Energy Conservation

Chapter 3 – General Requirements, Section C302.1 Interior Design Conditions

Chapter 4 – Commercial Energy Efficiency, Section C403 Building Mechanical Systems

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**SECTION C302**  
**DESIGN CONDITIONS**

*C302.1 Interior design conditions. The interior design temperatures used for heating and cooling load calculations shall be a maximum of 72°F (22°C) for heating and minimum of 75°F (24°C) for cooling.*

**Project:** Ambay Esthetics – Transformations Surgery Center; new construction of outpatient health care facility with two operating rooms, exam rooms, offices and other support areas. Mechanical design consists of five rooftop packaged DX units, constant and variable air volume boxes. Each Operating Room is served by a dedicated constant volume rooftop air-conditioning unit.

**Firm / Individual Role in Project:** Mechanical & Electrical Engineers / Mechanical Engineer of Record

**Question:**

**Does Section C302.1 – i.e. minimum design temperature in cooling 75 deg F - apply to the Operating Room? Surgeons are requesting a maximum design temperature of 68 deg F.**

**GENERAL**

*C401.1 Scope. The requirements contained in this chapter are applicable to commercial buildings, or portions of commercial buildings.*

*C401.2 Application. Commercial buildings shall comply with one of the following:*

- 1. The requirements of ANSI/ASHRAE/IESNA 90.1.*
- 2. The requirements of Sections C402, C403, C404 and C405. In addition, commercial buildings shall comply with either Section C406.2, C406.3 or C406.4.*
- 3. The requirements of Section C407, C402.4, C403.2, C404, C405.2, C405.3, C405.4, C405.6 and C405.7. The building energy cost shall be equal to or less than 85 percent of the standard reference design building.*

*C401.2.1 Application to existing buildings.*

*Additions, alterations and repairs to existing buildings shall comply with one of the following:*

- 1. Sections C402, C403, C404 and C405; or*
- 2. ANSI/ASHRAE/IESNA 90.1.*

**Project:** Lake Gibson High School HVAC Upgrade

Complete replacement of the air-conditioning system in an existing high school. The new system consists of new air-cooled chillers, new constant volume chilled water air handlers, variable air volume chilled water air handlers and general exhaust fans.

**Firm / Individual Role in Project:** Mechanical & Electrical Engineers / Mechanical Engineer of Record

**Question:**

**Does the engineer have to follow one of the methods listed in Section C401.2.1 or is the engineer allowed to prove compliance with the Energy Conservation code by using the method described in Section C401.2.3?**

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**SECTION C403**

**BUILDING MECHANICAL SYSTEMS**

*C403.1 General. Mechanical systems and equipment serving the building heating, cooling or ventilating needs shall comply with Section C403.2 (referred to as the mandatory provisions) and either:*

- 1. Section C403.3 (Simple systems); or*
- 2. Section C403.4 (Complex systems).*

*C403.3 Simple HVAC systems and equipment (Prescriptive).*

*This section applies to buildings served by unitary or packaged HVAC equipment listed in Tables C403.2.3(1) through C403.2.3(8), each serving one zone and controlled by a single thermostat in the zone served. It also applies to two pipe heating systems serving one or more zones, where no cooling system is installed.*

*C403.3.1 Economizers. Each cooling system that has a fan shall include either an air or water economizer meeting the requirements of Sections C403.3.1.1 through C403.3.1.1.4.*

**Project:** Winter Haven Hospital – HVAC Upgrade

Direct replacement of two roof mounted packaged DX air-conditioning units with new equipment in an existing hospital. The existing ductwork remains in place, only the roof mounted equipment is being replaced.

**Firm / Individual Role in Project:** Mechanical & Electrical Engineers / Mechanical Engineer of Record

**Question:**

**Does Section C403.3 require an economizer on the new single zone constant volume DX air-conditioning units? The equipment in question does not qualify as an exception as listed under C403.3.1.1 through C403.3.1.6.**

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**SECTION C403**

**BUILDING MECHANICAL SYSTEMS**

**C403.4 Complex HVAC systems and equipment (Prescriptive).**

*This section applies to buildings served by HVAC equipment and systems not covered in Section 403.3.*

*C403.4.1 Economizers. Economizers shall comply with Sections C403.4.1.1 through C403.4.1.4.*

*C403.4.1.1 Design capacity.*

*Water economizer systems shall be capable of cooling supply air by indirect evaporation and providing up to 100 percent of the expected system cooling load at outdoor air temperatures of 50°F dry bulb (10°C dry bulb)/45°F wet bulb (7.2°C wet bulb) and below.*

**Project:** Lake Gibson High School HVAC Upgrade

Complete replacement of the air-conditioning system in a high school. The new system consists of new air-cooled chillers, new constant volume and variable air volume chilled water air handlers.

**Firm / Individual Role in Project:** Mechanical & Electrical Engineers / Mechanical Engineer of Record

**Question:**

**Section C403.4 is applicable to all systems not covered by Section C403.3 – i.e. unitary or packaged HVAC equipment, each serving one zone and controlled by a single thermostat. Therefore, is an economizer as described in Section C403.4 required on an HVAC system consisting of air-cooled chillers, variable air volume air handlers and variable air volume boxes?**

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**SECTION C403**

**BUILDING MECHANICAL SYSTEMS**

**C403.2.6 Energy recovery ventilation systems.**

*Where the supply airflow rate of a fan system exceeds the values specified in Table C403.2.6, the system shall include an energy recovery system. The energy recovery system shall have the capability to provide a change in the enthalpy of the outdoor air supply of not less than 50 percent of the difference between the outdoor air and return air enthalpies, at design conditions. Where an air economizer is required, the energy recovery system shall include a bypass or controls which permit operation of the economizer as required by Section C403.4.*

*Exception: An energy recovery ventilation system shall not be required in any of the following conditions:  
[...]*

*7. Systems requiring dehumidification that employ energy recovery in series with the cooling coil.*

*8. Where the largest source of air exhausted at a single location at the building exterior is less than 75 percent of the design outdoor air flow rate.*

**Project:** Ambay Esthetics – Transformations Surgery Center; new construction of outpatient health care facility with two operating rooms, exam rooms, offices and other support areas. Mechanical design consists of five rooftop packaged DX units, constant and variable air volume boxes. Each Operating Room is served by a dedicated rooftop air-conditioning unit.

**Firm / Individual Role in Project:** Mechanical & Electrical Engineers / Mechanical Engineer of Record

**Question:**

**If an air handling unit is provided with a wraparound heat pipe coil, is it acceptable to not provide an Energy Recovery Ventilation system per paragraph C403.2.6.7?**

**Project:** Newsome High School Classroom Building Addition

A new 16-classroom building will be added to an existing high school. The new air-conditioning system will consist of a new air-cooled chiller and two variable air volume chilled water air handlers and new general exhaust fans.

**Project:** Lake Gibson High School HVAC Upgrade

Complete replacement of the air-conditioning system in an existing high school. The new system consists of new air-cooled chillers, new constant volume chilled water air handlers and new general exhaust fans.

**Firm / Individual Role in Project:** Mechanical & Electrical Engineers / Mechanical Engineer of Record

**Question:**

**Is paragraph C403.2.6.8 applicable only to projects in existing buildings or new buildings as well?**

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Sincerely,

CARASTRO & ASSOCIATES, INC.



George F. Stefanovici, P.E.  
Vice President