March 18, 2019

Florida Building Commission
Building Codes and Standards Office
2555 Shumard Oak Blvd
Tallahassee, Florida 32399-2100


The Florida Solar Energy Center (FSEC) is pleased to submit EnergyGauge Summit 6.10 for approval for the 6th edition Florida Energy Code for Commercial Buildings.

Certification
To the best of our knowledge, judgement and interpretation, we certify that the software submitted for approval meets the requirements to demonstrate compliance of the 2017 6th Edition Florida Energy Code for commercial buildings and the procedures of the “Energy Simulation Tool Approval Technical Assistance Manual, TAM-2017-1.0”.

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Updates in EnergyGauge Summit 6.10 compared to version 6.00 for 6th edition Florida Energy Code for Commercial Buildings

Update 1: Fan System Power and Efficiency for the ASHRAE Energy Cost Budget Option

The snap shot below (from ASHRAE 90.1-2013) gives the compliance requirements when using ASHRAE 90.1-2013 Section 11 - Energy Cost Budget (ECB) Option for compliance:
11.2 Compliance. Compliance with Section 11 will be achieved if
a. all requirements of Sections 5.4, 6.4, 7.4, 8.4, 9.4, and 10.4 are met;
b. the design energy cost, as calculated in Section 11.5, does not exceed the energy cost budget as calculated by the simulation program described in Section 11.4; and

ASHRAE 90.1-2013 Section 6.4 contains the mandatory provisions for equipment as shown in the snapshot (from ASHRAE 90.1-2013) below.

6.4 Mandatory Provisions
6.4.1 Equipment Efficiencies, Verification, and Labeling Requirements
6.4.1.1 Minimum Equipment Efficiencies—Listed Equipment—Standard Rating and Operating Conditions. Equipment shown in Tables 6.8.1-1 through 6.8.1-13 shall

However, as the snap shot (from ASHRAE 90.1-2013) below shows “Fan System Power and Efficiency” is part of Section 6.5 and not part of Section 6.4 and hence not required in the ASHRAE ECB option

6.5.3.1 Fan System Power and Efficiency
6.5.3.1.1 Each HVAC system at fan system design conditions shall not exceed the allowable fan system motor nameplate hp (Option 1) or fan system bhp (Option 2) as shown in Table 6.5.3.1-1. This includes supply fans, return/relief fans, exhaust fans, and fan-powered terminal units associated with systems providing heating or cooling capability. Single-zone variable-air-volume systems shall comply with the constant-volume fan power limitation.

However, in EnergyGauge Summit 6.00, the minimum Fan System Power and Efficiency from section 6.5 was inadvertently included as a compliance requirement for the for the ASHRAE Energy Cost Budget Option. EnergyGauge Summit 6.10 corrects this error. Shown below is a sample of the correction in the output report:
### Output Sample in EnergyGauge Summit 6.00, ECB option

#### ProSy4 System 1
### Constant Volume Packaged System—902

<table>
<thead>
<tr>
<th>Component</th>
<th>Category</th>
<th>Capacity</th>
<th>Design Eff</th>
<th>Eff Criteria</th>
<th>Design IPLV</th>
<th>IPLV Criteria</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling System</td>
<td>Air Conditioners Air</td>
<td>146944</td>
<td>12.80</td>
<td>11.00</td>
<td>12.90</td>
<td>12.40</td>
<td>PASSES</td>
</tr>
<tr>
<td></td>
<td>Cool Med 135000 to 240000 Btu/h Clg Capacity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heating System</td>
<td>Electric Furnace</td>
<td>271640</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
<td>PASSES</td>
</tr>
<tr>
<td>Air Handling System</td>
<td>Air Handler (Supply)</td>
<td>5030</td>
<td>0.90</td>
<td>0.82</td>
<td></td>
<td></td>
<td>FAILS</td>
</tr>
<tr>
<td>System-Supply</td>
<td>Constant Volume</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### ProSy5 System 1
### Constant Volume Packaged System—902

<table>
<thead>
<tr>
<th>Component</th>
<th>Category</th>
<th>Capacity</th>
<th>Design Eff</th>
<th>Eff Criteria</th>
<th>Design IPLV</th>
<th>IPLV Criteria</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling System</td>
<td>Air Conditioners Air</td>
<td>146944</td>
<td>12.80</td>
<td>11.00</td>
<td>12.90</td>
<td>12.40</td>
<td>PASSES</td>
</tr>
<tr>
<td></td>
<td>Cool Med 135000 to 240000 Btu/h Clg Capacity</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Heating System</td>
<td>Electric Furnace</td>
<td>271640</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
<td>PASSES</td>
</tr>
<tr>
<td>Air Handling System</td>
<td>Air Handler (Supply)</td>
<td>5030</td>
<td>0.90</td>
<td>0.82</td>
<td></td>
<td></td>
<td>Not Required</td>
</tr>
<tr>
<td>System-Supply</td>
<td>Constant Volume</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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3/10/2019

Output Sample in EnergyGauge Summit 6.10, ECB option. Note Fan System minimum requirements have been removed.
There are no other updates relating to 6th ed. Florida Energy Code for Commercial Buildings. All submissions made with version EnergyGauge Summit 6.00 remain the same, except for the above version 6.10 correction in all ECB output reports. Thus, documents that are the same as version 6.00 submission are not being resubmitted.
Appendix A:
Cover sheet for request for approval by the Florida Building Commission as a Compliance Software tool

Date of Submittal: March 115, 2019
Software Company: Florida Solar Energy Center
Contact Person: Muthusamy Swami
Contact email: swami@fsec.ucf.edu
Contact Phone: 321-638-1410
Name of Product (If marketed under different editions or names list all that apply):
   EnergyGauge Summit (see instructions on page 6)
Version Number: 6.10

Code Compliance Methods this software calculates:

- [✓] Commercial Energy Efficiency Code Compliance
  - FEC Prescriptive Method
  - FEC Total Building Performance Method
  - FEC Component Performance Alternative Option
  - ASHRAE Prescriptive Method
  - [ ] ASHRAE Envelope Trade-off Option Method (this method is not offered in the software)
  - [✓] ASHRAE Energy Cost Budget Method

As an official of the software company named above, I certify the software listed meets the requirements of the Florida Building Code, Energy Conservation 6th Edition (2017) for the methods indicated and that this submittal includes the required documentation as given in the Energy Simulation Tool Approval – Technical Assistance Manual or as requested by the Florida Building Commission:

___________________________     March 18, 2019
Signature             Date
Muthusamy Swami       Program Director
Printed Name                                         Title
EnergyGaugeSummit 6.10 Filing version

Steps to running this version:
1) Download the install package to your computer from the link below:  
   http://energygauge.com/downloads/setups/summit610filing.exe
2) Run the install package on your computer to install EnergyGaugeSummit 6.10 Filing version
3) This will install EnergyGaugeSummit 6.10 Filing version side-by-side with any other version you may have.
4) After successful installation, run EnergyGauge Summit.
5) Open any existing .egc you may have OR a sample is available under the your installed directory  
   (usually Program Files or Program files (x86))/EnergyGauge/EnergyGaugeSummitFiling/Samples
   ASHRAE 90.1-2013 - Energy Cost Budget Method
7) Once the output report is generated, you will notice under the system compliance report section that all Air Handling System (FAN) compliance will show "Not required", instead of PASS or FAIL. Running compliance options other than ASHRAE 90.1-2013 - Energy Cost Budget Method will show the usual PASS or FAIL as in earlier versions.