



Facility Maintenance & Operations Committee



Far too often, building operations and maintenance professionals are not consulted during the design of new facilities. As a result, operations and maintenance issues tend to plague facilities after they are commissioned. With operational expenses representing 95 to 97% of total life-cycle costs for facilities, the potential financial impact is massive.

Well-maintained buildings perform better and last longer. The Facility Maintenance and Operation Committee (FMOC) works within the industry to improve the performance and longevity of buildings and building systems through consistent, effective and proper facility maintenance and operation. The Committee provides industry-wide, public and private support for the creation of high-quality facilities. It promotes the sharing and integration of procedures and disseminates best practices. FMOC also actively provides feedback on a number of National Institute of Building Sciences programs and interacts with outside agencies to improve facility maintenance.

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The FMOC's objectives are to increase consideration of operations and maintenance issues during the facility acquisition process; promote the sharing and integration of facility operations and maintenance procedures and information; and identify and disseminate "best practices" for facility operations and maintenance.

FMOC members work with a number of different Institute programs, such as the buildingSMART alliance™ and others, to support development of the *National Building Information Model Standard-United States (NBIMS-US)*. They help expand and revise the Operations and Maintenance section of the WBDG Whole Building Design Guide® website. FMOC members also collaborate with developers and users of electronic data standards to promote use of the Construction Operations Building information exchange (COBie).

COBie

Most building project contracts require project designers and contractors to hand over all of the paperwork owners and property managers will need to operate, manage and maintain the facility when a new building is constructed. Today, it is standard practice for the construction team to gather these equipment lists, product data sheets, warranties, spare parts lists, preventive maintenance schedules and other documents at the end of the job. This current procedure can be expensive because most information has to be retrieved from documents that the team filed earlier or recreated to replace paperwork that was misplaced along the way. It is also inefficient because facility owners and managers have to sort through boxes of data when they need to reference specific information.

COBie simplifies this paperwork process. COBie is a computerized, open-standard format for collecting information. Instead of providing paperwork at the end of the job, the designers and contractors will enter the data as it is created, over the course of the design, construction and commissioning process. For example, designers will submit floor, space and equipment layout

information. Contractors will provide make, model and serial numbers of installed equipment, as well as manufacturers' product specification sheets and recommended maintenance instructions.

NASA and the U.S. Army Corps of Engineers began developing COBie in 2007 with the support of the FMOC. COBie is designed to work with basic spreadsheets as well as building information modeling (BIM) software. The COBie team designed the process for either option so that large and small projects within the facility acquisition industry can benefit from this new data collection process. By exchanging COBie data via spreadsheets, even small homebuilders can provide a simplified as-built BIM to their customers.

COBie is frequently cited as the leading practical example of how efforts to adopt open standards for building industry information exchange based on the *NBIMS-US* can transform building industry processes. Similar information exchanges are being developed to address equipment layout, energy and specifications.

The FMOC is also working on other information exchange programs, such as:

SPie

The consistent definition and use of material, products, equipment and assemblies is vital to the exchange of building information. The goal of the Specifiers' Properties information exchange (SPie) project is to define minimum property sets for building model objects.

QTie

The Quantity Takeoff information exchange (QTie) shows how the *Industry Foundation Classes (IFC)* building model will allow the facilities industry to adopt model-based processes for quantity takeoff.

LCie

The Life Cycle information exchange (LCie) demonstrates how information flowing throughout a project can be captured and consolidated to ensure that the owner/occupier continues to have a clear and complete description of the facility. ■

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