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MANUAL ON TECHNOLOGY TRANSFER NEGOTIATIONS

Contracting for Complex Industrial Projects

by

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THE ACCESS TO TECHNOLOGY AND THE ROLE OF MAIN PARTNERS IN A TECHNOLOGY ACQUISITION PROCESS

1.INTRODUCTORY REMARKS

The process of Technology Acquisition results normally in the establishment of a contractual relation in which the Parties - i.e. the Technology Supplier from one side and the Technology Receiver from the other - express their own wishes and precise their respective contributions to attain the expected goals. This Contractual Relation, however, should in all cases be considered as an outcome from a sequence of actions that provide the proposed convergence of the interests of each Party engaged.

Taking the case of an industrial (or civil works) project, those "converging actions" may include differentiated steps, each of them depending on extension and form of the specific circumstances of that particular case. Assuming that a preliminary feasibility study supported the decision to proceed with the Project, and that the feasibility revisions regularly made during the work keep the same results, the steps or chapters for the access to the required technological package, may be systematized as follows:

-Knowledge of project conditions and of the required technology;

-Testing of available technologies, when required;

-Case definition: purposes and policies envisaged for the project;

-Publicity of the bidding procedure, including the prequalification of bidders when necessary;

-Set up of the inquiry form:

-Establishment and development of the bidding procedure, including reception, study, evaluation and analysis;

-Establishment of the formal contractual relationship.

These pre-contractual steps, as well as the establishment of the contract itself, are the required formal preliminary acts for a transfer of technology procedure. This should be regarded as an essential definition form for the onset of a vaster and longer involvement of the participating Parties, leading to the technology implementation up to the fulfilment of the contract and even to the so called post-contractual relationships.

Each of these particular steps will be analysed in the following chapters.

2.KNOWLEDGE OF THE PROJECT CONDITIONS AND OF THE REQUIRED TECHNOLOGY

When essential decisions for entering the pre-contractual phase are made, a certain definition of the project itself should already be well advanced. This means that the purpose for the project, the definition of the raw materials available, the objective of production, the knowledge of markets, as well as the proposed location, site conditions and the required structural works are already in knowledge of the Project Promoters - and that a preliminary study of feasibility taking into account all this specific features shows well the availability of technologies to employ in that case and proves an economical/financial response sound enough to proceed.

The available information should be completed and organized in order to provide a reasonable basis for the preparation of future bids, during the bidding procedure, and all technical constrains and specifications to impose (such as construction and engineering regulations, standards of equipment, environmental requirements, specific testing procedures, specific legislations to be observed, site data and other specifications of technical interest) should also be collected and systematized to make part of the technical portfolio. Particularly important is the precise definition of the interconnections of the Project with the national networks, should they be road or railway connections, access to ports and waterways, utilities supplies, importing/exporting facilities, required communications and data transmission or other related requirements. A first environmental impact study, often required by national laws for projects above a certain dimension, as well as a first risk assessment and estimation analysis for projects involving dangerous manufactures, should also be established at that stage. Besides, and in many cases, a social study of the population that could result influenced by the project should be considered, namely to estimate the project impact in nearby communities and to determine the needs of recruitment and characteristics of the future personnel involved, deducing consequences for the suitable training, lodging and transportation.

A certain knowledge of available technologies, directly applicable and/or with possible adaptation to the particular circumstances, as well as of their possible suppliers and or licensers should also be available, and preliminary contacts with national and local authorities to place the project within the legal framework for licensing and financing should also be co-ordinated with the requirements for its development.

Quite often, such preliminary work, that demands a great engagement

of the Project Promoter staff, is entirely carried out by that staff. However, the increasing conscience of the complexity of the relationships that a project of reasonable dimension may demand, imposes the splitting of the overall set of pre-contractual development in specialised chapters, obviously co-ordinated by the Project Promoter itself. It is practically inconceivable that, in our days, a project can be entirely handled by the staff of its Promoter. As a matter of fact, and in a larger or shorter extension, interventions from other parties take place to cover specialized parts of the Project. This also applies for the "project preparation" step.

Contributions from national and local authorities may be very helpful to provide mapping, recorded data for the envisaged location (such as climatic conditions, or geological/seismic data, when available), and for the applicable national legislation. Much of that required information may be available and easily collected from these local sources. However other preliminary data are not immediately available and may require the contracting of consultant services, either at local level (vg. for the study of sociological impact), or involving the access to a larger market, namely in the field of the selection and assessment of possible technologies to be considered. International organisations, such as UNIDO, may provide suitable background information and list independent consultants that, for each particular situation, should be considered.

Several articles on Project Implementation list the amount of preliminary information that should be available for passing to the bidding step. This matter may be further developed in another chapter of this Manual.

The policy to adopt when consultant services are hired in this "project preparation" step anticipate in a certain way what shall be said later about project contracts: the specific themes to be answered may be desegregated and distributed to several specialized consultants, increasing the weight and dimension of the central co-ordination job, or, otherwise, the Project Promoter may select a few or even one independent consultant that may manage, gather and organize all required informations and even prepare the documentation required for the project licensing, financing memorandum and invitation to bid documents. These two situations represent the alternatives of "unpackaging" (in the first case) and "packaging" contracts. The first is favoured by the increased contribution it may provide for a more effective transfer of technology and for an enlarged intervention of local entities; it requires however a stronger co-ordination job from the Project Promoter and implies a clear definition of responsibilities. If "packaging contracts" may keep away these two disadvantages, they place however a great part of the technological aspects in contractor's hands. To reduce that disadvantage and to provide a certain transfer of technology, careful follow-up of procedures by

the staff of the Project Promoter, as well as the participation whenever possible of local entities, may be required.

A third approach also available to provide a "packaged" strategy with reduction of the negative aspects of the total "umbrella" contract is the "joint venture": in this case, the local Project Promoter searches an association with an established producer of the same field, potentially interested in developing together the new venture. The so acquired Partner brings with him the knowledge, technology and experience to prepare, together with the Promoter staff, all the required steps of the pre-contractual phase. The establishment of the "joint venture" may well begin with a pre-contractual collaboration and project definition; in other cases the "joint-venture" only may be established after the dressing up of a first project memorandum that may concentrate particular interests on the project itself and thus provide a basis for the search and selection of potential partners.

It may well happen that several technologies are available to attain the production objective. These technologies may already be industrially proven with known references and substantially disclosure of their performance parameters, or may be proven but covered by undisclosed features, or, even proved in other locations, require their evaluation regarding the specific raw materials and/or conditions available. In some other cases, they even may be in the testing step, still demonstrated in a pilot plant scale - and therefore requiring not only testing but the evaluation of scale-up risks from the pilot stage up to the industrial unit.

These two specific situations - testing of available technologies for specific conditions and evaluating technologies still in the development stage to be applied in industrial plants - shall be covered by next chapter.

The product of this preliminary phase, that represents the onset of the Project Realisation, is the proposed Invitation to Bid document, substantially corresponding to a first enunciation of the principles foreseen by the Project Promoter for the envisaged contractual arrangements, together with the Instructions to Bidders, the Technical Annexes and the Proposed Engineering Specifications (Civil, Electrical, Mechanical and Environmental). The development of these documents and of further discussion on the less clear points is a requirement for a better competitive bidding and a key to the proper contractual arrangements, reducing the margin of uncertainty that will produce overcosts and delays due to situations of extra-work by unforeseen circumstances

3.TECHNOLOGY TESTING, WHEN REQUIRED

The testing of available technologies is quite often an expensive

and time-consuming step, but strongly recommended for situations in which available processes were successfully employed for conditions substantially different from those to meet in the Project, namely when relating to natural raw-materials, or when processes still at a development stage might be considered to be used at industrial level. These two situations are basically different: in the first case, suitable testing involves a confirmation; in the second case not only a confirmation is required, but also a risk-analysis should be dressed to estimate the consequences of the scale-up from the pilot or semi- industrial test unit. Testing may also provide a substantial amount of data for the engineering step of the Project.

We may even consider the extreme situation that involves the erection of the pilot plant itself: this is obviously the introduction of a new process technology that should be carefully evaluated in time, cost and risk and only adopted when a careful analysis of all available technology demonstrate no positive issue. In those cases, the participation of the Project Promoter in the development of testing facilities that later may be available for other users should be regarded as a real joint- venture, and therefore respective contracting should convey specific clauses determining the sharing of fruits or gains issuing from that participation.

Testing units are normally available from technology owners, or with testing rights assigned to them or to licensed entities, and therefore the decision to enter in a testing process represents a certain approach to the technologies available. As a consequence, the contracts for testing should be carefully established to provide reasonable basis to a suitable evaluation of the tested technology vs./ other available processes and to grant beforehand that the technology tested should be made available for the envisaged industrial plant in adequate commercial terms (in license costs and guarantees), if that particular technology becomes successful. For that purpose, the testing contract shall already advance the essential features of the commercial conditions for process licensing, if the process proves successful, and refer as well that the performance and process guarantees for the industrial plant, to be based in the obtained test results, should be given by the Process Owner in the test report to be issued. It has to be kept in mind that a testing procedure results always in a double contribution towards the engaged parties: for the Project Promoter, it provides data enough to evaluate that tested technology in the framework of Project definition; to the Technology owner or licenser, testing gives further data for technology development and application of the process to conditions other than those originally considered.

Besides, several technical features have to be established in the testing contract, such as the characterization of the sample to be tested, the adequate provisions for keeping the sample quality up

to and during the testing procedure, the duration and continuity of the test, the measurements and samples to be taken during testing, the methods for sampling and analysis and the contents of test reporting. Definitions also should be made about the staff present to the tests, as well as of the attending personnel from the Project Promoter and/or from the Consultants to which the Project Promoter may commit the follow up of the tests and the process evaluation and risk analysis based upon the obtained results.

Confidentiality clauses for the process and for the attained results may be required by both parties, but the Promoter shall avoid that such clauses may be used later to block acceptable management practices, such as the access to competitive bidding for the detailed engineering work or other project activities. A particular situation shall be pordered, however, when the process licence and the basic engineering might be negotiated as a package. Provisions covering the registration, property and rights about any novelty actually attained during the tests, particularly for processes still under development stage, should also be considered and entered in the contract, with regard to the merit of the party (or both) that contributed to that novelty. In some test agreements, a common promotional clause allows that test costs paid by the Project Promoter to the Technology Owner for the use of testing facilities may be partially or totally deduced from the process licensing costs in the resulting industrial plant.

The performance of tests should be regularly attended by the Project Promoter technical staff, quite often with the assistance of an independent consultant that - according to the development and results of tests - may provide a "technological audit" about that particular technology, to base the technological assessment for the final decision. If the technology owner, the independent consultant and the project promoter are from different countries, the Project Promoter may also consider the possibility of reinforcing his attending staff with experts recruited in his own Country, i.e. from an University or an independent R&D institution, bound to the same secrecy clauses that apply for its own personnel. These additional attending members, are often required by local authorities for licensing the proposed Project/Unit, and their presence and participation may also reinforce the transfer of technology related with the process.

The role of the independent Consultant and of the technological appraisal of process is to emphasize when new processes, still under development, are under consideration. Then a risk analysis of the proposed technology should be worked out, with an assessment of the pertinent key points and comparison with available alternatives. Even in the case of a turnkey Contract, the analysis and comparison of proposed technologies should be required to avoid those critical situations that may either result in the uncomfortable position of the "guinea-pig" or, otherwise, maintain the conservative option that someone, somewhere, has defined as "to

get the technology of the third decade before with the price of the third decade to come".

4.CASE DEFINITION: PURPOSES AND POLICIES ENVISAGED FOR THE PROJECT

4.1.The classification criteria for industrial contracts

It was already mentioned that quite rarely a complete industrial project may be handled by the Project Promoter alone, and several cases in which services of a Consultant should be called upon in the pre-contractual project stage have also been quoted. The rare cases in which the particular situation of the Project Promoter may provide all necessary services and actions to materialize the Project are practically theoretical or limited to two specific conditions: very small project dimensions, using own technology, or projects contained into big industrial concerns that join under the same corporation the R&D necessary to grant the specific know-how, a suitably sized engineering department, a project management and an erection group. Even in those extreme conditions, the dialogue and interrelation with external suppliers would not be absent during the Project, such as for equipment acquisition, and therefore require an adequate contracting and co-ordination.

This makes clear that, at smaller or larger extent, the project, as well as the transfer of technology associated with, may demand the intervention of Parties other than the Project Promoter, what also means that the performance of certain defined portions within the overall activities required for the Project completion shall be committed i.e. contracted to specialized parties through the establishment of a commercial and juridical relevant relations between the Project Promoter and Contractors. Contracts issued for the Project may cover either corporeal (equipment parts, materials, etc.) or incorporeal (know-how, use of patents and technology, engineering, personnel formation, etc.) contributions.

The sistematization of the relevant contracts for industrial projects may be considered under several criteria, such as:

- *according to the relative participation of the Project Promoter;
- *according to the bidding procedures;
- *according to the type of fees.

Attention will be focused now to the first aspect, i.e. to the relative participation of the Project Promoter in the overall project or, in other words, to the "extent of unpackaging" in project contracting. Next, some reference will be made to the other

two criteria, including some notes about the prequalification procedures.

4.2.The "packaging" and "unpackaging" policies in industrial contracting

Two extreme and well-known types of contracting may be considered under this scope:

*the complete "turnkey" contract for the project, in which the Project Promoter specifies the purpose of the Project and provides the respective site, leaving to the Contractor all the tasks related to Project implementation, from the acquisition of technology to the delivery of a performing plant with trained personnel;

*the complete "unpacked" project management, in which the Project Promoter decomposes the Project in several specialized tasks such as technology, basic engineering (or design), detailed engineering, procurement services, construction, erection and mounting, recruitment and training of the personnel, testing, commissioning and verification of guarantees, operation and maintenance of the plant, contracting all or part of these tasks and assuring part of them and the overall co-ordination of the several participating Contractors.

It is true that the Contractor intervention may even be extended beyond the "turnkey" concept in the so called "product-in-hand" contracts, that include the Contractor responsibility to operate the plant, producing and delivering for a certain time (that may cover one to several years) the specified quantity and quality of product. With a somewhat different naming, the "turnkey" concept followed by a "management and operation contract" falls practically in the same situation.

4.2.1.The turnkey contracting

In the turnkey contracts, the participation of the Project Promoter is minimized and the technology transfer is effectively limited to the final reception of plant & process documentation and the training of the personnel. The advantage of the centralization of responsibilities in one single Contractor may ease the establishment of contractual documents and result in a more effective observation on the time schedule. However certain policies have to be established in the contractual terms, such as in what refers to the selected technology, to the quality of materials, to the types, mechanical guarantees and reception tests for equipment parts, to the supply of spare parts and the training of the plant personnel. To minimize the lack of technology transfer that is a consequence of these contracts and to be sure of an

adequate fulfilment of those contractual duties, the Project Promoter should establish a permanent "project follow-up team" with its own staff (or contracted consultants that may be called Employer Representative or Engineers) to keep in path with the development of the main project tasks, specifications, equipment reception tests, personnel formation programs, mechanical tests at site, and process & performance guarantee test-run. To avoid conflicts between the Contractor and the Project Promoter or Employer Representative, the status, powers and relations of each participant should be described in the bidding documents and later on transposed to the contractual forms.

Besides, a careful preparation of the inquiry form and pertaining documents is as much essential as the extent of "unpacking" gets more diluted in Project implementation. Turnkey contracts are much questioned, presently, by their light contribution to an effective transfer of technology and by a certain tendency to avoid technological risks by selection of conservative technologies. Therefore, even in the establishment of a turnkey contract, the possibility of a discussion on the selected technology should be kept open, with the participation of the Project Promoter and its Technological Consultants. In certain circumstances, a limited margin for alternatives could be left open to encourage the inclusion of updated technologies.

4.2.2.The Semi-Turnkey Contracting

A compromise between the "turnkey" contract and the "unpacked" approach, that may avoid much of the objections raised to "turn-key" contracts about technology transfer is the so called "partial turnkey" or "semi-turnkey" contracting, in which the Project Promoter keeps in itself (or delegates in an Engineering Consultant) the responsibility for the process selection, basic engineering, supervision of erection, recruitment and training of plant personnel and passes to the Contractor the "physical realization" of the Project, i.e. the procurement, the equipment construction, the plant construction, erection and mounting and the delivery of the mechanically complete plant. In this particular case, the acquisition of technology is carried out by the Process Promoter, and therefore a better technological knowledge is obtained. The invitation to bid gets more precise, allowing to a much more comparative bidding. Supervision is clearly stated as a duty of the Consultant, and so a greater control may be exerted on the Contractors performance. However, part of the Contractor's work may depend on the completion of the engineering drawings, and changes that occur in the drawing table may produce extra-work in Contractor's billing. The "semi- turnkey" approach can also be helpful in encouraging the use of local subcontractors, may them be connected to the role of the Contractor for locally performing tasks, may them be called to support the Project Promoter or Employer (or Engineering Consultant) tasks, as for instance when imported basic engineering or conceptual design are developed to

detailed engineering by locally available subcontractors, or supervision jobs and/or expediting and technical quality control are assigned to local contractors.

4.2.3.Some considerations about subcontracting

A word should be said about subcontracting, at this point. A subcontract represents a juridical relation subordinated to another contract, called basic or principal contract, and is celebrated by one of the Parties of that basic convention under the rights issuing from it. It is clear that the Contractor in a turnkey contract may have the right to subcontract part of its jobs. The same applies to the Project Promoter in a "semi- turnkey" contract. However some limitations have to be considered and formulated when subcontracting, due to certain differences in dealing such juridical relation in the legal framework of different Countries.

First, subcontracting of the total contracted job or subcontracting in certain situations, such as for those defined "intuitu personae", shall be forbidden. This second case may happen, in industrial contracts, when certain deliveries should be provided by certain defined suppliers, shall them regard to technological processes or to specific equipments. If these conditions result from Project Promoter options, they should be clearly specified as impositions in the invitation to bid and later transferred to the contractual documents; if they arise from the Technology Owner or Basic Engineering supplier, this may raise the limitations associated to critical and proprietary equipments, or to the specific assignment of Detailed Engineering development, as we may deal later. An intermediate situation can be represented by the clause that allows some subcontracting, but "subjects subcontracting to the approval of the subcontractor and extent by the other Party".

Second, the liability for subcontractors' work or performance to the Project shall only rely in the Contractor, i.e. the Contractor shall be the only Party answering to the Project Promoter about duties and responsibilities issuing from the Contract. Also the responsibility of subcontracting may be totally kept by the Contractor, i.e. the subcontractor may have no right to present to the Project Promoter any claim issuing from the relationship established with the Contractor. These provisions should be inserted in the suitable contractual documents, to prevent any misunderstanding regarding remedial services from improper performance of contract or from other required corrective action or from omission.

Third, no direct contacts should be established between the Project Promoter and Subcontractor representatives, without the presence of a representative of the Contractor. If by any reason the Contractor may not be present at that meeting but requires the Project Promoter to meet the Subcontractor, any matter dealt with the

Subcontractor in that meeting shall be considered as dealt with the Contractor, keeping the Contractor the obligation of getting from the Subcontractor tne adequate notice about the decisions there taken.

4.2.4.Consortial arrangements

The "turnkey" and "semi-turnkey" concepts may raise certain arrangements of several corporations to provide a sole contracting party, joining their specific qualifications and thus searching for a better position in a competitive bidding. On the other side, for big complex Projects, the Project Promoter may be reluctant to deal with one single contractor, that may show certain limitations to cover its complete task. These situations may be covered by the setting up of specific juridical entities such as the contract of consortium, or simply consortium, in which two or more entities oblige themselves to collaborate in a concerted form to achieve a specific purpose, such as the realization of a certain project or part of it. The consortium may have two forms: internal consortium, when the Project Promoter deals only with one of the Consortium members, and external consortium, when the Project Promoter gets contributions from each of the consortium members, acting under and for the established consortium. The model clause frequently quoted "The liability of the Consortium members A, B, and C towards the Project Promoter shall be joint and several" shall be expressed in the contractual terms, since the law of some Countries doesn't consider the liability as so if not clearly expressed.

4.2.5.The "unpacked" approach

The other extreme of the Project philosophy, opposed to the turn-key contract, is the totally unpacked concept, in which the Project Promoter, or its technical consultant, decomposes the overall project in coherent groups of supplies, including technology, engineering, equipment procurement, etc. and places in the market all these packages, assuring the co-ordination, supervision and programming for the overall project - what is also called "direct project management".

This position requires a considerable extent of organization and involves much effort to conciliate critical aspects related to several contracting parties. Its advantages may be the acquisition of a better technological knowledge, the development of specialized skills and the search of better commercial practices in each particular case. However, for a big complex project, an extremely divided PBS (Project Breaking Structure) may require additional difficulties and produce severe effects if any lack of co-ordination occurs. Responsibilities are also split and specific measures to reduce over-runs in time and cost may be required. Therefore this approach should be limited to circumstances in which the Project Promoter has access to a well sized and settled organization, to give the adequate and proper answer to such

specific demands.

In certain markets, the procurement effort shall be completed by an expediting, i.e. a continuous auditing on the progress of orders and supplies, to avoid any unexpected delay.

In any case, the "unpackaging philosophy" shall take into consideration the limitations in procurement that result from the so called critical and proprietary equipments, as specified by the Technology Supplier for the purpose of accomplishing process & performance guarantees. Proprietary equipment may be defined as that equipment or equipment parts that is related with the industrial property represented by the selected technology itself. It may only be provided by the Technology Supplier or by a specific corporation licensed by him for that purpose. Critical equipment, otherwise, represent project parts that may be subjected to very strict specifications in order to assure properly their performance when integrated in the industrial plant, and that only may be delivered by a strict number of potential suppliers. During technological discussions, the list of critical and proprietary equipments shall be revised item by item, as well as their characteristics and spares. Their specific nature has to be justified and understood in the scope of process characteristics.

4.2.6.Conclusions about Project desegregation

The degree of splitting the Project tasks, including the necessary Technology Transfer forms, much depends from the extent and features of the project and as well from the existing capabilities. In a high technologically developed group, the running of a project may rely on the application of own R&D findings, the use of own engineering and constructions departments, and a minor participation will be called from external suppliers.

In big to medium-sized corporations settled in developed countries and with a certain knowledge in that particular field, the splitting of deliveries for up to medium sized projects may take place, keeping the overall co-ordination in the project promoter. The acquisition of technology may be conducted either directly, with the technology owner or licensed corporation, or through the engineering corporation hired to provide the basic engineering. For small or new-born corporations, with still reduced staffs, or for big projects, a semi-turnkey concept may reduce risks and result in considerable time (and cost) savings.

The "packaging" concept develops inversely to the degree of development of the concerned Country: least developed countries may require turnkey contracts, followed by operation management contracts (or product in hand contracts), when semi-developed countries may adopt semi-turnkey approaches.

We may remind following cases:

a)Project promoter alone: situation seldom met and limited to very small projects or to project development inside big polyvalent organizations;

b)Project promoter purchasing the know-how from a Technology supplier and proceeding by own means to the Project realization: still uncommon, this situation may happen, for instance,when a product covered by secrecy agreements nay be produced in an already existing industrial unit with the introduction of minor modifications;

c)Project promoter purchasing the know-how from a Technology supplier,contracting the required engineering work and purchasing equipments and services necessary to the project completion, but keeping in hand the co-ordination, planning and control of main project management tasks: this situation, normally called "direct management", corresponds to the "unpacked philosophy" discussed above. One common feature of this project organization is the purchasing of technology in a package with the basic engineering;

d)Project promoter purchasing the required technology and passing the complete project package (i.e. engineering, supplies, services, personnel training, etc., up to the startup of the plant) to a general contractor, i.e. adopting the turnkey contract philosophy;

e)"joint-venture" situations, in which a corporation is created to materialize the project, joining contributions from each side, namely in what refers to the required know-how.

In all these typical cases, we have assumed that the required technology may be separately purchased by the project promoter; however, quite often, the engineering company is owner or licensed of the technology rights, and this simplifies the overall contractual relations. As above mentioned, the technological package combining process know-how and basic engineering is quite common. However, if this situation doesn't exist, then a careful delimitation of responsibilities has to be entered in each contract (i.e. technology purchasing and basic engineering), to avoid later troubles.

4.3.Common bidding procedures

This general title includes the main practices regarding the approach to the "supply market" for industrial projects. These practices may be much conditioned by several factors, such as national regulations and international agreements, the nature of the project itself (public or private) and/or the relations with the financing institutions.

In general terms, we can draw three basic bidding systems:

-tendering, including the open tendering and the selective tendering;

-negociated tendering;

-direct procurement and purchasing.

4.3.1.Tendering including the open tendering and the selective tendering

In the tendering process, an invitation to bid is addressed to several potential offers and the received bids are appreciated according to their relative merits, according to an established evaluation grid. Limited dialogue with bidders takes place after the reception of bids, and that may occur only for technical clarifications and under strict regulations, such as for the "double bidding" process in international competitive bidding.

The tendering process includes two quite different types of tendering:

-The open tendering, i.e. the generalized invitation to bid produced after wide announcement or publicity included in selected specialized magazines or internationally known papers, as well as in official or institutional publications when required, or by mailing to Embassies, with a summary description of project and of the bidding steps. The full procedure, normally required by international and regional or sub-regional financing institutions under the name of international competitive bidding, involves the mentioned publicity carried out by the Project Promoter or its assigned Consultant, the prequalification of bidders, the preparation of the bidding (invitations to bid) documents, the sending of those documents to the prequalified bidders, the setting up of an evaluation grid (often to be approved by the lending institution), the reception of bids, their opening and relative appraisal, and the final announcement of contractual award. In more complex cases, as will be described later, close double bidding may take place. When a single country may provide all the goods and services required to the Project and no obligation from international financing institutions requires an internationally wide competition, local competitive bidding may also occur with similar principles; this also may happen to cover the part of national deliveries that may be accepted to a certain project, even with international participation.

-selective tendering: when the supply market is well known, i.e. the number of potential contractors is known and limited, or when the contract extent is relatively small to raise the interest (or justify the cost and delay) of an international wide bidding, the prequalification step is no more necessary, and the invitations to bid may be addressed

to the known potential bidders. This also happens when, by special reasons, it is intended to hasten project implementation and therefore reduce the time consumed by the open bidding procedures. When international lending institutions are involved, the shifting from the competitive bidding procedures to the selective tendering, also known as international shopping, should be previously approved by them.

4.3.2.The negotiated tendering

This tendering system is based in a selective invitation to bid, sometimes addressed to a sole bidder (or to a small number of selected bidders). The Project Promoter keeps the right to negotiate with the sole bidder invited, or with one of the selected bidders, up to the setting up of all the contractual terms, but also keeping the right of ceasing negotiations and of retaking them with another invited (or to be invited) bidder.

Such a situation may happen in several different circumstances, such as: certain Governmental purchases, contracts under strict secrecy, purchase of technology or products full covered by patents and therefore not available from other suppliers, R&D contracts (such as the testing contracts we have mentioned before), emergency acquisitions, sequential or additional orders to projects already passed, etc.

4.3.3.Direct procurement and purchasing

If the last tendering procedure is limited to markets with very restricted supply, this third tendering procedure refers to markets of wide supply and generally to minor parts. The acquisition occurs without invitation to bid and often without bidding, or with a short comparison of the prices in the available market. This is restricted to local shopping and to small parts and services.

4.3.4.The announcement and prequalification procedure in the open tendering

It was mentioned above that the requirements of the international competitive bidding often involve the international announcement of the project itself followed by a prequalification procedure. This is a current requirement of international lending institutions, when they cover part of project financing and when the "supply market" may involve a large number of interested entities from several Countries - and therefore a "short-listing" of the prospective Bidders become an essential measure to proceed to an adequate bid evaluation over. If the "supply market" is scarce and well known, at least theoretically the "short-listing" associated to the prequalification step wouldn't be necessary and the public announcement for a documented demonstration of interest, or even the selective tendering, would be enough to assure the access to

an open competition. The phases and time schedule of the prequalification steps are normally prepared by the Project Promoter, according to the regulations to observe, and submitted to the approval of the concerned authorities. i.e. National Government and International or Regional Lending Institutions. In most cases, the prequalification is made in just one step; however two prequalification steps may exist. The purposes of the Prequalification are not only to reduce the number of potential bidders but, specially, to evaluate their capacity to undertake proposed project obligations, either in what refers to their accomplishment of the formal contractual requirements or in what precise their capability to do their proposed job. Prequalification procedures, therefore, should include informations about the commercial, financial and technical situation of proposed tenders, but also about their present workload, their working capacity to proceed along the project, the composition and qualification of members of proposed project team with guarantee of their stability during project development, as well as references on similar projects that have been undertook.

The announcements for prequalification are made in several specialized magazines, in selected daily papers from several Countries and as well in the official or institutional publications related with the Country where the Project takes place (or the development program that covers it) or with the lending institution. The text of the announcement and the list of intended announcement publications, with respective timings, are often subjected to prior approval of national Governments and of Financing institutions. Pages 16A,B and C include three examples of these advertisements, that may well exemplify the respective contents, that shall include, at least, the identification of the Promoter, an outline of the Project, its schedule and of the expected Contractor duties and capabilities, the necessary informations to prequalify ("applications for registration") and how and where they should be delivered, the possibility of a second phase of prequalification, if that is the case, and a brief description of the proposed criteria of evaluation. It has to be noticed that the advertisement costs are relatively high and that a certain delay is required to obtain a quite simultaneous publication, at the envisaged time and in the foreseen papers. A practical solution may be the contacting of a specialized press advertisement agency, that may organize efficiently the announcement stage.

Simultaneously with the press announcements, letters with similar text may be addressed under certified mail or delivered with protocol register to the Commercial Attaches of the Embassies or other Diplomatic Representations existing in the Country where the Project may take place.

During the delay between advertisements and delivery of required informations from interested bidders, the Project team will

undertake following tasks:

-organize the proposed grid of criteria for selection of bidders and establishment of the first reduced list, anticipating the probable number of bidders that will make part of that list;

-draft the letter to be addressed to the excluded bidders;

-draft the letter (and/or announcement) to be addressed to the not exluded bidders if a second step of prequalification shall take place, there listing the additional informations that should make part of that second step, and respective time of delivery;

-organize the first version for the grid of criteria for selection of bidders and establishment of the second reduced list;

-prepare the invitation to bid (ITB) documents;

-submit the above mentioned elements (grids, letter drafts and ITB documents) to the approval of the concerned institutions;

-assist to the current number of doubts and additional questions that may arise from tentative bidders in the interpretation of the advertisements and/or communications received from Embassies.

When informations requested for the prequalification are received and evaluated according to the approved grid, the first reduced list of bidders is established and may be sent, with the selection report, to the concerned institutions.

If the prequalification is a "one step" or "single prequalification", the approved reduced list of bidders closes this procedure, and next activity will be the addressing to them of the "invitation to bid" documents.

However if a "double prequalification" is required, the process shall be restarted, now only addressed to the tentative bidders of the first reduced list, and will proceed as described before up to the establishment of an approved "second reduced list of bidders" to whom, finally, the "invitation to bid documents" are to be sent. An early issued written statement of non interest from tentative bidders that decide to give up after reception of the second prequalification requirements may be helpful to avoid unnecessary routines.

4.4.Some considerations on Project contracting according to the adopted pricing forms

Adopted payment forms may also be regarded as a possible criterion to classify industrial projects, and they represent an important feature of the dialogue between Project Promoter, the Contractor and the Financing Group.

A general principle to observe is that the contract price represents the actual values from contributions and deliveries of the contractor plus a certain margin that depends on the risk assumed by the contractor to fulfil its contractual duties. Therefore, all payment forms will establish a relation between the relative level of cost uncertainty and the type of contract to be agreed upon. However alternatives of pricing nay be considered by the Project Promoter in each particular case that may incite the Contractor in order to control its production costs, and therefore the resulting cost impact in the Project.

A difference should be established at this point between price and payment. The first represents the amount of money that, by the fulfilment of the contract, the Project Promoter will pay to the Contractor; the second - i.e. the payment - is the schedule of the partial monetary deliveries related with. Both concepts will be present in specific clauses in the contractual text, and in fact a certain relation do exists between them.

In the establishment of prices, three basic options may be envisaged: lump-sum pricing, unit pricing and cost reimbursable pricing. The two first criteria may be considered as "pricing according to performance", and the third as "pricing according to cost". From these three basic concepts, all the common pricing formulations may be deduced. More connected with the relation price/payment and more addressed to the technological contracts, or to the use of trade marks or other industrial property rights, the payment of royalties could be present as a forth alternative. Still other alternatives within the relation price/payment - such as the payment by access to part of the envisaged production or by the exploration of the foreseen facility as a concession during a certain time - imply a larger compromise of the Project Promoter autonomy and fall already in the financing, if not in the political, scope. Such alternatives, that in some circumstances may also touch the "joint-venture" entrepreneurial concept, will be not developed here.

4.4.1.Pricing based in the "lump-sum" or fixed price concept

"Lump-sum" is the current designation for the overall price of a certain delivery, including the case of the complete project. When making the estimation of the lump-sum price, the Contractor assumes all risks, and therefore increases the safety allowance left in the cost calculation for the coverage of such unforeseen events. Consequently, purely fixed lump-sum prices (in the so called "firm-fixed-price contract") are obviously high.

A first common attenuation of the rigidity in those contracts is the admission of a revision formula to cover the effects of inflation and therefore reducing, in this particular, the risks of the Contractor. The revision formula may be based in single indexes, such as in the parity of the contractual currency to a

determined reference currency or in the inflation index associated with the currency set in the contract, or may be construed upon a more complex formula, joining several factors weighted upon their contribution in the contract performance. Contracts established in "basket" currencies - i.e. currencies whose parity results from a certain combination of several currencies , such as the ECU - have been recently more favoured due to the relatively more stable performance of these monetary units.

In some cases, the "lump-sum" contract may be negotiated with the Contractor in two separate amounts, one expressed in local currency to cover local supplies. This supposes that it is possible to agree, with a reasonable degree of precision, the extent and nature of local supplies. However, the extent of local supplies, in certain conditions of financing (namely those requiring open bidding practices) may be subjected to limitations. Besides, and specially for developing Countries, when any fixed cost contract is decomposed in two different currencies, to cover the possibility of local supplies, provisions should be established in the contract to assure beforehand the better revision conditions if a later modification of the splitting of deliveries that support such dual costing is deemed necessary. When dual currency is used, escalation formulae based in local currencies, when these are subjected to great or systematic devaluations, only should be accepted to cover local deliveries.

These systems have the advantage of a better price definition since the very beginning of the contract, and may give to the Purchaser a relatively easy administration. However, besides the implied cost increase due to increased risks, there is also a certain potential compromise in the quality of supplies - that justifies a careful quality control by the Purchaser. In general terms, these pricing formulations should be avoided in circumstances of great uncertainty in the price factors, as for instance when great inflation occurs - or when the characteristics of the project itself may produce supervening modifications.

Another variant of the "lump-sum" contracts, is the <u>"fixed-price-redeterminable-contract"</u>: in this case the order is passed to the selected Supplier with the definition of a provisional or estimated overall cost. This price may be revised by both parties, when a better definition of the contractual supply is attained - normally fixing a limited time delay to proceed to that precision and corresponding revision. This system may be helpful to cover situations not yet fully defined, but may produce unexpected penalizations for efficacy, reason why the Contractors are impelled to increase, at the beginning, their relative margins or to maximize costs up to the redefinition moment, reducing the cost control actions. A simple example may easily demonstrate this situation: let's assume a project whose provisional cost was fixed in 110 monetary units, corresponding 100 to the foreseen costs and 10 to the expected Contractor profits. Re-evaluating the project

later, its final cost is defined as 80, and a tendency results in reducing "pro-rata" the respective Contractor's profit i.e. only to 8 units...instead of the expected 10 if no price reduction had occurred.

The introduction of incentives in fixed price contracts may respond well to that situation, and will be dealt later (see 4.4.b., hereunder.

4.4.2.Pricing based in unit prices and time rates

Establishment of unit prices represent one practical way to reduce the Contractor's risk and therefore to attain more adequate contractual conditions. In this pricing concept, prices are agreed for certain measurable units of performance. Classical examples are unit prices for cubic meter of poured concrete, or of dredged material, for meter of piling or of advance in tunnelling works, for man-hours in engineering, drawing, erection or construction, technical assistance, teaching actions during training, etc. These pricing formulations are very practical when a preliminary definition of the conditions to be met during the progress of work is not yet available (vg. for exploration in mining, tunnelling and other subterranean works).

"Time-based" rates, as the well known "hourly-" and "daily-rates" may be included in this category. They are common ways to price the staff involvement in contracts of design, engineering, technical assistance or of personnel training. They also apply to the hiring or utilization of equipments (manned or not) and, in contracts, their mention is quite common to define the fares that should apply if and when extra-work is required by additions or modifications to an agreed contract scope.

However, assuming that each unit price incorporates a cost plus a certain profit, it is obvious that any increase of the number of units will contribute to an increased profit of the Contractor. Therefore, there is no incentive in such a pricing criterion to increase productivity. A practical idea (that naturally results from budgeting practices), often used in contracts based in this costing system, is to include a reasonable estimate of the expected units to be employed, stating intermediate limits that should be announced to the Project Promoter when attained.

Besides, the measurement criteria for the units to consider in the project pricing should be well precise in the contract text, and in some situations with provisions allowing that the Purchaser, or any Purchaser representative, may control the effective units applied to the project. Let's consider a simple example, from dredging works: if it is stated in the contract that daily measurements (by sounding) of the removed volume of silt are made immediately after the daily work or, otherwise, should be made only after 24 hours, the results may show meaningful differences.

Typically applying to direct managed projects, the "unit-price" or "time-rate" price criteria imply a careful follow-up and a continuous reference of the actual progress, and incurred accumulated costs, to the expected project budget. One possible advantage of this system refers to its easier application to possible local deliveries and/or services.

4.4.3.Cost reimbursable contracts

Cost reimbursable contracts represent the group of the pricing methods according to cost: during the project development, the project Contractor is entitled to be reimbursed from the Project Promoter of all expenses he has made for the performance or execution of the contract, including in each invoice (or in separate invoices) a reasonable profit. This feature made their common denomination as "cost-plus" contracts. The idea of this type of pricing is to reduce the uncertainty and risk of "lump- sum" contracts during the development of the respective projects, therefore allowing Contractors to reduce their "safety margins" and producing cheaper and realistic pricing. Several alternatives may be considered:

a)"Cost plus fixed fee contracts": in this case, the Contractor bills the Project Promoter with all expenses paid for the execution of the contract, at their actual costs, plus an overall fixed amount for all the project as Contractor's profit. This alternative is characteristic of R&D contracts (vg. in "test contracts") and is common, as well, in projects whose urgent nature imply their onset before a complete overall schedule is established.

Being the profit represented by a fixed amount, it results unaffected by the final cost of the overall project and thus no reward or incentive is addressed to a better project management that produces lower costs. This justifies that such a type of pricing should be restricted to projects in which an incitement of the Contractor would determine no sensible advantage in the overall costs (such as in R&D contracts), or to small projects.

b)"Cost plus fee contracts": the more frequent type of the "cost plus" contracts may be introduced by this case, in whose "pure form" the Contractor bills the Project Promoter with the expenses incurred for the execution of the contract, adding to them the respective profit as an established per cent basis.

If in the case previously described there was no incentive to reduce costs, but also no advantage to increase them, this "cost plus" system, without the establishment of certain security provisions (such as a "ceiling" for the overall project cost, or the introduction of "incentive contracts"), may induce perverse effects in the project management by the Contractor: as a matter of fact, greater project costs will convey greater profits...

In "cost plus" contracts, a "termination clause" is commonly introduced, allowing the Promoter to terminate the contract if the overall costs exceed a reasonable maximum limit: this clause, however, provides but a relatively small relief (if any) to the the Promoter that needs to invoke it. As a matter of fact, when the project is already advanced, the termination imposed by the Promoter under this clause obliges him to negotiate in a "relatively weak table position" the replacement of the faulty Contractor by a new one. Besides the predictable delays in the transmission (or intermission) of works, this weak negotiating position may not help very much in a situation whose deterioration and urgency are well known from the prospective new Contractor.

The contracts established under this costing system should clarify what costs may be compensated separately and how to deal with costs that may result from modifications or repairs or other risks that may fall under Contractor's responsibility, normally to be excluded from the calculation of fees. Besides, the contract should clarify that all discounts obtained by the Contractor should revert to the benefit of the Promoter, including any commissions or agency benefits directly associated to the purchase of certain equipments or other project parts. A careful follow-up of project accounting (and as well as of Contractors accounting related to the Project) by independent auditors, with access to the suppliers of major equipments, parts and services, may be helpful when important projects are dealt under this pricing system.

However, the best solution - specially for developing Countries - is to avoid the "cost plus" system or to limit it to situations in which a final cost assessment is still affected by a considerable uncertainty, shifting to a "lump sum" system or introducing "incitement clauses" when the cost determination becomes enough precise (see hereunder).

c)"Cost-plus" associated to "lump sum" contracts: a first case of these hybrid associations reflects exactly what was mentioned immediately above, i.e. a project that may start and follow under cost-plus pricing up to the attainment of a reasonably accurate cost estimate, shifting then to a "lump sum" concept. A classical example is the case of the implementation of a big project in a difficult or complex emplacement: the preliminary studies, for setting up the complete project feasibility assessment (including process selection, preliminary basic engineering, estimation of all infrastructural costs and of training & technical assistance) may be carried in a cost-plus basis up to the determination of an estimated final cost sharp enough to base the investment decision, and henceforward the project execution will progress under a "lump sum" contract. In any case, comparison should be made with the "fixed-price-redeterminable- contract" explained above for similar, but less uncertain, situations (see 4.1.).

Another case, that also intends to limit the risks posed by pure

"cost-plus" contracts, is the contractual fixing of a "ceiling-price", that by no reason should be exceeded for the overall project. As a matter of fact, this corresponds to the application of the "cost-plus" up to the ceiling, where the contract automatically changes to a "lump-sum" contract. The negative aspect of this system is that, after the "ceiling cost", all expenses to finish the project will be totally incurred by the Contractor, i.e. the Contractor fee is maximized at the "ceiling cost" and then decreases, with no share of the additional costs. A tendency for the Contractor to heighten the "ceiling cost" or to increase prices may reduce the possible advantages of the "cost-plus", that becomes since the very beginning a "disguised lump-sum".

The introduction of incentives in "cost-plus" pricing systems, may produce interesting solutions to overcome some of the mentioned questions (see 4.4.c. hereunder).

4.4.4.Incentive pricing

a)Principles: The incentive systems intend to convey to the pricing alternatives already exposed a relationship between the Contractor's reward and his degree of performance in relation to contractually fixed goals.

It is assumed that any success in the Contractor's job will produce a benefit in the overall project; on the other side, a failure will hurt expect project returns. Therefore, a principle of sharing benefits could produce a reward to the Contractor in the first case; a non-accomplishment of expected goals, should penalize the unsuccessful Contractor, as for instance happened in the "ceiling price" principle above exposed.

Four concepts should be developed in connection with the incentive pricing contracts:

i-fixed targets or goals: to be accurately defined in the contract and accessible to a precise evaluation, being the evaluation procedure (between the parties or involving an independent auditor or third party) also contractually expressed. A good project control is essential for the success of these pricing methods. A current goal to is a fixed and objective "target cost"(Po) that corresponds to a "target fee"(Fo) and an "overall target disbursement" by the Promoter (To), being To = Po + Fo. As we may see, several targets may be established for different mensurable variables considered of interest in the contract execution.

ii-share coefficients: For each variable of the contract execution to which is attributed a target or goal, a share coefficient should be established. For the variable more commonly under consideration, i.e. the project cost, if the attained objective cost (P) for the

project is different of Po, the share coefficient C (0<C<1) defines the part of the difference Po - P that will be (algebraically) added to the "target fee"(Fo) to determine the "actual fee" (F):

$$(Po - P) \cdot C = F - Fo$$

Quite often, instead of a "share coefficient", it is referred a "share ratio" (X:Y) of the type 75:25, or 90:10, whose terms X and Y express the percentage relation of share (X % to the Promoter and Y % to the Contractor) obeying to X+Y=100% and being related with C by the expressions:

$$X = 100. (1 - C) \quad \%$$

$$Y = 100 . C \quad \%$$

The actual overall disbursement by the Promoter (T) is given by :

$$T = P + F = P + C .(Po - P) + Fo$$

In some cases, two different share coefficients are defined, one to the cost overruns (Cm i.e. when P>Po), generally more penalizing to the Contractor, and another to the costs under the target cost (Cb i.e. when P<Po), being Cm>Cb. Therefore the function T = f(P) will show two trends, converging in the singular point where To=Po+Fo, i.e.

for P > Po $\quad T = P - Cm.(P-Po) + Fo$

$\quad F = Fo - Cm.(P-Po)$

for P = Po $\quad T = Po + Fo$

$\quad F = Fo$

for P < Po $\quad T = P + Cb.(Po-P) + Fo$

$\quad F = Fo + Cb.(Po-P)$

<u>iii-limits to the share application:</u> the incentive system can be complemented by the establishment of limits (upper, under or both) beyond which the share principles don't apply. As an example, dealing with the project price:

if the share principle applies up to P_1 (P_1>Po), and for P above P_1 the "malus" $P-P_1$ with $P>P_1$ shall penalize totally the Contractor, similarly to what was said above about the "ceiling price", then we have:

for $P > P_1$ $\quad T = P_1 - Cm.(P_1-Po) + Fo$

$$F = Fo - Cm.(P_1-Po) - (P-P_1)$$

and if the share principle also applies down to P_2 ($Po>P_2$), but any "bonus" P_2-P with $P_2>P$ may revert totally to the Contractor, then we have:

for $P < P_2$ $\quad T = P + Cm.(Po-P_2) + Fo$

$$F = Fo + Cm.(Po-P_2)$$

In other cases, there may be no "ceiling price" and the rule to apply outside the stated limits will follow the "cost plus fixed fee" pricing, i.e.:

for $P > P_1$ $\quad T = P - Cm.(P_1-Po) + Fo$

$$F = Fo - Cm.(P_1-Po)$$

for $P < P_2$ $\quad T = P + Cm.(Po-P_2) + Fo$

$$F = Fo + Cm.(Po-P_2)$$

iv-partition function: other parameters may be included in the incentive system, such as completion time, utilization of local workmanship, etc. In this case, a more complex partition formula may be established, taking into account the degree of performance of the Contractor to each defined target or goal and the extension of compensations that may be (or not) admitted between all or several deviations;

b)"Fixed price incentive fee" system: The incentive system may be applied to the fixed fee pricing. In this case, the Promoter will negotiate with the Contractor the following concepts, to be duly entered in the contract passed between them:

-the targets Po and Fo, already known. Let us assume Po=100 and Fo=10, therefore To=Po+Fo=110;

-a zone of costs into which a certain share is admitted, with a share coefficient C; let us assume a share partition 80:20, i.e. C=0.2;

-a "ceiling cost" or "limit for total responsibility" P_1 above which all the extra price will be absorbed by the Contractor; let us assume P_1=125;

The resulting situation may be defined as follows:

$P < Po$ $\quad T = P + C.(Po-P) + Fo$

$$F = Fo + C.(Po-P)$$

$P = Po$	$T = Po + Fo$
	$F = Fo$
$Po < P < P_1$	$T = P - C.(P-Po) + Fo$
	$F = Fo - C.(P-Po)$
$P = P_1$	$T = P_1 - C.(P_1-Po) + Fo$
	$F = Fo - C.(P_1-Po)$
$P > P_1$	$T = P_1 - C.(P_1-Po) + Fo$
	$F = Fo - C.(P_1-Po) - (P-F_1)$

The application of these simple equations demonstrate for the figures assumed as an example, give the following results:

	P	F	T
	80	14	94
	90	12	102
target price ->	100	10	110
	110	8	118
	120	6	126
ceiling price ->	125	5	130
	127.5	2.5	130
	130	0	130

It may be easily seen that the risk of the Promoter is limited to the negotiated "ceiling price", that actuates effectively as the limit of a "lump sum" contract. However, the incitement proposed and the fact that a target price and a target fee were negotiated between the parties, makes more probable that the actual total cost to be disbursed by the Promoter will be near those values.

This type of incentive contracts may apply to situations with an average degree of uncertainty or when the Contractor's performance may sensibly influence the overall project costs.

b)"Cost plus incentive fee" system: The general equations applicable to this case have already been dealt before. In general terms, the negotiation to proceed between the Promoter and the Contractor will be quite similar to the above mentioned, and define the following parameters:

-the targets Po and Fo that also makes the relation cost/fee;

-the share coefficient;

-two points P_1 (above i.e. $P_1>Po$) and P_2 (below i.e. $P_2<Po$) that delimit the scope of application of the share system, being applied outside that scope the "cost plus fixed fee" system (a greater penalization would occur if considering P_1 as a "ceiling cost")

Putting some figures, to demonstrate:

Po = 1000	P1 = 1200	C=0.1
Fo = 40	P2 = 800	K=Fo/Po=0.04

and being $Fi = K.P$

$F = Fi + C(P-Po)$

then we may dress the following table:

	P	Fi=K.P	P-Po	C(P-Po)	F	T=P+F
	650	-	-	-	52	702
	700	-	-	-	52	752
P2	800	32	200	20	52	852
	900	36	100	10	46	946
Po	1000	40	0	0	40	1040
	1100	44	-100	-10	34	1134
P1	1200	48	-200	-20	28	1228
	1300	-	-	-	28	1328
	1350	-	-	-	28	1378

This system establishes a fair equilibrium in the situation of both parties, avoiding, from one side, extraordinary earnings and, in the other extreme, limiting the effects of a "fixed price" that could be too penalizing for the Contractor. Its utilization shall prevail when a certain degree of uncertainty still exists, but where the limits P1 and P2, between which the predictable cost stays, may already be established with a reasonable certitude.

c)Incentive systems with multiple target variables: These situations were already mentioned above. Several project variables, and not only the cost, may be assumed as target parameters for establishing a complex share relation. The recommendations already made about the good definition of those parameters and to the accessibility to their appraisal, may be remembered now.

d)Cost plus award fee: In these contracts, the Promoter may unilaterally fix in a meeting with the Contractor a certain reward or a certain group of rewards that will be given to the Contractor if certain well defined and measurable targets related to the project are attained. The definition of the rewards and targets, and their evaluation, may be established by the Promoter alone or by a kind of committee or jury, including independent auditors, that will appreciate the fulfilment of those proposed goals. The

proposed rewards may be attributed at the end of the Project, i.e. after the complete accomplishment of the contract, or, otherwise, may be proposed for attribution during the project development in time, i.e. connected with certain project progression achieved in time. However the attributions, in every case, shall be made during a meeting in which the Promoter, the Contractor and the established Committee, if any, will make together a revision of the proposed criteria, their degree of achievement and respective contribution to the interest of the overall project.

The success of this incentive system depends very much of their correct application.

4.4.5.The selection of a pricing system

Several pricing systems were presented, with their advantages and disadvantages. According to D.N.BURT ("Getting the right price with the right contract", in the Management Review, 65, 5 (May,1978), pp. 24 to 34), whose observations about pricing systems have been kept in mind through those pages, the choose of a better suited system may depend of several project characteristics, such as:

a)total project value;

b)relative degree of uncertainty in the available cost appraisal, and probabilistic distribution of the estimated costs;

c)management capacity of the Promoter, or of the adequate consultants he may contract to follow up the project progress, the quality of supplies and the control of costs;

d)the relative degree of disclosure the Contractor may accept to have his accounts examined by the Promoter or by his entitled representatives, namely by independent auditors contracted by the Promoter.

Taking in consideration those variables, BURT establishes the following criterion to choose the adequate pricing system:

degree of uncertainty	proposed pricing system
up to 10%	pure fixed price (lump sum)
from 10% to 20%	fixed price incentive fee
from 20% to 30%	cost plus incentive fee
from 30% to 40%	cost plus fixed fee or cost plus award fee

4.5.Payment

As already mentioned, the payment conditions, although related with the pricing systems, are normally stated in a separate clause under the Contract. The payment systems may be more or less complicated and generally result from a set of agreements involving the Project Promoter, the Contractor, the Lending Institutions related with the Project Financing and, quite often, the Financial Authorities and Export Insurance Agencies of the major Countries interested in the Project.

Considering the overall contract value, a certain down-payment is normally required, from 5 to 20 percent of the contract value, to provide resources to the immediate set-up of project activities and recruitment or allocation of Contractor's personnel to the Project team. The relative amount of that first instalment is much dependent of the availability of resources in the Promoter and of the required mobilizing tasks from the Contractor, specially when a permanent project team with required equipment is to be moved and permanently placed in an inhospitable area, of difficult accessibility. For engineering contracts, the common down-payment is generally not above 10 percent of the contract value. This first instalment, or down-payment, may become due with the signature of the contract, or with the contract coming into force, after the required approvals or authorizations by the pertinent Authorities (i.e. in the sometimes denominated "Effective Date of the Contract"), in a stipulated date, or within a certain time after the signature of the contract. If, by some reasons, the effective date of contract may introduce a considerable delay in the original Project schedule, a limited commencement of contractual work may be covered by a "Letter of Intent" or other type of Provisional Order, as we may refer hereunder.

Also a certain part of the total project value is currently retained by the Promoter as a security, to be paid to the Contractor when a full and satisfactory contract execution is achieved, including the attainment of process & performance guarantees. This amount, generally between 5 or 10% of the contractual value, may be partly released with the provisional acceptance (25 to 50% of the retained amount), but may be partly or totally replaced by a suitable and irrevocable guarantee provided by an accepted Bank. This bank guarantee is often called "performance bond", or "performance guarantee", or "surety for performance". However those designations have not exactly the same meaning, in what refers to the obligations established between the three involved parties, i.e. the Promoter, or Employer, the Contractor and the Guarantor Bank. By a Performance Bank Guarantee, the Guarantor Bank assumes that, upon demand from the Promoter , shall indemnify and pay to this one a certain specified sum, regardless of the relations that may actually exist between the Promoter and the Contractor; if no other condition exists to the actuation of this guarantee but the simple demand from the

Promoter, it is called "unconditional (or "on-demand") bank guarantee", but if the guarantee actuation is trigged by the condition of "failing the Contractor to execute the Contract or committing a breach on its obligations hereunder", requiring an adequate statement by the Promoter and an exercise of judgement of the existing situation by the Guarantor, then it is called a "conditional performance bank guarantee". In a "performance bond", if the Contractor is declared in fault by the Promoter, in what regards contractual execution, then the Guarantor Bank, upon to the amount of ähe Performance Bond, shall complete the Contract in accordance to its terms and conditions, or obtain bids from qualified Bidders for submission to the Promoter in view of producing the contract completion, or pay to the Promoter the amount deemed necessary by the Promoter to complete the Contract; some performance bonds may be trigged by an award under a previous arbitration procedure ("conditional performance bond"); if the contract is fully and perfectly executed the obligations established to the Guarantor Bank (or Bondor) shall become null and void. In the "surety for performance", the Guarantor obliges himself to the Promoter to assume the fulfilment of the Contractor's obligations established in the Contract, therefore requiring a detailed claim from the Promoter on existing faults and its appreciation by the Guarantor. From these alternatives, the "unconditional (or "on- demand") performance bank guarantee" is perhaps the more advantageous to the Promoter, since it can be automatically actuated on demand and regardless to the evaluation of the nature and extent of the claimed faults or to the actual relations between Promoter and Contractor. The World Bank documentation includes standard acceptable forms for "Performance Guarantees" and "Performance Bond".

The intermediate payments, i.e. the payments but the first and last instalments, can be contractually fixed on a project progress basis progress payments against progress certificates issued by the Contractor with or without certification from an independent Consultant or Technical Auditor), or on a time basis, or upon actual incurred expenses. In some conditions, advance payments (i.e. payments before performance) may be foreseen in the contract, but they should be conditioned to a specific bank guarantee ("Bank Guarantee for Advance Mobilization Loan", whose form is also presented in the World Bank documentation). Payments to be made on a time basis have to be checked against the actual progress of contract execution performance; if there is a sensible deviation between the scheduled and a delayed actual performances, then time-based progress payments risk to be advance payments without any guarantee protection: to avoid such a situation, an additional clause should specify in what circumstances a noticed delay in Contractor's performance should be considered as Contractor's fault and hence excuse a delay in the payment from the Promoter.

Special attention, in what regards payments, shall be addressed to the application of price revision clauses. Delays in the execution

of Contract under Contractor's liability shall not justify any application of price escalation formulae. The provisions normally to be settled for control and restriction of extra-work during project development (such as preliminary definition, budgeting and necessary approval by the Promoter) also shall be carefully observed against the reception of invoices for payments. Cost control activities have currently a well defined methodology and, as well as time control, should be present as a permanent exercise during all the Project development.

5.THE INVITATION TO BID (ITB): ITS CONTENTS

5.1.Introduction

The "Invitation to Bid" (ITB) is the common designation for the set of documentation to be worked out by the Project Promoter (or by a Technical Consultant acting for the Project Promoter) and sent to prospective suppliers of goods or services to be purchased in connection with the Project. The ITB shall contain, in principle, all the informations and specifications required to build an adequate offer upon it. In small projects, or when a complete "unpackaged" project management is considered, the ITB's to issue may be quite simple in themselves; however for large projects and when turnkey or identical concepts are in consideration, the invitations to bid may require an impressive amount of technical and juridical effort to be established.

Reference should be made to the key documents "Procurement of Goods" and "Procurement of Works" issued under the general title "Sample Bidding Documents" by the Inter-American Development Bank / The World Bank, respectively in March'86 and September'85 (copies enclosed as ANNEXES I and II).

A careful preparation of the ITB's is essential for the good reception and evaluation of Bids. Quite generally the ITB's are composed by:

-the invitation to bid;
-the instructions to bidders:
-the bidding documents and technical specifications;
-the provisions regarding clarifications and amendments to the issued ITB's.

The "invitation to bid", as an "overture" to the ITB itself, should be understood as a foreword addressed to the eligible bidders with identification of the Project Promoter, related Financial Institutions, location for inspection and conditions of purchase of the bidding documents, confidentiality requirements for the delivered bidding documents, access to suitable communications (addresses, phones, faxes or telexes), brief description of the Project, time limit and place up to and where to deliver the Bids, requirement of a bid bond and how to produce it, reference to bid

opening and evaluation and as well the outline of other main requirements associated with the the expected Bid.

5.2.Instructions to Bidders

This is surely an important part of the ITB, since it should contain a clear explanation of the main bidding steps and conditions. Some of the principles announced in the "opening address" or "summary" should be developed here. According to the World Bank sample bidding documents, several items should be referred in connection with these instructions:

a)description of the expected works and deliveries.

b)source of funds allocated to the Project.

c)eligibility and qualification requirements for bidders (open to all suppliers from eligible source countries, according to the regulations of financial entities, in the open tendering or addressed to a limited number of bidders if a previous prequalification step took place or if selective or negotiated tendering are to consider; see 4.3. hereabove).

d)eligibility of goods and services (i.e. observation of origin conditions applying in international competitive bidding such as applying for EEC public works or for projects under WB loans and IDA credits; extent of domestic participation).

e)cost and confidentiality of the bidding documents: to assure that only "bona-fide" bidders will ask for the documents, generally a price is fixed for its delivery and a confidentiality clause upon their contents is fixed in a delivery term, to be signed by each bidder upon receipt of the bidding documents. In certain cases, an additional clause may also be inserted in that term or in these instructions, to impose the unsuccessful bidder to return those documents to the Project Promoter.

f)cost of bidding: as a normal practice in current markets, provisions should state that the bidding costs will be fully covered by the bidders. However in very special cases some other situations may be found: in "reluctant markets" (excess of demand, political risks, difficult locations) the bidders may ask for a partial compensation of incurred bidding costs; the same may happen in "burnt markets", i.e. when the Project Promoter gets the reputation of a frequent caller for bids that unreasonably get no sequence. These two situations should be avoided, namely when the Project gets the backing of a sound financial scheme.

g)site visit: for Projects of certain dimension and location, the bidders may be suggested to visit the Project location and to collect for themselves and at own responsibility and risk all complementary informations pertaining to the Project location and

nearby facilities (such as provisional site arrangements required for Project construction,transport of equipment to the site, etc.). Permissions will be granted or provided by the Project Promoter to each interested Bidder to visit the site or plant, but in certain cases those visits may be covered by secrecy agreements and/or suitable agreements releasing and indemnifying the Project Promoter from and against all liability that may result from those visits, and keeping the Visitor Bidder responsible for any personal or material damages or losses that may arise from such a visit. The costs for visiting Project site should be at Bidder's charge as a "cost of bidding" (see paragraph f) above).

g)bidding documents: The expected contents of the bidding documents are examined hereunder (see 5.3.). Quite often, the instructions to bidders contain three general clauses regarding the bidding documents:

i-the completeness and care of their examination by the Bidder: it is assumed that the Bidder will examine carefully and completely the bidding documents provided with the ITB. Therefore, any deviation in the Bid in what regards those documents or requirements contained within should be considered at Bidder's risk and may influence final decision, including bid rejection.

ii-clarification of bidding documents: any doubt or discrepancy noticed by the Bidder in the ITB or the bidding documents should be promptly reported in writing to the Project Promoter addresses provided in the ITB text (see 5.1. above).The policy to be observed by the Project Promoter in replying to those questions shall keep in mind that equal opportunities shall be provided to all prospective bidders: therefore, if the doubt is of a very particular type that may only interest the asking Bidder, answer may be addressed to that particular Bidder in writing. However if the raised question may be regarded as general, and therefore may interest all the prospective Bidders (such as will happen when the same doubt is raised by a considerable number of them), then a prepared written answer or clarification should be sent to all the Bidders as an amendment to the bidding documents (see hereunder). In any case, a time limit should be stipulated in the ITB to raise those doubts or discrepancies i.e. any doubt or discrepancy brought in writing to the knowledge of the Project Promoter should be clarified in writing if received no later than ... (vg.30, 45 or 60 calendar days for bidding periods of respectively up to 90, 120 or 180 calendar days) days prior to the deadline for submission of bids stipulated in the ITB; written answers or clarifications will be produced within no more than...(vg.10, 15 or 20, respectively) calendar days from the reception of respective demands;

iii-amendments of the bidding documents: the Project Promoter may modify or amend the issued bidding documents at any time prior to the deadline for submission of bids. Modifications or

amendments should be produced as written Addenda promptly sent in writing to all Bidders. Modifications or amendments may result from Promoter's initiative or be suggested by doubts or demands of clarification raised by the prospective Bidders. If those modifications or amendments are produced within a reasonable delay prior to the deadline for the submission of bids, that deadline may be kept unchanged (a reasonable measure of their time limit is given by the above mentioned limits for putting doubts plus respective answering time: i.e. 40, 60 and 80 calendar days for 90, 120 and 150 calendar days for bid delivery times); however if amendments are produced at a later stage, the delivery time for producing the bids should be enlarged at a certain extent, at Promoter's discretion, to be mentioned in respective Addendum. Each issued Addendum should also require the Bidders to acknowledge respective reception in writing.

h)variations in bidding conditions: variations to the bidding conditions stated in the Bidding documents may fall in four different types:

i-definitions between provided limits for some financial / administrative conditions, such as the advance loan for mobilization and the time of project completion: in these cases, instead of fixing respective values, the ITB provides ranges of values and the Bidder should select the adequate figures within them;

ii-deviation from the ITB requirements in relation to financial / administrative conditions: should be present as alternative offers to the Bid to be submitted according to the ITB requirements. Those alternative offers should be developed in detail, in order the Promoter may evaluate relative advantages and disadvantages. Any Bid reflecting conditions other than those specified in the ITB (and not presented as an alternative to an ITB based Bid) may be rejected;

iii-the Bid should adhere to the processes, technical procedures, specifications and features described in the bidding documents. Any Bid referring to unsolicited processes, procedures or specifications will be rejected. However unsolicited processes or technical features other than those specified in the ITB may be accepted as an alternative to the required Bid, provided the Bidder establishes a Bid according to the specified technical requirements of the ITB and submits the unsolicited alternative in separate, with all information necessary to its complete evaluation by the Promoter either in technical and financial/economical aspects. The Project Promoter reserves the right of refusing any alternative so provided or to consider only the technical alternatives of the lowest evaluated bidder on the basic technical requirements;

iv-however alternative offers for different technical processes, procedures, specifications and features may be requested by the

Project Promoter and indicated as so in the ITB. When this happens, complementary informations regarding these technical alternatives should be supplied by the Bidder. The evaluation of these alternatives shall be based in their own merits and independently of having the bidder also submitted conditions strictly according to the ITB.

i)language of bid: the official language for the bid should be specified and already in agreement with the language for the envisaged contract. Additional documents to be submitted with the bid, such as drawings, specifications, instructions or other technical papers may be in a different language, however with a translation to the specified language of all parts that may directly interest to the bid procedure. In the interpretation of any bilingual document produced with the bid, or if discrepancies are noticed between the different languages therein used, the specified bidding language shall prevail.

j)documents comprising the bid: see 5.5. hereunder, including considerations about the format and the signing of bids.

k)bid prices, currencies to use, payment conditions, price revision clauses: as already exposed in this text, several alternatives should be considered here. Annexes I and II (Sample Bidding Documents of the World Bank) propose several alternatives to deal with this matter. In any case, the established instructions to bidders regarding these matters shall organize conformably respective informations in the provided bids, i.e. with similar expression and decomposition, in order to allow for a compatible evaluation and comparison of received bids, including the conversion to a single (reference) currency, when required.

l)bid validity: the Bidder shall grant that bids shall be kept open and valid for acceptance for a certain period after respective delivery deadline. This period should be entered by the Promoter in the ITB taking in consideration the time required for bid evaluation, clearances and approvals (the World Bank suggests bid validities between 90 and 180 days, according to Project dimension and complexity). The Project Promoter may keep the right to demand in writing an extension of the validity period before it expires: Bidders should answer to that demand in writing and may refuse it, without any effect upon the bid security provided. Accepting Bidders cannot modify their Bids and will be demanded to extend accordingly the validity of their Bid Bond.

m)bid security: see 6.5. hereunder.

n)bidding acceptance: to avoid unnecessary routines in assuring the complete bidding sequence to them, prospective Bidders that upon receipt of the bid documents become not interested in presenting their bids are invited to send within 8 to 15 days after that reception a written statement about their position. This measure

is also recommended when selective tendering or negotiated tendering takes place. It may also be helpful for the second phase of a "double prequalification".

o)submission of bids: bids shall be submitted up to the deadline fixed in the bidding documents in one original and the requested number of copies; they should be contained in closed and sealed envelopes addressed in full accordance with the bidding instructions. To avoid misunderstandings, the ITB shall clearly explain:
-where to deliver the bids;
-how to deliver the bids;
-the precise deadline for delivery (day and hour);
-the right of the Promoter to reject any bid that doesn't meet ITB requirements regarding the delivery of bids.
To fix the deadline in accordance with the postal (expedition) stamp is surely a source of potential problems; therefore such a practice should be avoided and replaced by a more precise definition: "offers shall be delivered at Promoter's office, (address to be fully detailed) up to the (day and hour fully specified)". This will allow for any form of delivery, and the Promoter should be prepared to issue a "Statement of Delivery" for Bids that may be presented by a messenger. If only a delivery alternative is to be considered (vg. postal delivery) this shall also be clearly stated in the ITB: "offers shall only be delivered by certified mail, addressed to (address to be fully detailed; in some cases a specific p.o.box may be hired to receive bids for a certain Project) to be there received up to (day and hour fully specified)". The issue by the Promoter of a "Statement of Reception" for each received bid is a good practice, when the Biding procedure accepts the mention of the Bidder's name in the outer envelope (such as in the case of selective tendering). However, if according to regulations of the WB, the bids should be submitted in an outer and inner envelope, being the outer envelope marked "not to open until (opening date)" and the Bidder's address only mentioned in the inner envelope (to return the bid unopened if declared late or unacceptable for any reason), then the issue of a statement of reception only may refer that a Bid was actually received, but not stating respective Bidder's name. Late bids should be marked "LATE", with the receipt date and hour, and sent as so to the appreciation committee. If a late Bid is considered definitively unacceptable, what should be the general case with the exception of unforeseen circumstances touching the "force majeure" criteria (postal strike, civil commotion, natural forces affecting the normal delivery performances), it should be returned unopened to the Bidder with indication of the returning reason. The ITB should specify any limitation (in weight or measures) that, in certain Countries, may delay custom verifications or postal distribution of Bid parcels.

p)up to the deadline fixed for the submission of Bids, considered in Promoter Premises, any Bidder may introduce alterations in or

withdraw respective Bid, For bidding according to the WB regulations, these acts should be presented in same envelope form, however marking the inner envelope (and not the outer envelope) with the words "MODIFICATION" or "WITHDRAWAL" (this containing the withdrawal notice). If withdrawal of a bid takes place between the deadline for submission and the limit of bid validity, then the Bid Bond i.e. the Bid security will be affected.

q)"double bidding" procedures: see 6.3. hereunder.

5.3.Bidding documents

Bidding documents are those delivered by the Promoter with the invitation to bid (ITB) and therefore including all the suitable information required to an adequate bidding, Bidding documents should bee construed in such a manner that Bids resulting from their use by different Bidders may become as much similar as possible. Comparison of Bids will then get easier, when in the evaluation step. Following the listing set up by the WB, the Bidding Documents may include following items:

-Invitation to Bid
-Instructions to Bidders (on how to Bid)
-General (Proposed) Conditions of Contract
-Special Conditions of Contract
-Technical Specifications
-Form of Bid and Bid security.
-Bill of quantities
-Schedules of Supplementary informations (if any)
-Proposed form of Agreement
-Proposed guarantees and warranties
-Forms of performance security and Bank Guarantees for advanced mobilization loan
-Drawings and other pertinent information (vg. soil characteristic)

5.4.Clarification and amendments to the Bidding Documents

See hereabove, item 5.2. paragraph g).

5.5.Documents comprising the Bid

These documents are those offered by the Bidder to be evaluated by the Promoter. They may include following items:

-the Form of Bid
-Technical Addenda
-Bid security
-Bill of quantities
-Schedules of Supplementary information
-Informations about the Bidder, including references (if not already provided in the prequalification step)

-Proposed schedule.

6.THE BIDDING SYSTEM

6.1.Pre-bid meetings

Some time after the bids are delivered, and according to the foreseen schedule, then will come the bid opening day. Bidder's representatives may attend and sign a register about their presence. Bid opening may be fixed in the ITB or, if not, is generally advertised and brought to the knowledge of Bidders. The Bidder representatives follow all the procedure, but cannot participate in the opening procedures. Notices of withdrawal and modifications are also appreciated during this step. Examining carefully each Bid, the Promoter representatives will determine whether they met or not the bidding requirements, rejecting those not complying with them or not complete. Bid securities will also be examined.

In a single bidding procedure, the Promoter representative will announce to the audience:

-incomplete and unfit bidders, to be rejected
-name of bidders with accepted Biddings
-bid prices
-bid modifications and withdrawals.

However, in a double bidding, the situation is not the same - as shall be described latter.

6.2.Conditions for a good bidding procedure

Some conditions to an adequate biding were already referred above; some others will again be remembered here.

A golden rule to observe is that all measures should be taken to create absolutely equal opportunities to every Bidder. As an already quoted example: a doubt raised during the examination of the Bidding Documents that may show a general interest should determine a general answer or clarification through an Addendum issued by the Promoter to all Bidders. The same may apply to any clarification that the Promoter may require from Bidders and that may show a generalized content.

No measures may apply during bidding that either directly or indirecly may favour a particular Bidder (such as extension of a specific deadline, possibility of addition of documentation or late delivery acceptance) without adequate extension to all Bidders in identical circumstances, making them aware by written notice of such a decision. Even in that case the Promoter shall carefully evaluate whether measures as described may not hinder the competitive position of those Bidders that have strictly complied

with the Bidding requirements. This provides a warning about the direct or indirect consequences that may result from changements introduced by the Promoter relative to the original ITB terms (or Bidding Documents) when the bidding procedure is already under way. These modifications should be carefully restricted to just unavoidable and reasonably justified circumstances, and if the bidding procedure complies with regulations from International financing institutions they never should take place without prior submission and formal agreement from those Institutions.

All the direct contacts, visits or meetings with prospective Bidders during the prequalificatior and/or the biding procedure shall be equally distributed and strictly in agreement with a plan previously established and mentioned in the documentation delivered by the Promoter.

Finally, the ITB and the Bidding Documents shall be construed in such a way that the provided Bids may be presented in almost similar forms and presentations, to make easier the bid evaluation.

As already mentioned, when International financing institutions are participating in a certain project, several requirements do exist relating to fixed milestones in Project progression. Some of them refer to the prequalification and bidding steps and have always to be kept in mind. These requirements are not limited to reporting actions or to the negotiation of complementary loans, but also may include preliminary approvals for certain actions and/or texts to be divulged during those phases. A suitable connection should be permanently established between the Promoter and the liaison officers of such Financing Entities.

In certain cases, when compatible with the competition rules that may apply, the ITB and Bidding Documents may well precise what activities and deliveries might be procured in the domestic market. In some cases, when a certain part of deliveries may be purchased from local suppliers, the Bidding Documents may include a brief description of local capabilities to convey domestic contributions to the Project. However this should not result in a dilution of Bidder responsibilities, and each Bidder - although suggested to consider deliveries from the domestic market up to a certain extent - shall evaluate, at its own responsibility and risk, the existing possibilities for using those supplies without compromise of the responsibilities assumed in the Bid. When no limitations to local participation may exist, and when an "unpacked" approach is considered and combined with selective tendering, the Promoter - assuming in those circumstances the main part of the Project management responsibilities - may define in the Bidding Documents (and later negotiate during the final part of the bidding procedure) what parts or services are intended to be locally procured.

6.3.Modifications and withdrawal of Bids

The possibility of modifications and withdrawal of Bids by the initiative of respective Bidders was analysed in item 6.2. paragraph p) hereabove.

6.5.The Bid Bond

The Bid Bond is a Bid Security that should be provided with the Bid and whose amount and form will be indicated in the ITB. The Bid Security may be provided as a cash deposit, certified check, bank draft, irrevocable letter of credit and bank guarantee (from a Bank accepted by the Promoter), made at the order of the Promoter and stated according to a similar form to ANNEX 3 (form suggested by the World Bank). The validity of the Security shall be specified in the Security Form and comply with the requirements stated in the ITB. Any Bid delivered without respective Bid Security, when required, will be automatically rejected.

After the definitive Bid appraisal, the Securities provided by the unsuccessful Bidders shall be returned to them, keeping the Promoter the obligation to do so within a maximum delay stated in the ITB. The successful Bidder shall have his Security retained up to the signature of the definitive Contract and the supply of the Performance Security or Bond. The Promoter keeps the right to forfeit the provided Security of the successful Bidder when the Final Agreement or Contract is not signed or the Performance Security not given within a specified time limit. However, the Bid Security also may be forfeited when any Bidder withdraws respective Bid during the period of Bid validity.

7.THE BID OPENING AND EVALUATION

7.1.Preliminary options

Already in the ITB and the Bidding Documents, the Promoter shall give a suitable information about the Bid evaluation system and criteria to be observed. These should take into account all the Legal and Contractual obligations and authorizations related to the Project. Several types of Bidding and Bid Opening and Appraisal may be considered, such as:

(a)opening and appraisal of the Bids by the Promoter, without any public assistance or disclosure;

(b)opening and appraisal by the Promoter, with public announcement of the successful Bidder and the rejected Bidders;

(c)opening and appraisal by the Promoter, with public announcement of the relative rating of every Bidder;

(d)public opening of the bids with immediate public presentation of certain "critical parameters" that may become decisive to the appraisal, followed by a detailed analysis of all the remaining

factors that may influence but a little the obtained results;

(e)the double bidding system.

Other alternatives still may be envisaged. The World Bank favours the public opening of the Bids in presence of the Bidder's representatives that wish to attend and that shall sign a register evidencing their attendance. Bids with a withdrawal notice should not be opened. In this public opening, the Promoter announces Bidders' names, Bids' overall prices, accepted Bid modifications and withdrawals, the presentation of suitable Bid Bonds and, as mentioned above, any other key parameters that should be of immediate understanding and interest for such an audience. This public opening will be followed by a confidential process of evaluation, according to the evaluation criteria and grid that should, at this time, be already prepared and approved.

Certain remarks should be made about the organization of a public opening of Bids:

i-The public opening of bids should be announced by writing (letter or telex) to all interested Bidders with a reasonable time to allow them to prepare or delegate their presence;

ii-Financing Institutions and Relevant Authorities may be invited to assist to the public opening;

iii-A record of presences should be established and signed by attendants.

iv-Written minutes of the opening session should be dressed by the Promoter.

7.2.Preparation of the Evaluation Criteria

The evaluation criteria and their relative weight should be prepared before the Bid Opening and Evaluation, and approved by the Promoter and the National Authorities and/or Financing Institutions that may keep the right to do so. The "Evaluation Grid" may be established by the Promoter staff, or by an independent Consultant or Official Technical Institution or Nominated Committee prepared to do so. The establishment may involve the participation of the Financing Entities, or will be later submitted to them.

The grid shall include concepts to evaluate and respective weight, in terms of "points". Even subjective concepts should be translated in suitable numerical expressions. The "weight" of each concept intends to reflect its influence on the overall Project, i.e. on the overall Bid evaluation. Active discussion between experts may take place and therefore a stepwise approach may be suggested:

(a)a "grid dressing group" of experts select the concepts to be

included in the grid, still without their relative "weighting";

(b)the grid is tested against several conceptual examples to evaluate possible distortions introduced by the enumeration of criteria, possible criteria missing or duplications.

(c)each selected concept is "weighted", in term of points (concepts may be grouped for the calculation of the final score);

(d)the grid is again tested again, now quantitatively;

(e)the appraisal group is defined, sometimes in coincidence with the grid dressing group, sometimes enlarged or even different and incorporating independent elements from Financial Institutions or Official Authorities, if so required.

(f)the grid dressing group and the appraisal group discuss, test, correct and ameliorate the grid together, obtaining a finalized grid.

(g)all the required agreements are meanwhile got (a preliminary appreciation of the dressed grid may result from its submission in due time, and making faster a final appreciation of the finalized grid).

(h)the appraisal group undertakes the opening of the Bids, their evaluation according to the finalized grid and makes a report on the overall evaluation.

(i)the report is submitted to the Promoter and to the Entities whose agreements are required for this step.

(j)the successful Bidder is announced.

Simpler procedures for establishing the finalized grid may be achieved. A lighter procedure similar to this one may be considered for the Prequalification step.

7.3.Some criteria to attend in the setting up of a grid

The following enumeration only intends to suggest some criteria that may be taken in consideration for the setting up of an evaluation grid. This list is neither perfect nor complete, and therefore its purpose is to give but a faint idea of some categories of attributes:

I.First overall evaluation ("stripping")

Ia.Listing of Bids

Ib.Immediate rejection of Bids not meeting decisive requirements (vg. lack of a Bid Bond, when required)

II.Evaluation of technical parameters (weighting differently the parameters covered by guarantees)

IIa.Parameters related with process efficacity

-production capacity
-specific consumptions: raw materials
power
fuels
services
-by-products
-required staff
-environmental impact
-energy sensitivity, etc.

IIb.Process simplicity and criticality

-equipment type
-pressures/temperatures/risks
-number of devices/operations in the very critical zones
-control systems/safety systems/disaster control
-special materials
-maintenance requirements
-revision shutdowns
-starting up problems, etc.

IIc.Experience of Bidders in similar units ("weighting" according with ranges of capacities and performance age)

IId.Knowledge of performance of similar units built by the Bidder (visits, contacts)

IIc.Bidder experience in the Country where the Project takes place

IId.Bidder experiences in other Projects of different nature but of similar size and / or complexity

IIe.Capacity and experience of the Promoter in similar units; offered training

IIf.Evaluation of skill and capabilities in Bidder's technical staff; capacity of the Bidder to accommodate this special Project in its current portfolio.

III.Technical evaluation according to Bid terms

IIIa.Equipment
types and number of units per each type
lay out
critical and proprietary equipments

replacement parts, spares
complexity, maintenance
control, reliability

IIIb.Basic engineering

IIIc.Detailed engineering

IV.Equipments and services included in the Bid (vg.critical equipment, catalysts, technical assistance, training facilities, anticipated testing, etc.)

V.Time schedule
engineering (basic and detailed)
equipment manufacture and delivery
civil engineering works
erection
starting up
training

VI.Standards

VII.Documents to approve

VIII.Environmental aspects
-noise
-effluent treatment
-protections and control of big industrial risks

IX.Financial and commercial aspects

IXa.Overall cost/Payment conditions

IXb.Financing conditions

IXc.Guarantees and warranties

IXd.Personnel training costs

IXe.Other Bidder services (procurement, assistance, etc.)

IXf.Local Bidder requirements and delegated staff to the site;costs and conditions

IXg.Access to technological improvements

X.Other features

Xa.Banking rating/ financial conditions of the Bidder

Xb.Other local aspects (infrastructures, domestic preferences when allowed, etc.)

7.3.Opening and evaluation of Bids

Even when a public opening of Bids takes place, the evaluation of the Bids shall be carried on through a confidential procedure, not disclosing to Bidders any information regarding the examination, and relative evaluation of bids.

When required, the Promoter may ask any Bidder to make clear any doubt related to informations contained in respective Bid. Decomposition of prices given in bulk may also be requested. Answers should be provided in writing and within a certain time.

The World Bank Sample Bidding Documents for the Procurement of Works (1985 issue) emphasizes the determination by the Promoter whether each Bid is substantially responsive to the requirements of the Bidding Documents, determination to be carried out even before the detailed evaluation of Bids. Not substantially responsive bids should be rejected. Two definitions are of interest:

-A substantially responsive bid: bid that conforms with all terms, conditions and specifications of the Bidding Documents without material deviation or reservation

-Material deviation or reservation: deviation or reservation that affects in any substantial way the scope, quality, or performance of the works, or which limits in any substantial way, inconsistent with the Bidding Documents, the Promoter rights or the Bidder's obligations under the Contract, and the rectification of which deviation or reservation would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids.

The World Bank regulations also provide interesting criteria to follow up in Bid appraisal regarding (see ANNEXES):

-correction of Bid errors;
-conversion in a single currency;
-establishement of an overall monetary cost;
-introduction of completion times in the appraisal;
-preference to domestic Bidders.

7.4.The double bidding procedure

In certain circumstances, due to the complexity of the Project or by requirements of the Financing Institutions involved, and specially when certain technical features still have to be discussed, the simple bidding procedure, as described, may be replaced by a double bidding system including following sequence of actions:

(a)the Promoter issues the ITB and Bidding Documents as described.

(b)the Bidders submit their Bids in two separate sealed packages:

a Technical and Commercial Package, including all the contractual features and technical descriptions, but excluding any price or cost related to the bid, and a Priced Package, including all the prices, fees and financial conditions related to respective Bid.

(c)the Promoter proceeds to the Technical evaluation of the Bids, opening the Technical and Commercial Packages but keeping sealed the Priced Packages.

(d)the Technical and Commercial evaluation of the Bids may be followed by the discussion of technical and commercial features between the Promoter and each Bidder, where the Promoter may express its viewpoints and guide the discussion in order to get quite comparable Bids, in technical and commercial terms.

(e)the Bidders, after those discussions, may revise their Bids and provide, within a certain time limit, an Additional Technical and Commercial Package, incorporating the required technical and commercial amendments to the prior Bid, but again with no price values in it, and a sealed Additional Priced Package, with the reflection of those changements in the prices, fees and financial conditions that were stated in the first Priced Package.

(f)The Promoter, having received all those additional packages, proceeds to the Final Technical and Commercial evaluation of the received Bids, with appraisal of the Additional Technical and Commercial Packages and combining respective conclusions with the conclusions already got prior to the discussion meetings; exclusions (if any) based in technical and commercial reasons should occur as a consequence of this stage. A report should be established and announced to the Bidders, with the Technical and Commercial evaluation of their Bids.

(g)The Promoter will proceed, at an announced moment, to the opening of the Price and Additional Price Packages. This may occur with presence of Bidders, if decided to do so openly. The respective figures should be entered in a priced appraisal table and report.

(h)the Promoter shall carry on to the overall evaluation of the received bids, issuing respective evaluation and report and announcing the successful Bidder.

8.THE ESTABLISHMENT OF THE CONTRACTUAL RELATIONSHIP; CONCLUSIONS

8.1.The notification of award

After the evaluation procedure is carried on, the Promoter will award the Contract to the Bidder that presented the best qualified Bid, shows its competence and is substantially responsible to the Bidding Documents.

According to the World Bank regulations the Promoter may reserve the right to accept or reject any bid and to annul the Bidding procedure and reject all Bids prior to award of Contract, without incurring in any liability to the affected Bidders or any obligation to inform about the reasons of its decision. If such a clause is not expressed in the Bidding Documents, any action of the Promoter in such a way may produce pre-contractual liability.

The award shall be announced to the successful Bidder in a registered letter, giving a time limit to the establishment of the Contract and the presentation of a suitable Performance Bond. Failure to comply with such time limit may produce Bid rejection with retention of the Bid Bond by the Promoter.

8.2.The drafting of the contract (remission)

Remission is made to the Chapter VI.21 of the Manual on Technology Transfer Negotiations.

8.3.The Letter of Intent

In several circumstances the Promoter wishes that the Successful Bidder begins its work even before the Contract is signed. This may result when obstacles to the conclusion of the contract appear, such as administrative or financial authorizations, and the Parties have already reached a substantial agreement. Such situation may also occur when the Parties still disagree in some clauses of the Contract, but there the situation seems more risky.

Then, the Promoter may address to the Successful Bidder a Letter of Intent asking it to begin with its duties, starting its work. This letter may fix a time limit or a cost ceiling, considering that meanwhile the Contract shall be signed and come into effect.
The legal effect of a Letter of Intent is not the same of a Contract or of a Precontractual arrangement: it may be regarded as a unilateral declaration, and therefore the Bidder may reserve its position to start work against a simple Letter of Intent. As a matter of fact, by issuing a simple letter, the Promoter is not responsible for any compensation if, by any reason, the Contract is not signed. A legal procedure based in breach of pre- contractual responsibility may depend on the law applying to the issue of such a Letter. In more advanced Letters of Intent, the Purchaser states that, until the specified time limit or cost ceiling, the Contract is not signed, or if the Contract will be not signed by any reason, then the Promoter shall pay to the Bidder the incurred expenses with the performed work, quite often added with a certain sum as indemnification.

If such a letter becomes signed by the two Parties, then it becomes an Agreement of Intent, or pre-contractual agreement, that provides legal security to them. As a pre-contractual agreement, with limited extent, the Agreement of Intent should in principle get the

approval of the required Authorities.

As elements and clauses that may compose a Agreement of Intent we may quote the following:

(a)the preamble, identifying the Parties, their condition, authorizations and stating the reasons for such an agreement;

(b)the works that may be started and performed under the Agreement of Intent (amount, costs, terms of payment and time for performance);

(c)clause of suspensior (if attained a certain time limit or a certain cost ceiling);

(d)clause of successful termination (the contract terminates when the final Contract becomes effective);

(e)clause of unsuccessful termination (if a certain time after the suspension or the pre-agreement signature the Contract is not signed, the the Bidder may terminate the Contract and shall be paid of all incurred expenses plus a certain indemnification);

(f)signature of Contract after unsuccessful terminations (however if a Contract is signed after the unsuccessful termination, then the paid indemnification may be totally or partly deduced from the contractual price);

(g)agreed securities (to be provided by one or by both Parties);

(h)applicable Law and jurisdiction;

(i)settlement of disputes.

When signing an Agreement of Intent, the successful Bidder should make sure that the Promoter has already obtained the necessary authorizations to do so.

Annexes: I, II, III

Lisbon and Barreiro, December'91/January'92