IBPSA-USA, Houston Chapter

International Building Performance Simulation Association

Quarterly Publication Newsletter

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"IBPSA is a non-profit international society of building performance simulation researchers, developers and practitioners, dedicated to improving the built environment."

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14 = 9.3 !

(published by USGBC and adapted for this newsletter)

This is the latest from USGBC for LEED EA1 documentation. And a good news for energy analysts who are entangled in the web of energy modeling, trying hard to get that extra point on a LEED for Core & Shell building. The new scheme allocates 2 points at 9.3% energy efficiency instead of 14% for a typical core and shell building that has 50% loads under the developer's control. Moreover, one can get all 8 EA1 points at 23.3% energy efficiency for such a building instead of at 35%. This guideline is applicable for a LEED CS project registered before April 24, 2009.A new Excel spreadsheet tool provides the updated reporting methodology and is a submittal requirement for LEED-CS v2.0 EAc1. The spreadsheet contains an integrated calculator which calculates whole building savings based on the scope of developer control and the modeled savings in core and shell energy cost. This documentation requirement is in effect immediately.

This amended documentation requirement has been established to resolve confusion over the EAc1 calculation methodology for LEED-CS v2.0 projects. During the transition from pilot rating system to ballot draft, the LEED-CS Rating System underwent numerous technical updates and modifications. One of these modifications was a change in the EAc1 reference standard from ASHRAE 90.1-1999 to ASHRAE 90.1-2004. This change in reference standard shifted the basis of EAc1 energy cost savings calculations from the 90.1-1999, Section 11, Energy Cost Budget (ECB) Method to the 90.1-2004, Appendix G, Performance Rating Method (PRM). As a result, there has been confusion in the market as to LEED's disposition relative to exclusion ("post processing") of non-core and shell energy cost in both Design and Baseline Building Performance numbers from the Percentage Improvement calculation on page 213 of the LEED-CS v2.0 Reference Guide (first edition, June 2006). This exclusion of non-core

and shell energy costs is permitted by the ECB method but prohibited by the PRM. The purpose of the amended documentation requirements is to project achievement on both a project scope (core and shell) basis and on a whole building basis. Exclusion of non-core and shell energy cost ("post processing") from Percentage Improvement calculations is allowed but project teams are required to present both whole building and CS scope energy cost savings when discussing project achievements.

The calculation table on the "CS v2 EAc1 Table" tab sets variable point compliance thresholds based on the percentage of a CS project that the developer/owner (developer) controls. To use the CS v2 EAc1 Table, the CS project team is required to determine the percentage of energy using elements of the project that are influenced or directly controlled by the developer of the core and shell project. To determine the percent of energy cost influenced or directly controlled by developer, the entire building including all tenant and owner controlled energy loads is modeled and post processed to determine a "% developer controlled" and "% tenant controlled". The "% percent developer controlled" is entered in to the highlighted cell (cell F9) adjacent to the "Percent of Energy Cost Influenced or Directly Controlled by CS Owner/Developer:" cell (see below).

Revised LEED-CS v2.0 EAc1 Documentation Requirements

Percent of Energy Cost Influenced or Directly Controlled by CS Owner/Developer:	50.0%

	Savings as a % of Core & Shell Building Load		Savings as a % of Whole Building Load	
Points	New	Renovation	New	Renovation
2	14.0%	7.0%	9.3%	4.7%
3	17.5%	10.5%	11.7%	7.0%
4	21.0%	14.0%	14.0%	9.3%
5	24.5%	17.5%	16.3%	11.7%
6	28.0%	21.0%	18.7%	14.0%
7	31.5%	24.5%	21.0%	16.3%
8	35.0%	28.0%	23.3%	18.7%

Energy using systems that are influenced by the developer include those that may be impacted by choices made by the developer, such as the selection of tenant HVAC which would be based on the core and shell building envelope, etc. Energy savings based requirements mandated in a tenant sales and/or lease agreement are permitted to be included in the percentage of energy cost influenced or controlled by the developer. Energy using systems that are owned, installed, and/or operated by the developer are considered directly controlled. For example, HVAC systems and lighting for the common spaces as well as process energy use such as the elevator system.

For further details please refer to: https://www.usgbc.org/ShowFile.aspx?DocumentID=6926

EVENTS

IBPSA-USA, Houston, June 30

Our next meeting would be held at Rice & Gardner on June 30, 4:30pm.

Agenda: Trane-Trace

Please coordinate with Richard R. Glenn [Richard.Glenn@ricegardner.com] if you would like to include questions or topics related to Trane-Trace.

We would, over a period of several meetings, discuss key issues of this software including those relevant for architects and owners like: Model run-times, quick analysis protocols, differences between Simple and Detailed simulations and systems covered.

Other events of interest:

USGBC, May 12

Central Geothermal System Design and Control

Hunton Trane, 10555 Westpark Dr., Houston, TX

USGBC, May 19

Building Energy Auditing to Optimize Existing Building Energy Performance, San Antonio

Wednesday, May 19, 2010 at 8:00 AM - Thursday, May 20, 2010 at 12:00 PM (CT), San Antonio, TX

AIA, May 25

GeoExchange / Geothermal Installation Primer for the Greater Houston Area

presented by Russell Buras of LoopTech, Houston, TX

Digital Realty Trust

Space and Power Management

Wednesday, May 27 – Dallas, Westin Hotel - Plaza of the Americas

SIMBUILD 2010

4TH National Conference of IBPSA-USA, August 11-13, New York.

Seventeenth Symposium on Improving Building Systems in Hot and Humid Climates

August 24-26, 2010, AT&T Conference Center

Austin, Texas

Welcome new participants

Jesus E. DaCosta, Bocci Engineering
Jesse Craft, Bocci Engineering
Evan Goldstein, Bocci Engineering

Are You a Member???

To become a member, simply fill out the application form found at the address below:
http://www.ibpsa.us/membership.shtml
Existing members may use the form to renew their membership or update their contact information.

Visit the IBPSA-USA, Houston Chapter at: http://ibpsausahouston.wordpress.com/

Call for Articles

This newsletter serves as a wonderful tool to circulate useful information and upcoming events across the modeling community. Please share these, or your own opinions with us by contacting Kapil Upadhyaya (kapilu@kirksey.com). All comments and information are greatly appreciated.