BCA™ Building Commissioning Association

QBS for the Commissioning Profession

BCA Position on Qualifications-Based Selection (December 2014)

The BCA advocates that the qualifications-based selection (QBS) process, defined in the Congressional Brooks Act of 1972 and more recent state, provincial and local policies, be adopted by commissioning professionals (CxPs) and all building owners, managers and project teams that hire CxPs.

Introduction

Qualifications-Based Selection (QBS) is an evaluation, scoring and selection process for owners to use when hiring building project professionals. It encourages owners to solicit, and project consultants to submit, proposals for specific scopes of work that are evaluated based on qualifications. Consultants are shortlisted and selected for budget negotiations *after* preliminary selection, and before contracts are signed.

QBS for architectural and engineering design services on U.S. federal construction projects was formalized by Congress in 1972 through the Brooks Act for public owners "*to negotiate contracts for architectural and engineering services on the basis of demonstrated competence and qualification for the type of professional services required and at fair and reasonable prices.*"

Background

The original purpose of this law was to reverse the tendency of federal property owners and managers to select A/E design firms according to the lowest bid, by creating a policy that requires them to review competencies and accept qualifications of A/E design firms before viewing or negotiating price.

Following the Brooks Act, many states and other government entities in the U.S. and Canada have developed their own interpretations of QBS. Nearly all states have either adopted the policy outright or created QBS-like administrative codes. Several states, such as Georgia, Washington and Massachusetts have gone so far as to identify commissioning within their QBS process, and some also strongly encourage QBS in the private sector.

Under the Brooks Act, QBS is required only in the federally-funded public project sector; it is not universally applied – or always recognized – as a tool for private sector projects. The policy was not, and is not, a mandate for the private sector, but it is slowly gaining ground among building-related professionals like CxPs, well beyond architectural and engineering designers.

How commissioning fits into today's QBS context

The global drive toward continuous improvement of building materials, systems and practices demands a quality approach – not only in the context of architecture and engineering, but in terms of all services that contribute to better building performance. Commissioning is high on that list of services.

QBS and The Cx Profession

The DOE/NIBS Commercial Workforce Credentialing Council and subject matter experts recently conducted a Job Task Analysis (JTA) for the commissioning profession. The JTA is the most widely accepted and nationally used process for determining valid job content such as knowledge, skills and abilities (KSAs), employment requirements, training and testing. The resulting document provides a model for defining, requesting and measuring CxP qualifications.

The JTA includes lists and detailed charts summarizing commissioning KSAs for generalized and specialized building systems, tools, equipment, resources, and professional characteristics. The document includes seven sections focused on Cx project management for new and existing buildings; Cx process activities; documentation; training; and post-occupancy. The JTA can act not only as a tool for CxPs to measure their own qualifications, but also as a tool for owners to understand the scope of services and capabilities they can expect from CxPs.

QBS goes beyond the JTA. Owners should expect (and confidently request) CxPs to provide:

- Cx team with KSAs required to deliver projects that perform in accordance with owner's requirements and expectations
- Experience with specified building sector/type, e.g., hospitals, data centers, office buildings, labs, gymnasiums, classrooms, etc.
- Validating performance of building systems that prevail for proposed building types
- Knowledge of codes and standards that apply to the proposed building type and location
- Understanding of (brand-agnostic) technologies required for testing and performance measurement

Furthermore, if evaluation takes into account the value of certification, a rigorously-developed and earned certification must be the measure of quality. Certification does not eliminate or minimize the value of good QBS. Owners should be able to qualify commissioning professionals based on QBS procedures, certification credentials such as the Certified Commissioning Professional (CCP) awarded by the Building Commissioning Certification Board, along with specialized capabilities necessary to accomplish project delivery.

QBS Process

The QBS ruling and process were originally written for owners. The steps broadly include (1) establishing evaluation criteria; (2) soliciting qualifications; (3) rating qualifications and developing a short list; (4) interviewing and ranking three providers; (5) owner and provider jointly refining scope and contract terms; and (6) negotiating a contract (or moving on to the next-ranked provider). In the public sector, a published announcement requesting qualifications is also required. Most entities espousing the use of QBS have developed prescriptive guidelines, manuals or sample documents.

Here are some excellent examples:

- ACEC http://www.acec.org/advocacy/qbs; (also see New Mexico's "Owner's Manual for Qualifications-Based-Selection" http://www.acecnm.org/docs/Owners%20Manual%20for%20QBS%2001-13.pdf
- American Institute of Architects http://www.aia.org/advocacy/federal/AIAS078527#P10_1365
- New York State QBS sample forms and guides http://www.nysqbs.org/resources.html
- RAIC Architecture Canada http://www.raic.org/architecture_architects/choosing_an_architect/qbs_e.htm
- Canadian National Guide to Sustainable Municipal Infrastructure http://www.researchgate.net/publication/44061451_National_guide_to_sustainable_municipal_infrastructure

Why is QBS important now?

Building quality is increasingly under the microscope in government agencies, energy efficiency circles and building performance research. Advances in building technology and complexity, along with more stringent codes and standards, are changing the rules. Performance benchmarking and metrics are being documented across the U.S. in the commercial building sector.

The QBS process is a tool for hiring project team members who ensure that service providers meet building quality and performance criteria. CxPs in particular, whether contracting directly with Owners (preferred), or by design firms (for design/bid/build projects), or design/build firms, should be qualified to maximize value to Owners. Owners should evaluate CxPs based on KSAs specific to their project, thus increasing the overall value to the project, the team, and a quality outcome.

Why Should the BCA Take a Position on QBS?

QBS is not controversial as a concept, but it is not embraced by all in the building community. The April 2011 issue of *Architect* magazine included an article by Zach Mortice, "Reevaluating Qualifications-Based Selection systems in an Age of Cost Cutting." The author indicates that the current patchwork of laws "lose uniformity the further they get from federal laws" even though their purpose is to safeguard quality. He says, "QBS is under threat from state legislators and institutional procurement officers who don't understand the process, or question it, creating a need to reeducate clients and civic leaders about QBS's value—all this coming at a time when many states and municipalities are looking to cut costs and see QBS as an added expense."

Cost-cutting, and leveraging competition through pricing rather than QBS, have taken a toll on project costs as well as building systems functionality in recent recession years. Here are two examples :

1. **Cost**. A Penn State research survey of 79 design/build project owners, by Marwa A. El Wardani, concludes, "the owner's decision

towards which procurement process to implement for selecting the design-build team significantly affects the project cost growth. As previously mentioned, the qualifications-based selection had the lowest cost growth. The low bid selection resulted in the highest cost growth value that is on average 9% higher than the growth observed for the qualifications-based selection."

2. **Building Systems**. Anecdotal and statistical evidence shows that a philosophy of quality first results in better buildings, and also in better health and safety for building occupants. A 2012 research paper by Cynthia Jean Reese, *Analysis of Qualifications-Based Selection in Washington State*, illustrates the potentially dire implications of QBS versus low bid: "One of the highlighted projects [published by ACEC in a QBS case study] describes how two elevated walkways at a Kansas City hotel collapsed during an event, resulting in the death of 111 people while injuring over 100 more. The design engineer had been chosen via a bid system, and subsequently, the walkway "rod assemblies" were not actually designed by the engineer, but by the fabricator, as a method of keeping the bid low."

Conclusion

When the QBS process is not used to verify CxP capabilities and experience, pricing usually becomes the default. Unfortunately, owners do need to struggle with tradeoffs when allocating project costs, especially in the public sector where the "public good" (i.e., your tax dollars) is a decision element. When that results in a lower investment in delivering *quality services* – especially if those services are not clearly defined – costs of *project-wide services and products* often rise as the project progresses due to change orders and errors or omissions in planning, design, construction and/or delivery. To begin building projects with more accurate and predictable budgets, The BCA believes that owners need to understand and use the QBS process as their tools for managing the triad of cost, schedule and quality.

Properly performed, commissioning is the continuous quality assurance link across disciplines and schedule in a building project. It should be regarded by owners as one of the most important services to be hired based on qualifications. The BCA strongly advocates for CCP certification and the use of QBS by owners and CxPs as significant tools that will continue to elevate the role of commissioning and the delivery of high performance projects in the built environment.