

Task Force on Electronic Tendering

Discussion Paper No. 5/2000

Preliminary Proposal for Electronic Submission of Tenders Returns

1. Introduction

- 1.1. This paper presents a preliminary proposal for the electronic submission of tender returns. It also covers the various issues requiring further consideration in the development of the implementation framework.
- 1.2. In this paper-

"Bill of Quantities" (or BQ) includes Schedules of Rates;

"Non-BQ contents" means contents of a tender submission excluding Bills of Quantities and Schedules of Rates.

2. Contents of Electronic Tender Submissions

- 2.1. The description of the contents of hard copy tender submissions is included in Annex 1.

3. Two-stage tender submission

- 3.1. Apart from submission of the priced BQ's, most tender returns would comprise non-BQ documents, such as proposals on temporary works, works programme etc. We suggest that the proposal for two-stage submission of tender returns would be a subject for further consideration by the Task Force, so that the various impacts would be studied in greater details.
- 3.2. The first stage will include documents for determining the validity and ranking of tenders. The second stage will include documents for detailed tender assessment. Only the lowest three (or five) tenderers will be required to make the second stage submission.

4. Mode of Submission

- 4.1. We do not recommend electronic submission of tenders initially because there are some documents that:-

- (a) can hardly be submitted electronically, such as physical models and documents to be executed under seal (for instance joint venture agreements); and
- (b) cannot be conveniently digitized such as design calculations, computer printout, drawings and catalogues with hard copies only.

4.2. Hence our preliminary proposal is as follows-

- (a) The Conditions of Tender will prescribe whether a document in the tender return should be submitted in hard copy or electronic format. For documents to be submitted in electronic format, their print-outs should be included;
- (b) All electronic documents will be digitally signed; and
- (c) If there are discrepancies between electronic documents and their print-outs, the latter will prevail.

5. Media for Making Electronic Submissions

- 5.1. Removable media hosting the electronic contents may be deposited in the tender box together with hard copy contents.
- 5.2. Internet submission is not recommended for further consideration (for the time being) on reasons as covered in the foregoing.

6. Data Format for Electronic Submission

Non-BQ Contents

- 6.1. For tender submission, we propose to adopt the two important features (Annex 2 refers) that determines the appropriate data formats for electronic dissemination, namely:-
 - (a) use of industrial standard formats; and
 - (b) provision of files in both native file and image file for the same document.

BQ's

- 6.2. The data format for BQ's should meet the following requirements:-
 - (a) The information contained in the priced BQ's should be readily re-used by the client in the subsequent tendering

processes, such as tender analysis and preparation of final contract documents;

- (b) there should be adequate safeguard against unauthorized alterations in the tendering workflow; and
- (c) As BQ's for typical contracts are massive documents, manual authentication of the entries will involve significant staff resources.

6.3. Two possible solutions for BQ's are included in Annex 3. For both solutions, there will be opportunities for unauthorized alterations and these alterations can only be detected through manual checking. This is, however, not a problem unique to electronic submission. Manual checking is also required for detecting unauthorized alterations to BQ's in hard copy format.

7. Central Tender Board

7.1. The Financial Bureau (FB) is responsible for the operation of the Central Tender Board which receives and processes tenders for works projects. As electronic submission will bring about re-engineering of its workflow, FB's view would be sought on the proposal.

8. Members' Views Sought

8.1. Members' views are sought on the following:-

- (a) the possibility of making use of in-house computer systems to produce tender returns and the potential benefits;
- (b) the possibility of re-use of information contained in tender returns in the workflow subsequent to the tender submission, and the potential benefits; and
- (c) the arrangement for handling a mixture of hard copy and electronic contents in tender assessment.

8.2. Members' views is also required as to whether the potential benefits of electronic submission will justify setting up the tendering system.

*Works Bureau
20 October 2000*

Annex 1 - Contents of Typical Tender Returns

1. Core documents

1.1. These are documents that will have major bearing in determining the validity of tender and priority of tenders, including-

- (a) Form of Tender;
- (b) Joint Venture Agreements;
- (c) Bill of Quantities, Schedule of Rates or other document on tender prices;

2. Technical documents

2.1. These are documents that will be used for assessing the technical aspect of the tender submission, including-

- (a) programme;
- (b) design for temporary works;
- (c) design for permanent works (including alternative designs);
- (d) site safety plan;
- (e) technical literature on products proposed in the tender;
- (f) proposal for alternative to hardwood;
- (g) schedules for calculating contract price fluctuation; and
- (h) schedules of equipment;

3. Administrative documents

3.1. These are documents that are required for complying with the various administrative requirements, including-

- (a) ISO 9000 certification;
- (b) Letter from specialist contractors and material suppliers indicating agreement to undertake part of the works; and
- (c) Statement of conviction under the legislations relating to immigration, employment and site safety.

Annex 2 - Data Formats for Non-BQ Contents

Type of File	Native File Format	Image File Format
Tabular data	Excel 97 Rich Text Format Word 97	Adobe Acrobat
Other text documents in free format	Rich Text Format Word 97	Adobe Acrobat
Scanned text documents	Not applicable	Adobe Acrobat
Drawings	Microstation or AutoCAD Document Exchange Format (DXF) Initial Graphic Exchange Standard (IGES)	Adobe Acrobat
Scanned drawings	Not applicable	Tagged Image File Format (TIFF)

Annex 3 - Possible Solutions for BQ's

Option No.	Description	Advantages	Disadvantages/Limitation
1	To enter rates directly into the electronic tender document containing the BQ	The operation of this option is straightforward.	(a) BQ's issued in WinWord format will not support automatic computation. (b) It will be difficult to interface BQ preparation with in-house systems for tender preparation. (c) It will not be possible to insert the rates into BQ's in plain text format.
2	To submit BQ in a columnar text file containing the item numbers and proposed rates/lump sums	(a) It will be possible to prepare BQ's directly using data in estimating systems. (b) It will be possible to import the BQ's directly into systems used for tender checking.	(a) Computer applications will be required for merging the tender return with the items descriptions into a full BQ.