

Qualifications-Based Selection (QBS):
Best Practice for Architecture, Engineering and
Construction Management/General Contractor
Procurement in Canada:
Executive Summary and Conclusions

A QBS Canada Publication
www.QBSCanada.ca

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August 2018

Funding for this publication provided by:
SAJO, The Ontario Association of Architects, and Beyond Referrals

Introduction

Qualifications-Based Selection (QBS) was first established in 1972 in the United States for architects and engineers via the Brooks Act. This statute made it illegal to use price as an evaluated criterion when deciding the winner of a contract for architectural and engineering (A/E) services. 47 States have implemented similar statutes, requiring QBS to be used when procuring architectural or engineering services.

QBS, in its most basic form, is a process that procures professionals based solely on their qualifications. Price negotiations only occur with the most qualified firm, ensuring that traits crucial to the success of a project such as expertise, consistency of methodology and past performance are what contractors are being selected upon, not a low-bid. If negotiations fail with the most qualified firm, they will take place with the next-most-qualified firm until an agreement can be made.

The main competitive procurement alternatives to QBS are best value procurement (BVP), in which contracts are awarded on the basis of cost, balanced with other factors including qualifications, and low-bid, in which contracts are awarded to the bidder with the lowest price.

QBS Research

All information in coming sections is presented as a literature review. More information, including source details, can be found in the original document.

QBS, by nature, has the capacity to promote a team-based relationship due to the lack of adversarial pricing discussions. This factor is a large reason why innovation and risk mitigation can be increased when QBS is used. QBS is also not susceptible to the same change order risk as procurement methods that include bids where contractors give an artificially low bid to win a contract while knowing details that would inflate the price and require renegotiation. This factor explains why one study found that while the industry averages for cost and schedule construction growth are accepted to be 10%, for QBS projects cost growth averages 3% and schedule growth averages 8.7%. A further study on design-build projects found that QBS projects have an average project cost growth of 0.92%, one-tenth that of the 9.82% cost growth of low-bid, and almost one-third of the 2.47% cost growth of BVP. Perhaps most surprisingly due to the misconception that proposals with prices reduce project costs, the same study found that the cost per square foot of QBS projects is 44% lower than BVP and is comparable to low-bid.

QBS projects have a faster construction speed than either BVP (by 23%) or low-bid (by 6%) for design-build projects. QBS projects also put a large emphasis on long-term facility flexibility during the design process, perhaps due to the team relationship built and ability to have joint scope development.

Prior to the selection of a firm, the lack of complex pricing analysis of QBS proposals reduces both administrative and proposal writing costs. One study found that in Florida, where QBS is legislated, design costs relative to estimated construction costs are almost half that of Maryland, a state where BVP is legislated. The study further found that Maryland's system is nearly one and a half times slower than Florida's when measuring the time between the approval of funding for a project and the commencement of construction. It is expensive to write proposals (especially when they require complex pricing analysis), and BVP systems require all interested firms to submit proposals even if they have no reasonable chance of winning a contract. With QBS, interested firms need only to submit a short qualifications document, saving all firms thousands of dollars of proposal writing costs, costs that would otherwise be baked into fees. These qualifications documents are also much easier to review, and do not require the same special training that price-included proposals do, reducing administrative costs significantly.

QBS has also been found to have much success when used to procure general contractors/construction managers. It is very difficult to develop construction pricing during early project design, so from the time the contractor is selected to when the construction contract price phase begins, the pricing component often holds little weight. The risk of price change orders when procuring with low bid or BVP methods should also be considered by a client when procuring a general contractor or construction manager.

Using QBS to procure a general contractor ensures that they are being selected based on their main attributes, innovation and experience. Pricing discussions often detract from possible innovation, as well as important discussions of scope and risk.

Procurement in Canada

A survey of municipal engineers working in firms of all sizes across Canada found that RFPs with prices and sole sourcing methods are the most commonly used procurement methods. The survey found that price represents, on average, 22% of the evaluation criteria.

The situation that prompted Bonnie Lysyk, the Auditor General of Ontario, to write a special report about the reduced quality of winter highway maintenance best demonstrates the pitfalls

of price-based proposals in Canada. When a new system was implemented that chose contractors based on low-bid methods as long as they met a minimum-qualifications score of 70%, the quality of winter road maintenance plummeted: “In one contract area, the amount of anti-icing liquid used went from 3.2 million litres in a winter under the previous contracts to only 9,500 litres” under the new system. Under the new system in 2013, there was “an increase in the number of deaths on Ontario highways ... where snow, slush or ice was a factor.”

Using a low-bid procurement process was also found to ultimately cost more; in one instance, the second-lowest-bidder lost a contract by only \$700,000 but had proposed the use of 22 more pieces of equipment than the winning contractor. The Ministry ended up having to purchase 13 additional pieces of equipment to improve service levels in that area, which incurred an annual cost of \$1.7 million, more than two times the original contract price increase from the second-lowest-bidder.

By procuring Ontario’s highway maintenance contractors with QBS, it is very likely that Ontarians would receive better maintenance services and would pay less taxes by avoiding situations like the one demonstrated above.

QBS in Canada

QBS was first introduced at a provincial level in Quebec through a regulation that requires provincial agencies to use QBS to procure consulting A/E services. Large Canadian associations have had significant influence in the promotion of QBS in Canada, both through lobbying as seen in Quebec by the Association of Consulting Engineers of Quebec and Association of Architects in Private Practice of Quebec (AAPPQ), and through recognition of the successful use of QBS. The Ontario Association of Architects (OAA) and the Association of Consulting Engineering Companies|Canada (ACEC) have been also been integral in the promotion and education of QBS through Canada.

In 2018, the City of Coquitlam received the ACEC-BC Client of the Year Award. The city successfully incorporated the use of QBS for procuring engineering services, in order to focus on experience and technical ability rather than on a price-based evaluation process. The City of Calgary, the City of Nanaimo and the BC Ministry of Transportation and Infrastructure all also commonly use QBS, as they share the City of Coquitlam’s belief that QBS has significant benefits in project outcomes, innovation, cost control and overall satisfaction.

In Alberta, “background and prep work on the legislation [for QBS] [began in 2014].” In advance of any legislative changes, the industry has begun to shift towards QBS with

government department and municipality cooperation, in order to guarantee a seamless transition.

The University of Alberta is also currently undergoing a significant two-year study regarding how QBS performs when compared to fee-based selection. This study will serve as a document to provide quantitative evidence in Canada about QBS performance for the procurement of professional services.

Although QBS was introduced and is still largely carried out as a result of regulation, the introduction of legislative policy is not necessary for QBS to be used in Canada. In 2014, as a result of a meeting with Jennifer Enns, the Manager of Engineering and Energy Services for the City of Calgary, and RFP documentation provided by the city, Metrolinx (Ontario's regional transit agency) trialed QBS by using it to procure two engineering services. Metrolinx, being a "self-declared proponent of evidence-based decision making," went forward with the project not as a result of legislation in Ontario, but due to being provided with evidence that QBS is the best practice for procuring professional services in Canada.

In February of 2018, a consultation commenced in preparation for a trial of QBS for the procurement of A/E by Public Services and Procurement Canada (PSPC). This pilot of QBS seeks to "evaluate its effectiveness in achieving better outcomes, more innovation and life-cycle savings." PSPC's openness of adopting and piloting of QBS is a major breakthrough and with QBS' track record in the USA and municipalities across Canada, this program could result in the introduction of QBS at a national level.

Conclusion

In the areas of architecture, engineering and general contracting, Qualifications-Based Selection (QBS) has favourable metrics over best value and low bid procurement methods, most notably in the areas of cost-growth, schedule-growth, construction speed, unit cost, administrative and proposal writing costs, change order risk, and innovation. In any project where the budget and/or schedule is critical, QBS should be used, as it results in the lowest cost and schedule growth of any competitive procurement method. In any project where innovation is of great importance, QBS should be used as its nature of promoting joint scope development is valuable in fostering an environment where innovation can occur. This relationship is why QBS is not susceptible to the same risk of change orders as is common with price-based procurement methods. Moreover, QBS results in lower construction costs per square foot than other competitive procurement methods for design-build projects and is considered cost-effective for design-bid-build projects; competing for a contract with low bids thus doesn't have a significant impact on cost savings.

For the Canadian taxpayer, QBS is beneficial in saving proposal writing costs for AEC firms and administrative costs for the government, as these additional expenses are ultimately passed on to the taxpayer. Sadly, RFPs that request prices and sole sourcing methods are the two most common forms of procurement in Canada for engineers and other professionals, so not only are there a vast number of needless inefficiencies for the contractors and buyers, but also for the taxpayer. With QBS, the public receives safer infrastructure designed and built by the most qualified contractors at a fair price.

As QBS continues to be tested and proven at a municipal, provincial, and federal level, the evidence will continue to speak for QBS as the best practice for the procurement of architecture, engineering, and construction management professionals. With Canada's federal government launching a pilot program of QBS, the possibility of the introduction of a more efficient procurement system that would end up saving the taxpayer, buyer, and seller of professional services money would mark a good day for all Canadians. Education and increased awareness about QBS, and a firm commitment by politicians and buyers of professional services to not require competition based on price from AEC firms are important next steps for the success of QBS, and to improve the quality, safety, and cost-effective construction of the built environment in Canada.