As sustainable's profile rises, so do expectations

Howard McKew

In the May 2004 issue of Engineered Systems, David Governo discussed some very interesting points relative to design team and construction team liabilities after the owner has taken occupancy of the building. He also noted the facility group may share liability once the building becomes occupied, which is something I had not given a lot of thought to once the job is completed.

Having read the article a couple of times, it got me thinking about how lenient we can be when it comes to project closeout, and how this can impact the long-term success of building system performance. Issues such as providing adequate equipment and system operation training backed up by adequate training documentation are tasks that shouldn't be taken lightly. It is even more important when the project turn over is for a LEED[TM] certified installation.

LEED[TM] AND CMMS

Over the past year, I have addressed the need for the building industry to become more CMMS-ready on day one of building occupancy. In today's computer aided environment, we need to make sure that the client is receiving the correct O&M training and documentation and in a manner appropriate for today's computer use.

The days of casual instructions with no means to validate the success of this training are gone. For the LEED-certified projects with its emphasis on energy, and environmental design (and emphasis on construction procedures), these initiative can be a double-edged sword. These high-performance projects will only be as energy and environmentally successful as the people managing and operating the building.

With LEED being perceived as the next generation of energy conservation, the design community is anxious to achieve certified, silver, gold, and even platinum status for their projects and their clients. As one who has had the opportunity to participate in numerous (a.k.a. award winning) building system designs, I recognized back then that any one of nay great designs could quickly become a great design disaster if the facility group did not embrace the project goals and work to achieve the energy performance benchmark (i.e., 52,000 Btuh/sq ft/yr).

CRACKING THE LEED WHIP

Using the LEED scorecard as the yardstick for measuring building performance, I wonder if this same device could become a "liability whip" for holding design and construction teams accountable for achieving owner investment and ROI? While many are championing their green design experience, how many can back up their experience with actual system performance documentation? To achieve green design success, the building owner must be ready to take the wheel of this high-performance vehicle. It is imperative that the facility staff has the skills, the tools, and the training to ensure this certified project continues on to be a certified success.

This is where LEED projects and the double edged sword comparison can go from cutting-edge to bleeding-edge technology. Referring back to my past experience with innovative design, I have had the opportunity, to work with several knowledgeable facility personnel who embraced the challenge to truly make a difference in building system performance.

Examples of this green design success are the New England Medical Center's Floating Hospital and the Massachusetts State Transportation Building (STB). Each was a late 1970s, early-1980s design that continues to outperform most health care and office building competitors today because the facility staff were well-prepared to operate and maintain these first of-their-kind HVAC systems.

Back then, we were among the first to used computer software to simulate energy, performance. This same data output was then used to benchmark actual performance. With that month-to month energy profile, the facility group was able to keep this high-performance building on course by comparing estimated energy consumption to actual consumption. Imagine what could have happened if we missed the mark? Would we have been held liable for these systems not operating efficiently?

Today's LEED-certified jobs will most likely require energy software simulation to document project performance goals. What will be the green team's liability be if the design falls short of anticipated energy, performance? Should we be rushing out to purchase green design insurance? Or, maybe we should make a greater and more aggressive effort to ensure adequate equipment and sys tern operation training, backed up with adequate training documentation. We need to also involve those responsible for operating and maintaining the final product during the design and construction phases. Maybe we can reduce our green liability and, more importantly, achieve the mutual goal of sustainable leadership in energy and environmental design (SLEED).

McKew is director, Buildings Solutions Group, Richard D. Kimball Company, Inc. (Andover, MA). Reach him by e-mail at hmckew@RDKengineers.com. For more e-commerce publications, visit www.buildingsmartsoftware.com.