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Article Excerpt

To fix chronic problems, reduce energy costs or meet requirements of the U.S. Green Building Council's (USGBC) LEED-EB[R] rating system, building owners increasingly are requesting commissioning of HVAC systems in their existing buildings. Commissioning providers offer services termed retro-commissioning, recommissioning, ongoing commissioning, and others. However, these variations in terminology and the disparity in the scopes and fees associated with the services are confusing. In addition, some in the building industry question if commissioning existing buildings produces long-lasting benefits.

ASHRAE formed Guideline Project Committee 30, The Commissioning Process for Existing HVAC&R Systems, to develop a guideline for the existing building commissioning (EBC) process. ASHRAE defines commissioning as a process, whereas many building owners and service providers use these commissioning terms to define their services. This article is not intended as an introduction to the guideline nor the process. Instead, this article is intended to address concerns about EBC services, including clarifying definitions of the most common commissioning terms, using energy savings as justification for such services, and determining persistence of benefits and ranges of costs.

Definitions

To address the confusion of the various uses of the term commissioning, ASHRAE published definitions in Guideline 0-2005, The Commissioning Process. (1) The following are definitions for several of the most common commissioning terms as defined in Guideline 0-2005.

Commissioning Process: A quality-focused process [that] focuses upon verifying and documenting that the facility and all of its systems and assemblies are planned, designed, installed, tested, operated and maintained to meet the Owner's Project Requirements (OPR). Continuous Commissioning Process: A continuation of the Commissioning Process well into the Occupancy and Operations Phase to verify that a project continues to meet current and evolving OPR. Recommissioning Process: An application of the Commissioning Process requirements to a project that has been delivered using the Commissioning Process. Retro-commissioning Process: The Commissioning Process applied to an existing facility that was not previously commissioned.

Table 1 compares these four commissioning terms. It shows that commissioning applies to new construction. The other three terms apply to existing buildings. Ongoing commissioning and recommissioning only apply to previously commissioned buildings. Retro-commissioning applies to buildings that were not previously commissioned.

Those in the building industry use these terms in different ways. Some use recommissioning to mean commissioning a building to original OPR whether the building was previously commissioned or not.

Likewise, some use retro-commissioning to mean commissioning a building to OPR that is developed for the current use of the facility (not necessarily original design OPR), whether the building was previously commissioned or not.

The definitions presented in Guideline 0-2005, if used consistently by the building industry, should end this confusion. The real issue is defining the OPR. A building that was originally commissioned has documentation detailing the project's functional requirements and expectations of the building's use when first designed and constructed. However, the building's functional use, operation and architectural layout change over time. Therefore, commissioning an existing building necessitates that the OPR be updated (or developed if not previously commissioned) for the building's current and anticipated future use and operation. This is one of the most important aspects of existing building commissioning--defining the current facility requirements, which may be very different than the original design's OPR.

Using Energy Savings to Justify EBC

The majority of...

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