# Florida Energy Efficiency Code For Building Construction

EnergyGauge Summit® Fla/Com-2010, Effective Date: March 15, 2012 -- Form 506-2010 Prescriptive Compliance for Renovations, Occupancy Change, etc.

#### **PROJECT SUMMARY**

Short Desc: RefProj **Description:** New Project

Owner: Enter Owner's name here

Address1: 1234 Any Street City: Anywhere

Address2: Enter Address here State: FL

**Zip:** 12345

Type: Office **Class:** Renovation to existing buildi

Jurisdiction: ALACHUA COUNTY, ALACHUA COUNTY, FL (111000)

Conditioned Area: 10000 SF Conditioned & UnConditioned Area: 10000 SF No of Stories: 1 Area entered from Plans 0 SF Permit No: 0 Max Tonnage 50

If different, write in: \_

10/28/2011 Page 1 of 8

| Compliance Summary                           |         |          |                     |  |  |  |  |
|--|---------|----------|---------------------|--|--|--|--|
| Component                                    | Design  | Criteria | Result              |  |  |  |  |
| RENOVATED ENVELOPE PRESCRIPTIVE              |         |          | FAILS               |  |  |  |  |
| LIGHTING POWER                               | 1,500.0 | 14,000.0 | PASSES              |  |  |  |  |
| LIGHTING CONTROLS                            |         |          | PASSES              |  |  |  |  |
| EXTERNAL LIGHTING                            |         |          | <b>FAILS</b>        |  |  |  |  |
| HVAC SYSTEM                                  |         |          | <b>FAILS</b>        |  |  |  |  |
| PLANT  |         |          | <b>None Entered</b> |  |  |  |  |
| WATER HEATING SYSTEMS                        |         |          | <b>FAILS</b>        |  |  |  |  |
| PIPING SYSTEMS                               |         |          | <b>FAILS</b>        |  |  |  |  |
| Met all required compliance from Check List? |         |          | Yes/No/NA           |  |  |  |  |

#### **IMPORTANT MESSAGE**

Info 5009 -- -- An input report of this design building must be submitted along with this Compliance Report

10/28/2011 Page 2 of 8

# **CERTIFICATIONS**

| Florida Energy Code   | s and specifications covered   | by this calculation are in compliance with        | the |
|---|--------------------------------|---|-----|
| Prepared By   | : John Doe                     | Building Official:                                |     |
| Date  | :                              | Date:   |     |
| certify that this building is in  | compliance with the FLori      | a Energy Efficiency Code                          |     |
| Owner A cont  |                                |   |     |
| Owner Agent   | :                              | Date:   |     |
| f Required by Florida law, I I  |                                | Date:stem design is in compliance with the Florid |     |
| f Required by Florida law, I I<br>Energy Efficiency Code  |                                |   | da  |
| f Required by Florida law, I I<br>Energy Efficiency Code<br>Architect   | nereby certify (*) that the sy | stem design is in compliance with the Florio      | da  |
| f Required by Florida law, I I<br>Energy Efficiency Code<br>Architect<br>Electrical Designer                      | nereby certify (*) that the sy | stem design is in compliance with the Florio      | da  |
| f Required by Florida law, I I<br>Energy Efficiency Code<br>Architect<br>Electrical Designer<br>Lighting Designer | nereby certify (*) that the sy | Reg No:   | da  |

10/28/2011 Page 3 of 8

(WEA File: FL\_GAINESVILLE\_REGIONAL\_AP.tm3)

# **Prescriptive Envelope Compliance**

| Item         | Zone         | Description   | Design | Criteria Meet Req. |
|--------------|--------------|---|--------|--------------------|
| Class        | D=0.7 = 1    | Degrand along Man allowed                             | 16,000 | 50 000 V           |
| Glass        | Pr0Zo1       | Percent glass Max allowed                             | 16.000 | 50.000 Yes         |
| Pr0Zo1Wa1    | Pr0Zo1       | Exterior Wall: UValue Max allowed                     | .025   | 0.032 Yes          |
| Pr0Zo1Wa1    | Pr0Zo1       | Exterior Wall: Absorptance Max allowed                | .200   | 0.300 Yes          |
| Pr0Zo1Wa1Wi  | Pr0Zo1Wa1    | Exterior Window: SHGC Max allowed                     | .200   | 0.190 No           |
| Pr0Zo1Wa1Wi  | Pr0Zo1Wa1    | Exterior Window: UValue Max allowed                   | 2.000  | 0.450 No           |
| Pr0Zo1Wa1Wi  | Pr0Zo1       | Exterior Window: Projection Factor - Minimum Required | .000   | 0.500 No           |
| Pr0Zo1Wa2    | Pr0Zo1       | Exterior Wall: UValue Max allowed                     | .025   | 0.032 Yes          |
| Pr0Zo1Wa2    | Pr0Zo1       | Exterior Wall: Absorptance Max allowed                | .200   | 0.300 Yes          |
| Pr0Zo1Wa2Wi  | Pr0Zo1Wa2    | Exterior Window: SHGC Max allowed                     | .200   | 0.190 No           |
| Pr0Zo1Wa2Wi  | Pr0Zo1Wa2    | Exterior Window: UValue Max allowed                   | 2.000  | 0.450 No           |
| Pr0Zo1Wa2Wi  | Pr0Zo1       | Exterior Window: Projection Factor - Minimum Required | .000   | 0.500 No           |
| Pr0Zo1Wa3    | Pr0Zo1       | Exterior Wall: UValue Max allowed                     | .025   | 0.032 Yes          |
| Pr0Zo1Wa3    | Pr0Zo1       | Exterior Wall: Absorptance Max allowed                | .200   | 0.300 Yes          |
| Pr0Zo1Wa3Wi  | Pr0Zo1Wa3    | Exterior Window: SHGC Max allowed                     | .390   | 0.190 No           |
| Pr0Zo1Wa3Wi  | Pr0Zo1Wa3    | Exterior Window: UValue Max allowed                   | .670   | 0.450 No           |
| Pr0Zo1Wa3Wi  | Pr0Zo1       | Exterior Window: Projection Factor - Minimum Required | .000   | 0.500 No           |
| Pr0Zo1Wa4    | Pr0Zo1       | Exterior Wall: UValue Max allowed                     | .025   | 0.032 Yes          |
| Pr0Zo1Wa4    | Pr0Zo1       | Exterior Wall: Absorptance Max allowed                | .200   | 0.300 Yes          |
| Pr0Zo1Wa4Wi  | Pr0Zo1Wa4    | Exterior Window: SHGC Max allowed                     | .390   | 0.190 No           |
| Pr0Zo1Wa4Wi  | Pr0Zo1Wa4    | Exterior Window: UValue Max allowed                   | .670   | 0.450 No           |
| Pr0Zo1Wa4Wi  | Pr0Zo1       | Exterior Window: Projection Factor - Minimum Required | .000   | 0.500 No           |
| Skylights    | Pr0Zo1       | Percent Skylight Max allowed                          | 1.000  | 5.000 Yes          |
| Pr0Zo1Rf1    | Pr0Zo1       | Exterior Roof UValue Max allowed                      | .026   | 0.025 No           |
| Pr0Zo1Rf1    | Pr0Zo1       | Exterior Roof: Absorptance Max allowed                | .200   | 0.220 Yes          |
| Pr0Zo1Rf1Sk1 | Pr0Zo1Rf1    | Skylight: SHGC Max allowed                            | .490   | 0.190 No           |
| Pr0Zo1Rf1Sk1 | Pr0Zo1Rf1Sk1 | Skylight: UValue Max allowed                          | .690   | 1.360 Yes          |

**DOES NOT meet Shell Envelope Requirements -- FAILS** 

10/28/2011 Page 4 of 8

(WEA File: FL\_GAINESVILLE\_REGIONAL\_AP.tm3)

| <b>External Lighting (</b> | Compliance |
|----------------------------|------------|
|----------------------------|------------|

| Description | Category Trac                                      | lable? | Allowance<br>(W/Unit) | Area or Length<br>or No. of Units<br>(Sqft or ft) |     | CLP<br>(W) |
|-------------|--|--------|-----------------------|---|-----|------------|
| Ext Light 1 | Uncovered Parking Areas<br>Parking lots and Drives | Yes    | 0.15                  | 1,000.0   | 150 | 40         |
| Ext Light 2 | Internally illuminated exit signs                  | No     | 5.00                  | 8.0   | 40  | 35         |
| Ext Light 3 | Uncovered Parking Areas<br>Parking lots and Drives | Yes    | 0.15                  |   |     |            |

Tradable Surfaces: 40 (W) Allowance for Tradable: 159.5 (W)

**FAILS** 

All External Lighting: 75 (W)

Complicance check includes a 5% excess allowance of 9.50(W) Ext Light 3 -- Does not meet control requirements of Type: <2><3>

Project: RefProj Title: New Project Type: Office

(WEA File: FL\_GAINESVILLE\_REGIONAL\_AP.tm3)

### **Lighting Power Compliance**

| Space    | Ashrae<br>ID | Description            | Area<br>(sq.ft) | Height (ft) | No. of<br>Spaces | Design<br>(W) | Effective (W) | Allowance<br>(W) |
|----------|--------------|------------------------|-----------------|-------------|------------------|---------------|---------------|------------------|
| Pr0Zo1Sp | 1 14         | Classroom/Lecture Hall | 10,000          | 10.0        | 1                | 1500          | 1500          | 14,000           |

1500 (W) **PASSES** Design:

1500 (W) **Effective:** Allowance: 14000 (W)

Passing requires Design to be at most 100% of Criteria

Project: RefProj Title: New Project Type: Office

(WEA File: FL\_GAINESVILLE\_REGIONAL\_AP.tm3)

### **Lighting Controls Compliance**

| Acronym   | Ashrae Description ID     | Area<br>(sq.ft) | Design<br>CP | Min Compli-<br>CP ance |
|-----------|---------------------------|-----------------|--------------|------------------------|
| Pr0Zo1Sp1 | 14 Classroom/Lecture Hall | 10,000          | 5            | 4 PASSES               |
|           |                           |                 | PAS          | SES                    |

(WEA File: FL\_GAINESVILLE\_REGIONAL\_AP.tm3)

### **System Report Compliance**

Pr0Sy2 System 2

Constant Volume Packaged No. of Units System 1

| Component                      | Category  | Capacity | Design<br>Eff | Eff<br>Criteria | Design<br>IPLV | IPLV<br>Criteria | Comp-<br>liance |
|--------------------------------|---|----------|---------------|-----------------|----------------|------------------|-----------------|
| Cooling System                 | Air Conditioners Air Cooled<br>240000 to 760000 Btu/h<br>Cooling Capacity |          | 15.00         | 9.30            |                | 9.50             | FAILS           |
| Heating System                 | Warm Air Gas Furnace >= 225000 Btu/h                                      |          | 95.00         | 80.00           |                |                  | PASSES          |
| Air Handling<br>System -Supply | Air Handler (Supply) -<br>Constant Volume                                 |          | 0.50          | 0.90            |                |                  | PASSES          |

**FAILS** 

Comp

liance

| Plant  | Comp | liance |     |          |  |
|--------|------|--------|-----|----------|--|
| Design | Min  | Design | Min | Category |  |

**IPLV** 

**IPLV** 

None

Project: RefProj Title: New Project Type: Office

**Description** 

(WEA File: FL\_GAINESVILLE\_REGIONAL\_AP.tm3)

Installed

No

Size

**Eff** 

### **Water Heater Compliance**

Eff

| Description    | Туре                  | Category   | Design<br>Eff | Min<br>Eff | Design<br>Loss | Max<br>Loss | Comp<br>liance |
|----------------|-----------------------|------------|---------------|------------|----------------|-------------|----------------|
| Water Heater 2 | Electric water heater | <= 12 [kW] |               | 0.93       |                |             | FAILS          |
| Water Heater 3 | Electric water heater | <= 12 [kW] |               | 0.93       |                |             | FAILS          |

**FAILS** 

Project: RefProj Title: New Project
Type: Office (WEA File: FL\_GAINESVILLE\_REGIONAL\_AP.tm3) **Piping System Compliance** Category Pipe Dia **Operating Ins Cond** Ins Req Ins Compliance Is [Btu-in/hr Thick [in] Thick [in] [inches] Runout? Temp **[F]** .SF.F] Heating System (Steam, Steam 0.25 False 105.00 0.28 0.00 0.50 **FAILS** Condensate, & Hot Water) **FAILS** 

10/28/2011 Page 7 of 8

(WEA File: FL\_GAINESVILLE\_REGIONAL\_AP.tm3)

# **Other Required Compliance**

| Category                  | Section                             | Requirement (write N/A in box if not applicable)   | Check |
|---------------------------|-------------------------------------|--|-------|
| Report                    | 506.4.2                             | Input Report Print-Out from EnergyGauge FlaCom attached  |       |
| Operations Manual         | 303.3.1,<br>503.2.9.3,<br>505.7.4.2 | Operations manual provided to owner  |       |
| Windows & Doors           | 502.3.2                             | Glazed swinging entrance & revolving doors: max. 1.0 cfm/ft²; all other products: 0.3 cfm/ft²  |       |
| Joints/Cracks             | 502.3.3                             | To be caulked, gasketed, weather-stripped or otherwise sealed  |       |
| Dropped Ceiling<br>Cavity | 502.3                               | Vented: seal & insulated ceiling. Unvented seal & insulate roof & side walls   |       |
| HVAC Efficiency           | 503.2.3                             | Minimum efficiencies: Tables 503.2.3(1)-(8)  |       |
| HVAC Controls             | 503.2.4                             | Zone controls prevent reheat (exceptions); separate thermostatic control per zone;   |       |
| Ventilation               | 503.2.5                             | Outdoor air supply & exhaust ducts shall have dampers that automatically shut when systems or spaces served are not in use. Exhaust air energy recovery required for cooling systems (Exceptions). |       |
| ADS                       | 503.2.7.5                           | Duct sizing and Design have been performed   |       |
| HVAC Ducts                | 503.2.7                             | Air ducts, fittings, mechanical equipment & plenum chambers shall be mechanically attached, sealed, insulated & installed per Table 503.2.7.2. Fan power limitations.                              |       |
| Balancing                 | 503.2.9.1                           | HVAC distribution system(s) tested & balanced. Report in construction documents.   |       |
| Piping Insulation         | 503.2.8                             | HAC and service hot water. In accordance with Table 503.2.8.   |       |
| Water Heaters             | 504                                 | Performance requirements in accordance with Table 504.2. Heat trap required.   |       |
| Swimming Pools            | 504.7                               | Vapor-retardant or liquid cover or other means proven to reduce heat loss on heated pools; Time switch (exceptions); readily accessible on/off switch.   |       |
| Motors                    | 505.7.5                             | Motor efficiency criteria have been met  |       |
| Lighting Controls         | 505.2, 502.3                        | Automatic control required for interior lighting in buildings >5,000 s.f.; Space control; Exterior photo sensor; Tandom wiring with 1 or 3 linear fluorescent lamps>30W                            |       |

10/28/2011 Page 8 of 8