

## [Why do buildings need commissioning?](#)

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### Sustainability Desk

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Let's put it this way: Buildings are imperfect when they're new and get worse after that. The corollary of this is that almost all new buildings cost more to operate than expected and cost more still as time goes on. This could be rather depressing if there were no practical, economical solution. Fortunately there is; it's called commissioning.

The 21st century construction process has holes! You'd think that after umpteen centuries of building that it would be down to a science by now. Well, there's a lot more science now than when the pyramids were built, but that only means there are more things to go wrong. On top of that, the pyramids weren't built using a fast-track, low-bid system for both design and construction. Our current system works well most of the time and many "holes" are patched on the fly during construction by knowledgeable designers and trades people. Nonetheless, no job gets everything right and the big question left for the owner and occupants is, "What will the remaining holes cost me in time, productivity and actual operating dollars?"

Now consider that even if the building were constructed perfectly, it's impossible to know in advance how it will actually respond to real operating and weather conditions (as opposed to the designers' understanding/imagination/expectation). What makes perfect sense on the drawings may not work so well in real life. Who knew? So rather than expect crystal ball perfection, the question to ask is, "How can we bring our building from "somewhat flawed" to "optimal?"

A significant part of the answer to that question is "commissioning," an organized process to verify that the major building systems work as intended, and then go beyond "as intended" to "optimal." Commissioning is applicable to all buildings, new and old, but works somewhat differently in each of those two situations. Commissioning of buildings has been around for years, but has become more prominent and common as a result of the LEED building rating system, which requires a minimum level of commissioning for all of its certification levels.

In an existing building, it's not uncommon to save 30 percent of your energy costs by bringing all of your energy systems to optimal operation via commissioning. In a new building, you save exactly nothing by commissioning — it actually costs slightly more to perform. For new

buildings, though, you never start paying that additional 30 percent because you've commissioned the building up front. You avoid significant additional operating costs forever. Not a bad deal!

All of us would like to add another point or two to our margins. Commissioning is well worthwhile in part because every dollar saved in operating cost drops straight to the bottom line. Heating, cooling and lighting systems are necessary for your business, but are often dismissed when looking for ways to reduce cost, improve competitiveness and increase profit. Commissioning reveals many strategies to improve facility operation which have 20-40 percent return on investment. How many of your products or services can boast the same?

Come back next month for an alternative approach to "preventive maintenance" which will enable you to gain and maintain dramatic savings in building operating cost.

The U.S. Green Building Council is a coalition of leaders from across the building industry working to promote environmentally responsible, profitable and healthy places to live and work. The West Michigan Chapter provides and develops leadership through affiliations and education at all levels. Please send comments and column proposals to [chuck.otto1@gmail.com](mailto:chuck.otto1@gmail.com).