

The Rating System and District Energy: What is IDEA's role?

Tim Griffin, PE, IDEA USGBC Liaison

Editor's Note: : "LEED + District Energy" is a quarterly column providing information about the U.S. Green Building Council's LEED® rating system and how it applies to buildings served by district energy systems.

In last quarter's column, I introduced the U.S. Green Building Council (USGBC), described the philosophy and goals behind the organization's LEED® (Leadership in Energy and Environmental Design) Green Building Rating System™ and talked about why it all matters to you as a district energy industry professional. (That column is available on p. 103 in the online version of the second quarter 2009 *District Energy* magazine at <http://tinyurl.com/2q09LEED>.) This quarter, I want to update you on what IDEA is doing for its members relative to this opportunity.

First, an update: Since last quarter, USGBC has released its latest version of the rating system for new construction and major renovations, titled LEED Version 3.0. As of the end of June 2009, all projects beginning the registration process for LEED certification will have to use this version of the rating system. Projects that registered before this timeframe have the option to use either Version 2.2 or the new version.

Some of the key changes in LEED Version 3.0:

- The rating system scale now has 100 points instead of 69. The USGBC's goal is to move all of its rating systems (for new construction, existing buildings, etc.) to the same point scale to avoid confusion.
- Regional credits have been added to provide some flexibility, recognizing the vast diversity within our nation.
- Energy optimization will now account for 19 percent, instead of 14.5 percent, of the total points available, reflecting the USGBC's desire to drive greater energy efficiency.
- With the new version's release, the USGBC has announced its intention to standardize the release cycle for all of its rating systems to a three-year period, so the marketplace knows what to expect.

In response to a growing need for design teams to understand how to properly apply the LEED rating system when their projects are to be tied into district energy, USGBC created a task force, led by Mike Opitz, the USGBC's vice president of LEED implementation, to develop the first district energy guideline. In early 2008, the USGBC released this guideline titled "Required Treatment of District Thermal Energy in LEED-NC" to clarify and standardize the approach. Since early this year, this task force has continued to meet regularly with the goal of releasing the following three new district energy guidelines:

- Version 2.0 of the original district energy guideline, designed to provide an update for application to LEED for New Construction Version 2.2.
- Version 1.0 of a new district energy guideline, designed to apply specifically to the new rating system LEED Version 3.0.
- Version 1.0 of a new district energy guideline designed to apply to the recently released LEED rating system for existing buildings, titled LEED for Existing Buildings: Operations & Maintenance.

Each of these guidelines will identify how to specifically address projects that are tied into district energy. The first two both apply to new construction and will be consistent with each other in their approach to applying LEED points to district energy. The only differences will be in their references to each specific rating system. The third is an entirely new creation that will attempt to address issues specific to existing buildings.

What Is IDEA Doing?

IDEA has been involved with LEED both as a partner collaborating with the USGBC's district energy task force and by helping association members understand how to apply LEED.

Working With the USGBC

Since the beginning of the year, IDEA has been working directly with the USGBC's district energy task force in the development of all three guidelines mentioned above. The association has assembled a team of volunteers to help the USGBC review the proposed changes and suggest improvements that will allow the rating system to accurately account for district energy's advantages. The team consists of members from Con Ed Steam Operations; NRG Thermal; Xcel Energy, Denver; Energy Systems Co., Omaha; The University of Texas at Austin; Chem-Aqua; FVB Energy; and RMF Engineering. During this period, I have had the privilege of working as the liaison between IDEA's team and the USGBC's team.

Our goal has been threefold: First, to develop a clear understanding of the USGBC's goals and intentions. Second, to find ways in which district energy can help achieve those goals; and third, recommend changes to the guideline that will properly reflect the first two goals.

To date, changes in the district energy

guidelines have been incorporated to put district energy on a level playing field when it comes to energy modeling. Previously, existing district energy facilities were required to use real energy data that was then compared to the theoretical data of an onsite plant. The comparison was not apples to apples, and the results were often inaccurate. The new guideline will allow district energy systems an option to use modeled data, thus putting the analysis on an equal level by allowing modeled, versus actual, district energy data to be compared to modeled on-site, standalone options. We have presented three key issues to the USGBC task force for consideration in the new guideline:

- **Incremental distribution losses.** In our industry, we understand that tying a new building to an existing distribution network often actually reduces the overall percentage of energy loss in that network. Therefore, encouraging new buildings close to an existing network to 'tie-in' actually improves overall energy performance, while reducing the need for new infrastructure. Changes are being proposed to give credit for this fact.
- **Thermal energy storage.** As professionals in our industry understand, thermal energy storage offers environmental advantages – including energy storage opportunities


for some of the renewable systems now considered 'sexy,' such as wind turbines. The USGBC also recognizes the benefit. However, current guidelines provide credit for thermal energy storage when installed on a building site, but actually penalize its use with district energy systems. We are working to change this.

- **Renewable energy.** The USGBC intends to provide credit for renewable energy use whether it is utilized directly within the project or comes from district energy systems. However, the current calculations for renewable energy in district energy do not account for this properly. Therefore, we are working to get the formula fixed in the revised guidelines.

Member Education

IDEA is also working to educate members on applying LEED to district energy. This column, for instance is part of that effort. In addition, LEED workshops have been included at the last business development, campus and annual conferences as well. Our ultimate goal, however, related to education is the development of a 'guidance-to-the-guidance' document (a kind of LEED and District Energy for Dummies). Our goal is to provide district energy system owners with an effective tool to put into their customers' hands

that easily explains how to apply LEED in a district energy application, along with case studies and other tools. The USGBC has agreed to help with this effort and put its seal of approval on the final document.

IDEA is continuing to move forward on multiple fronts. In next quarter's column, I'll give you an update on the release of the new district energy system guidelines and begin to present how you can be prepared to respond when building designers need your system information for their LEED applications. 

Tim Griffin, PE, is IDEA's liaison with the U.S. Green Building Council. He is a principal and division manager with RMF Engineering Inc., a firm specializing in district energy system design and commissioning. A registered engineer and a LEED Accredited Professional, Griffin has a bachelor of science degree in mechanical engineering from North Carolina State University and a master of business administration degree from Colorado State University. He authored the book *Winning With Millennials: How to Attract, Retain, and Empower Today's Generation of Design Professionals*. He may be reached at tgriffin@rmf.com.



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