Consulting Engineers of British Columbia

A Member Organization of ACEC

Appointing Your Consulting Engineer...

“"It is unwise to pay too much, but it is worse to pay too little. When you pay too little, you sometimes lose everything because the thing you bought was incapable of doing the thing you bought it to do"

John Ruskin (1819 - 1900),
Author and Scientist, Oxford University

...Using Qualifications Based Selection

March 2006

Qualifications Based Selection (QBS)

The success of any project often depends upon obtaining the most abled, experienced and reputable engineering expertise available. Selecting a consulting engineer is, therefore, one of the most important decisions an owner makes.

What Is QBS?

Qualifications Based Selection is a process for selecting a consultant that prioritizes credentials.

QBS means that the owner chooses a consultant according to:

- Technical competence
- Managerial ability
- Experience on similar projects
- Dedicated personnel available for the project's duration
- Proven performance
- Location and/or local knowledge
- Professional independence and integrity

The choice is based solely on these qualifications, their understanding of the unique requirements of the project and their suggested approach to deal with these challenges. The scope, schedule and an appropriate fee are then negotiated with the top ranked engineering firm. If the owner and the firm cannot reach an agreement on scope and price, the owner is free to negotiate with the next ranked firm. This process allows owners to use the right firm for the right job. ■

"At Vancouver Coastal Health we have a policy that consultants are selected on the basis of qualifications and demonstrated understanding of the project. Rather than engaging consultants through a fee based selection process we prefer to have the ability to select the consultant who is most suitable for the project and negotiate a fair fee and contract. The risk in health care projects of using unqualified and inexperienced consultants is too great to consider a fee based selection process."

Brent Alley, MAIBC,
Regional Director
Facilities Development & Construction
Vancouver Coastal Health

"Qualifications Based Selection (QBS) process significantly reduces the time and cost to call, prepare and evaluate proposals for both ministry and consultants. The ministry has been using the Registration, Identification, Selection, Performance (RISP) system since 1998, and we believe that it has given us the best long-term value from the consulting industry. The RISP system has fostered innovation and quality in project delivery, and by using fixed price contracts, it has provided us a high degree of budgetary certainty in our consulting costs."

John Dyble, P.Eng.
Deputy Minister,
BC Ministry of Transportation

"Clients that shop for professional services do so only because they lack a proper understanding of what they are getting for their money.

They have also been aided by some members of the profession that have let this practice thrive with certain types of clients, either in the belief that it is not inappropriate, or because of the fear that their business could not survive otherwise. In either case, price competitions do not benefit the designer or the clients. Would the same clients find it appropriate to shop for medical or legal services, or do they consider the services of professional engineers to be of less importance? It is imperative that the profession continues its campaign to eradicate inappropriate selection practices.

In these times of increasing claim and litigation costs, and the associated impact on insurance premiums, design firms are well advised to be more selective when choosing their clients and their projects. This is a key element of prudent risk management."

ENCON Group Inc.

Best Value for the Owner

"In local government, Professional Engineers often provide advice on our public infrastructure such as roads, waterworks, recreation centres etc. which is valued in the billions of dollars. This advice affects the day to day life of people and daily affects public health and safety. This is why I believe procurement of Professional Engineering Consultant Services should be based primarily on the value the prospective consultant brings to the project as evaluated through a consistent, fair and transparent public process along the lines of QBS. Evaluation should be based on the relevant qualifications, expertise, and project understanding provided by the consultant, and not just based on price alone; you get what you pay for. Sound professional advice adds value through significant cost savings over the life cycle of our valuable infrastructure, as well as peace-of-mind for the public good. Our infrastructure and public well-being is worth it."

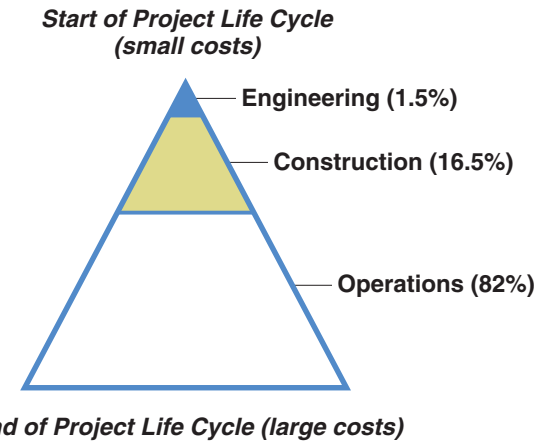
Steve Ono, P.Eng.
City Engineer
City of North Vancouver

QBS Adds Value

Competence of the Consulting engineer is key to an efficient and cost-effective project. When using the QBS system, the owner and consultant work together to complete a project for a fee that reflects the quality of the engineer's work. While this approach to the engineering company may cost more, selection according to ability improves the prospects for innovative methods and alternative approaches in engineering.

The cost of a consulting engineer represents only approximately 1.5% of the total "life-cycle" cost of a project - that is, the cost from the conceptual stage through construction, maintenance and renovation, including both capital and operating costs.

The costs of construction, operations and maintenance are the direct consequence of decisions taken during the engineering planning and design stages of a project. The more resources that are put into the front-end decisions, the better will be the quality of the finished product, and the lower will be its life cycle cost because many uncertainties will have been resolved.



Typical costs for each project phase as a percentage of total life cycle cost.

"Municipal infrastructure typically has a useful life of fifty years or more. The goal of a process to procure professional consulting services to design this infrastructure should be to achieve best value for money spent. The design solution to a problem that optimizes construction, as well as operational and long term maintenance costs over this life will create value far exceeding the cost of engineering design. Thus "best value" will be achieved by engaging the professionals most suited to finding this optimal solution. These professionals will bring their training, experience, creativity and innovativeness to solve this problem. A process that facilitates identifying these professionals will be the one to most effectively meet the goal. I believe QBS is that process."

John Bremner, P.Eng., Author for the Municipal Engineers Division on the recently published *"Selecting a Professional Consultant, a Municipal Engineers Division Best Practice Guide"*

QBS Around the World

The QBS system is used around the world. Since 1972, the United States Federal Government has applied it to all federal work. More than 43 U.S. state governments use it.

The World Bank and the Asian Development Bank are two of the many international financial institutions advocating the QBS system. ■

The Selection Process

Step 1

The Owner:

- Describes the purpose, objectives and needs of the project.
- Designates the various phases work can be divided.
- Sets a project timetable.
- Identifies potential problems.
- Determines project budgets and estimates.
- Selects firms that offer the required services either from personal knowledge or from an appropriate directory.
- Gives selected firms the project information and invites them to submit a proposal.
- Provides detailed selection criteria.

Step 2

The Consulting Engineering Firm Then:

- Responds with a letter of interest.
- Demonstrates an understanding of the project.
- Provides evidence of the firm's ability to perform the work.
- Submits profiles of the firm's principals and staff who will be assigned to the project.
- Provides references.

Step 3

The Owner Then:

- Evaluates the responses and selects a firm from the short list and begins negotiations.
- Makes reference to the fee schedules and list of alternative methods of remuneration published by APEGBC and CEBC.
- Finalizes the Scope of Services.
- Negotiates a fair fee and contract.
- If agreement on the fee cannot be reached, negotiations commence with the next technically qualified firm.

"Given that consulting engineers provide professional design services that can have an impact on the health and safety of Canadians and that employing the right design team and appropriate technology is vital to the success of each infrastructure project, ACEC strongly recommends that governments adopt legislation requiring that Qualifications Based Selection (QBS) be used for procurement of engineering services."

Claude Paul Boivin
President
Association of Consulting Engineers of Canada

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Consulting Engineers of British Columbia (CEBC) is a non-profit professional association dedicated to providing society with the highest standards of engineering design and safety and to improving the business environment for consulting engineering firms in British Columbia.