

**NEED FOR UPDATION OF
PROCUREMENT AND CONTRACT
ADMINISTRATION**

By

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ABSTRACT

Standardization, strictly keeping in view updated strategic tactics, both in Technical and administrative matters are desired for the satisfactory execution of many types of national/commercial projects. Major projects, whether they are predominantly building, civil engineering, chemical engineering, electrical engineering, mechanical engineer or any combination, are frequently complex. With resulting increased complexity of contract conditions, it is becoming increasingly important for them to be based upon a standardized form of contract with which the contracting parties and financial institutions are familiar. In the majority of cases, the contracting parties will react favourably to such a standardized form of contract; which should lessen the likelihood of unsatisfactory performance, increased costs and disputes. If the contract is based on standard, updated and relevant conditions of contract, tenderers should not need to make financial provision for unfamiliar/ irrelevant / restrictive contract conditions .The widespread use of relevant standard conditions also facilitate the training of personnel in contract management, reducing the need for them having to work with every-changing contract conditions.

Author has been working as consulting claim/contract engineer since 2000 in the administration of big WAPDA Contracts. During the dealing it is seriously felt that in WAPDA, as generality, updated relevant standardization is not being exercised and resultantly poor performance, i.e. overrun of time/cost in almost all Vision 2025 projects is clearly seen. Unnecessary restrictions in part II of the Conditions of Contract are big hindrance in participation by European Contractors in Pakistan.

This paper is an attempt to describe the state of art “Procurement and Contract Administration” techniques so that the overrun of time/cost is minimized and the contracting parties may react favourably with each other to achieve the targets, possibly, in accordance with the tendered schedules. I hope that the paper will be well received by the concerned authorities and the practicing engineers in Pakistan.

1. **Introduction.**

a) To conceive the exact legal enforcement/requirements /rights and obligations of the parties in the procurement contracts, it seems necessary to first explain the terms used therein. The word ‘procurement’ means cause to do some things through reasoning/arguments. ‘Contract’ means a written agreement intended to be enforced by law, while administration means the organization and running of a business or system. Thus the subject as a whole means two or more parties: comprising normally a Client /Employer, Consultant and Contractor or a Client/Employer with or /Without management Consultant and a Contractor to be proceeded willingly to deliver/create/build something, like different construction works, plants including any combination of civil, mechanical and/or electrical works, following some rules/conditions/rights and obligations asked for, and/or- by, the parties in an established/justified way.

b) **Types of Contracts.**

Presently four types of contracts, as follows, are being practiced in the world.

- i) Construction Projects
- ii) Plant and Design –Build Projects
- iii) Engineering Procurement and Construction /Turnkey Projects.
- iv) Short Form of Contracts.

Each form of these contracts has its own specific conditions depending upon its requirement for execution, quantity of works and resolution of disputes. Likewise every contract has a unique sequence of Principal Events/Payment/Disputes during its different phases of construction, Figs (1&2 Page 33&34)

c) **Conditions of Contract for different Projects**

- i. Conditions of Contract for Construction,
which are recommended for building or engineering works designed by the Employer or by his representative, the Engineer. Under the usual arrangements for this type of contract, the Contractor constructs the works in accordance with a design provided by the Employer. However, the works may include some elements of Contractor-designed civil, mechanical and /or electrical construction works.
- ii. Conditions of Contract for Plant and Design-Build,
which are recommended for the provision of electrical and/or mechanical plant, and for the design and execution of building or engineering works. Under the usual arrangements for this type of contract, the Contractor designs and provides, in

accordance with the Employer's requirements, plant and/or other works; which may include any combination of civil, mechanical and/or electrical construction works.

- iii. Conditions of Contract for EPC/Turnkey Projects,
which may be suitable for the provision on a turnkey basis of a process or power plant, of a factory or similar facility, or of an infrastructure project or other type of development, where (i) a higher degree of certainty of final price and time is required, and (ii) the Contractor takes total responsibility for the design and execution of the project, with little involvement of the Employer. Under the usual arrangements for turnkey projects, the Contractor carries out all the Engineering, Procurement and Construction (EPC), following the employer's requirements as prepared by the Employer or his representative; providing a fully equipped facility, ready for operation (at the "turn of the key").

- iv. Short Form of Contract,
which is recommended for building or engineering works of relatively small capital value. Depending on the type of work and the circumstances, this form may also be suitable for contracts of greater value, particularly for relatively simple or repetitive work or work of short duration. Under the usual arrangement of this type of contract, the Contractor constructs the work in accordance with a design provided by the Employer or by his representative (if any), but this form may also be suitable for a contract which includes, or wholly comprises, contractor-designed civil, mechanical and/or electrical construction works.

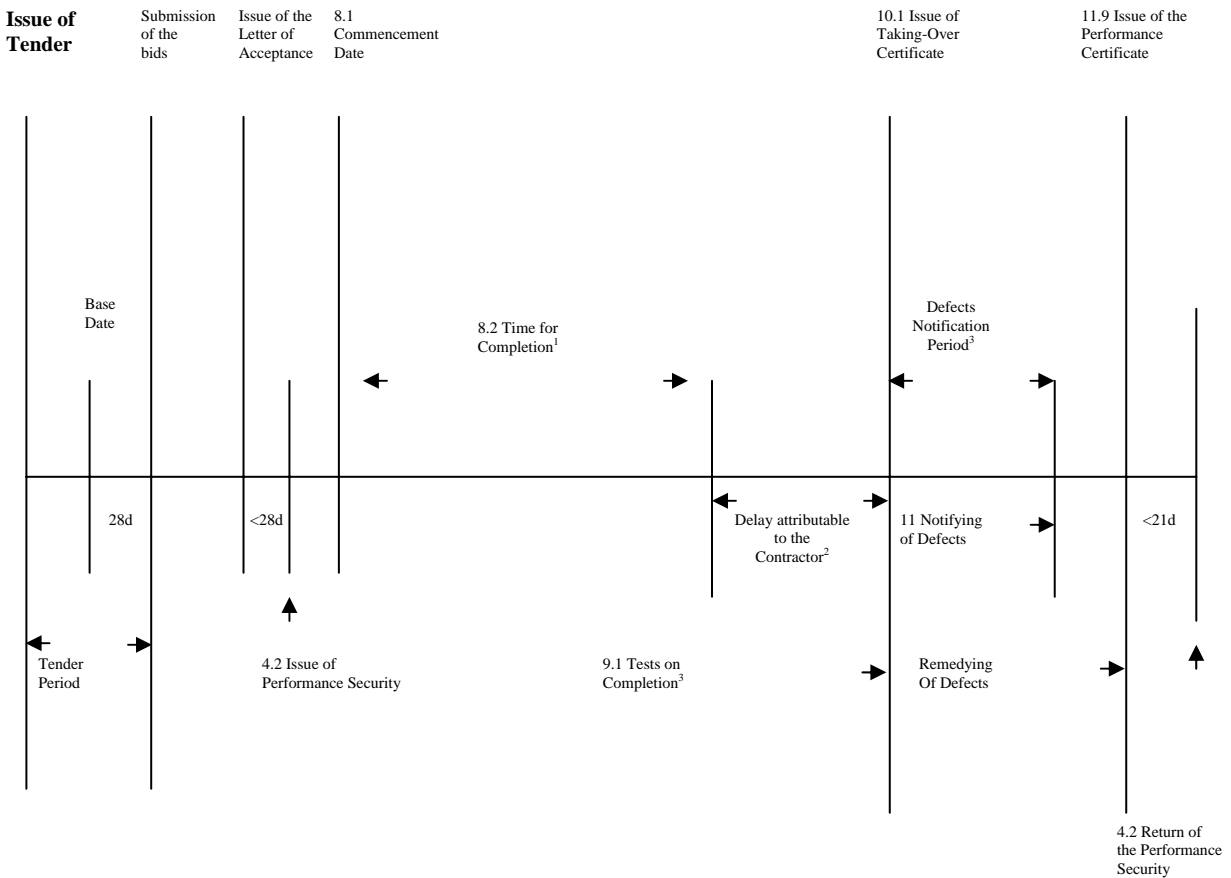
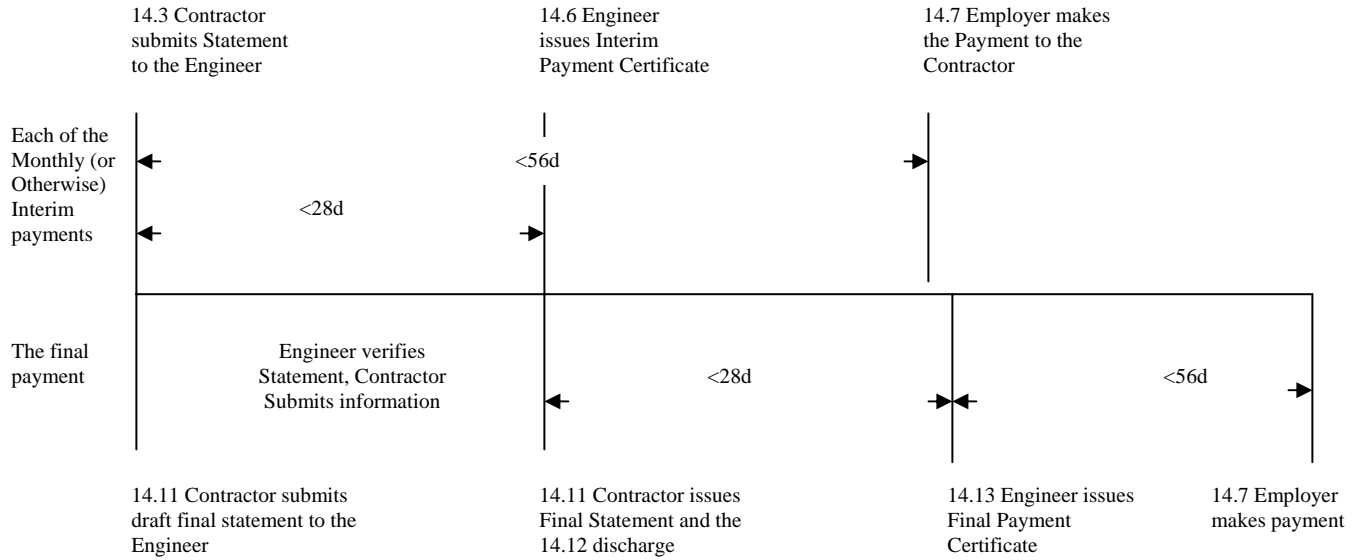


Fig-1

Typical sequence of Principal Events during Contracts for Construction

- 1- The time for Completion is to be stated (in the Appendix to Tenders) as a number of days, to which is added any extensions of time under Sub-Clause 8.4
- 2- In order to indicate the sequence of events, the above diagram is based upon the example of the Contractor failing to comply with Sub-Clause 8.2
- 3- The Defects Notification Period is to be stated (in the Appendix to Tender) as a number of days, to which is added any extensions under Sub-Clause 11.3



Typical sequence of Payment Events envisaged in Clause 14 (Contract Price and Payments)

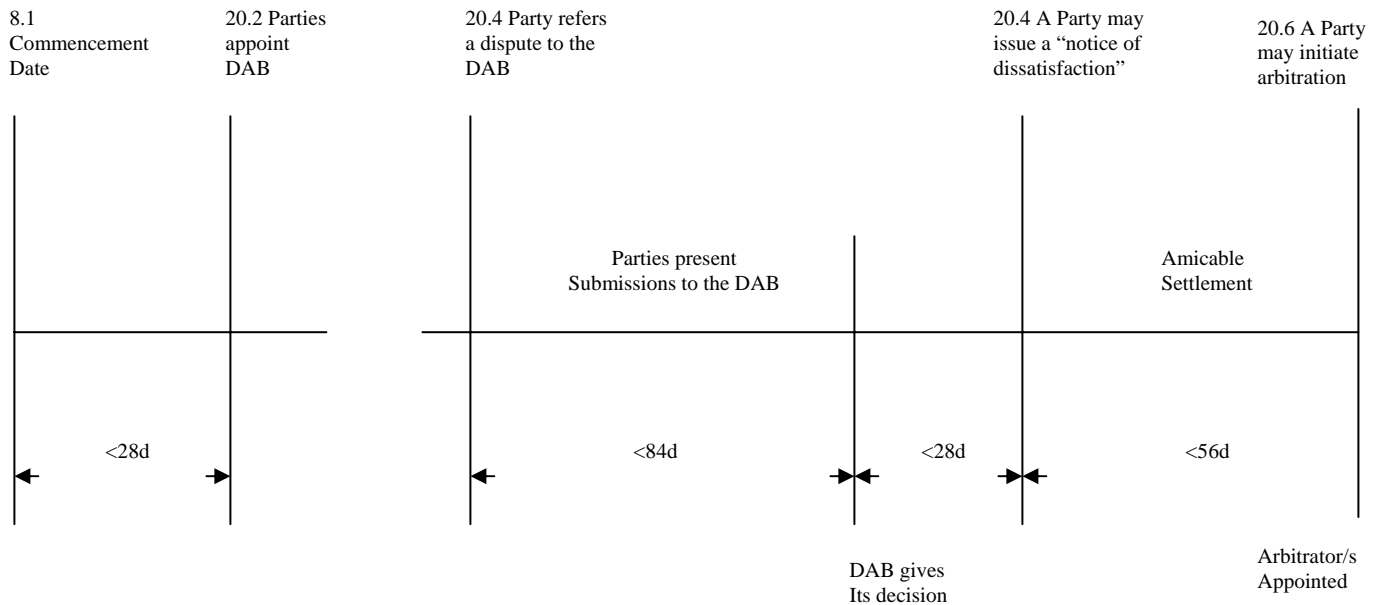


Fig. 2 Typical sequence of Dispute Events envisaged in Clause 20 (Claim, Dispute & Arbitration)

2. **Procurement.**

Procurements under projects financed by World Bank and Asian Development Bank shall be carried out in accordance with the Guidelines for procurements issued by the respective Bank for utilization of loans (hereinafter called WB/ADB Guidelines for Procurement). The Executing Agencies, like WAPDA, should use some standard bidding documents for its procurement got vetted from the respective Bank i.e. They should be adapted as necessary to the circumstances of a particular project of the Borrower. Even if some Executing Agency do not intend to be financed by WB/ADB, documents for procurements should be adapted taking the help of some standard bidding/procurement procedures prepared by some well reputed funding agency as high degree of experty, regarding international engineering, law and financing is involved along with the fact that the document, provision wise, is consistent.

3. **Conditions of Contracts**

The conditions of contract comprise two parts - General Condition and conditions of Particular Application or “Special Conditions”. Over the years, a number of “model” General Conditions of Contract have been evolved.

One of these documents was prepared by the International Federation of Consulting Engineers (FIDIC) and is commonly known as FIDIC Conditions of Contract (Fourth edition, 1987 and generally used in WAPDA/Pakistan. **In FIDIC’s ideas, (4th and later editions), in relation to an express obligation upon the Engineer to be impartial, the deemed obligation upon the Employer to disclose all information concerning the ground conditions on site and the introduction of conciliation into the disputes procedure after the Engineer’s decision and before arbitration should, be given due importance to avoid the lengthy overrun of cost/time during litigation.**

The Risk should be divided in line with the philosophy that the Employer is best placed to take on those risks which experienced contractors could not reasonably be expected to foresee, which are outside the control of the parties and which are not readily capable of being covered by insurance. **Note that unpredictable ground conditions are the risks of the Employer.**

The use of standard conditions of contract for civil works throughout WAPDA/country will ensure comprehensiveness of coverage, general acceptability/understanding of its provision, saving in time and cost of bid and review, and the development of a solid background of legal case histories. But they must be customized, after through diligence, to incorporate our needs/constraints. Restraints, if unavoidable, on Engineers duties and authority be provided in the equivalent clause in part II.

4. Amendment of FIDIC's 4th Edition

Usually FIDIC Conditions are used in an amendment form, perhaps in a majority of cases. Certainly, many of the major Employers in Asia adopt and refine their own standard sets of amendments. These amendments are generally aimed at adjusting the balance of risk in favour of the Employer rather than to remedy any ambiguities, anomalies or discrepancies in the drafting. In deed sincere efforts should be made to remove ambiguities, anomalies and discrepancies and thereby to reduce the scope for conflict. For the detailed criticism, the reader is referred to the commentary under the particular clause referred to in Ref.1.

There is a species of amendment, which might be of benefit to both the parties such as amending clause 44 (Extension of time) and clause 46.1 (Rate of progress) to enable the Employer to order acceleration in lieu of extension of time or in circumstances where the Contractor's entitlement to extension of time is a matter of dispute.

5. Caution

Generally, great care is needed when amending any standard form of contract. These FIDIC conditions are generally well balanced and, as with any contract, there are a great number of links and relationships between different clauses, not all of which are express or otherwise obvious. With any amendments, therefore, there is a chance of upsetting the balance or creating unintended consequential changes to related provisions. It is in the interest of all parties that changes should be kept to a minimum.

6. Uniformity/match-up of General Conditions in different types of Contracts.

In 1999 FIDIC published the four types of Contracts mentioned in para-1(b) above with one contract in a separate book. In 2000 via ISBW 2-88432-022-9 FIDIC published, The FIDIC Contracts Guide, in which the first three of (above mentioned contracts) are covered and referred to as "CONS", P&DB and "EPCT". In 1999 FIDIC as a "matching set" maintained 20 main clauses in each form of the Contract with same headings i.e. with each topic being covered in similarly-worded provision in each book, except where otherwise necessary. The sub clauses in all the form of Contracts are as per the requirements of individual contracts.

In the FIDIC Contract Guide to the use of CONS, P&DB and EPCT, the word "Books" (with capital letter) is used when referring to the three publications, CONS, P&DB and EPCT. These Books were initially published as Test Editions in 1998, and the many reactions to them were reviewed before the First Edition published in 1999. These three books were prepared by FIDIC's Update Task Group under the general direction of the Contract Committee.

In this Guide, the texts in the Books are reproduced in a three-column layout. The texts should be identical to the corresponding texts in the Books, but the reader should refer to the Books in order to determine the necessary authentic wording in case of any discrepancy.

For the convenience of those who are familiar with the General Conditions of Contract contained in FIDIC's previous publications, the reference numbers of their sub-clauses which cover similar subject matter are included within an insert box after these three column texts reproduced from the Books, the sub-clause reference numbers being related to:

“RB” Conditions of Contract for Works of Civil Engineering Construction 4th edition 1987 amended 1992 (which was commonly referred to as the Red Book).

“YB” Conditions of Contract for Electrical and Mechanical Works 3rd edition 1987 amended 1988 (which was commonly referred to as the Yellow Book).

“OB” Conditions of Contract for Design Build and Turkey 1st edition 1995 (which was commonly referred to as the Orange Book).

In each Contract, the Conditions of Contract governing the rights and obligations of the parties will comprise the appropriate General Conditions together with Particular Conditions. It will be necessary to prepare the Particular Conditions for each individual contract, taking account of the comments in this Guide. It is essential that all these drafting tasks, and the entire preparation of the tender documents, are entrusted to personnel with the relevant expertise, including the contractual, technical and procurement aspects.

7. Comparison of the main features of the three Books

CONS. Conditions of Contract for Construction	P&DB: Conditions of Contract for Plant and Design Build	EPCT: Conditions of Contract for EPC/Tumkey Projects
Recommended for building and engineering works if most (or all) of the works are to be designed by (or on behalf of) the Employer.	Recommended for the provision of electrical and/or mechanical plant and for building and engineering works if most (or all) of the works are to be designed by (or on behalf of) the Contractor.	Suitable for a process or power plant, a factory or similar facility, or an infrastructure project or other type of development, if (i) a higher degree of certainty of final price and time is required, and (ii) the Contractor takes total responsibility for the design and execution of the project.
The Contract typically becomes legally effective when the Employer issues the Letter of Acceptance to the Contractor. Alternatively, there may be no such Letter, and the Contract becomes effective in accordance with the Contract Agreement.	The Contract typically becomes legally effective when the Employer issues the Letter of Acceptance to the Contractor. Alternatively, there may be no such Letter, and the Contract becomes effective in accordance with the Contract Agreement.	The Contract typically becomes legally effective in accordance with the Contract Agreement. The Letter of Tender may be worded so as to allow for the alternative of the Contract becoming effective when the Employer issues a Letter of Acceptance.
The Contract is administered by the Engineer who is appointed by the Employer; if disputes arise, they are referred to a DAB for its decisions. Alternatively, particular Conditions may specify Engineer's decisions on disputes, in lieu of a DAB.	The Contract is administered by the Engineer who is appointed by the Employer, if disputes arise, they are referred to a DAB for its decisions. Alternatively, Particular Conditions may specify Engineer's decisions on disputes, in lieu of a DAB.	The Contract is administered by the Employer (unless he appoints an Employer's Representative) who endeavors to reach agreement with the Contractor on each claim. If disputes arise, they are referred to a DAB for its decisions.
The Contractor designs (but only to extent specified) and executes the works in accordance with the Contract (which includes the Specification and Drawings) and the Engineer's instructions.	The Contractor provides plant, and designs (except as specified) and executes the other works, all in accordance with the Contract, which includes his proposal and the Employer's Requirements.	The Contractor provides plant, and designs and executes the other works, ready for operation in accordance with the Contract, which includes his tender and the Employers' Requirements.
Interim and final payments are certified by the Engineer, typically determined by measurement of the actual quantities of the works and applying the rates and prices in the Bill of Quantities or other Schedules. Other valuation principles can be specified in Particular Conditions.	Interim and final payments are certified by the Engineer, typically determined by reference to a Schedule of Payments. The alternative of measurement of the actual quantities of the works and applying the rates and prices in a schedule of Prices can be specified in Particular Conditions.	Interim and final payments are made without any certification; typically determined by reference to a Schedule of Payments. The alternative of measurement of the actual quantities of the works and applying the rates and prices in a Schedule of Prices can be specified in Particular Conditions.
The General Conditions allocate the risks between the parties on a fair and equitable basis; taking account of such matters as insurability, sound principles of project management, and each party's ability to foresee, and mitigate the effect of, the circumstances relevant to each risk.	The General Conditions allocate the risks between the parties on a fair and equitable basis; taking account of such matters as insurability, sound principles of project management, and each party's ability to foresee, and mitigate the effect of, the circumstances relevant to each risk.	Disproportionately more risks are allocated to the Contractor under the General Conditions. Tenderers will require more data on hydrological, subsurface and other conditions on the Site, to the extent that this data is relevant to the particular type of works, and more time to review the data and evaluate such risks.

8. TECHNICAL SPECIFICATIONS FOR CONSTRUCTION PROJECTS

A set of precise and clear specifications is a prerequisite for bidders to respond realistically and competitively to the requirements of the Employer without qualifying their bids. In the context of International Competitive Bidding (ICB), the specifications must be drafted to permit the widest possible competition and, at the same time, present a clear statement of the required standards of workmanship, materials, and performance of the goods and services to be procured. Only by so doing the objectives of economy, efficiency, and fairness in procurement will be realized, responsiveness of bids be ensured, and the subsequent task of bid evaluation facilitated. The specifications should require that all goods and materials to be incorporated in the goods be new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided for otherwise in the contract.

Samples of specifications from previous similar procurements in the same country are useful in this respect. The use of metric units is encouraged by the loan giving agencies.

There are considerable advantages in standardizing General Technical Specifications for repetitive Works in recognized public sectors such as highways, ports, railways, urban housing, irrigation, water supply, etc., in the same country or region where similar conditions prevail. The General Technical Specifications should cover all classes of workmanship, materials and equipment commonly involved in construction, although not necessarily to be used in a particular works contract. Deletions or addenda should then adapt the General Specifications to the particular Works.

Care must be taken in drafting technical specifications to ensure they are not restrictive. In the specifications of standards for goods, materials and workmanship recognized international standards should be used as much as possible. Where other particular standards are used the specifications should state that goods, materials and workmanship meeting other authoritative standards, and which ensure equal or higher quality than the standards mentioned, would also be acceptable. The following Clause may be inserted in the Special Conditions or Specifications.

9. Sample Clause; Equivalency of Standards and Codes

Wherever reference is made in the Contract to specific standards and codes to be met by the goods and materials to be furnished, and work performed or tested, the provisions of the latest current edition or revision of the relevant standards and codes in effect shall apply, unless otherwise expressly stated in the Contract. Where such standards and codes are national, or relate to a particular country or region, other authoritative standards which ensure an equal or higher quality than the standards and codes specified will be accepted subject to the Engineer's prior review and written approval. Differences between the standards specified and the proposed alternative standards must be fully described in writing by the Contractor and submitted to the Engineer at least 28 days prior to the date when the Contractor desires the Engineer's approval. In the event the Engineer determines that such proposed deviations do not ensure equal or higher quality, the Contractor shall comply with the standards specified in the documents.

10. IN A DESIGN BUILD OR TURNKEY PROJECT THE DOCUMENT, “EMPLOYER’S REQUIREMENTS”

In the traditional approach, Construction Project, the Employer employs his Architect/Engineer to design its Works. From this design a detailed technical specifications is drawn up for bidders to bid on.

In a Design Build or Turnkey approach the design is to be done by the Contractor. No detailed technical specification as is normally recognized is developed at the pre-bid stage. However, the Employer does and must know what it wants and must communicate its needs to the bidders. Hence, this section on Employer’s Requirements replaces the usual Technical Specifications of a more traditional approach.

To enable bidders to submit responsive bids and subsequently for the bids received to be evaluated in a fair and equitable manner, the Employer must take its requirements as clearly and as precisely as possible. The Employer’s requirements must therefore specify exactly the particular requirements of the completed Works including scope and quality. Where the performance of the completed works could be measured in quantitative terms (e.g. production output of a manufacturing plant or maximum generating capacity of a power station) the Employer’s requirements should not only clearly specify the desired output/capacity and how such deviations (if any) will be evaluated. It will also be necessary to specify the tests that will be carried out on completion of the Works to verify compliance with the requirements specified. The Employer’s Requirements should also clearly specify what associated or incidental services and goods must be supplied by the Contractor. For example, the Contractor may be required to train the Employer’s personnel and to supply consumable or spare parts as listed in a Schedule.

While this section of the bidding documents should endeavor to define the Employer’s Requirements as precisely as possible, care must be taken to avoid over specifying details to the extent that the flexibility and potential benefits associated with a Design Build or Turnkey contract are seriously eroded or threatened. This section on Employer’s Requirements should, therefore, be carefully prepared on behalf of the Employer by suitably qualified engineers who are familiar with the requirements and with the technical aspect of the required Works.

For a Bank financed project the Design Build or Turnkey Contract will have to be subject to International competitive bidding and the Employer’s Requirements must be drawn up to permit the widest possible competition and, at the same time, present a clear statement of the required standards of workmanship, materials and performance of the Works. Only by so doing the objective of economy and efficiency and equality in procurement will be realized, responsiveness of bids be ensured and the subsequent task of bid evaluation facilitated. The Employer’s Requirements should stipulate that all goods and materials to be incorporated in the Works are new, unused, of the most recent or current models and incorporate all recent improvements in design and materials.

As for the drafting of Technical Specifications, care must be taken when drafting the Employer’s Requirements to ensure that the requirements are not restrictive. In the

specification of standards of goods, materials and workmanship, recognized International standards should be used as much as possible, where other particular standards are specified, whether national standards of the executing country or other standards, it should be stated that goods, materials and workmanship meeting other authoritative standards and which promise to ensure equal or higher quality than the standards specified, will also be acceptable. Where a brand name of a product is specified it should always be qualified with the terms or equivalent.

In addition to stating the requirements of the completed Works clearly the Employer's Requirements Section should also include matters related to the execution of the Works to enable the bidders to gauge the extent of responsibility and to price the bid accordingly. The matters referred to in some of the following sub-clause may be included:

- 1.9 Number of copies (and required extent) of Construction Documents.
- 4.1 Design criteria and calculations (if any) to be checked by the Contractor and confirmed to be correct with the bid.
- 1.1 Other contractors and organization (and others) on site to whom the Contractor should afford reasonable opportunities for them to carry out their work.
- 4.7 Setting -out points, lines and levels of reference to be used.
- 4.8 Quality Assurance system details.
- 4.12 Access routes particularly if such routes are within existing facilities.
- 4.13 Periods for pre-construction reviews and for any submission, approvals and consents.
- 4.20 Employer's machinery and materials.
- 5.1 Qualification criteria of design personnel
- 5.2 Extend and procedures for submission and pre-construction reviews of construction documents.
- 5.5 List of samples and procedure for submission for pre-construction testing and review of data.
- 5.6 Form and number of As- built drawings and records of the works to be submitted and approval process.
- 5.7 Timing and number of copies of operation and Maintenance Manuals to be submitted and approval process.
- 6.6 Facilities to be provided on site by the Contractor for the Employer and the Employer's Representative and its personnel.
- 7.4 Tests to be carried out during manufacture and/or construction.

- 9.1 Tests to be carried out in Completion before Taking Over to demonstrate completion. If the works are to be tested and taken over in stages, the test requirements and special arrangements must be detailed.
- 11.1 Test to be carried out after Taking Over to verify that the Works fulfill the performance requirements.
- 11.4 Minimum performance criteria acceptable below which works failing to pass tests after completion will be rejected.

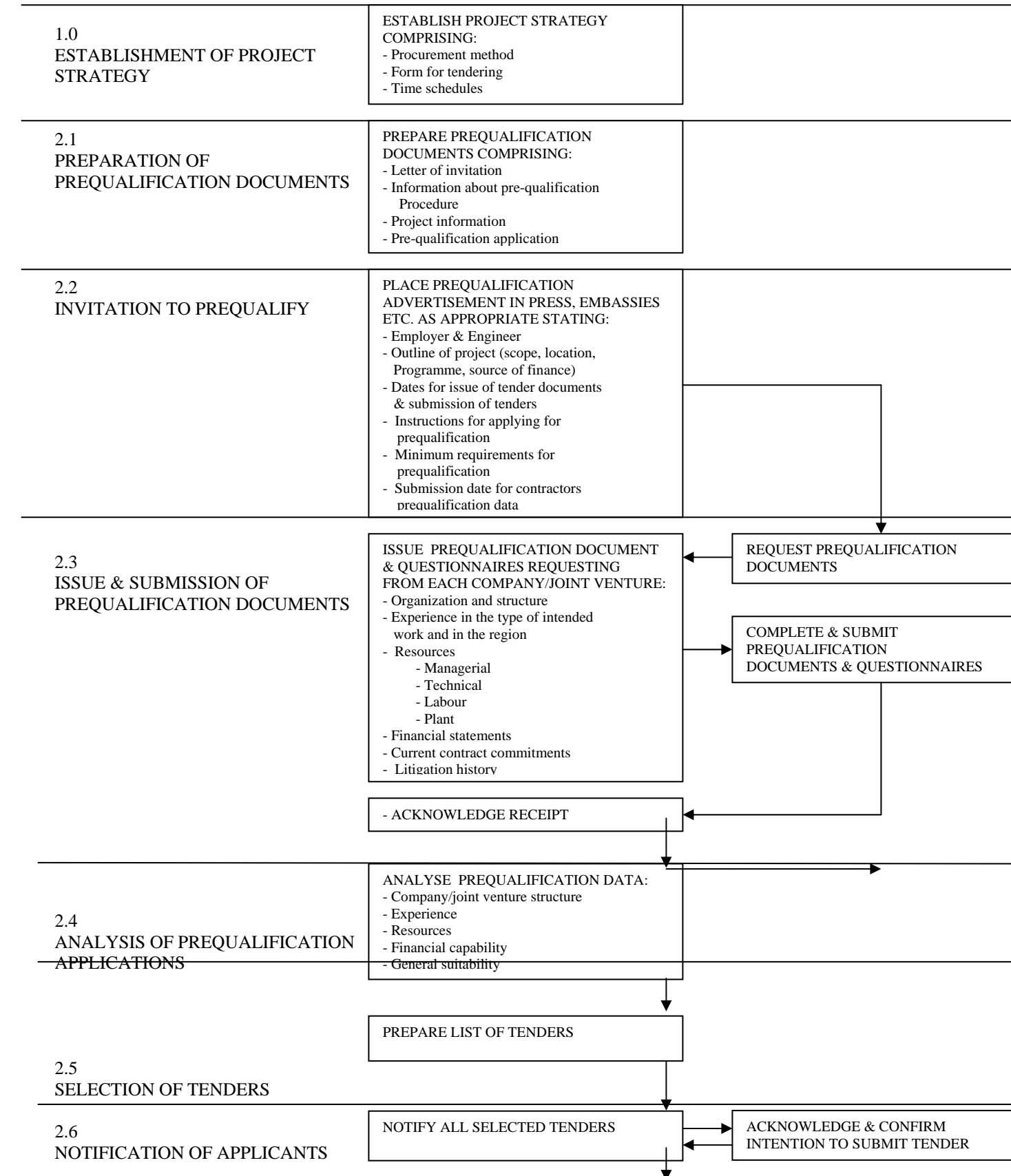
Recommended Procedures

The following diagrams illustrate FIDIC's recommended procedures for:

- Pre qualification, for which FIDIC has published "Standard pre qualification forms for contractors."
- Obtaining Tenders for a CONS Contractor (taking account of its principles), and
- Opening and evaluating such Tenders, and entering into the Contractor.

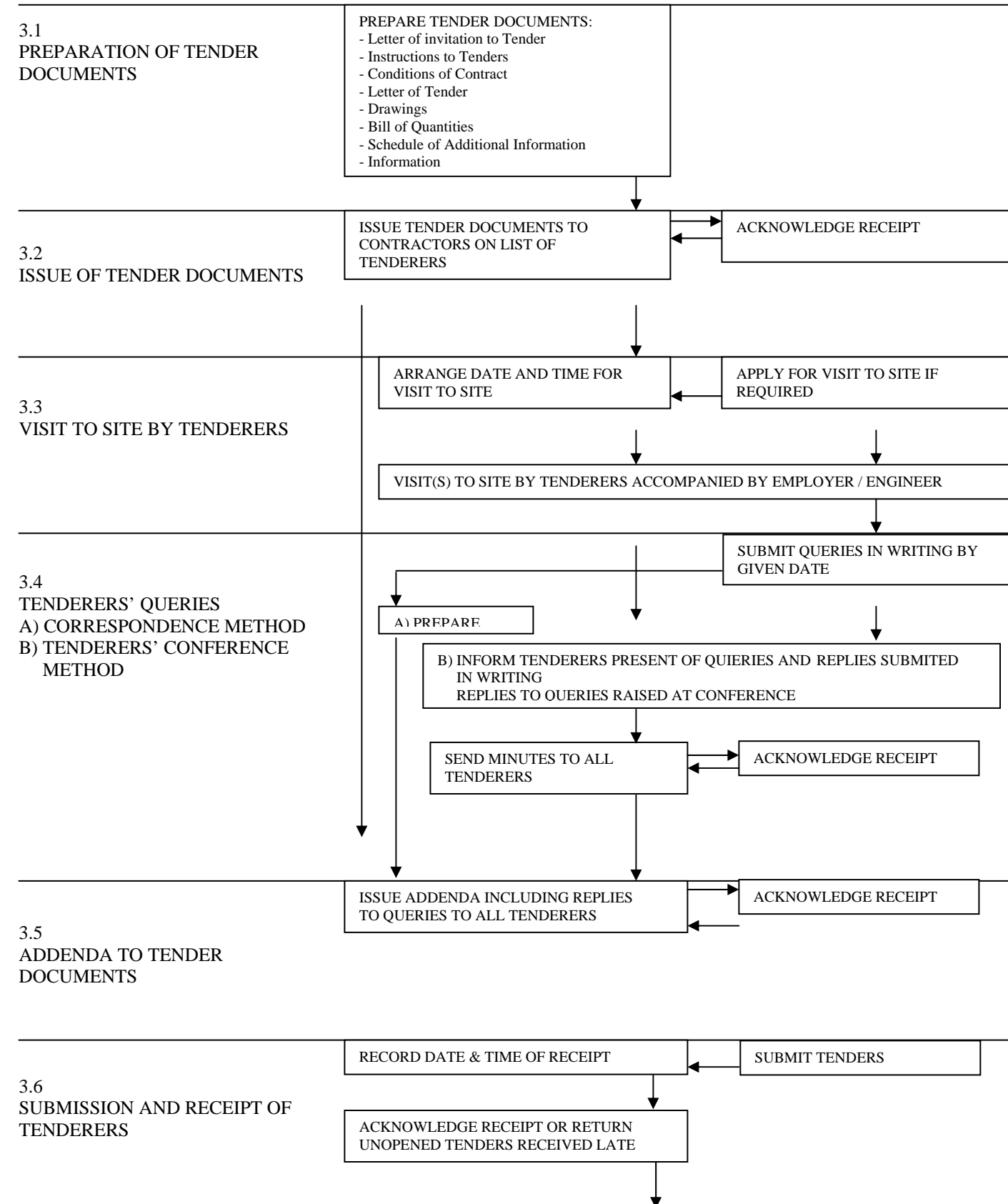
Recommendation Procedure for the Pre-qualification of the Tenderers

SECTION EMPLOYER / ENGINEER CONTRACTORS

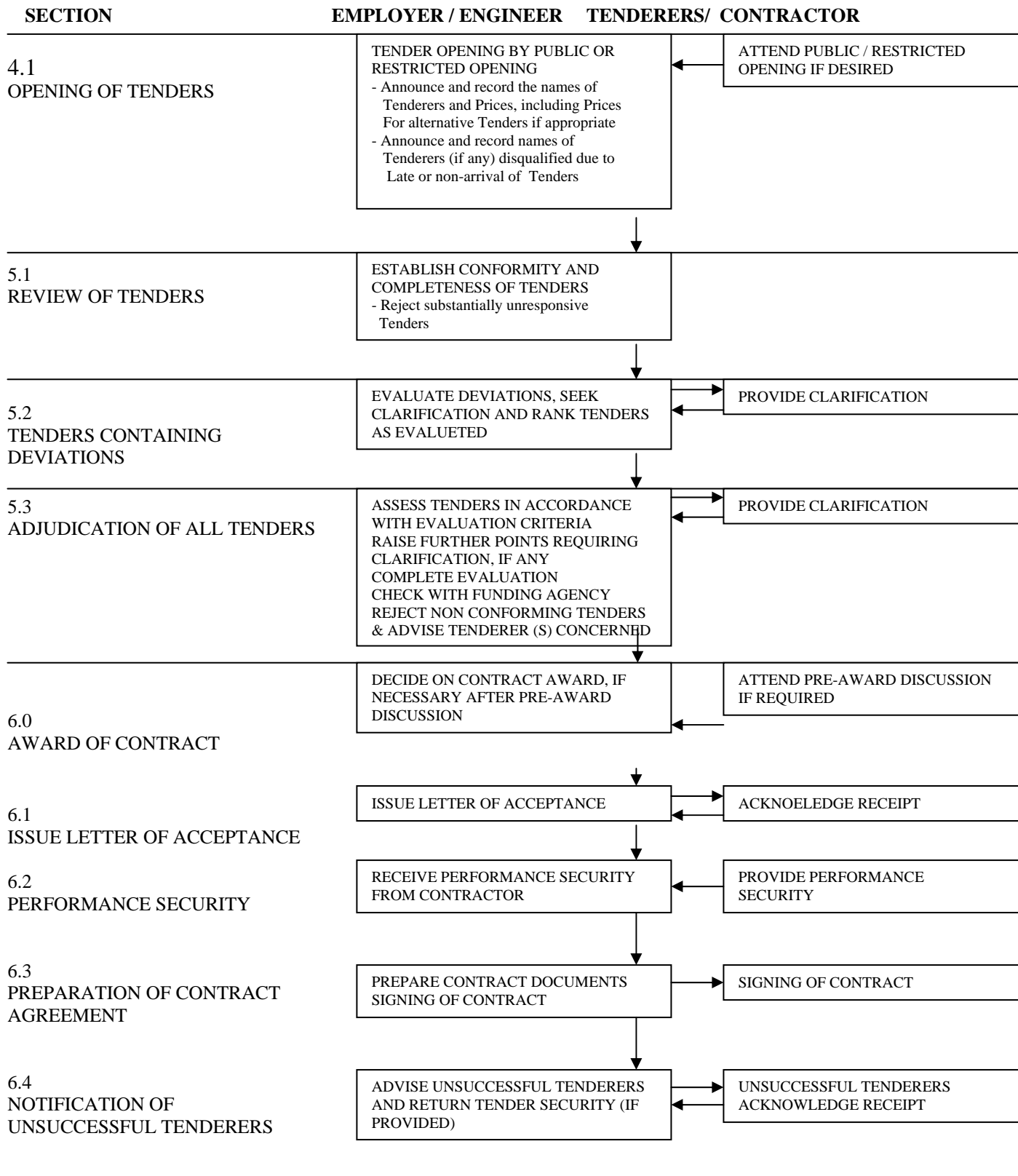


Recommendation Procedure for Obtaining Tenders Under CONS SECTION EMPLOYER / ENGINEER

TENDERERS



Recommendation Procedure for the Opening and Evaluating Tenders



The above procedures for obtaining, opening and evaluating tenders relate to a CONS contract. Under P&DB and EPCT, tenderers submit details of the design proposals, to the extent described in the instructions to tenderers, and the adjudication of the tenders includes examination and assessment of these proposals.

Under P&DB or EPCT, the documents issued for purposes of obtaining Tenders have different titles and purposes, compared with those required for a CONS Contract, and tendering procedures should take account of the greater extent of the Contractor's obligations and liabilities under a P&DB or EPCT Contract.

Recommendations

1. In Construction Projects FIDIC's recommended procedures, for pre-qualification, obtaining Tenders and opening and evaluation of such tenders and entering into the Contract, be adapted unless merit clearly dictates otherwise.
2. Under P&DB or EPCT, the documents issued for the purpose of obtaining tenders have different titles and purposes, compared with those required for a CONS Contract and tendering procedures should take account of the greater extent of the Contractor's obligations and liabilities under a P&DB or EPCT Contracts.
3. For making a tender internationally competitive, well planned and well executed geological, site investigations pre requisite. Deficiency in this aspect will create disputes leading to overrun of time/cost. Amendment of general conditions aimed at adjusting the balance of risk in favour of Employers, rather than to remedy any ambiguities, anomalies or discrepancies in drafting is not owned by international law unless the amendments are practicable and foreseeable by any experienced Contractor.
4. To maintain uniformity / matching-up and friendly /good contract administration during procurement, it is proposed that for all types of Contracts (CONS, P&DB and EPCT), relevant FIDIC's Book published in 1999 or the latest editions be used.
5. Constraints on Engineer's Duties / Authority should be discouraged in general. Unavoidable Constraints should be mentioned in equivalent sub-clauses, 2.1(a)/2.6 in case of 4th edition of FIDIC.

References:

1. FIDIC 4th, a practical Legal Guide through a Commentary on The International Construction Contract by E.C. CORBETT Published by Sweet And Maxell London, 1991
2. **The FIDIC Contracts Guide:**
 - Conditions Of Contract for Construction
 - Conditions Of Contract for Plant And Design-Build.
 - Conditions Of Contract for EPC/Turnkey Projects.

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3. Standard Bidding Documents – Procurement Of Civil Works – Large Contracts – Asian Development Bank December 2002

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For Building And Engineering Works Designed by the Employer Including Guidance for the preparation of Particular Conditions, Forms of Letter Of Tender, Contract Agreement And Dispute Adjudication Agreement – First Edition 1999 ISBN 2-88432 – 022-9

5. Request for Proposal – Recruitment of Consulting firms for Technical Assistant (TA) Using Quality and Cost-Based Selection (Q CBS) Method. Asian Development Bank May 2002.

6. **Sample Form Of Evaluation Report:**

Selection of Consultants. The World Bank Washington D.C – October 1999.

7. **Guidelines:**

Selection and Employment of Consultants by World Bank Borrowers January 1997.

Revised September 1997, January 1999 and May 2002.

LISTING OF PAPERS PRESENTED IN VARIOUS SYMPOSIA OF

PAKISTAN ENGINEERING CONGRESS

VOLUME / SR. NO.	TITLE OF SYMPOSIUM/PAPER	NAME OF AUTHOR
Volume I	HOUSING PROBLEMS OF WEST PAKISTAN FEBRUARY, 1957	
1.	Introduction to Housing Problem	S.A. Rahim
2.	Social Aspects of Housing	M.H. Shah
3.	Some Financial and Administrative Aspects	Khan Bashir Ahmad Khan
4.	Slum Clearance	Irshad Ahmad
5.	Urban Development in West Pakistan	Mazhar Munir
6.	Aspects of Rural Housing	Muhammad Afzal Khan
7.	Building Material	A.A. Jamaluddin
8.	Low Cost Houses	Ghiasuddin Habib
9.	Essential Services and Development Cost	Mukhtar Ahmad
10.	Principles of Architectural Designing	Naseerddin Murat Khan
Volume II	FLOODS IN WEST PAKISTAN FEBRUARY, 1958	
11.	Causes of Floods in the Indus Basin	S.N.Naqvi
12.	Forecasting	Wirasat Ullah Khan
13.	Effects of Flood and Remedial Measures suggested	Mian Alim -ud-Din
14.	Effect of Floods on the Economic of the Country	Abdul Aziz Anwar
15.	Effect of Floods on Communication: a)Roads b)Railways	A.A.Jamaluddin and M.M.Zubair
16.	Prevention and Control of Floods	Mian Muzaffar Ahmad
17.	Soil Conservation a Measure of Flood Control	H.J.Asrar
18.	Disposal of Floods	Sardar Allah Bakhsh
19.	Forestry in Relation to Flood Preservation and Control in West Pakistan	Muhammad Ihsan-ur- Rehman Khan
20.	Impacts of Floods in Water Resources Development	I.A.Zafar
21.	Floods in the Arid Zones of West Pakistan	G.A.N. Starmans
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22.	The Drainage	M. Saeed Minhas
23.	Correlation of Resistivity Variations in Saline and Non-Saline Water Bearing Formation	R.A. Shamsi
24.	Application of Electrical Resistivity Method to Investigate Sub-Surface Geology with	Maqsood Ali Shah Gilani

	special reference to Hafizabad Reclamation Area	
25.	A new Conception on the Water-Logging and Salinity Problem of Rechna Doab	Dr. Nazir Ahmad
26.	Physiographic history of land formation in West Pakistan	Syed N.A.Z Hussaini
27.	Economic Effects of Water-Logging and Salinity in West Pakistan	Aziz A Anwar
Volume IV	ENGINEERING EDUCATION IN PAKISTAN FEBRUARY, 1960	
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32.	Role of Research in Engineering Projects	Dr. Mushtaq Ahmad
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34.	Engineering for Modern Contracts and Construction	Daren G. Theil
35.	Mechanization of Construction Operations Consulting Engineering Practice in Pakistan	Mian Masud Ahmad
36.	Consulting Engineering Practice in Pakistan	I.A. Zafar
Volume VI	SEDIMENTATION PROBLEMS AS A RESULT OF INDUS BASIN WORKS APRIL, 1962	
37.	The Sedimentation of Mangla Reservoir	Bennie and Partners
38.	The Sediment Problem on the Indus at Tarbela	Jhon B. Drisko
39.	Silt Trapping Efficiency of Reservoirs with special Reference of Tarbela and Mangla Dams	Dr. Nazir Ahmad
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