

APPA 1000—Total Cost of Ownership (TCO) Work Group Report

By Dana “Deke” Smith, FAIA

In asset management, good stewardship of your organization’s resources begins with revealing the true total cost of ownership (TCO) from construction to demolition of the asset. Too often, decisions made with only first-cost information unknowingly commit your organization to a lifetime of extraordinarily high costs for maintenance and operations.



Deke Smith



Ana Thiemer

APPA recognizes the severe consequences of this kind of decision on facilities professionals, and has undertaken a leadership activity to develop an ANSI (American National Standards Institute) standard for all member organizations and beyond to use in implementing a TCO strategy. The effort began in early 2016 and was initiated under the leadership of Doug Christensen, Ana Thiemer, and Deke Smith. With Doug’s passing in August 2016, Ana and Deke are committed to carrying his vision and plan forward.

Twenty-four professionals from across the United States and Canada are working to develop the ANSI standard. Three phases of the standard will be established: 1) Overview and Principles, 2) Concepts, and 3) Implementation Plan. Currently, the team is creating the first phase—the development of “13 Principles for TCO.” At the APPA Annual Conference held in Nashville, Tennessee in July

2016, the working group participated in a panel discussion to make a preliminary progress report on the effort; this can be found at http://www.appa.org/standards_tco.cfm.

The team is linking the effort to the International Organization for Standardization (ISO) service life planning standard (ISO 15686) and open building information modeling (BIM) standards (to include ISO 16739 and others), in order to build on a strong foundation.

As stated above, the TCO standard is intended to be based upon ISO 15686, *Service Life Planning*, a product of Technical Committee TC59/SC14. This will then become the guidance for the implementation of ISO 15686 in the United States. The additional power of this ANSI standard will be to tie in ISO

55000:2014, *Asset Management—Overview, Principles and Terminology*, and ISO 41000:2015, *Facility Management*, as normative standards. ISO 15686-4:2014’s connection with BIM will then link all the above standards as well as ISO 16739:2013, *Industry Foundation Classes for Data Sharing in the Construction and Facility Management Industries*, and ISO 12006-3:2007, the basis for the buildingSMART International Data Dictionary.

Writing a standard is typically only step one of the process. Getting a broad base of users to adopt the

standard is ultimately a far more important step; it is only then that software vendors will invest in writing software supporting the standard, because they will then have a chance of getting a return on their investment based on the number of potential buyers. Of course, this investment will then in turn increase the user base.

Through this effort, the standard will serve as a rallying point for all organizations to agree upon a way forward, so that the approach becomes an attractive investment opportunity for software companies to develop tools to support the approach. TCO takes all costs (procurement, installation, operations, maintenance, recapitalization and disposal) into account in the decision process and then establishes an expenditure plan for the life of the asset. This long-term view will help with understanding budget needs necessary to sustain an asset for its entire life from day one. Accomplishing similar plans for an asset manager's entire portfolio will greatly aid in optimal budget allocations for the entire organization.

The committee will be dedicating the APPA 1000 standard to the memory of Doug Christensen. He was actively involved in professional associations and recognized worldwide as an industry innovator and leader in the total analysis and management of physical facilities.

Look for the release of the ANSI TCO standard in mid-2017. We encourage anyone interested in reviewing the drafts of the document (as they become available) to contact the chairs, Deke Smith (deke@dksic.net) or Ana Thiemer (ana.thiemer@austin.utexas.edu). ☎

Deke Smith is president of DKS Information Consulting, LLC, Herndon, VA, and serves as a cochair of the APPA Total Cost of Ownership Work Group. He can be reached at deke@dksic.net.

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