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07855



Distr.
LIMITED

ID/WG.259/21
25 January 1978

ENGLISH

United Nations Industrial Development Organization

Technical Seminar on Contracting Methods
and Insurance Schemes for Fertilizer and
Chemical Process Industries.

Lahore, Pakistan, 25-29 November 1977

EVALUATION OF RISKS IN TENDER PREPARATION *

by

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id.78-433

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1.0 TENDERING OBJECTIVES:

Tendering costs time and money - for both the client and the tenderer - so that the tenderer should make every effort to ensure that his tender is as responsive as possible. Since the resources of engineering contracting companies are not unlimited, a decision to embark upon preparation of a tender for a major project may very well mean that the tenderer will have to forego other tendering opportunities which may occur at the same time; therefore, one of the first priorities when a major tendering opportunity arises is to decide whether a bid should be submitted at all. It is suggested that the following factors are paramount in reaching such a decision:

- i) Do you have the proper experience to estimate and execute the work which is the subject of the tender?
- ii) Do you have adequate resources to prepare a comprehensive tender and, if successful, to execute the contract on time?
- iii) Is the client's definition of the work adequate to submit a bid of the kind which he has specified?
- iv) Are the commercial terms on which the bid has been invited fair and reasonable?
- v) How expensive will the bid be to prepare; also, how many tenderers are there?
- vi) Is the client allowing sufficient time for preparation of a comprehensive tender?

All of these factors require evaluation before committing oneself to a lengthy and expensive tendering effort, and if the answer to some or all of these questions is in the negative, then one may be well advised to decline to tender.

Because of the time and effort involved in tendering for major projects, the objective must always be to tender as responsively and competitively as possible, consistent with being able to execute any resulting contract on an economical basis.

If the tenderer's time and effort are not to be wasted, he must produce a tender which:

- a) responds as closely as possible to the client's stated requirements,
- b) defines precisely the scope of work and services to be provided by the tenderer,
- c) contains any information necessary to demonstrate to the client the tenderer's capability to execute any contract awarded to him,
- d) is based upon a considered and comprehensive evaluation of the risk factors involved in the project.
- e) clearly states the commercial terms and the prices on which the tender is based.

2.0 DEFINITION OF RESPONSIBILITIES

The invitation to tender, and the response to it, should be based upon a complete and clear understanding by both the client and the tenderer of the nature and extent of their respective roles. In this respect, as the initiator of the enquiry, a considerable responsibility rests upon the client to ensure that he has made his requirements clear.

To ensure receipt of a comprehensive tender, and evaluation of the tender received on a proper comparative basis, the following matters require to be clearly defined:

- 2.1 The extent of the services and goods to be provided by the tenderer.
- 2.2 The physical scope of the plant to which the services and goods apply.
- 2.3 The extent of the information and facilities to be provided by the client, and the work to be done by the client or by other contractors, consultants, etc., employed by him.
- 2.4 Any additional information which either the client has specified, or which the tenderer himself believes to be of value in enabling a full evaluation of the tender to be made.

The extent to which the scope of the plant has been designed and specified in detail by the client prior to the issue of the tender documents is of the utmost importance, because the method of pricing the tender must depend to a very great extent on the completeness or otherwise of the design criteria provided by the client, and because other risk factors will be conditional upon that method of pricing and upon the degree to which the client has a responsibility for plant design.

3.0 METHOD OF TENDER PRICING

The method of pricing adopted by the client in soliciting enquiries is a critical factor in determining the form and content of the tender to be submitted, and of any contract which may result from that tender. The method of pricing itself must be governed by the extent of the design and engineering work which the client has carried out at the point where it is decided to solicit tenders, and also, to an extent, upon the amount of time which he is prepared to allow for preparation and submission of tenders.

In this respect, it must be appreciated that if tenders are desired on a lump sum basis for a complete plant, then the client must prepare and issue with his enquiry a complete definition of the plant in all its phases, including engineering standards, safety and maintenance standards, as well as specific project designs and specifications. On the other hand, if a fee plus reimbursables bid is required, then only a very general duty specification will be necessary to enable tenderers to prepare their bids.

It is unlikely that a period of less than twelve months will elapse from the commencement of the preparation of enquiry documentation by the client for a lump sum bid through to actual placement of a firm contract, and for a major project this period could be much longer. On the other hand, the total elapsed time from preparation of enquiry documents through to award of contract for a fee plus reimbursables contract could be as short as three months.

It is suggested that the form of tendering to be adopted must be contingent, to a substantial degree, upon the market considerations applying at a particular point in time and to a particular project. For instance, where capital investment is required for other than market purposes (for example, to meet new or forthcoming pollution control regulations) a client may well decide that time is not of the essence, whereas a firm control over the ultimate capital expenditure is paramount. In such cases, the delays inherent in lump sum bidding may well be acceptable. Exactly the opposite considerations may well apply where a company is anxious to produce a product at the earliest opportunity to meet the demands of a new or rising market.

4.0 THE EVALUATION OF RISK FACTORS:

As has already been mentioned, the preparation of a tender for a major project is in itself a lengthy and expensive

operation. It can only be a fruitful operation if the tenderer makes a thorough and realistic examination of the major risk factors with which he will be faced if his tender is successful and the contract is awarded to him.

There are certain major risk factors which it is suggested are inherent in all major projects for the process, fertilizer, electrical and mechanical engineering industries. The risk factors which require careful examination and assessment in such contracts are:

4.1 Pricing the work

Reference has already been made to the need for clear and comprehensive definition of the work to be undertaken, and this is a critical factor in preparing any tender and, in particular, in preparing and submitting any lump sum price. It is therefore essential that the tenderer makes a close and careful examination of the requirements specified by the client and, where necessary, raises any queries he may have concerning any apparent omissions or discrepancies in the tender documents.

Assuming that the definition is sufficiently clear and comprehensive to enable the tenderer to submit a price in accordance with the client's requirements (and if the definition is not sufficiently clear and cannot be clarified during the tender period, it is suggested that no tender should be submitted at all), then the tenderer must give the most careful consideration to factors to be applied in pricing the work. These must include reference to his prior experience of similar projects, the obtaining, wherever possible, of firm quotations for those elements of the work which he intends to subcontract to others, an evaluation of the productivity of construction labour which can be achieved

in the locality where the plant is to be constructed and an assessment of any factors for future escalation in costs which he may require to include in his price or, alternatively, the adequacy of any escalation formula offered by the client in his enquiry.

4.2 Time for Completion

Close attention has to be paid to the definition of the contract period - for example, if the client simply states "you are required to complete the work within twelve months of contract award" he may mean completion of delivery to site, or completion of the actual construction, or completion to the point where performance test runs have been satisfactorily conducted. Clearly, such vagueness has no place in a tender for a major project, and close attention must be paid to defining exactly what is meant by such terms as "completion", "start-up" and "test runs". In particular, the tender and any resulting contract must clearly define the respective responsibilities of the parties during the period between completion of construction of a plant and its coming into full commercial operation, and must also define what liabilities will fall upon the tenderer if he fails to achieve the agreed completion date; under what conditions that agreed completion date may be extended, and what incentives, if any, are to be offered to the tenderer for an early completion of the work.

4.3 Guarantees and Liabilities

The tender should clearly state the extent of the warranties which the tenderer is offering, and those warranties should be appropriate to the scope of the services which the tenderer is being called upon to provide. For example, if the plant is to be constructed employing a process which has been

developed by the client, then it is not appropriate to expect the tenderer to offer process performance guarantees. On the other hand, where the tenderer is to carry out all engineering and design work for a plant based upon the client's process, it is appropriate to expect the tenderer to offer certain warranties as to the soundness and completeness of his engineering, and to accept some liabilities for correcting any deficiencies which are caused by errors or omissions in that engineering work as distinct from deficiencies in the client's process itself.

Consideration must also be given to the extent and nature of the liabilities to be assumed by the tenderer in respect of equipment and materials purchased by him from third parties. Whereas, under a lump sum turnkey contract the tenderer may be expected to assume full liability for repair or replacement of all defects including those which arise out of deficiencies in equipment manufacturer's design or workmanship, such an obligation would not be appropriate where a contract is on a fee plus reimbursables basis and the client reserves to itself the right to approve placement of all orders which are paid either directly by the client, or through the tenderer on a strictly reimbursable basis.

In certain instances it may be necessary for the tenderer to consider limiting his liability as to an overall sum of money, since if he does not do so, the risks inherent in the project as specified by the client in his enquiry, are excessive in relation to the value and nature of the services which the tenderer is to provide.

4.4 Terms and Methods of Payment

The value of many major projects may be very high in relation to the financial resources of engineering contracting companies - so high, indeed, that particular attention must be paid by the tenderer to his ability to fund the work. It is therefore essential for the tenderer to satisfy himself that the terms and methods of payment proposed for a major project are such as to provide him with adequate payments throughout the life of the project to enable him to meet his own obligations to suppliers and subcontractors.

In this respect, the following matters are of particular significance:

- a) The procedures for submitting invoices and the timing of payment of those invoices.
- b) The amount of retention money, if any, to be withheld by the client, and the times at which this retention money will be released.
- c) The currencies in which the client proposes to make payment.

Engineering contractors and their clients would do well to remember that the funding of major projects should not be regarded as the functions of an engineering contractor, so that on major projects the terms and methods of payment should be so arranged as to ensure that adequate cash flow is made available by the client at all times.

4.5 Bonds and Guarantees

Careful consideration must be given during tender preparation to any requirements specified by the client

for the provision of bonds or guarantees. The cost of providing such bonds can in itself be significant, and furthermore, the tenderer's ability to provide bonds is in practice limited by the financial resources which he can make available by way of counter-indemnities to banks and insurance companies.

Where bid bonds or performance bonds are required by the client, it is suggested that these should be limited to sums of money which are sufficient to give the client an adequate deterrent against non-acceptance or non-performance of a contract by the tenderer. Given the need to ensure an adequate cash flow to the tenderer, as referred to in the preceding section, consideration should also be given to the acceptance of bonds or guarantees in lieu of the actual withholding of retention money since, by this mechanism, the tenderer's cash flow is preserved, and in most cases the actual cost of providing the bonds or guarantees is less than the cost to the tenderer of interest payments on borrowings required to fund the retentions.

4.6 Changes in the Work

However detailed the definition provided, it is unlikely in the extreme that any major projects will proceed to completion without there being some changes required by the client. It is therefore necessary for the tenderer to specify a procedure for presenting and pricing any such changes as may be required, and for this procedure to be incorporated into any contract. The agreement of such a procedure at the outset should be of advantage both to client and tenderer in avoiding future delays and disagreements where changes are required.

4.7 Termination or Suspension of Work

Whilst none of us embark upon a project with anything other than an intention to complete it, one must recognise that circumstances do arise where at some stage the work may have to be wholly or partially suspended, or indeed, terminated altogether. It is therefore necessary for the tenderer to specify the conditions under which work can be suspended or terminated by either party, the periods of notice to be given before such suspension or termination comes into effect, and the methods whereby the tenderer is to be compensated for any additional costs which he may incur as a result of a suspension or termination which arises through circumstances beyond his control.

4.8 Insurance and Indemnity

It is essential for there to be a full understanding as between the parties as to who is to effect insurances and pay the premiums for those insurances, and who is to pay for any uninsured losses or deductibles under policies. Specifically, the tender and any contract resulting from it, should deal with:

- a) Employer's Liability or Workmen's Compensation insurance, which would normally be the responsibility of the tenderer,
- b) Contractor's All Risks insurance, covering accident or damage to the plant which is the subject of the contract,
- c) Third Party Insurance applicable to damage or injury to the persons or property of third parties (it should always be remembered that a client's existing plant is, for insurance purposes, a third party risk),

- d) Transit insurances, covering loss or damage to materials and equipment from the time they are despatched from a vendor's works until the time they are delivered to site.

Without going further into the details of insurance coverages required for a major project, which is a very substantial subject in itself, it should always be remembered that where a client chooses to create an insurance programme for a major project and, in so doing, makes certain decisions as to the extent and nature of the insurance cover for which he is prepared to pay, then it is only reasonable that he should give adequate indemnities to the tenderer, and hold the tenderer harmless in respect of those risks which he, as the client, has chosen to treat as uninsured.

For example, if the client elects to take out a Contractor's All Risks insurance policy, but with a high deductible (say \$100,000 deductible any one occurrence) then he must either agree to indemnify the tenderer against losses of \$100,000 or less, or give the tenderer the opportunity to take out separate insurance cover, where this is practicable, to cover such uninsured losses.

4.9 Patents and Confidentiality

In the preparation of his tender, the tenderer must pay proper attention to any requirements that may arise as to patented or proprietary information, and must secure whatever confidentiality undertakings may be required to meet either his own obligations to licensors, or any obligations which have been specified by the client in his enquiry. Similarly, proper consideration must be given to the ownership of drawings, specifications, etc., provided by the parties, both for tendering purposes

and during contract execution, and for adequate protection as appropriate against any alleged infringement of patent rights.

A careful and detailed consideration of all of the above matters is considered to be an essential part of tender preparation.

Without a thorough review of such factors, the tenderer will not be able to submit a realistic tender, which will ultimately result in a contract which can be executed to the mutual satisfaction and benefit of both parties.

5.0 FACTORS PECULIAR TO EXPORT CONTRACTS:

The matters dealt with in the preceding sections of this paper are present in all tendering activities for major projects. However, where such a tender has to be submitted for a plant to be constructed in a country other than one's own, then numerous other factors must also be investigated. One can never safely assume that procedures and practices which are satisfactory in one's own country will necessarily be either acceptable or practicable in another country. It is therefore necessary to make substantial on-the-spot investigation during tender preparation to ensure that one's tender will conform to local conditions, regulations and requirements.

Of course, the conditions from one country to another must inevitably differ very widely, but there are certain matters which require to be considered on most, if not all, tenders for export work, and these must include the following:

5.1 Local Resources

Investigations must be made to assess the manufacturing capabilities of local companies, both as to the range

and quality of the products they offer, and also their overall production capacity. It may well be that there is excellent manufacturing capability available, but because its capacity is limited and because other projects have already taken up much of that capacity, one may be unable to obtain realistic delivery terms.

Similar investigation and evaluation of local construction capabilities is also required. The availability of local labour, and in particular skilled labour must be assessed, as must the experience and capability of local construction subcontractors. It is vital, for example, to assess whether or not skilled labour will have to be imported on to the site, either from another part of the country, or even from overseas; it is also important to assess whether the necessary construction equipment is available, or whether that has to be imported.

5.2 Logistics

Consideration must be given to the access to the site, the ease of communications and the facilities available for handling imported equipment at the local ports of entry. For instance, it may be critical to determine whether there are adequate facilities for the importation of pre-packaged equipment, or whether access is restricted in such a way as to make this impracticable.

5.3 Shipping

The tenderer must familiarise himself with local import regulations and tariff classifications, and ascertain whether there are any restrictions applicable to the shipment of imported equipment - for example, is one required to ship all or a proportion of the equipment in vessels of a particular nationality?

5.4 Taxes

An investigation must be made of the local tax regulations to ascertain the position both as to the corporate and personal tax liabilities which may arise for the tenderer as a result of executing any contract awarded to him. Similarly, the tenderer must familiarise himself with any local value added or turnover taxes which may be applicable to any work that he carries out.

5.5 The Corporate Vehicle

Consultations should take place with local legal advisers to ascertain whether the tenderer would be required to register a Branch in the country in question, or form a Company or appoint a local legal representative and, if all or any of such requirements apply, an assessment must be made of the cost of complying with them.

5.6 Engineering Regulations

It is necessary to find out prior to tendering whether there are any local engineering regulations or codes of practice which will apply to any work carried out by the tenderer, so that if necessary an assessment can be made of any additional work which compliance with such regulations will require. In the same way, the tenderer must familiarise himself with any local safety and health legislation, including any requirements for statutory inspections or certification of engineering documents.

5.7 Finance

An investigation should be made as to the availability of local banking facilities and the existence of any local regulations concerning such matters as Exchange Control and the remittance of moneys overseas.

5.8 Employment Regulations and Conditions

Here again it is probably advisable to consult local lawyers so that one is aware of any regulations applying to ex-patriate staff who may be required to work on the project; such discussions would have to cover matters relating to work permits, professional registration, and any obligations which there may be to make contributions to local social security and health insurance programmes.

Insofar as the employment of local personnel is concerned, it is essential to become familiar with employment procedures and regulations, particularly with regard to such matters as dismissal and redundancy payments and with local social security regulations.

5.9 Insurances

In addition to the general consideration of insurance matters already referred to, there may be some specific local requirements of which one should be aware. For example, it may be necessary for certain insurance to be effected through a local company or companies; therefore, one must find out prior to tendering, on what terms and at what premium rates these companies will issue the necessary cover. Similarly, in certain countries, bonds provided by insurance companies may be unacceptable, so that steps must be taken to arrange for the issue of bank guarantees, and these may have to be obtained from local as opposed to overseas banks.

5.10 Contract Terms

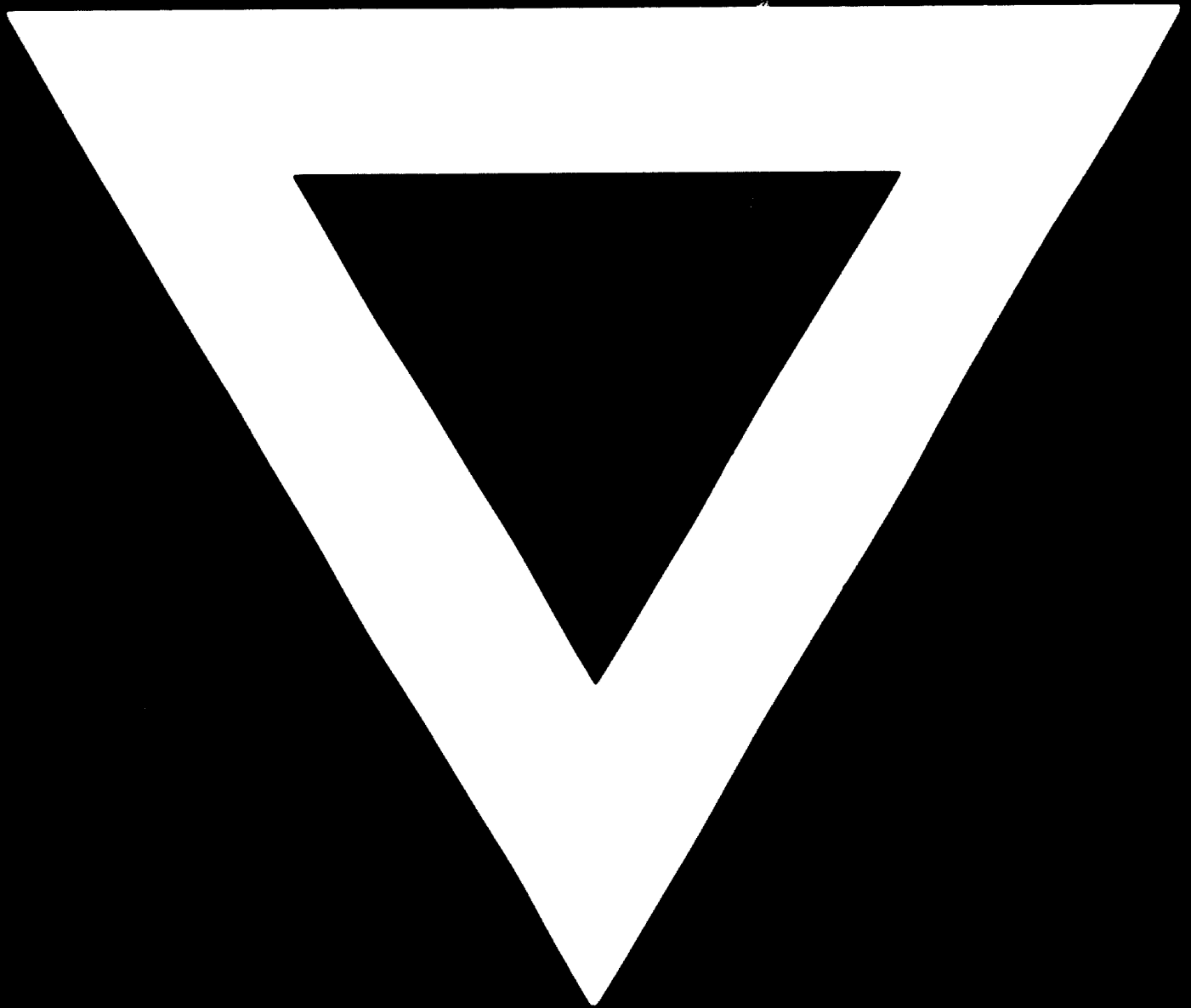
If the contract is to be placed subject to the local laws, then it is advisable to review the terms of the enquiry with a suitably experienced local lawyer, since, for example, a limitation of liability clause which would be binding in English law may, in another country, be

over-ridden by statute or by case law. Similarly, the client's enquiry may refer specifically to certain local laws of which one has no prior knowledge or experience, and on the application and interpretation of which the guidance of a local lawyer is necessary.

The points enumerated above are necessarily dealt with very briefly in a paper of this length. However, it will be seen from this brief and general survey that there are a multiplicity of factors which a prudent tenderer must consider in the preparation of his tender. There is no escaping the fact that a proper and complete consideration of all these risks is expensive, both in time and money; however, unless this time and money is invested in the tender at the outset, the client is unlikely to receive a realistic and responsive offer, or is he likely to be fully satisfied with the way in which any contract he ultimately awards, is conducted.



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