



QUALITY BASED CONSULTANT SELECTION GUIDE

SEPTEMBER 2011



Fédération Internationale des Ingénieurs-Conseils
International Federation of Consulting Engineers
Internationale Vereinigung Beratender Ingenieure
Federación Internacional de Ingenieros Consultores

**FIDIC is the International Federation of Consulting Engineers.
Its members are national associations of consulting engineers.**

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- Represent globally the consulting engineering industry
- Enhance the image of consulting engineers
- Be the authority on issues relating to business practice
- Promote the development of a global and viable consulting engineering industry
- Promote quality
- Actively promote conformance to a code of ethics and to business integrity
- Promote commitment to sustainable development

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FIDIC organises the annual World Consulting Engineers Conference and an extensive programme of seminars, capacity building workshops and training courses.

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PREFACE

QBS- QUALITY BASED CONSULTANT SELECTION

This guide explains best practice for the selection of Consultancy Services providers. It explains the rationale of Quality Based Selection (QBS) whereby the most appropriate Consultancy Firm for a project is chosen on the basis of its skill, experience and other essential attributes, leading to the negotiation of a mutually agreed remuneration for an agreed scope of services. It also briefly discusses the disadvantages of selection methods that include the incorporation of price as an attribute and points to the dangers that are inherent in their use. The guide also outlines methods of negotiating fees that are reasonable and fair to both parties.

It is intended for the use of Consultants and their Clients and is a complementary document to the 'FIDIC Guidelines for the Selection of Consultants' (Ref.F2), which describes in detail a variety of selection procedures that are used widely around the world, including QBS.

Quality Based Selection, (also referred to in some publications as Qualifications Based Selection) has been promoted by FIDIC for many years, as it emphasises the importance of selecting Consultancy Firms on the basis of qualifications, experience, professionalism and integrity, rather than price, if overall project value and quality is the Client's aim.

For Consultant Agreements (or Conditions of Engagement), this guide recommends the use of the FIDIC's Client/ Consultant Model Services Agreement – The 'White Book' (Ref.F4) which will establish a mutually fair and sound relationship between the Client and the Consultant and which will protect both parties during the course of their Agreement.

THE TASK FORCE

Being among the Best Practices series of FIDIC, this guideline presents the best method for the selection of Consultants and explains the advantages of QBS. It also outlines FIDIC's recommendations, how price is negotiated in QBS and similar issues. The guide has been prepared by the Quality Based Selection Task Force of the FIDIC Business Practices Committee (BPC). The QBS TF was established in October 2008, and its members come from different regions of the world, as listed below in alphabetical order:

- Fatma Colasan, QBS TF Chair – Turkey (FIDIC BPC)
- Bisher Jardaneh – Jordan (FIDIC EC)
- Kiran Kapila – India
- Walter Painsi – Austria
- Andrew Steeves – Canada
- Adam Thornton – New Zealand (FIDIC EC, BPC)
- Enrico Vink – Switzerland (FIDIC MD)

Valuable contributions were also made by Gregs Thomopoulos (FIDIC President), other Executive Committee members, Panos Panagopoulos (EFCA President) and other members of the BPC listed below.

BPC Members:

- Rick Prentice, BPC Chair – Canada
- Samarjit Chatterjee – India
- Andreas Gobiet – Austria
- Kaoru Kariya - Japan
- Peter Rauch - Switzerland
- Andrew Read - New Zealand
- Jan van der Putten - EFCA



1 INTRODUCTION

1.1 Purpose

The essential purposes of this book are to:

- Promote the rationale of QBS and to disclose the disadvantages of Price Included Selection Practices (PIPs)
- provide an explanatory document for Clients, Consultants, funders and development partners
- define best practice for the selection of Consultants
- improve effectiveness and efficiency in projects and maximise project value
- modify the undesirable practices currently employed in Consultant selection

1.2 The Importance of Appropriate Consultant Selection

The Consultancy Engineering Industry remains primarily responsible for the planning, design, delivery and maintenance of the world's infrastructure and built-environment. This makes the sector a critical player at a time when the world faces an ever-increasing demand for food, water, sanitation, shelter, health services, transportation and energy. It tackles on a daily basis the problems of how to improve the quality of peoples' lives while working with finite resources in a world with a growing population.

The Consultancy Engineering Industry is comprised of Consultancy Firms operating independently in an open market. It is making substantial contributions to sustainable development, undertaking work for a wide variety of Clients. Consultants provide technology based intellectual services and Consultancy should at the same time be recognised as a business.

Selecting a Consultant is one of the most important decisions an Owner or Client makes. Every project is unique and each has its own challenges. At the outset of many projects, it is difficult for a Client to prejudge the likely complexity of his/her project/problem or the variety of professional services that may be required to develop an appropriate solution. The success of any project depends upon obtaining the most appropriate expertise available in terms of skill, knowledge, past experience, managerial abilities and reputation. It is simple logic to recognise that Clients who shop for Consultancy Services on the basis of appropriate quality will obtain a quality of service commensurate with their needs. Correct selection will have a major bearing on the quality, overall project cost, and success of the project, and hence on the overall value of the end result.

Selection of the right Consultant for each particular project is of paramount importance, and the typical cost of Consultancy Services, including design, is usually in the region of 3-4 percent of the Life Cycle Cost of a project. Experienced senior officials of major development banks have consistently stated "Clients should become better aware of the importance of Consultant selection and the impact of the choice of the Consultant on the overall quality of the completed project" and "Consultant selection is highly critical to the success of the entire project over its complete Life Cycle; to save a small percentage (from the Consultant's fee), perhaps 1% or less of project cost, is not worthwhile considering the potential risks."

1.3 Best Project Value

Quality Based Selection ensures the best overall project value. By matching scope of work to fee for Services, QBS ensures optimum value. QBS encourages design innovation, which will lead to overall cost savings and optimisation of Clients' value, as well as promoting state of the art practices.

QBS saves money by allowing proper assessment of cost-saving alternatives. It provides the flexibility for a Consultant to consider a variety of options in concept, approach and interpretation which inevitably results in cost savings and better whole-of-life solutions. Identifying these options is particularly important in the early stages of a project if significant benefits are subsequently to be achieved in the construction, operation and maintenance of a project i.e. the project Life Cycle. Price Included Selection Practices (PIPs) limit the flexibility of a Consultant to explore innovative avenues and options and thus result in less than optimal project performance. They frequently create situations where small initial savings result in higher capital and Life Cycle Costs. In addition, because of the common understanding between the Consultant and the Client on the scope and remuneration of the services in QBS awarded projects, their adjustment is facilitated if necessary as the project takes shape and detailed information on the site conditions becomes available; such adjustments take place by mutual agreement between the Consultant and the Client.

"Public agencies that use QBS to select Consultants are better able to control construction costs and achieve a consistently high degree of project satisfaction than those using other selection methods" according to a two-year study led by the University of Colorado and Georgia Institute of Technology, USA.

1.4. Definitions

A/E services: Architectural and Engineering Consultancy Services (especially design services).

Agreement : Contract signed between the Client and the Consultant, particularly for carrying out Consultancy Services. FIDIC refers to this as an Agreement for Services.

Client: the party named in the Agreement that employs the Consultant, and legal successors to the Client and permitted assignees.

Concessionaire: a person or firm that operates a business within the premises belonging to another (the grantor/ assignor, owner etc.) under a concession.

Consulting Engineering Industry: companies and individuals who provide Consultancy Services as a commercial activity.

Consultancy Firm: independent for-profit firm (or a joint venture partnership) which provides professional Consultancy Services.

Consultancy Services: technology based intellectual services in the built or natural environment, which include those listed below:

- Project planning and feasibility studies
- Project assessment studies including financial analysis
- Environmental studies and impact assessments (EIAs)
- Sustainability studies
- Field investigation and surveys; maps
- Architectural services
- Economic/financial studies
- Conceptual, developed and detailed engineering design
- Preparation of tender documents
- Evaluation of bids
- Construction supervision
- Project/programme management
- Quality management
- Construction management
- Cost and financial management
- Contract management
- Commissioning and decommissioning
- Valuation services
- Failure/forensic investigation
- Technical training
- Risk analysis and management
- H&S management
- Operation and maintenance

- Research and development
 - Technical assistance
 - Institutional development
 - Health & safety studies
 - Quantity surveying and value engineering
 - Social impact studies
- and similar technology based intellectual services

Consultant: either an Individual Consultant or a Consultancy Firm.

Contract: Contract signed between the Client and the Contractor for provision of Works/Goods and/or services other than Consultancy Services such as transportation services, cleaning services etc.

Contractor: (construction) the firm or individual which/who signs a Contract for construction with the Client.

Cost: expenditure properly incurred, or to be incurred, by a party, for the purpose of the services including overhead and other charges properly allocated to it, but excluding profit.

DB (Design-Build): the system where the Contractor has responsibility for the final design as well as the construction of a project, conforming to the preliminary design and/or technical performance specifications pre-prepared by the Client. (FIDIC recognises that there are a number of variations on the form of Design-Build contractual arrangements, but the basic feature is that the responsibility for design lies with the Contractor and not with the Client)

Fee (Price): full charge of the Consultancy Services provided, including profit and tax.

FIMS (FIDIC Integrity Management System): FIDIC's standards-based integrity management system that can be easily integrated into an organization's quality management system, which may also be based on ISO 9001:2000.

Foreign Consultancy Firm: a Consultancy Firm which does not comply with the two criteria for a National/Local Consultancy Firm stated below.

Goods: (in the construction sector) Contractor's equipment, building materials, installation materials, plant, or any of these items as appropriate.

Individual Consultant: independent Engineer/Architect or other professional (e.g. Environmental Scientist) who provides Consultancy Services for a fee.



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ITC (Information to Consultants): all necessary information prepared by the Client that would help the Consultancy Firms prepare responsive proposals (ITC is a part of the RFP).

Life Cycle Cost (LCC): total cost of a project over the full life of the facility. The cost includes construction, operations and maintenance costs.

Locally Based Foreign Consultancy Firm: a Foreign Consultancy Firm with a registered office in the country where the project will be realised.

National Association: an association of Consultants established in the country where the members provide Consultancy Services; the association is usually a member of FIDIC.

National/Local Consultancy Firm: a Consultancy Firm with a registered office and centre of activities in the country where the project is realised, and with the majority (more than 50%) of the firm's capital provided independently of foreign interests, by nationals of the subject country.

NGO (Non Governmental Organisation): an organisation which is eligible for favourable tax treatment and is often able to cover 'core' expenses through donations (e.g., foundations, associations).

Not-For-Profit Organisations: organisations which provide Consultancy Services and which are not legally and financially autonomous, and/or do not operate under commercial law, and/or are Not-For-Profit entities, such as government owned institutions, NGO's, UN agencies, universities etc.

Owner: individual or organisation which holds the ownership of the investment.

PFI (Private Finance Initiative): the system where the Client, usually a government, defines quality and services to be provided, and where the Concessionaire provides managerial, commercial, technical and creative skills for the provisioning of a public service, through private funds. Financing is, to a large degree, provided by the private sector, with or without some contribution from government, and the user fees are paid by the government.

PIPs (Price Included Selection Practices or Practices Incorporating Price): selection methods for services which range from price only selection to methods which include price as a component in the proposal.

Procurement: the process through which works, goods and services are normally contracted/purchased/agreed upon.

RFP (Request for Proposals): the Client's instructions, formally written to each short-listed firm, for inviting proposals (Sometimes called RFT-Request for Tender).

Selection: the process through which the Consultant is engaged.

Services: professional services (particularly Consultancy Services).

TOR (Terms of Reference): the Client's draft for selection, which normally includes an assessment of the physical magnitude and resource requirements of the project (TOR is a part of the RFP).

Works: the permanent or temporary works to be executed by the construction Contractor (including the goods and equipment to be supplied to the Client) for the achievement of the project (Ref. F3).

2 WHAT IS QBS

2.1 General

QBS is a selection process to determine the most appropriately qualified Consultant based on Quality-cum-Technical Competitiveness attributes, leading to a negotiated award of Services on a fair and reasonable basis. In QBS, the 'Q' does not stand for best quality, but rather most appropriate quality.

There is overwhelming evidence that, in selecting the services of a Consultant, Clients should be guided by one primary consideration – the qualifications and capability of the firm or individual to meet the specific objectives in the project to be undertaken. The attributes to be looked for in a Consultant are the same attributes that apply to selecting any reputable professional: expertise, experience, rapport, past performance and commitment to the Client's objectives.

The keystone to ensuring quality and best value from a project is the selection of the Consultant who is best able to provide the solution to meet the Client's requirements over the whole Life Cycle of the project. The Consultant should be selected by an open and transparent process which focuses upon the ability of that Consultant to meet the project's needs. Selection of a Consultant on this basis should ensure appropriate consideration, in conjunction with the Client, of the principles of environmentally sustainable design, with the benefits of innovation, local knowledge and cost effective practices, to ensure the best quality outcome.

QBS is only correctly applied if it encompasses both selection and appointment. The use of QBS to prequalify Consultants and to then appoint on the basis of price is not what is meant by QBS. A fundamental benefit of QBS is that the Consultant is able to develop the scope of work appropriate to the task without fear that he/she will be undercut by a competitor who is prepared to offer less than complete/adequate Services.

There is a misconception that QBS disadvantages Consultants in developing countries because they don't have the same experience or expertise. In fact the reverse is true; Consultants who continually compete on price will never allow for the adequate training and resourcing of their firms.

FIDIC recommends QBS as the preferred method, and as best international practice for the selection of Consultants for Consultancy Engineering Services.

2.2 Key Quality Based Attributes

The most important quality based attributes by which to judge a Consultant's suitability to carry out a particular project, regardless of the selection process stages, generally are:

- professional competence
- managerial ability
- availability of resources
- professional integrity

The Client should seek detailed information on all these qualities at the short-listing or selection stage by,

- obtaining comprehensive written pre-qualification information from the Consultant in a form appropriate for the assignment;
- interviewing permanent senior personnel of the candidate at the short listing stage and the key staff identified for the assignment at the selection stage;
- if necessary, visiting the premises of the Consultants and examining systems and methods of Services as well as hardware and software capabilities;
- where possible, communicating with previous Clients.

Professional Competence

During the selection stage, the competent professional Consultant will be able to offer the Client a team that has the education, training, practical experience, expertise and judgement to carry out the project in a cost effective and quality manner.

The Client can evaluate the professional competence of the team, skills and qualification, by examining;

- the detailed resumes of key staff that are responsible for the provision of the specified services and their relevant experience on similar assignments;
- the list of similar projects carried out by the firm; the approach to and methodology for the proposed assignment.

In addition, the Client should validate the performance of the Consultant with other Clients on previous assignments of a similar nature and examine the performance history of the Consultant in similar overseas countries. Track record and relevant experience is important. This may include information on problems encountered and dealt with on previous assignments, plus lessons learnt.



2 WHAT IS QBS

Managerial Ability

To successfully achieve project objectives, a Consultant must have managerial skills to match the size and type of the project. The Consultant will need to marshal skilled manpower and adequate resources, maintain schedules and ensure that the work is planned in the most efficient manner. The Consultant will need to be able to deal competently with Contractors, suppliers, loan agencies, government agencies and the public during the course of the project. At the same time, the Client must be informed of the development of the project to be able to make decisions quickly and accurately.

The Client can assess the managerial ability of the Consultant team by examining:

- performance records for past projects;
- the documentation and project control procedures which guide the performance of the Consultant's Services;
- the success record of the proposed project manager on previous projects;
- the project management and quality control approach of the firm proposed for the new assignment. Certification is not mandatory, but the firm should preferably have a QM system in place (Ref F13);
- the firm's health & safety policies and compliance record;
- the progress reporting and Client communication techniques of the firm proposed for the assignment, including its internal and external plans, meeting plans, billing practices, dispute resolution system;
- the success rate of the Consultant in transferring technology on previous projects.

Availability of Resources

It is important to establish whether the firm has sufficient financial and manpower resources to carry out the project to the necessary detail and standards commensurate with the requirements of the project. This will be a function of the extent to which the firm's current resources are committed. The Client should verify that the Consultant has sufficient staff (permanent or to be hired for the specific project) available at the relevant experience levels, and that there are sufficient financial resources to carry out the work. Financial resources of the firm must be evaluated realistically to match the needs and must not be exaggerated, keeping in mind that Consultancy Services are intellectual services.

The Client can validate the adequacy of the Consultant's resources by reviewing:

- the number of qualified professional and managerial

- personnel committed to the project team;
- the deployment of the project staff and how the team will be organised with lines of responsibility;
- the staff commitments to other work for the duration of the proposed project;
- the new assignments to projects of a similar size conducted by the Consultant;
- the credit worthiness of the firm and availability of appropriate Professional Liability (Indemnity) Insurance;
- the ready access to supporting resources; and the proximity of the firm's offices to the proposed work.

Local knowledge can also be an important consideration. The experience of the team members in the country of the assignment or in the same region, helps to understand the expectations of the Client, and this could be given appropriate weighting during the evaluation process. The National Firms, as members of the core team, deserve due recognition and importance as this can help in capacity building. Such an approach can also help to achieve higher and sustainable socio-economic growth as well as develop confidence and trust between the International Consultancy Firm (or Locally Based International Consultancy Firm) and the National Consultancy Firm. In some developing countries, where projects are being financed through international funding agencies, it is customary to specify certain positions for the personnel to be taken from National Local Consultancy Firms. This is with particular intention to promote necessary expertise amongst the local team members while working with the team of the International Consultant. The experiences of such assignments have convincingly demonstrated that the capabilities of the Local Consultancy Firms are enhanced by such participation. In the long term such National Firms then become capable of providing specialised services to the recipient governments, bringing about overall enhancement in the national Consultancy sector.

Professional Integrity

Mutual trust and integrity form a critical component in the relationship between the Client and the Consultant. Without it the relationship will suffer. If absolute trust exists between the Client and the Consultant and both parties have integrity, then the project will run more smoothly, the results will be better, and both parties will be happier. These very factors of mutual trust and integrity are the reasons why Consultants are commissioned by the same Client again and again (see Ref. F2 for more information on the FIDIC Integrity Management System - FIMS).

2.3 Selection Procedure under QBS

The following is a brief outline of the recommended selection procedure. Refer to FIDIC's 'Guidelines for the Selection of Consultants' (Ref. F1) and 'Procurement Procedures Guide' (Ref.F4) for more detailed information.

a) The process starts with the development of a Client's needs and the project scope statement. This statement may be developed by a Client's staff, a third party (an independent Consultant, for example) or by a Consultant in collaboration with the Client. In some cases the Client may also wish to prepare an initial budget for the Consultancy assignment or a budget range to share with its above mentioned Consultants.

b) Next, the Client initiates a selection process. This process can take several forms:

At its most basic level, the Client issues a call for Statement of Qualifications /Prequalification to a long and/or short list of Consultancy Firms depending upon the type of project. The Client can obtain a list of candidates from its own lists or from a FIDIC-affiliated member association.

In some cases the Client may have a roster of pre-qualified firms with which it is familiar and comfortable with. In other cases the Client may go directly to one firm (sole source). This firm may be the «next on the list» of prequalified firms or a partner firm which helped the Client develop the needs statement and project scope. In many countries, QBS is practiced widely in the private sector. It is very common for well-informed, private and commercial Clients to directly approach Consultants who they know have appropriate expertise and experience, and negotiate a fee on a mutually developed and agreed scope. This is using the Consultant as the Trusted Advisor, in the truest sense, and embodies the principles of QBS. This suggests that, in such applications, de facto QBS is being used without full realisation.

In the latter cases the Client and the Consultant can proceed directly to detailed scope definition and price negotiations using the defined needs statement and scope.

c) If the Statement of Qualification route is selected, the Client reviews all the applications and uses a review of qualifications and quality statements to select a short list of firms from which a detailed proposal is solicited.

d) Once the Client reaches the stage of requiring a detailed proposal, the focus should be on the desired results (features, benefits, technical challenges, schedule, Life Cycle Cost, technology transfer, sustainability, end users etc). Pre-proposal conferences are sometimes considered desirable for clarification about the information provided in the RFP, including the TOR.

e) The evaluation of the proposals should be based upon the quality of the team, methodology, match of qualifications to scope and so on. The Client can use a point system to score the various proposals based upon the quality of response to the various qualifications. The Client selects its preferred Consultant based upon the total quality score.

f) Once the Client selects the preferred Consultant which has the highest score, it meets with that Consultant to fine-tune the project scope, the methodology, and the team, and to commence negotiations on price. These discussions help foster a team and partner approach, and reduces gaps, overlaps, risks and possible misunderstandings. As well, this fine-tuning exercise is beneficial to any third party who facilitates negotiations.

g) If the Client and the Consultant are unable to reach an agreement on price, scope and quality, then the Client can meet with the second ranked Consultant and repeat the fine-tuning and negotiations. An Agreement is signed between the Client and the successful Consultant after negotiations are completed.

h) If the team changes after the Agreement, the Client must be informed and the former team must be replaced with another team of similar qualifications with the Client's approval.

FIDIC's intention, in addition to presenting the QBS system itself, is to support Clients with appropriate QBS selection procedures, to provide a fair playing field for Consultants rather than leaving it to arbitrary (discretionary) applications. QBS requires that all selection criteria be openly stated and the marks for each Consultant on that criterion be displayed.

In order to learn more about the detailed procedures for QBS, please refer to Ref.F1



2 WHAT IS QBS

2.4 Positive Relationship Between the Client and the Consultant

A major benefit of QBS is that the important Client/Consultant relationship is enhanced from the beginning of the selection procedure. Clients have an opportunity to appraise the personalities of the Consultant's staff as well as the competence of the Consultancy Firm, thereby lessening the risk of an incompatible relationship. QBS brings the Client and its trusted advisor together as a team from the beginning. This is a key ingredient for a successful project.

Every project is unique and has its own challenges. At the outset of many projects, it is difficult for the Client to fully grasp the complexities involved or the variety of the Consultancy Services required to develop an appropriate solution. QBS creates a platform where together, the Client and the Consultant can define the project objectives and scope in great detail and agree upon the Services required to make the project a reality.

The Consultant will be required to represent the Client's interests in day-to-day dealings with other professionals, the public, Contractors, equipment manufacturers/suppliers and others who provide input for the project. It is therefore vital that the Client and the Consultant share a relationship of mutual trust, respect and effective communication. QBS establishes a positive relationship from the outset. Clients are at disadvantage if they enter into an adversarial relationship with their Consultant beginning with a confrontational selection procedure.

The common understanding of scope and fee between the Client and the Consultant through the QBS method is also invaluable as a basis for adjustments of the Agreement scope and price during the project design if necessary, as detailed site conditions become available and design is refined – especially so if the Consultancy Services fee is based on unit rates (ref. Section 5).

2.5 QBS at its Best

QBS is beneficial for all project types; complex and straight forward, big and small, local and international. If not applied to all, FIDIC recommends the QBS method as the only method for those projects where there is a multiplier effect i.e., where there is significant complexity or where the consequences of failure are significant and where the competing candidates will all be National Consultancy Firms, as further explained below (For Multiplier Effect, please see Appendix 1 of Ref. F1).

FIDIC strongly recommends that Cost Based Selection, i.e. the selection of a Consultant only on the basis of price, never be used for Consultancy services.

QBS is particularly beneficial for the following:

(a) complex or highly specialized assignments for which it is difficult to define a precise TOR and the required input from the Consultants, and for which the Client expects the Consultants to demonstrate innovation in their proposals (for example, country-wide economic studies, multi-discipline feasibility studies, design of complex or hazardous facilities, urban master planning, financial sector reforms);

(b) assignments that have a high downstream impact and in which the objective is to have the best experts (for example, feasibility and engineering design of major infrastructure, policy studies of national significance, management studies of large government agencies); and

(c) assignments that can be carried out in substantially different ways, such that proposals will not be comparable (for example, management advice, and sector and policy studies in which the value of the services depends on the quality of the analysis).

In summary, the QBS method is most appropriate for projects which encompass any of the following parameters:

- having disastrous impact if the related project fails
- assignment with high complexity
- has a high multiplier effect
- has a high downstream impact
- assignments that are unique and difficult to compare
- assignments requiring specialization
- Consultant selection among National Firms

3 ADVANTAGES OF QBS

3.1 For Public Welfare

■ Higher quality and best value from construction leads to improvements in the quality of life for all (Ref. 2).

■ QBS ensures highest value per taxpayer investment results, less remedial work, reduced chances of project failure and thus greater benefits for the community over the whole life of the project.

■ QBS takes account of emerging societal issues (Ref. 5).

■ QBS results in capacity building within the Consultancy Engineering Industry which in turn benefits the whole country. No country in the world has become developed in advance of its engineering expertise (Ref. 9).

■ QBS encourages innovation which leads to better value in public infrastructure (Ref. 9).

■ By focusing on Life Cycle optimisation, QBS encourages efficient and sustainable use of resources which benefits humanity as a whole (Ref. 2).

3.2 For Clients

■ QBS has been proven to deliver the best overall project value for money on a whole-of-life basis – it ensures optimum cost effectiveness (Ref. 2 and Ref. 5).

■ Clients who regularly apply QBS can be confident that they will be serviced by a skilled and well-resourced Consultancy Engineering Industry (Ref. 2).

■ QBS encourages Consultants to provide full service, which in turn lowers project risk and optimises Client return. Studies have consistently shown that complete and well-coordinated documentation results in lower pricing of risk by Contractors and fewer variations (Ref. 5).

■ QBS is applicable to all forms of procurement of Consultancy Services: Conventional (design-bid-construct), Design and Build (with its many variants), Public Private Partnerships, alliances and collaborative working arrangements.

■ QBS places the cost of engineering design in the proper context by incorporating Life Cycle Costs into consideration. Design fees typically represent 1 to 2 percent of the overall Life Cycle Costs of a project, once construction, operations and maintenance are included in the cost. A good design from the most appropriately qualified Consultant will provide best overall value and save many times the design fee (Ref. 2).

■ QBS does not involve a large number of Consultants preparing costly, detailed proposals which can have the effect of escalating the overhead and overall cost of Consultancy Services and consume valuable staff time for assessment and evaluation.

■ Projects where Consultants are selected by QBS are proven to have reduced cost overruns. Public agencies which use QBS to procure A/E services are better able to control construction costs than those using other procurement methods. Significant improvements in construction cost growth (3% versus 10%) and construction schedule growth (8.7% versus 10%) have been identified in a major study in the United States. (Ref. 5).

■ Use of QBS by Clients presents Consultants with a fair and rational process for their selection, thus encouraging them to seek selection for projects for which they have appropriate expertise and experience. The use of a «fair and transparent process» for procurement «should contribute to reducing the tendency for Consultants to seek advantage by lobbying with senior and elected officials». (Ref. 2).

■ The enhanced Client-Consultant relationships that result from QBS, supports knowledge growth (capacity building) for the informed Client by gaining access to qualified Consultant expertise and having staff work with experts. (Ref.5).

■ Selection by QBS encourages Consultants to concentrate on best-for-project outcomes rather than scope-fee balance issues because the Consultant can be confident of fee that is appropriate to the scope of service.

■ Consultants selected by QBS are more likely to arrive at an innovative solution because they will devote more time to consider alternative solutions.

■ Consultants selected by QBS are more likely to take account of emerging societal issues (Ref.5).

■ QBS leads to successful results and good references for the Client.

■ QBS delivers the best Consultancy Services – with significant downstream benefits in construction and operation, the value of which far exceeds the marginal cost of the Consultancy Services.

3.3 For Consultants

■ Consultants selected by QBS are better able to develop a scope of services that is appropriate for successful projects (Ref.2).

■ QBS allows Consultants to target projects that match their experience and expertise.

■ Consultants selected by QBS can be more confident of fees appropriate for the scope of service with allowance for ongoing professional development of the Consultancy Firm. This can provide for capacity building for big/small companies and for companies in developed/developing countries.



3 ADVANTAGES OF QBS

- QBS rewards excellence and discourages service/cost cutting.
- Well applied QBS processes give Consultants proper consideration and these help allay fears that there is bias in selection.
- QBS allow Consultants to engage with Clients and potential Clients on the basis of adding value by appropriate experience, expertise and local knowledge (Ref. 2).
- QBS protects intellectual property, beginning from the proposal phase (Ref. 5).

■ Local firms can benefit from a QBS process which includes appropriate weighting for knowledge of local conditions as selection criteria.

■ The QBS process facilitates the matching of appropriate Consultant qualifications and attributes to Client needs thereby enabling participation by small, specialized Consultants and indigenous companies.

■ QBS leads to successful results and good references for the Consultant (Ref. 5).

"It is unwise to pay too much, but it is worse to pay too little. When you pay too much you lose a little money. When you pay too little, you sometimes lose everything, because the thing you bought was incapable of doing the thing it was bought to do. The common law of business balance prohibits paying a little and getting a lot - it can't be done. If you deal with the lowest bidder, it's well to add something for the risk you run, and if you do that, you will have enough to pay for something better." John Ruskin (1819 - 1900), English art critic and social thinker.

4 DISADVANTAGES OF SELECTION PRACTICES INCORPORATING PRICE (PIPs)

Independent studies have established that Selection Practices Incorporating Price (PIPs) as an attribute do not deliver outcomes as good as those achieved using QBS. Such practices reduce the chances of getting the appropriate quality and best resources. Selection based only on price (CBS), or based on qualifications plus price (QCBS) will, most of the time, result in Consultancy Services that will not provide best value nor fully meet the project objectives. Furthermore, PIPs will discourage Consultants from different parts of the world, with different experiences, backgrounds and qualifications, from collaborating to better serve the Client.

PIPs might save money at the beginning but will, without doubt, affect the design's quality and the overall time and cost of construction and/or operation of the project. The initial cost of the design is outweighed by the final project performance that results from good design solutions.

In particular, PIPs will result in the following:

4.1 Reduced Value

Overall quality remains the most important objective of a project. Quality Consultancy Services depend on adequate time allocation and on appropriate qualifications of the professional staff assigned to the project to fully investigate alternative solutions, including their technical, financial, environmental and social implications from alternative concept designs to designs of project details. PIPs will generally result in insufficient fees for the Consultant to provide a good level of Services and hence will reduce the overall project value.

4.2 Reduced Services

Some Consultants may offer lower prices when faced with a price-request-bid; however lower prices will invariably result in fewer Services and/or a lowering of the quality of Services and capacity. Price included selection and inadequate fees will most probably lead to reducing the scope and services provided to the Client, e.g.:

- no innovation – technical/management/project delivery
- conservative design (and higher construction costs)
- inadequate documentation (technical and contractual)
- less consideration of alternatives
- reduction in review and quality assurance
- reduced pre-design investigations - resulting in increased cost risk
- more reliance on performance based design and proprietary design

- outsourcing of some Services to non-experienced firms/employees in order to reduce costs.
- minimal consideration of Life Cycle Costs
- reduction of investment in technology and professional development resulting in reduced capacity.

Clients should check the Services provided by the Consultants and seek assurance that these Services are being provided by qualified people. Lower quality and lower level of Services mean that the Client will bear the cost of acquiring these Services at a later stage.

4.3. Loss of Capacity Building

PIPs will reduce the ongoing professional development and capacity building of Consultancy Firms. Lack of expertise and human resources will overburden the existing ones, which will stand as a barrier in developing those resources and giving them the needed time to develop and to be trained in order to keep them in touch with the newest trends and technologies. Eventually this will result in exhausted, unmotivated employees, who will likely be incapable of providing quality designs and other Consultancy Services.

PIPs will also result in a reduction of the Client's own capacity. Less competent Consultants will require greater monitoring and supervision from the Client side.

4.4 Increase in Construction and Operation Costs

Experience has shown that using state of the art technology and innovative solutions will contribute to reducing the construction and operation costs of the project. Conversely, Clients who are looking to save money by employing Consultants at a lower fee, will usually end up with higher overall project costs.

4.5 Time Extensions in the Construction Phase

Incomplete design and inadequate documentation are the greatest contributors to construction time overruns. In addition, less qualified Consultants lack the experience and know-how to tackle the problems that will arise from inadequate design.

4.6 Potential Risks and Damages

PIPS can place stakeholders at risk and may lead to the failure of critical projects resulting in catastrophic health, social, environmental, and financial loss.



5 HOW PRICE IS NEGOTIATED IN QBS

When QBS is used for the engagement of Consultants, a preferred Consultancy Firm/Team is chosen on the basis of comparative attributes before the final scope and fee is agreed. By this means the Client and the Consultant can agree together the appropriate scope of Services to be provided by the Consultant. It is a common misconception that this then places the Consultant in a position to 'write his/her own fee cheque'. While this clearly is not true, Clients can be put in a position of not knowing if a proposed fee is appropriate. This section outlines the principles of fair and appropriate fee determination. (See also Ref. 2 and 5):

a) For large and complicated projects, the Client and the selected Consultant should jointly fine-tune the scope of Services and concurrently develop fee estimates. In this manner the Client can understand the connection between such issues as scope risk, scope creep and fees. In addition, the two parties can quickly distinguish between items which are necessary for project success and those which would be «nice to have».

b) For projects which are large, technically complex or have long timelines, it is important for the Client to be knowledgeable about the specific requirements of the project. When a Client lacks sufficient in-house expertise, FIDIC strongly recommends that it engage an independent Consultant to act as a Client representative and trusted advisor for the Consultant engagement phase. It is important that this independent Consultant is knowledgeable in the matter being considered and acts in a neutral manner without favour to the Client or the Consultant.

c) For complex projects, the design solution and hence the full scope of Consultancy Services is not known at the start of the project. In such cases it is often appropriate to have an incremental fee agreement. An independent, neutral Consultant can also give guidance in relation to this.

d) A key consideration in negotiations is the sharing of design risk between the Client and the Consultant. There should be an acknowledged relationship between risk acceptance by the Consultant and the fees negotiated.

e) As part of the negotiation, the two parties should develop and agree upon a schedule of payments and deliverables.

f) Once the parties have determined the scope, schedule, deliverables, communications plan and

the team, the determination of price and payment is quite straightforward. The parties can follow any one of several models for price determination including:

i. payment by the hour using mutually agreed rates. These rates can be those used on previous projects or rates stated in national law or rates defined by the Client or rates provided by a qualified third party. This practice is followed in many FIDIC member countries.

ii. payment as a percentage of construction cost. This method is commonly used for building projects. The percentages vary with project type and complexity as well as with the amount of risk and scope carried by the Consultant. Schedules of appropriate percentages are available from many national and regional associations of engineers and architects, depending on the level of Services to be provided.

iii. cost or cost plus. With some large Clients, usually governments, international agencies or banks, the parties agree upon an hourly rate based upon labour cost (the cost of gross salaries), direct project costs (e.g. travel, document reproduction, car rental, air cargo etc.), acceptable or audited overheads such as office rent, salaries of the administrative staff, advertisement costs, office equipment maintenance etc. With the 'cost' approach a level of reasonable profit inclusive of corporate tax is built into the rate while with the 'cost plus' approach a profit inclusive of corporate tax is added to the costs incurred by the Consultant. These methods usually involve an auditing process by the Client; since this is time-consuming, invasive and expensive these approaches are best applied to large projects. This approach is used by many Clients around the world including government agencies in the UK, Australia, New Zealand, the United States and Canada. The practice is also followed by various International Financial Institutions such as the World Bank, Asian Development Bank, African Development Bank and other donors. Their Standard Request for Proposal (SRFP) document includes Appendix for breakdown of remuneration rates of personnel based on elements of basic salary, social charges, overheads, fees or project and away from Head Quarter /Overseas allowance.

iv. fixed fee. This is a true value-based approach. The Client and the Consultant agree on the deliverables and how the deliverables are to be attained and afterwards, they negotiate on the value of the deliverables to the Client. Sometimes the parties agree on a bonus for the Consultant if it provides the deliverable faster or in a superior condition than originally planned. Conversely, for projects with many unknowns, the fixed fee can be treated as an upset limit at which point the Client and the

5 HOW PRICE IS NEGOTIATED IN QBS

Consultant review progress to date and decide whether to proceed or not. Independent cost Consultants can, for all these methods, provide a 'market range' of fee percentages and rates.

v. gain-sharing. This approach has been used in some energy and environmental projects where the Consultant has been paid from the savings in energy costs, reduction in pollution fines or taxes or greenhouse gas credits. Sometimes this approach is combined with, or is a supplement to, one of the other price and payment methods described above. This practice has often been used for Contractors and Consultants on Private-Public Partnerships and Design-Build contracts.

Some Clients have the ability to develop estimates for costs expected for the professional fees on a project and use those estimates when negotiating with the top ranked Consultant. Ref 9 describes this process in some detail.

It is disingenuous to suggest that QBS provides a blank cheque for Consultants. The core of the QBS

process is a mature and respectful relationship with both parties acknowledging that the fee should be appropriate, fair and within market norms. It should not be merely formulaic or be presented to either of the parties as a «black box» but rather as a well-defined process.

It is worth noting that many Clients (government and private sector) have experienced more confusion and confrontation from PIPs than from QBS. For this reason there has been a recent resurgence of support by Client groups for QBS. A notable example is the development of the «Best Practice For Selecting a Professional Consultant» (Ref.2) and recent policy shifts taken by the Government of Quebec (Canada) to incorporate more QBS into the procurement of professional design services.

During the fine-tuning of project scope, FIDIC recommends that both parties give full consideration to Life Cycle Cost. The best project outcomes are appropriate to need and are sustainable over the life of the project. Life Cycle Cost and sustainability are key components of any QBS process.

6 DIFFERENTIATING BETWEEN THE SUPPLY OF PROFESSIONAL SERVICES AND THE SUPPLY OF GOODS/WORKS

Consultants are too frequently frustrated by the approach of ill-informed Client representatives who attempt to procure Consultancy Services on the same basis as they would procure goods and works and services other than Consultancy Services. This section briefly explains the rationale for differentiating between procurement of goods/works/other services and Consultancy Services.

When procuring goods or physical construction work (in traditional procurement arrangements), the solution to the Client's problem or need (that is the scope of work and required quality) is usually defined and specified. Therefore it is appropriate to select a construction Contractor or equipment/material supplier on a price basis, providing that core quality attributes are met; skills, track record, H&S, integrity, QA processes etc. However, when procuring Consultancy Services, the solution is not yet defined. The Client has a need, or a problem and perhaps a brief scope. The Consultant's work, which constitutes an intellectual service, will define the solution to the Client's need in terms of scope, quality and cost. The expertise and

creativity of the Consultant who is providing the Consultancy Services will determine the added value in the completed project; that is the difference between the price that is paid for the project and the overall value, measured on a Life Cycle basis.

Through smart construction techniques the Contractor can often reduce the cost of the project, but this saving will be realised during tender/procurement. However, although through innovative design the Consultant will reduce cost and add value; this cannot be defined at the time of Consultant selection by price alone. Rather it occurs as a result of the Consultant's skill and experience. Conversely, poor and/or hastily conducted design work (which commonly arises as a result of producing Consultancy Services as though they are price based commodities) will result in higher overall project cost and reduced value.

Informed Clients differentiate between suppliers of goods/construction works and Consultancy Services.



7 FURTHER RECOMMENDATIONS FROM FIDIC

7.1 Agreement

FIDIC recommends the use of standard agreements for engaging professional services. The preferred form of agreement is the FIDIC Client–Consultant Model Services Agreement - the White Book (Ref. F3). Alternatively, standard agreements incorporating equitable conditions of engagement should also be acceptable.

7.2 Informed purchaser

FIDIC is strongly committed to the principle that purchasers of Consultancy Services should be well informed on both the technical aspects of specific projects and on appropriate processes for the selection of Consultants. For a project to be successful and in the best interests of the Client and the end user, both the purchaser and the Consultant must have a shared vision for the project (Ref F12).

A well-informed purchaser:

- has the technical knowledge to articulate and share the vision of the project
- can evaluate the skills of Consultants for projects using a proper selection process
- has a clear understanding of the methodology required to execute the project
- recognises the importance of equitable and non-onerous conditions of engagement and a reasonable limit of liability
- understands the risks associated with the project and is willing to manage these in the appropriate manner
- knows the significance of specifying a reasonable time frame for submissions and for approval of project phases
- understands the importance of specifying unambiguous payment terms and methodology for approval; also understands the adverse impact of bonds and retentions on Consultancy services
- appreciates the essential differences between a Consultant and a Contractor
- understands the importance of specifying comprehensive service from the Consultant
- understands the importance of maintaining a vibrant and growing Consultancy Engineering industry.

7.3 Transparency

FIDIC recommends, in the interests of all parties in a project, that the maximum degree of transparency be maintained during Consultant selection. To improve transparency, FIDIC recommends that the scope of work for each assignment be clearly defined in advance, that the quality standards for all projects be clearly set out and rigorously enforced, and that risk allocation be fair and clearly understood by all parties. It is also recommended that details of the evaluation system, including weightings, be disclosed with the Request for Proposals (RFP), or at least before any proposals are due to be submitted, and that Consultants who have submitted proposals, have the right to an open debriefing following the selection.

FIDIC also recommends that the selection panel has the necessary skills and independence to make a fair and proper selection.

7.4 Integrity Management System

FIDIC recommends that Consultancy Firms should follow an integrity management system such as the FIDIC Integrity Management System FIMS (Ref.F2), and that Clients give consideration to this policy during selection. It is recommended that Clients should also subscribe to FIDIC's integrity management principles within their own organisation. Experience has shown that lack of integrity in Client authorities is self-defeating, in that good quality Consultants will not bid.

7.5 Fair Competition

FIDIC recommends that, in the public interest, Consultancy Firms compete with each other in the provision of Consultancy Services on a transparent, "level playing field" basis. Furthermore, whenever publicly funded bodies such as government enterprises, NGO's, universities or similar, and Not-For-Profit Organisations compete with independent Consultancy Firms, selection should be made exclusively by QBS and fee negotiations should take into consideration the different tax and profit evaluations for such bodies, as they are usually exempt from tax, and not expected to make a profit. Normally, these Not-For-Profit Organisations will be best engaged in a sub-consultant role and they will not compete with independent Consultants. A detailed Request for Proposals (RFP) with a well-defined Terms of Reference (TOR) considerably contributes to fair competition. Sometimes pre-proposal conferences are considered desirable for clarification about the information provided in the RFP, including the TOR.

7.6 Harmonisation

FIDIC recommends that Consultancy Firms and/or their National Associations be consulted on the development or implementation of selection procedures, particularly where these differ from standard selection procedures. The cost to an economy of any unilaterally developed procedures can be high and will impede the future development of the Consultancy Engineering industry.

7.7 Life Cycle Cost

FIDIC draws the attention of Owners and Clients to the Life Cycle Cost of projects, which can generally be shown to be two to four times the initial capital cost, depending on the nature of the project. Life Cycle Costs should be identified, with expert advice if necessary, and will logically influence the choice of design solution and emphasise the importance of quality in the selection of the Consultant.

7.8 Monitoring

Clients such as government agencies, which have a series of successive projects over time, have the opportunity to monitor and analyse the outcomes and assess the performance of Consultants against the methods adopted for selection. FIDIC recommends that this be done, and that the Client assesses the information gained to modify or at least fine tune the approach.

The overriding concern should be to maintain an appropriate quality of the professional Services provided, with due attention to suitability, economy and value, sustainability, efficiency, integrity, management of risks, public welfare, fair opportunity for all Consultancy Firms, and transparency of the process.

7.9 Capacity Building

FIDIC facilitates, and works to build the capacity of the Consultancy Engineering Industry at large, and especially of National/Local Consultancy Firms in developing and transition economies. FIDIC therefore recommends that, in international or internationally financed projects, special attention be paid during the selection process to meaningful partnerships between National/Local Consultancy Firms and internationally operating Foreign Consultancy Firms or Locally Based Foreign Consultancy Firms. FIDIC particularly emphasises that the best selection method for national bids should only be QBS, in order to build up the capacities of the National/Local Consultancy Firms.

FIDIC also considers that important contributions to the development of a country's Consultancy Industry are made by the involvement in international assignments of National/Local Consultancy Firms rather than of individual Consultants.

7.10 Limitation of liability

FIDIC recommends that it is in the interest of Clients as well as Consultants to limit the liability of the Consultant to a fair and balanced level, and in accordance with the principles reflected in the provisions of Clauses 16–18 of FIDIC's 'Client/Consultant Model Services Agreement' (Ref. F3).



8 REFERENCES FOR QBS

8.1 FIDIC Documents

- F1. Guidelines for the Selection of Consultants-2011 edition
- F2. Guidelines for Integrity Management in the Consultancy Industry- 2011 edition
- F3. Client/ Consultant Model Services Agreement (White Book)- 2011 edition
- F4. Procurement Procedures Guideline- 2011 edition
- F5. Definition of Services Guidelines – 2009 edition
- F6. Five Key Areas of Risk in Consultants' Appointments – 2009 edition
- F7. Sustainable Development in the Consultancy Engineering Industry – 2001 edition
- F8. Engineering our Future 2004
- F9. Project Sustainability Management Guidelines – 2004 edition
- F10. Improving the Quality of Construction – 2004 edition
- F11. Building the Capacity of Consultancy Firms – 2001 edition
- F12. Informed Purchasers - 2003 Policy Statement
- F13. Guide to Quality Management in the Consultancy Engineering Industry – 2001 edition
- F14. FIDIC Joint Venture Agreement – 1992 edition
- F15. FIDIC Sub-Consultancy Agreement – 2011 edition
- F16. Transfer of Technology – 1994 Policy Statement
- F17. FIDIC State of the World Infrastructure Report 2009

8.2 Other Documents (of IFI's, MA's etc.)

- 1) Christdoulou, Symeon, F. H. (Bud) Griffis, Lisa Barrett and Max Okungbowa Qualifications-Based Selection (QBS) For the Procurement of Professional Architectural-Engineering (A/E) Services. Brooklyn, USA Polytechnic University.
- 2) Federation of Canadian Municipalities (FCM) and National Research Council (NRC Canada). Best Practice for Hiring a Professional Consultant (Document number 11 in a series of InfraGuide Innovations and Best Practices: Decision Making and Investment Planning), Ottawa, June 2006.
- 3) New York Association of Consultancy Engineers, Inc, American Institute of Architects – New York Chapter, New York Building Congress, The General Contractors Association of New York, Inc, American Council of Engineering Companies. Building Quality Into New York City's Future – The Case For Quality-Based Selection, New York.
- 4) Thomopoulos, Gregs G. Quality-Based Study (QBS): A Case Study, presentation at the 2003 FIDIC Annual Conference, Paris, September 10, 2003.
- 5) Chinowsky, Paul S. and Gordon A. Kingsley An Analysis of Issues Pertaining to Qualifications-Based Selection, American Public Works Association and American Council of Engineering Companies, 2009.
- 6) Gamble, John (Chair), Quality Procurement Workshop, 2006 FIDIC Annual Conference, Budapest, September 26, 2006.
- 7) Municipal Engineers Division Association of Professional Engineers and Geoscientists of British Columbia (APEGBC) and Consultancy Engineers of British Columbia (CEBC) Selecting A Professional Consultant: A Municipal Engineers Division Best Practices Guide, Vancouver, October, 2005.
- 8) United States Congress, "The Brooks Act: Federal Government Selection of Architects and Engineers", Public Law 92-582, 92nd Congress, H.R. 12807, October 27, 1972.
- 9) The United States Federal Acquisition Regulation (FAR)



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