

CONTRACTOR PREQUALIFICATION IN SAUDI ARABIA

By Abdulaziz A. Bubshait,¹ Member, ASCE, and Kamal H. Al-Gobali²

ABSTRACT: The process of investigating and qualifying contractors is important to ensure the success of construction projects. Prequalification has been established as a standard practice by public and semipublic organizations. Its objective is to ensure that the contractor's characteristics and capabilities match the requirements of the project under consideration. Effective and objective qualification processes serve both owners and contractors. Construction is a worldwide industry. The extension of the General Agreement on Tariffs and Trade (GATT) agreement in the construction industry in the near future will make it possible for contractors to bid in different parts of the world. This paper identifies criteria that are considered in prequalification practices for semipublic and private projects in Saudi Arabia. Prequalification practices of 19 large companies were studied. In addition, questionnaires were sent to 202 randomly selected companies. The results indicated that common criteria for evaluation include: contractor's experience, financial stability, past performance, quality performance, project management capabilities, contractor failure records, management staff availability, and contractor capacity. Results were compared with results obtained in the United States. Prequalification criteria are similar in both countries.

INTRODUCTION

The qualification of construction contractors to undertake a project has become almost standard practice in public and semipublic construction projects. It is also common practice in large private projects. Prequalification is a process of investigating and qualifying bidders as acceptable contractors, prior to the award of contracts, based on their skills, integrity, and responsibility. An effective and objective qualification process serves both owners and contractors. On the owner's side, it eliminates incompetent, underfinanced, and inexperienced contractors from consideration. On the contractor's side, it works as a form of external auditing of the contractor's ability. Several prequalification practices are discussed in the construction literature. Some practices are based on qualitative, subjective, and imprecise information (Russell 1988, 1990; Nguyen 1985). Parameters considered in the development of prequalification criteria include: type of owner (private or public), owner objectives, scope of work, resource required, project constraints, and contracting strategy. For more details about these parameters, see Russell and Skibniewski (1988).

¹Chair. and Assoc. Prof., Dept. of Constr. Engrg. and Mgmt., King Fahd Univ. of Pet. and Minerals, Dhahran 31261, Saudi Arabia.

²Mgr. of Engrg. Dept., Taiba Investment and Real Estate Development Co., Madina Al-Munwarah, Saudi Arabia.

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Construction is a worldwide industry. The extension of the General Agreement on Tariffs and Trade (GATT) agreement in the construction industry in the near future will make it possible for contractors to bid in different parts of the world. Therefore, the contractor has to be acquainted with the different requirements of prequalification. This study explains the prequalification criteria in Saudi Arabia.

The objective of this study is to survey the current practice of prequalification in large semipublic and private companies in Saudi Arabia and to identify the criteria considered in the contractor prequalification process. Results were compared with results obtained in the United States.

Prequalification Practices

Information for the study was compiled in two stages. First, prequalification practices of 19 large companies (semipublic and private) were collected. These companies have sole autonomy, and have greater flexibility in the determination of the project-specific criteria and in the process of contractor prequalification when compared to that of a public owner. Second, a survey was conducted to determine the frequencies of using different attributes in contractor prequalification.

Table 1 summarizes the prequalification practices of the 19 companies that hire contractors. Descriptions of the decision criteria are shown in the second column. The other columns indicate each company's number (1 to 19) with reference to the criteria used for contractor prequalification. The following discussions refer to Table 1.

Official Requirements

Candidate contractors should submit the following documents as an official requirements for prequalification in public and semipublic projects: (1) A valid *zakat* certificate, which is equivalent to a 2.5% company income tax; (b) a valid commercial registration; and (c) valid membership of a local chamber of commerce. In addition, semipublic owners sometimes require a contractor classification certificate (CCC).

Saudi contractors are classified into five grades, and non-Saudi contractors are classified into six grades as shown in Table 2. Table 2 indicates the financial ceiling on the bid amount for any project to be undertaken by a classified contractor for each grade and field in US dollars. Classification is based on financial resources, experience, workforce and equipment, and company specialization. In public work the CCC is the basis for contractor prequalification. It is an essential requirement for public projects with a bid price exceeding US \$1,300,000. However, it is rarely requested by semipublic and private owners since they have their own procedures, which are the subject of this paper.

Work Experience

A contractor's experience is the most significant attribute for owners to evaluate. Similar projects undertaken in terms of type, size, and complexity are reviewed carefully. The level of satisfaction, time of completion, and the percentage of work subcontracted are also considered.

Workforce/Equipment

The available resources in terms of personnel, plant, and equipment are evaluated. The contractor submits for evaluation information regarding technical and admin-

istrative staff; the experience and special qualifications of key personnel, and the main plant and major equipment considered necessary to execute the project. Most of the 19 companies consider these attributes. Further, company 3 also evaluates the contractor's equipment maintenance facilities, storage yards, and the number of employees assigned to maintain equipment.

Financial Stability

Financial stability is an important criterion used by a number of owners. Financial stability indicates whether a contractor has the necessary financial resources to execute the project. Some owners use a recent financial statement for evaluation. Others require additional information such as the approximate value of work in hand, the annual value of work, and the name and address of bankers from whom references may be obtained.

Board of Directors

Two companies (1 and 2) require the prequalified contractor to submit the names of the board of directors and the company bylaws. They use such information to deduce the financial and management capability of the construction company.

Claims and Disputes

The same two companies ask for the contractor's previous record of claims and disputes. This information is also used for cross-references, and for further investigation of potential disputes.

MANAGEMENT

Management capability is often considered under the man-power category, while some owners evaluate it sep-

TABLE 1. Prequalification Decision Criteria

Serial number	Factor/criteria description	Companies																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	Government requirement	—*	—*	—*	—*	—*	—*	—*	—*	—*	—*	—*	—*	—*	—*	—*	—*	—*	—*	—*
2	Work experience	—*	—*	—*	—*	—*	—*	—*	—*	—*	—*	—*	—*	—*	—*	—*	—*	—*	—*	—*
3	Workforce availability and resources	—*	—*	—*	—	—	—*	—*	—	—	—*	—	—	—*	—*	—*	—*	—*	—*	—*
4	Equipment availability and resources	—*	—*	—*	—	—	—*	—	—	—*	—	—	—*	—*	—*	—*	—*	—*	—*	—*
5	Financial stability	—*	—*	—*	—	—	—*	—	—	—	—*	—	—	—*	—*	—*	—*	—*	—*	—*
6	Board of directors	—*	—*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7	Previous claims and disputes	—*	—*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8	Management capability	—*	—*	—*	—	—	—	—	—	—*	—	—	—	—	—	—	—	—	—	—*
9	Contractor organization	—*	—*	—*	—	—	—*	—*	—	—	—	—	—	—	—	—	—	—	—	—
10	Location of home office and man-power accommodation	—	—	—*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11	Purchasing expertise, material handling, and control	—	—	—*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12	Scheduling and cost control	—	—	—*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
13	Equipment repair and maintenance	—	—	—*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
14	Safety consciousness	—	—	—*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
15	Quality assurance and quality control	—	—	—*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

*Indicates that these criteria are applied by the company.

arately depending on the project objective. The prequalified contractor submits the qualifications of key management personnel for owner evaluation.

ORGANIZATION

Adequacy of the organizational structure is another attribute used for the selection process. Organizational structure indicates the level of management commitment for different functions such as quality control and safety. The decision-making process, and how decisions are communicated to different levels of contractor personnel, are also inferred from the organization's structure. The information required includes: an organizational chart, the names and addresses of associated companies who will be involved in the project, and the names and addresses of material suppliers and subcontractors.

The following criteria are used only by company 3 for contractor prequalification.

Home Office

Information regarding the location of the home office and man-power accommodation is reviewed by the owner. The home office location is used as an indication of the ease of mobilization and communication with the site office. The location and condition of accommodation are also evaluated by company 3. Most of the construction workforce (skilled and unskilled) in Saudi Arabia is expatriate.

Purchasing/Material Handling

Company 3 also asks the prequalified contractor to provide: (1) the names and amount of experience of all purchasing agents who are to be associated with the project;

(2) a flowchart of a typical purchasing order from the point that materials are submitted for client approval to the delivery of the materials at site, showing all interfaces with purchasing agents; and (3) an indication by the contractor on the prequalification form of the value of construction material purchased during each of the last five years.

Scheduling

The prequalified contractor provides: (1) information regarding cost and scheduling methods; (2) an indication of the extent of using computers in scheduling, cost control, and material control; and (3) an example of a detailed schedule prepared for a previous project.

Safety

The selection of a contractor with a good safety record can minimize construction accidents and thereby save construction costs. Only company 3 considers safety in its selection process. The prequalified contractors provides: (1) an outline of an accident-prevention program; (2) an organization chart for the safety group; and (3) names and resumes of safety officers.

Quality Control

The candidate contractor provides an outline of his quality assurance/quality control (QA/QC) programs, names, and resumes of QA/QC personnel.

In addition, company 3 has a contractor performance-evaluation program. The objective of the program is to evaluate the contractor after completing the current project. The outcome of this evaluation affects the future qualification of the contractor (i.e., past performance with the owner).

THE SURVEY

The survey was designed to determine the common criteria used for contractor prequalification and the ranking of these criteria. The population under study was the top 1,000 companies operating in Saudi Arabia. Questionnaire forms were sent to 202 randomly selected companies that have medium to large volumes of construction. Sixty three companies responded to the survey.

To compare the results of the study with results obtained in the United States, a questionnaire similar to the one used by Russell (1988) was used. The questionnaire contained 16 prequalification criteria. The respondents chose one out of five possible answers representing varying degrees of impact on prequalification, on a scale of zero to four. A response of zero meant that the criterion had no impact on the prequalification; one meant it had little impact; two meant it had moderate impact; three meant it had high impact; and four meant it had very high impact. The questionnaires were analyzed, and the impact index for each criterion was calculated using the following formula:

$$\text{impact index} = \frac{4(n_1) + 3(n_2) + 2(n_3) + 1(n_4) + 0(n_5)}{4(n_1 + n_2 + n_3 + n_4 + n_5)} \quad (1)$$

TABLE 2. Financial Limits for Classification Grades: Saudi Contractors versus Foreign Contractors

Grade activities (1)	Contractor (2)	First (3)	Second (4)	Third (5)	Fourth (6)	Fifth (7)	Sixth (8)
Buildings	S	Over 53.33*	53.33	13.33	4.00	1.33	—
	F	Over 320.00	213.33	133.33	53.33	13.33	5.33
Roads	S	Over 80.00	80.00	26.67	8.00	2.67	—
	F	Over 320.00	213.33	133.33	53.33	13.33	5.33
Water and sewage	S	Over 80.00	26.67	26.67	8.00	2.67	—
	F	Over 320.00	213.00	133.33	53.33	13.33	5.33
Electrical works	S	Over 53.33	53.33	13.33	4.00	1.33	—
	F	Over 320.00	213.33	133.33	53.33	13.33	5.33
Mechanical works	S	Over 53.33	53.33	13.33	4.00	1.33	—
	F	Over 320.00	213.33	133.33	53.33	13.33	5.33
Maintenance and operation	S	Over 26.67	26.67	8.00	2.67	0.80	—
	F	Over 320.00	213.33	133.33	53.33	13.33	5.33
Marine works	S	Over 80.00	80.00	26.67	8.00	2.67	—
	F	Over 320.00	213.33	133.33	53.33	13.33	5.33
Dams	S	Over 26.67	26.67	13.33	4.00	1.33	—
	F	Over 320.00	213.33	133.33	53.33	13.33	5.33
Industrial work	S	Over 80.00	80.00	26.67	8.00	2.67	—
	F	Over 320.00	213.33	133.33	53.33	13.33	5.33
General contracting	F	320.00	213.33	133.33	53.33	13.33	5.33
Well drilling ^b	—	—	—	—	—	—	—

Note: S = Saudi contractor and F = foreign contractor.

*The value in a million U.S. dollars (\$1 = 3.75 Saudi riyals). The figures represent the maximum contract value that a contractor is allowed to bid in.

^bRefers to deep/surface, and there are no financial limitations.

where n_1 = number of companies answering "very high impact"; n_2 = "no impact"; n_3 = "moderate impact"; n_4 = "little impact"; and n_5 = "no impact."

Prequalification Criteria

The prequalification criteria, the impact index, and the ranking order for each criterion are shown in Table 3. The criteria are arranged into four groups. The first group, which has an impact index greater than 3.5, includes work experience and financial stability. The second group, which has an impact index between three and 3.5, includes past performance with the owner, quality performance, project management capabilities, failure record, management staff availability, and capacity of the contractor. The third group, which has an impact index between 2.5 and three, includes contractor organization, workforce availability, equipment resources, references, amount of work performed earlier, and current workload. The last group, which has an impact index between two and 2.5, includes the geographical experience of the contractor and the location of the home office.

The results obtained by Russell (1988) for contractor prequalification in the United States are also shown in columns 5 and 6 of Table 3. The first two criteria have the same ranking as in Saudi Arabia. Contractor experience and financial stability are essential criteria for prequalification. The special skills of the contractor, and the number and size of previous projects are reviewed thoroughly to compare project requirements with the con-

tractor's experience. The contractor's financial stability is an indication of his ability to execute the project and to meet financial obligations. Birrell (1985) reported that financial stability is one of the most important criteria for evaluating the performance of general contractors.

Past performance on a previous major project of the owner was ranked third in Saudi Arabia and fourth in the United States, while the failure record was ranked third in the United States and sixth in Saudi Arabia. These two criteria are interrelated. The contractor's past performance on the owner's previous projects represents his success and achievements in term of cost, quality, and schedule. The failure record, on the other hand, is a general measure that indicates the frequency and extent that a contractor has failed to meet his obligations toward previous clients. Contractor failure represents a large cost to the construction industry through cost overruns, decrease in productivity, and delay. The rate of contractor failure is higher for projects in which owners have taken fewer or no precautions to evaluate the contractor's competence. The failure rate in the United States for owners failing to properly qualify contractors ranges from 1 to 10% of construction volume per year (Russell 1991). No statistics on the failure rate in Saudi Arabia are available. Russell listed some measures to avoid and minimize the impact of contractor failure.

Quality performance and quality control were ranked fourth in Saudi Arabia and fifth in the United States. Quality in constructed projects should be the objective of all parties. This is obvious from the relatively high ranking of the quality criterion. Project management capacity was ranked fifth in Saudi Arabia and sixth in the United States. Staff availability and the capacity of the contractor were ranked seventh in Saudi Arabia and eighth in the United States. The capacity of the contractor refers to the number of professional personnel available, the staff available for the project, and the total employment for the current year. Lack of experience at the management level can be one of the major reasons for project failure (Russell 1991).

Contractor organization was ranked eighth in Saudi Arabia and seventh in the United States. The rapid development of Saudi Arabia in a relatively short period of time allowed foreign construction companies from all over the world to conduct business here. These companies had various organizations and methods. They brought their own business culture, technology, and management techniques. Contractor organization shows how the information and decision-making processes move between different levels of contractor personnel. Proper communication between the main home office and site personnel is one of the most important criteria in determining the contractor's capacity to handle the project (Birrell 1985).

Man-power availability was ranked ninth in Saudi Arabia and twelfth in the United States. Workers from different countries view the concept of quality differently, and they have different rates of productivity. Hence, for specific types of work, owners in Saudi Arabia prefer workers of a specific nationality. Equipment

TABLE 3. Impact Index of Prequalification Criteria

Group (1)	Number (2)	Decision factor (3)	Kingdom of Saudi Arabia		United States of America	
			Weight (4)	Rank (5)	Weight (6)	Rank (7)
G1	1	Experience	3.746	1	3.655	1
	2	Financial stability	3.619	2	3.631	2
G2	3	Past performance in owner's previous projects	3.429	3	3.53	4
	4	Quality assurance and quality control program	3.365	4	3.360	5
	5	Project management capabilities	3.317	5	3.030	6
	6	Contractor failure to complete a contract	3.270	6	3.560	3
G3	7	Management staff available	3.175	7	2.918	8
	8	Capacity of contractor	3.063	8	2.991	7
	9	Contractor organization	2.984	9	2.357	12
	10	Workforce resources	2.968	10	2.553	11
	11	Equipment resources	2.825	11	2.110	15
	12	References	2.746	12	2.808	9
G4	13	Amount of work performed earlier	2.730	13	2.200	14
	14	Current workload	2.603	14	2.673	10
	15	Experience in geographic location of project	2.254	15	2.210	13
	16	Location of home office	1.952	16	1.460	16

resources was ranked tenth in Saudi Arabia and eleventh in the United States. The shortage and condition of construction equipment determine the productivity level and may cause project delays.

The need for the contractor's personnel to be honest, trustworthy, and fair is an important criterion in the evaluation. References was ranked eleventh in Saudi Arabia and fifteenth in the United States.

Project owners examine the amount of work performed earlier by the contractor in order to assess the contractor's experience and level of success in handling jobs similar in type, size, and complexity. Current workload was ranked thirteenth in Saudi Arabia and fourteenth in the United States. The contractor's resources such as man power, equipment, and financial resources are evaluated when the number of projects currently being undertaken, or likely to be undertaken, is increased.

Experience in geographical areas was ranked fourteenth in Saudi Arabia and tenth in the United States. The familiarity of a contractor with the geographic location of a project is important and could be a reason for project failure. Often, prior to submitting the bid, a contractor fails to visit the jobsite to verify the accuracy of the technical information in the project specification and plans. It is an important criterion in both countries, especially in infrastructure projects, due to the vast areas involved and the different weather and subsurface conditions.

The two criteria, location of project and location of home office, were ranked last (fifteenth and sixteenth) in Saudi Arabia and thirteenth and sixteenth in the United States. The contractor could have a lot of projects at different locations. The head office normally provides support to each project in administrative issues and some times in the technical matters. How effectively the main office supports the site and how quickly and effectively information flows between the site and main offices are important criteria. However, the recent rapid development of telecommunication and transportation facilities has helped the contractor to manage remote projects effectively.

SUMMARY AND CONCLUSIONS

Prequalification is a process involving the screening of construction contractors by project owners or their representatives, according to a predetermined set of criteria deemed necessary for successful project completion. The construction contractor interested in competing internationally needs to be familiar with different prequalification procedures, especially with the forthcoming implementation of the GATT agreement in the construc-

tion industry. This paper has surveyed the current practices of prequalification in large semipublic and private companies in Saudi Arabia. It has identified the criteria considered in the prequalification process and put these criteria in rank order.

Prequalification procedures for 19 large companies were reviewed. The contractors' work experience and official requirements are the most frequently used criteria in selection. The following criteria are used with less frequency: the available resources in terms of personnel, plant, and equipment; financial stability; management capability; and organization structure.

The results of the survey were divided into four groups depending on their level of importance (the first group being the most important and the fourth being the least important). The first group includes the contractor's experience and financial stability. The second group includes past performances, quality performance, project management capabilities, contractor failure record, management staff availability, and the contractor's capacity. The third group includes contractor organization, workforce availability, equipment resources, references, amount of work performed earlier, and current workload. The fourth group includes geographical experience in project location and location of the home office. The rankings of the criteria were compared with results obtained in the United States. The differences in the ranking were insignificant.

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