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ITEMS WHICH COULD BE INCLUDED IN
CONTRACTUAL ARRANGEMENTS FOR THE SETTING UP OF A TURN-KEY PLANT
FOR THE PRODUCTION OF BULK DRUGS (PHARMACEUTICAL CHEMICALS) OR
INTERMEDIATES INCLUDED IN UNIDO LIST *

Prepared by
UNIDO Secretariat

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Preface

The First Consultation on the Pharmaceutical Industry held in Lisbon, Portugal in December 1980 discussed the issue of contractual arrangements for the production of pharmaceutical chemicals, their intermediates and formulations and made recommendations on this subject. In accordance with the recommendations, UNIDO was thereby requested to prepare documents on the various contractual conditions and variations thereof including background notes, related to contractual arrangements for the transfer of technology in the pharmaceutical industry.

Subsequent to that, a Round Table Meeting of Experts on the pharmaceutical industry (December 1981) concluded and recommended the main principles to be considered in the preparation of such documents */. UNIDO prepared accordingly documents on contractual arrangements regarding the transfer of technology for pharmaceutical chemicals and formulations, taking into account the experience of developing countries in the matter. These documents were considered by the Second Consultation on the Pharmaceutical Industry (November 1983, Budapest) and were subsequently finalized in cooperation with the Adhoc Panel of Experts in April 1985.

The Second Consultation on the Pharmaceutical Industry also recommended that UNIDO in cooperation with the Adhoc Panel of Experts should prepare further documents on: (i) Items that could be included in contractual arrangements for the setting up of turn-key plants for (a) the production of bulk drugs (pharmaceutical chemicals) or intermediates included in the UNIDO illustrative list and (b) the production of pharmaceutical formulations, and (ii) Arrangements for technical assistance for the formulation of pharmaceutical forms and submit these to the Third Consultation on the Pharmaceutical Industry.

In line with the recommendations of the Second Consultation, this paper provides general guidelines and proposal to be applied in negotiating the setting up of turn-key plants for the production of pharmaceutical chemicals (bulk drugs) or their intermediates.

*/ See UNIDO.PC.33, 21 January 1982

Introduction

1. Purpose and scope

The purpose of this document, as per the recommendation of the Second Consultation on the Pharmaceutical Industry (Budapest, 21-25 November 1983), is to provide general guidelines and illustrative clauses for the erection of a turn-key plant for the production of bulk drugs, pharmaceutical chemicals (or intermediates) included in UNIDO indicative list.

Since "turn-key" agreements only exceptionally are all-embracing, the document assumes that a number of activities (e.g. civil construction, supply of certain specified items or materials) is under the responsibility of the purchaser or a third party designated by him.

Among the different modalities of "turn-key" agreements, it is proposed to deal with a "cost reimbursable" type of contract, whereunder the contractor is remunerated by a firm price plus a variable price determined on the basis of the cost incurred for the provision of management assistance and supervisory services for erection, commissioning and start up of the plant, as well as for other activities set forth in the contract.

The flexibility and adaptability of this formula seems appropriate for the kind of plants at stake, and balanced enough to satisfy the interests of both parties.

Further, and given that the document is mainly addressed to enterprises in developing countries, attention should be paid to two objectives:

- a) the need to provide adequate training during plant erection in order to ensure an effective assimilation of the technology transferred in all its components;
- b) The maximum participation, to the extent possible and duly taking into account the parties' respective responsibilities, of local resources such as civil engineering and consulting services.

2. General framework and content

In the preparation of the document, consideration has been given to available guidelines and documents, in particular UNIDO previous works on the subject. The framework of the principles recommended by the Morocco Round Table meeting on the Pharmaceutical Industry has been taken into account which briefly read as follows (UNIDO/PC.19, 17 October 1981):

- (a) The transfer of technology should contribute to the identification and solution of economic and social problems related to the production and use of pharmaceuticals in developing countries, with an aim at substantially improving, at adequate costs and quality, the availability of essential drugs in developing countries;

- (b) The parties to a transfer of technology agreement should be responsive to the health, drug, industrial and other relevant policies of the receiving country, including import substitution, development of technical skills, promotion of local innovations, etc.;
- (c) Licensing agreements should contain fair and reasonable terms and conditions to both parties, including payments, and be no less favourable for the recipient than the terms and conditions usually applied by the supplier or other reliable sources for similar technologies under similar circumstances;
- (d) The agreement should, in particular:
 - (i) Ensure the absorption of technology transferred by local personnel;
 - (ii) Allow the use, as far as possible, of locally available materials and services;
 - (iii) Facilitate and, in any case, do not restrict the adaptation and further development of technology received;
 - (iv) Include adequate guarantees for the performance of the parties' obligations;
 - (v) Provide full information on the characteristics of the technology and drugs to be manufactured, especially in respect of possible hazards and side effects;
 - (vi) Not contain unjustified restraint on the recipient's use of the technology.

The document deals with the main items to be negotiated when concluding agreements of the type referred to. When appropriate, it includes:

- (i) Elements to be taken into account in the negotiation and drafting of the clauses;
- (ii) Technical aspects, and particularly difficulties that may be faced at the negotiating phase and implementation of the agreement;
- (iii) Concrete examples, wherever possible, relating to fermentation, synthesis and extraction processes;
- (iv) Recommendations as how to deal with the particular issues;
- (v) Possible clauses and variations thereof.

**/ It should be noted here that the illustrative clauses provided in this document are presented as examples that could be used to achieve transfer of technology. These clauses should not be construed as being exhaustive or covering all possible situations that can arise in transfer of technology.

The alternatives included are those deemed more important or appropriate in view of the principles and objectives that preside the document's preparation. The importance and appropriateness of possible solutions have been assessed on the basis of four main criteria:

- (i) The likely acceptability of proposed solutions for both contracting parties;
- (ii) The compatibility of proposed solutions with existing regulations and positions on the matter, as described - for a number of issues - in an earlier UNIDO document */;
- (iii) The practices which are generally accepted in international licensing and trade, particularly in developing countries;
- (iv) The recommendations and suggestions of available clauses, contracts, or guidelines, as listed in document UNIDO.PC. 19, Annex I.

Since the recommendations made in this document are addressed to parties located in any country, the formulations proposed here are not referred to any particular national legislation. This does not mean, however, to support the idea of a contract "without law", i.e. which is self-sufficient for solving all aspects of the relationship between the parties.

Obviously, national approaches and solutions to a number of aspects considered, vary considerably between the common and the continental law countries. The document attempts to suggest formulations which conform to the general principles referred to above, and at the same time, are compatible with the main current regulation trends at the international and national level, particularly in developing countries.

In the context of this document, a contract means an agreement freely entered into by parties in accordance with national laws and regulations and the specific circumstances of each case.

*/ See "Preparation of Guidelines. Background paper". ID/WG.331/3, 23 September 1980.

1. Recitals

The inclusion of recitals or a preamble in transfer of technology agreements has become a quite common practice even in cases where the applicable law does not confer such statements a particular juridical effect.

Recitals usually contain references to the business background of the parties, their desire in connection with the agreement and a statement as to the source of know-how to be used. In case of divergency between the recitals and the substantive provisions of the contract, the latter shall prevail.

Illustrative clauses */

1. Recitals

This Contract, made and entered into this day of
by and between: having its head office at
..... (hereinafter referred to as "the Contractor"),
and a corporation organized and
existing under the laws of having its head office at
..... (hereinafter referred to as "this Purchaser").

WITNESSETH

1. Whereas the Contractor has experience in the construction of plants for the production of drugs (intermediates).
2. Whereas the Purchaser desires to establish a Plant for the production of (the Products) in (country).
3. Whereas the Contractor has the right to grant to the Purchaser a license for the production of (the Products) during the lifetime of the Plant.

NOW, THEREFORE, the parties hereto agree as follows:

2. Definitions

For purposes of clarity and avoidance of repetition, the agreement may contain provisions defining some of the main terms and expressions employed in various clauses, such as "Purchaser", "Contractor", "Contract", "Plant", "Products", "Civil works" and others.

*/ See page 4, para. **/

Illustrative clauses */

2. Definitions

The following expressions will have in this agreement the meaning assigned in this article.

1. "Purchaser" shall mean the party named as such in this Contract or his successors or permitted assigns.
2. "Contractor" shall mean the party named as such in this Contract or his successors or permitted assigns.
3. "Contract" shall mean this Contract (together with the Annexes) entered into between the Purchaser and the Contractor for the execution of the work howsoever made, together with all of the documents to which reference has been made in the Contract documents, including such amendments and/or changes (properly made from time to time by mutual agreement between the parties) to the documents constituting this Contract.
4. "Civil Works" shall mean all the buildings, roads, foundations, structures, and any other work requiring civil and public health engineering.
5. "Effective Date of the Contract" shall mean the date on which the Contract comes into force in accordance with Article 18.
6. "Equipment" shall mean the equipment, machinery, instruments, commissioning equipment and spares, and other major items required for incorporation in the Plant as specified in Annex and/or in respect of which the Contractor has provided procurement services.
7. "Plant" shall mean a plant for the production of (drugs or intermediates), to be constructed at and/or in respect of which the Contractor's services are provided.
8. "Products" shall mean (drugs or intermediates).
9. "Vendor" shall mean the person or persons from whom the supply of any equipment is obtained by the Purchaser (Contractor).
10. "Raw materials" shall mean the materials necessary for the production of the Products.
11. "Site" shall mean the land upon which the Plant is to be constructed as specified in Annex
12. "Battery limits" shall be defined to mean the overall limits which include the facilities embodying the Plant as detailed in Annex

*/ See page 4, para. **/

13. "Mechanical Completion" shall mean the time when the physical construction and erection of the Plant has been completed, and a first batch of the product has been successfully produced at the Plant.
14. "Licensor" shall mean the party named as such in the licensing agreement entered into by the Contractor and the Licensor on
15. "Sub-contractor" shall mean the person or firm to whom any part of the work or services or the execution of any part of the Contract is subcontracted.
16. "Project Manager" shall mean the persons appointed by the Purchaser and the Contractor with authority for the co-ordination and monitoring of the work on behalf of the Purchaser and Contractor, respectively.
17. "Valid" from the purposes of article ("Effective date of Contract") shall mean the legal status of the Contract after its formal execution (signing).

3. Object

It is convenient to clearly state the specific object of the contract, and the overall scope it refers to. While the parties' obligations are established elsewhere in the agreement, a particular clause on this matter may permit to specify some elements which are essential to the contractual relationship. Among such elements the following are outstanding:

- a) The characteristics of the plant to be established.
In the Purchaser's interest, it is important to indicate that the plant should be state-of-the-art technology ("modern"), reliable and cost efficient and that machines and equipment are brand new.
- b) The provision of training.
As stated above (see Introduction, p) the supply of training particularly operations and maintenance should be deemed an essential part of the agreement, if an actual upgrading of local capabilities is sought for.
- c) Time estimate.
Without prejudice to a more detailed schedule (see Article below), and given the importance of time compliance for the success of the project, it is advisable to indicate an estimate of the time required for Plant completion.

Illustrative clauses */

3. Object

- 3.1 The object of the Contract is to establish a modern, reliable and efficient Plant, suitable to the location, for the production of the Products, together with the Off-Sites required for the purposes of the Contract. The scope of the Contract covers a cost-reimbursable type of

See page 4, para. **/

Contract, which includes the grant of license and know-how, provision of basic and detailed engineering, procurement of all the Equipment and supply of supervisory services for the erection, commissioning and Start-Up of the Plant and demonstration of the ability of the Plant to continuously produce Products at a capacity of

- 3.2 The location of the Plant shall be at
- 3.3 The Contract includes the provision of both on-Site and off-Site training services and facilities for the Purchaser's personnel for the purpose of enabling them to operate and manage the Plant at optimum capacity and efficiency.
- 3.4 The time schedule required to be maintained to complete the Plant on time is estimated as follows and the Contractor and Purchaser shall take all the necessary steps to adhere to them. The periods referred to herein in respect of the time schedule(s) shall commence from the Effective Date of the Contract in each case.
 - 3.4.1 Know-how, basic engineering and the documents of detailed engineering related thereto shall be made available to the Purchaser within months.
 - 3.4.2 Complete load drawings of the Plant and specifications for Civil Works shall be made available by the month.
 - 3.4.3 Construction of Equipment foundations and Plant buildings shall start in the month.
 - 3.4.4 FOB delivery of Equipment shall commence no later than in the month and shall end no later than in the month.
 - 3.4.5 Erection of the Plant shall start no later than in the (....) month.
 - 3.4.6 The Plant shall be mechanically complete in the month, and shall be Started-Up in the
 - 3.4.7 Training of the Purchaser's personnel outside the Plant shall be completed by the month.
 - 3.4.8 The Plant shall be in Commercial Production by the month.
- 3.6 The Contractor shall submit to the Purchaser within months of the Effective Date of the contract the FOB cost of all Equipment to be procured under this Contract. The estimates shall be broken up by Plants and by sections thereof, to the extent practicable.

4. Division of work and responsibilities

The scope of a turn-key agreement and the consequent distribution of responsibilities among the various parties involved may follow a wide variety of patterns, according, inter alia, to the Purchaser's experience and the design and engineering capabilities locally available.

In countries having little experience in the field, the Contractor will normally take the full responsibility of detailed engineering, procurement, construction, erection and commissioning. In such cases, the Purchaser would normally appoint consultants to monitor the project implementation. This document, and particularly the illustrative clauses contained therein has been prepared taking this type of situation into account.

A plant for bulk drugs and/or intermediates is, in general, planned to manufacture a number of products, for which process know-how and basic design may be supplied by different licensors. The yields of the processes depend upon for instance the types of reactors and, in some cases, upon the types of stirrers used. Even a single drug production scheme may involve large numbers of unit processes and operations, and each individual process reactor requires a complex piping network consisting of pipes for liquid raw materials, utilities, solvents, effluents and pipes for the product outlets. Acidic, alkaline and neutral effluents, floor washing, sewage and return water are transported through underground piping network. Due to the corrosive nature of many chemicals, a special type of flooring and painting on walls and pipes are needed. Further, the hazardous and explosive nature of many chemicals, requires special techniques for handling and storage. To avoid pollution problems, outlet gases and effluents call for special treatments too.

All the factors mentioned as for an integrated approach and, hence, the Contractor working in this industry should cover all engineering disciplines, including chemical, civil, mechanical and electrical.

The Purchaser should, when negotiating this type of agreement, have a full appreciation of its own capability to undertake different functions and manage the project, and evaluate the cost implications emerging from the attribution of additional tasks to the Contractor.

It is of crucial importance for the efficient implementation of the project that the responsibilities of both parties be clearly assigned in the Contract. This will avoid delays and complicated disputes. There might be cases where during the execution of the Contract it becomes necessary to undertake a work which has not been specifically provided for therein. A provision may be included to cover this hypothesis, stipulating that such a work would be incorporated in the Contract against payment, if appropriate, in accordance with the provisions relating to remuneration.

As provided for in this document, Contractor's responsibilities include the grant of licenses and know-how, the provision of basic and detailed engineering, the procurement of equipment and the supply of supervisory services for the erection, commissioning, start up and test runs of the Plant.

The Purchaser is - given the turn-key nature of the transaction - limited to site obtention, civil works and engineering and tasks related to equipment handling and erection. Some activities are undertaken under the direct supervision of the Contractor (e.g.. erection of equipment, plant operation, test runs, etc.).

Finally, a number of tasks are to be jointly executed by Purchaser and Contractor. Within this category is the crucial issue of procurement where third parties (vendors) are involved and for which the sound advice of the Contractor is essential.

Illustrative clauses */

4. Division of work and responsibilities

4. In accordance with the terms and conditions provided for in this Contract, the division of work and responsibilities shall be as follows:

4.1 The Purchaser shall be responsible, with the assistance and/or verification by the Contractor, whenever required, for:

- 4.1.1 a) Establishment of the design basis of the Plant.
- 4.1.2 b) Obtaining and developing the Site for the Plant, and testing its soil characteristics
- 4.1.3 c) Construction of roads within Battery Limits and obtaining communication facilities.
- 4.1.4 d) Design and construction of the Civil Works, including civil engineering
- 4.1.5 e) Transport of the Equipment from point of dispatch FOB as the case may be to Site, including loading and unloading at harbours and customs clearance and other formalities, if any.
- 4.1.6 f) Receipt, inspection, storage and security of Equipment at Site.
- 4.1.7 g) Providing all erection equipment and materials.
- 4.1.8 h) Supplying all materials and inputs, including outside purchased utilities, necessary for the Start-Up of the Plant.

4.2 The Purchaser shall undertake, under the supervision and direction of the Contractor, the following:

*/ See page 4, para. **/

4.2.1 Erecting all Equipment.

4.2.2 Testing all erected Equipment individually, by sections and as a complete Plant, and carrying out all pre-commissioning procedures.

4.2.3 Commissioning and Start-Up of the Plant until Products are obtained.

4.2.4 Operation of the Plant from Start-Up until completion of the Performance Guarantee Tests for the Plant.

4.3 The Contractor shall be responsible for:

4.3.1 Supply of know-how and basic engineering, including but not limited to:

- Process flow diagrams
- Material and energy balances
- Equipment data and specifications
- Piping and instrument diagrams and specifications
- Utility requirements and distribution including the steam system network
- Plant layout
- Electric distribution
- Effluent and emission specifications
- Operation manuals
- Maintenance manuals

4.3.2 The detailed engineering for the Plant.

4.3.3 Establishment of the list of Equipment.

4.3.4 Procurement of all Equipment and Materials for the Plant.

4.3.5 Inspection of Equipment and Materials during fabrication, on completion, and after packing, and providing certificates of inspection.

4.3.6 Providing training for plant operation and maintenance engineers and plant operators.

4.3.7 Validating and demonstrating the Performance Guarantee Tests, utilizing the Purchaser's personnel.

4.4 The Purchaser and the Contractor shall be jointly responsible for:

4.4. Pre-qualifying Vendors for the supply of Equipment.

4.4.2 Arranging all necessary insurance coverages.

4.5 In the event that any activity or work of the type necessary for the successful implementation of this Contract is not particularly mentioned in the scope of work above or in the specifications, drawings, or any of the Annexes of this Contract, but becomes necessary to ensure the successful erection and operation of the Plant according to the specifications laid down in the Contract and the intent thereof, such

activity or work shall also become part of this Contract as if the same had been originally included in the scope of work. The Purchaser and the Contractor shall mutually agree on the quantum of work to be undertaken by each party in such an eventuality. Payments due, if any, will be governed by the provisions of Article

5. Obligations of the Contractor

The set of clauses relating to Contractor's obligations are one of the most crucial parts of the agreement. In a turn-key contract, as mentioned before, such obligations embrace a wide range of activities, some of which entail direct tasks by the Contractor, while others involve third parties' contributions (e.g. know how licenses and equipment). In any case, the Contractor is bound to assume the overall responsibility for the execution of the Contract and, obviously, the fact of dealing only with one party simplifies the contractual relationships and constitutes a major advantage for less experienced purchasers.

Among the Contractor's obligations the following deserve special consideration:

- a) Review of information on the suitability of the site. While site obtention and development is a Purchaser's responsibility, as well as the supply of the pertinent information to the Contractor, the latter must thoroughly review the received data and demand any additional information it deems necessary. This obligation should be viewed in the framework of a general duty of advice and assistance by the Contractor in order to ensure a proper and timely execution of the project.
- b) Review of the design basis. Similarly, while the design basis is submitted by the Purchaser, the Contractor must review it and indicate any necessary changes thereof.
- c) Supply of patent licenses and know-how. Generally, the Contractor obtains the rights from a third party licensor to transfer to the Purchaser the required know-how or patent licenses. The Contractor retains, however, full responsibility for such a transfer. Several aspects should be dealt with in connection with this issue:
 - i) Characteristics of technology transferred. The Purchaser is normally interested in receiving state-of-the-art technology. In addition, it is important to ensure that the technology has been commercially proven, in order to avoid the Purchaser the risks
 - ii) Transmission of documentation and data. Both the Contractor and the Purchaser need to receive in proper form and time information concerning the relevant know-how. In principle, the Licensor would transfer the information to the Contractor, and the Purchaser would have access thereto through the former.

- iii) Improvements. Since technology is essentially dynamic, it is important for the Purchaser to ensure its access to improvements made to the know-how after plant completion. In this context, "improvements" constitute any modification of the technology, whether patentable or not, which has been developed or otherwise acquired by the Licensor during the lifetime of the agreement, and the application of which may improve the yield, reduce costs or entail other technical or economic advantages. This concept excludes, in principle, major changes which essentially alter the characteristics of the technology transferred.

Reciprocally, it is customary to provide for the access by the Contractor and Licensor to the improvements developed by the Purchaser. Such "grant-back" provisions should be in principle, non-exclusive and take into account relevant national regulations.

- iv) Confidentiality. It is generally very problematic to ascertain when a given know-how is actually secret, particularly if the transaction involves different countries. In addition to factual difficulties, the concept of secrecy admits different interpretations. For the purpose of the agreement it should be understood (and eventually indicated in a clause on "definitions") that the obligation of confidentiality should only apply with respect to information which has not become publicly known or which was not known to the Purchaser prior to the disclosure by the Contractor. This implies that the contract cannot "create" secrecy, but only declare the existence thereof, and that the recipient will be freed from that obligation as soon as it is established that the information was not secret or that it became a part of the public domain.

In order to avoid unnecessary burdens and disputes, it is good practice to require the Contractor to specify which specific pieces of information are to be deemed confidential.

The obligation of confidentiality should not prevent the Licensee from disclosing information as far as necessary for subcontracting, procurement or other legitimate purposes. In this case, a written undertaking by subcontractors and other third parties against disclosure may be advisable.

- v) Warranties. The contract should normally indicate the Contractor's entitlement to grant the respective license and contain the Contractor's representation that, on the date of the signing of the agreement, there is no limitation, including any pending official procedure or litigation, which adversely concerns the existence or validity of licensed rights.

On the other side, when using licensed patents, the Purchaser may be subject to third parties' claims based on infringement of these parties' rights. The contract should contemplate the procedure to be followed, the responsibilities for the Purchaser's defence and

for any damages or sums that may become payable, as well as the readjustments necessary to cope with the obligations or restrictions emerging from such claims if admitted by the competent authority.

The drafting of clauses on this topic admit a number of variations according to the distribution of charges and liabilities among the parties. One of the possible solutions may be conceived along the following lines. The defence of the licensed patents should be borne by the Contractor, without prejudice to the cooperation of the Purchaser. The former should also bear any indemnity or other sums payable by reason of the infringement, and any costs required for procuring the Purchaser, if necessary, a third parties' license to continue in the use of the technology or to introduce the technical changes required for avoiding the infringement. These changes may not, however, impair the application of the technology, and particularly they should not relieve the Contractor from compliance with stipulated guarantees.

A different situation arises out when patents are infringed by a third party, to the detriment of the use of the protected invention by the Purchaser. In this case, the parties should inform each other on the infringement, and the Contractor should assume the defence. In case of omission by the Contractor, the Purchaser may be authorized to undertake the required action and to receive any sum payable by infringers, if any.

- d) Engineering of the Plant. In turn-key agreements, an essential obligation at the Contractor's charge is the engineering of the plant. It should be carried out, in principle, in accordance with standards and codes agreed upon with the Purchaser and with good engineering practices.

The Contractor is also bound to take the relevant safety rules prevailing in Contractor's country into account.

If - as assumed in this document - civil works and engineering remain a Purchaser's responsibility, it is, however, important to ensure that the Contractor, in due time, check the detailed design and material specifications. This procedure will help to avoid complications, delays and costs, and will involve the Contractor's responsibility in case any design defects are found later on.

- e) Technical documentation. A significant part of Contractor's obligations materialize themselves by the delivery of technical documentation to the Purchaser. It generally includes:

- i) data for civil engineering and erection;
- ii) manuals for the operation and maintenance of the plant;

The contract should provide for the language in which the documentation is to be released as well as the terms therefor.

- f) Procurement. In turn-key agreements, the Contractor generally assumes a number of obligations regarding the procurement of equipment. Though the final selection of vendors lies with the Purchaser, the Contractor usually undertakes the following tasks:
- (a) Provision of a list of would-be-vendors of equipment.
 - (b) Assistance for pre-qualification of vendors, preparation of purchase orders, tender specifications, bid tabulations, technical discussions with vendors, and selection of final suppliers.
 - (c) Obtention of vendor's documents and warranties.
 - (d) Assistance for repair, replacement and for obtaining remedial action in case of defects.

If the final selection of vendors lies with the Purchaser, there may be differences between the parties as to the convenience of choosing or not a given offer. To the extent that the choice may influence the work and responsibilities of the Contractor, he may request that, if a selection not acceptable to him is made, the proper modifications of his obligations should be introduced. Of course, this would only be appropriate to the extent that it is justified by technical reasons.

- g) Supervisory services. The division of responsibilities between Contractor and Purchaser, and the fact that the latter is bound to undertake certain tasks, does not free the former from an overall supervision on the contract's execution. In particular, the Contractor should supervise - by means of timely available personnel at site - erection, mechanical testing, commissioning, start up and performance tests.
- h) Inspection, testing and certification. Another Contractor's usual obligation relates to inspection, testing and certification of all equipment to be purchased, during its manufacture. These services are important in order to: i) verify that it is being manufactured in accordance with the specifications and applicable qualitative and quantitative standards, ii) monitor the compliance with specified terms of delivery, and eventually anticipate delays; iii) obtain the test certificates on the equipment, as required; v) have the equipment inspected before despatch to the Site.
- i) Training. Training is an essential component of transfer of technology contracts, if an actual upgrading of the recipient's capabilities is sought for. This also applies to turn-key arrangements, whereunder it is advisable to provide for the type and content of the training to be delivered, as well as the qualifications of trainers and trainees. Training should ensure that the Purchaser's personnel will be able to smoothly operate and maintain the plant in peak condition with safety.

Illustrative clauses */

5. Obligations of the Contractor

5.1 Suitability of Site and design basis

5.1.1 The Purchaser shall provide the Contractor with information pertaining to the suitability of the Site, the applicable laws, rules and regulations in force in (Purchaser's country) that are available to the Purchaser and pertinent for the execution of the Contract. The Contractor shall review all such information, and obtain such other information as he may consider necessary to carry out his work under the Contract, including those bearing on transportation, disposal, handling and storage of Equipment, availability of water and power for construction purposes, approach roads, physical condition of Site, uncertainty of weather and ground conditions. It shall be the responsibility of the Contractor in any event to obtain all information required for him to carry out his obligations under the Contract.

5.1.2 The Contractor shall review the design basis for the Plant as contained in Annex If the review by the Contractor shows differences in the design basis, the Purchaser and Contractor shall meet to discuss changes in the Contract specifications and the resultant changes in the Contractor's obligations or price, if any. These changes will be embodied in a change order pursuant to Article

5.2 Patents and know-how

5.2.1 The Contractor shall provide the Purchaser the latest commercially proven know-how and basic engineering available to and obtained in his country from the Licensor and shall design the Plant in conformity with the basic engineering and design criteria of the Licensor.

5.2.2 The Contractor grant to the Purchaser irrevocable, non-exclusive, non-transferable, fully paid-up license for use in the operation of all the processes during the lifetime of the Plant.

5.2.3 The Contractor shall ensure that the Licensor shall make available to the Purchaser through the Contractor all data received by the Contractor from the Licensor relating to the Contract.

The Contractor shall also make available to the Purchaser all basic process documentation and all drawings prepared by the Contractor as well as copies of documents mentioned in Article

*/ See page 4, para. **/

5.2.4 In cases where the Contractor is unable or unwilling to make available to the Purchaser the necessary know-how and related information, the Purchaser shall be free to approach the Licensor directly after giving a notice in writing to the Contractor. The Purchaser shall also have the right to establish direct contractual arrangements with the Licensor in case of cancellation or termination of this Contract.

5.2.5 The Contractor shall ensure through specific arrangements that the Licensor make available to the Purchaser years from the Effective Date of the Contract:

- a) Free of charge, developments and improvements in operating techniques, preventive maintenance and safety and pollution control measures applicable to the Plant, and other relevant technical data and information which is made available free of cost by the Licensor to other Licensees within the same period. The Purchaser will also make available to the Licensor and Contractor any improvements in operating techniques which the Purchaser shall have made in the same period
- b) On payment, at a reasonable cost, and on agreed terms, rights to use new processes developed or acquired by the Contractor including patented processes which could result in significant improvements in the capacity, yields reliability and efficiency of the Plant or quality of the Products.

5.2.6 The Contractor shall not use or divulge any technical data or Confidential Information and drawings or technical documents given by the Purchaser or his representatives to the Contractor except for the purposes strictly connected with the Contract.

5.2.7 The Contractor warrants that:

- a) It has the right to grant sublicenses for the production and sale of the Products in (country);
- b) To the actual extent known to him there is no limitation, including any pending official procedure or litigation, which adversely affects the existence or validity of the Licensor's Patents;
- c) It is not aware of third parties' patent rights which would be infringed by the use of the aforesaid patents or the technical information to be transferred as specified in the Contract.

5.2.8 The Purchaser will promptly advise the Contractor in writing of any notice, claim or suit for infringement of any patent against the Purchaser which is based upon the use, in accordance with this Contract, of any Patent licensed or of the technical information received from the Licensor. The Contractor shall, upon receipt of such notice, undertake at its own expense the defence of any such suit or action. The Contractor shall have charge and direction of the defence of any such suit or action and the Purchaser shall have the right to be represented therein by advisory counsel of its own selection at its own expense. The Purchaser will cooperate to the extent possible in the defence of any such suit or action and furnish evidence in its control.

5.2.9 The Contractor shall indemnify and hold harmless the Purchaser from any sums payable by reason of infringement, and shall reimburse in full to the Purchaser any royalties, license fee or damages paid to a third party as a result of a final ruling of a competent court. In any event, the Contractor's total liability under this clause will be subject to clause 13.2 of this contract, including all costs of defence both legal and engineering.

5.2.10 In the event of any notice or claim of infringement as referred to above, the Contractor shall have the right to eliminate the alleged or adjudicated infringement by, at the Contractor's own expense (a) procuring for the Purchaser an appropriate license or (b) making such changes in the technology as necessary to avoid such infringement, provided, however, that such changes do not prevent the Contractor from meeting the Performance guarantees as stipulated in the Contract.

5.2.11 If the infringement has been adjudicated by a final ruling of a competent court which prevents or substantially limits the Purchaser's use of the technology subject matter of the infringement he will have the right to terminate this Contract.

5.2.12 The parties shall promptly inform each other on any infringement of patents listed above which became known to them. The Contractor shall undertake at its own expense the pertinent proceedings against infringers, and will enjoy the benefits of any sum payable by the infringer in respect of royalties, license fees or damages.

In the event that the Contractor fails to undertake the proceedings as stipulated, the Purchaser will be entitled to take all appropriate legal action against infringers on the basis of powers or authorizations provided by the Licensor and the Contractor. In this case any sum payable by infringers shall correspond to the Purchaser.

5.2.13 The Contractor shall ensure delivery to the Purchaser of copies of all the know-how, basic engineering and licensing documents received by him from the Licensor, within days of receipt of such documents. The Contractor shall, in any case, ensure that all basic know-how documents required by him for carrying out his engineering functions, shall be available to him within the month of the Effective Date of the Contract, and copies are sent to the Purchaser by the month after Effective Date.

5.3 Engineering of the Plant

- 5.3.1 The Contractor shall carry out the engineering of the Plant in accordance with the standards and codes laid down in Annex including mandatory national standards. Where specialized design criteria are being used, the Purchaser shall be advised of such specialized design codes. The Contractor shall also take into account all safety rules and regulations normal to industry-practice, and safety regulations prescribed in (the Purchaser's country) as stated in
- 5.3.2 The Contractor shall execute the work in accordance with good engineering practice and the specifications and basic design as stipulated in the Contract.
- 5.3.3 The Contractor shall check the detailed design and material specifications for Civil Works submitted by the Purchaser for the Contractor's review, for compliance with the specifications and drawings supplied by the Contractor.

5.4 Technical documentation

- 5.4.1 The Contractor shall supply the Purchaser all Technical Documentation under the terms and within the time period as laid down in Annex*/

All documentation shall be in (language) and shall be supplied not later than the time indicated against each item in said Annex. Delays by the Contractor to fulfil this obligation will be governed by Article

- 5.4.2 The Contractor shall supply the Purchaser all necessary data to undertake the Purchaser's responsibilities for civil engineering and erection within from the Effective Date of the Contract.
- 5.4.3 The Contractor shall supply to the Purchaser the complete manuals for the operation and maintenance of the Plant, as specified in Annex All manuals shall be supplied to the Purchaser at least months before Mechanical Completion of the Plant, and the Operating Manual, the Maintenance Manual and the Laboratory Manual shall be supplied (...) before Mechanical Completion in order to train the necessary operating and maintenance personnel at Site.

*/ This Annex should describe all documents necessary to procure the Equipment and spare parts, to carry out any engineering to be undertaken by the Purchaser at Site and to erect the Plant, and indicate the respective date of delivery.

5.5 Procurement

- 5.5.1 The Contractor shall establish a complete list of Equipment to be procured under this Contract and procurement shall be expeditiously undertaken by the Contractor and the Purchaser to meet the time schedule laid down in
- 5.5.2 The Contractor and the Purchaser shall jointly pre-qualify vendors. For this purpose:
- a) The Contractor shall issue pre-qualifying notices for all groups of Equipment inviting potential Vendors for pre-qualification. All documents required shall be mentioned in this notice.
 - b) The Contractor shall send to the Purchaser a list of companies prequalified by him for purchase of different types of equipment, indicating reasons for rejection of any Vendor. The Purchaser shall have the right to add or subtract from such list of pre-qualified Vendors. All cost of the Contractor satisfying himself as to competence of any bidders will be borne by the Contractor.
- 5.5.3 The Contractor shall prepare the bid documents on the basis of the technical specifications prepared by him and submit the same to the Purchaser's approval, and shall issue the same to the Vendors. The bid documents shall specify that the Equipment to be purchased is "brand new".
- 5.5.4 The Contractor shall send the bid documents on behalf of the Purchaser to the respective Vendors listed in the list of Vendors. The list shall be agreed upon between the parties prior to the issue of tenders.
- 5.5.5 The Contractor shall use his best endeavours to obtain from the Vendors a minimum of (3) competitive offers.
- 5.5.6 The Contractor shall receive bids in two parts (technical specifications and prices), and will open the price tenders in accordance with the procedure laid down between the Purchaser and the Contractor and eventually the financing agency. Any clarification requested from bidders shall be undertaken in writing or in the presence of the representatives of the Purchaser. Where representatives of the Purchaser are not present, complete minutes of such meetings shall be sent to the Purchaser.
- 5.5.7 The Contractor shall prepare bid tabulations and an evaluation in ample detail to enable the Purchaser to select the final bidder, and shall make recommendations to the Purchaser on the selection of the Vendors. Should this Vendor not be the lowest bidder, full details shall be supplied on the reasons for rejection of the lowest bidder.

- 5.5.8 The Purchaser's final selector of the Vendor shall be communicated to the Contractor within Days from the date of receipt of the Contractor's submission of the bid tabulation. The Purchaser shall endeavour to preclude the selection of Vendors who are unacceptable to the Contractor. The Contractor shall, however, substantiate the reasons for such unacceptability so as to enable the Purchaser to re-evaluate the choice of such Vendor(s). The Contractor agrees and acknowledges that guarantee provisions and other criteria established by this Contract shall not be prejudiced as a result of any difference arising between the Purchaser and the Contractor as regards the final selection of the Vendor(s).
- 5.5.9 In case the Purchaser intends to select a Vendor who is not acceptable to the Contractor, the Contractor shall indicate the specific changes in his obligations, if any, which would result from such selection. The Purchaser shall thereafter still have the choice of purchasing the equipment from the selected Vendor subject to the reservations of, and modifications of the Contractor's obligations which are reasonably commensurate with the circumstances.
- 5.5.10 The Contractor shall prepare the final purchase orders, fully safeguarding the Purchaser's interest, for signature of the Purchaser or his representative at Contractor's offices, or as otherwise agreed between Purchaser and Contractor in writing.
- 5.5.11 The Contractor shall prepare monthly forecasts of deliveries specifying details of proposed consignments, approximate weight, dimensions and other relevant information, and furnish the same to the Purchaser and/or his shipping agent(s) with (.....) weeks advance notice of the date when the Equipment and/or Materials shall be ready for dispatch from the respective Vendor's shop.
- 5.5.12 The Contractor shall cause the Vendors to provide the Purchaser with necessary documents as may be required to have the Equipment imported in (.....) and shall obtain appropriate mechanical warranties from the Vendors in accordance with Article
- 5.5.13 In the event that any Equipment is to be ordered, as required by the provisions of, the Contractor shall render without additional cost to the Purchaser, services relating to the procurement of all such equipment in accordance with the procedure laid down in this Article (or as otherwise agreed with the Purchaser) or, if the equipment is to be repaired, shall make suitable recommendations to the Purchaser for repairs to the equipment, and if services for such repairs are required from this parties, shall draw up specifications for such services by way of purchase orders to be issued by the Purchaser. The cost for such replacement or additions to the equipment shall be paid in accordance with Articles and and the Contractor shall be responsible for all rectifications, in accordance with Article

5.6 Supervisory services

- 5.6.1 The Contractor shall provide an adequate number of supervisory personnel for the erection, mechanical testing, commissioning, Start-Up and Initial Operation of the Plant. The Contractor shall also undertake supervisory responsibilities of the Purchaser's personnel and direct the testing, Start-Up and demonstration of the Contract. The number and duration of stay of such personnel shall be as contained in Annex The adequacy of the requirements shall be reviewed by the Contractor and the Purchaser within months off the Effective Date of the Contract, and thereafter, periodically as may be required.
- 5.6.2 The Contractor shall ensure that all supervisory personnel are available at Site in such manner that the progress of work at Site is carried out expeditiously and as far as possible, in accordance with the time schedule contained in The Purchaser shall provide all work permits, if required, in good time. The Contractor shall send particulars of such personnel to the Purchaser at least months before they are required at Site.
- 5.6.3 The Contractor and Purchaser acknowledge that the number and category of personnel to be deputed to Site referred to in Annex is tentative. Whenever additional personnel are required at Site, the Contractor shall depute such additional personnel, when requested by the Purchaser.

5.7 Inspection, testing and certification

- 5.7.1 The Contractor shall be responsible for the inspection, testing and certification of all Equipment during manufacture and prior to dispatch.
- 5.7.2 Following the issue of purchase order(s), the Contractor shall carry out (in accordance with standard procedures) or cause to be carried out the inspection and testing, as per relevant codes given in the specifications at the shops of Vendors during manufacture and before dispatch.
- 5.7.3 During progressive inspection of Equipment fabrication the Contractor shall take appropriate measures in order that the Vendors or their employees strictly follow fabrication instructions and codes specified by the Contractor, and that the quality of workmanship meets acceptable levels to enable the production of Equipment in accordance with the qualitative and quantitative standards expressed in the Contract.
- 5.7.4 The Contractor shall also require Vendors to provide the necessary test certificates and all other documents required by the inspecting authorities in the country of manufacture or as may be required by the Purchaser in consideration of the regulations in force in and/or as provided for in the Contract.
- 5.7.5 The Contractor shall issue or cause to be issued certificates of inspection for all Equipment. When the Equipment are ready for final inspection, the Contractor shall take appropriate measures in order that the purchase order(s) have been complied with correctly as specified.

- 5.7.8 The Contractor shall issue or cause to be issued a certificate of each item of Equipment before dispatch, and shall send copies of tests carried out in connection with issue of such certificates of inspection.
- 5.7.9 The Contractor shall take appropriate measures in order that the Vendors arrange in a timely manner all proper export licenses, if necessary, to export the Equipment to (.....).
- 5.7.10 The Purchaser shall obtain the necessary import licenses or permits and shall provide for shipping arrangements for the Equipment of foreign origin. The Purchaser or his shipping agent shall advise the Contractor or the Vendor(s) as the case may be of the name of the ship and the loading dates Days in advance to allow the Vendor(s) to make the necessary arrangements for loading the consignment on the ship.
- 5.7.11 In the event that the Contractor during shop inspection anticipates delays in delivery of any equipment, the Contractor shall promptly notify the Purchaser and shall suggest measures to overcome delays. In the event that the delays appear inevitable, the Contractor shall anticipate the quantum of such delays, and inform the Purchaser so that the time schedule may be modified accordingly, and the Contractor shall undertake such remedial steps as may be practical, in the circumstances, to alleviate the difficulties that would be caused by the delays.
- 5.7.12 The Purchaser shall be responsible for the clearance of the Equipment and Technical Documentation at (name of port) and/or at other entry point(s) into (country) and for internal dispatch to Site.

5.8 Training

- 5.8.1 The Contractor shall provide training to the Purchaser's personnel in accordance with Annex The Contractor shall ensure that the number and level of training (to be arranged and supervised by the Contractor both at Site and other plants outside the country of the Purchaser) of the Purchaser's personnel are adequate for the smooth operation and maintenance of the Plant in peak condition. The Purchaser will ensure that the personnel sent for training meet the educational standards laid down in said Annex
- 5.8.2 The Purchaser and the Contractor shall agree at the first coordination meeting contemplated under Article the time, place and details to be established for the training of the Purchaser's personnel and final details for training shall be forwarded to the Purchaser within months following the Effective Date of the Contract. The Contractor shall competently train the Purchaser's personnel for the purposes and on the basis referred to herein for the periods and at the plants contemplated in Annex, using the processes of the Licensors.

5.8.3 Travel and living expenses for the Purchaser's personnel shall be borne by the Purchaser.

6. Obligations of the Purchaser

In addition to obligations relating to payments, the Purchaser is bound to undertake a number of tasks, duly coordinated with or under the supervision of the Contractor. In the case considered here they include:

- a) Preparation of the design basis of the plant. Though this is a Purchaser's responsibility, often Purchasers in developing countries lack the necessary experience so as to adequately collect and transmit all the information required by the Contractor. It is then advisable to impose on the latter the obligation to review whatever he receives from the Purchaser, and to obtain any other additional data he considers necessary to carry out the work, including from the Licensor.
- b) Transportation of equipment including entry clearance and other necessary arrangements to make it available in due time at the site.
- c) Obtention and development of the site. This obligation includes the carrying out of soil tests, the results of which should be carefully evaluated by the Contractor.
- d) Design and construction of civil works. As stated before, it is usual in turn-key agreements to leave this responsibility in the Purchaser's hands, without prejudice to the overall obligation of the Contractor to ensure the proper execution of works (see 5.d. above).
- e) Plant erection, testing and start up. Among the main Purchaser's obligations are those relating to the erection of the plant, and its testing and start up. These tasks may be directly executed by the Purchaser or by any other party designated by it. In any case, they are undertaken under the supervision of the Contractor.
- f) Supply of feedstocks, outside utilities, etc. Under the terms and specifications communicated by the Contractor, the Purchaser should provide feedstocks, utilities, chemicals and other materials for testing and the initial operation and maintenance of the plant.
- g) Permits and access to the plant. The Purchaser should also ensure the obtention of all permits necessary for the contract's execution, including the access of Contractor's personnel to the plant.

In order to undertake or supervise some of these tasks, or to check the work of the Contractor, the Purchaser may wish to appoint technical consultants. In this case, the Contractor should cooperate with them in order to facilitate their tasks, but could object their designation if they are direct competitors of the Contractor.

In many developing countries, the legislation provides for preferential treatment in favour of national consultancy firms, either acting alone or in association with foreign firms.

Illustrative clauses */

6. Obligations of the Purchaser

In accordance with article 4 the Purchaser shall carry out the obligations defined therein and as elsewhere expressed in the Contract.

- 6.1 The Purchaser shall supply to the Contractor the information and data required as a basis of design and design criteria. The Contractor shall examine the information and data so specified, and shall expeditiously advise the Purchaser on their adequacy and relevance.
- 6.2 Whenever any approval is required from the Purchaser under the provisions of this Contract, such approval or reasons for withholding it shall be conveyed to the Contractor within days of receipt, unless otherwise provided in this Contract. If no reply is received from the Purchaser within the period specified, such items submitted for approval shall be deemed to be approved.
- 6.3 The Purchaser shall be responsible for the transportation of Equipment from the port of dispatch to the entry port, in the Purchaser's country, for clearance at the entry port and for transportation of the Equipment to the Site.
- 6.4 The Purchaser shall acquire and make available for development within months from the Effective Date of the Contract the Site for construction of the work free of all encumbrances, including the necessary rights-of-way. The Purchaser shall arrange for storage of Equipment.
- 6.5 The Purchaser shall be responsible for carrying out soil tests. The Contractor shall, however, indicate the points at which heavy loads are to be expected, and shall also supervise such work relating to load tests, evaluate the results and shall convey his consent as to the adequacy of the load bearing and soil tests. However, in the event of the Contractor's disagreement with the results of such tests, then the Purchaser and Contractor shall determine the future course of action.
- 6.6 The Purchaser shall be responsible for the design and construction of all Civil Works. For this purpose, the Contractor shall ensure the timely supply of Technical Documentation relating to the design of the Civil Works in accordance with Annex

*/ See page 4, para. **/

- 6.7 The Plant shall be erected by the Purchaser or by such other parties appointed by the Purchaser, under the supervision of the Contractor's personnel.
- 6.8 The Purchaser shall obtain and make available to the Contractor all necessary permits, approvals or licenses required from local authorities as may be necessary for the timely execution of the Contract inclusive of import licenses, visas for Contractor's personnel, entry permits etc.
- 6.9 The Purchaser's personnel at Site shall carry out all testing and Start-Up and operation of the Plant until the completion of the Performance Guarantee Tests, under the supervision of the Contractor.
- 6.10 The Purchaser shall provide operations and maintenance personnel for the Start-Up and operation of the Plant under the supervision of the Contractor throughout the period from the beginning of the mechanical test of Equipment till the date of Provisional Acceptance of the Plant, in adequate numbers and competence.
- 6.11 The Purchaser shall provide feedstocks, outside utilities, chemicals and other materials required for the Start-Up, operation and maintenance of the Plant, and the Contractor shall be obligated to advise the Purchaser thereon.
- 6.12 The Contractor and any person authorized by him shall at all reasonable times have access to the Plant. The Purchaser shall afford every facility and assistance for obtaining the right of access to such information or persons within his country as is required in connection with this Contract.
- 6.13 The Contractor and his authorized personnel shall have free access to the Site, storage yards, fabrication shops, facilities for the supply of utilities and laboratories, which are set up or intended for use for establishing the Plant. The Purchaser shall provide necessary assistance in obtaining permission from his Government, if required.
- 6.14 Where, in the opinion of the Purchaser, it is necessary that technical consultants, provided that such technical consultants are not direct competitors of the Contractor, be sent to check the work of the Contractor, the Contractor shall cooperate with them in the carrying out of their duties and obligations.
- 6.15 The Purchaser shall treat as confidential all process and technical information, know-how, data and drawings supplied and specifically indicated as "confidential", by the Contractor (hereinafter referred to as "Confidential Information").

The Purchaser shall not without the prior approval of the Contractor disclose such Confidential Information to a third party, other than when required by law, or for subcontracting and provided further that the Purchaser shall request the third party to treat such information as confidential. This article shall not apply to such Confidential Information:

- a) which is or becomes a part of the public domain without fault of the Purchaser,
- b) which is already known to the Purchaser prior to disclosure by the Contractor.

7. Co-ordination of work

It is advisable to state in the Contract detailed provisions establishing the means to be used for ensuring the coordination between the parties. Such means may include:

a) Appointment of a Project Manager

Each party may appoint a "project manager" who would act on behalf of the same in order to monitor and coordinate the works.

b) Meetings between the parties

The parties should meet, through their respective project managers or other authorized representatives, as many times as deemed necessary for the execution of the project. The Contract should establish, in this regard, a schedule as well as the possibility of calling extraordinary meetings for that purpose, and the procedures to be followed as regards the agreements reached during discussions.

It may be useful to establish in the Contract a first meeting ("kick-off" meeting) shortly after the Contract becomes in force, in order to discuss the preliminary and most immediate matters (such as location of the Plant and off-sites, list of Vendors, design criteria). Another "design conference" may be held a few months later; aspects such as detailed in-Plant lay out, complete schedule and other issues may be dealt with in such a meeting.

Further meetings at the site may be useful to consider contingencies that may emerge during the project implementation, to compute and adjust, wherever necessary, payments due to the Contractor, and to revise - eventually expand or delete - the scope of the work agreed upon. In fact, daily inspection and weekly coordination meetings among the representatives of the Purchaser, Contractor and Sub-contractors is often a routine to review the progress of work and for solving and settling various technical and coordination problems.

c) Contractor's office at the site

In order to ensure a fluid communication between the parties and the proper performance of the Contractor's obligations, the Purchaser should provide appropriate facilities, in order for the Contractor to establish an office at the site.

d) Access by the Purchaser to the Contractor's work

The Purchaser may require access to the Contractor's work for two different reasons:

- (i) to monitor the work being done, and to establish its adequacy in view of the terms and conditions agreed upon. For this purpose, the Contractor should permit the review - by Purchaser's personnel - of work completed.
- (ii) to strengthen the technical capabilities of Purchaser's personnel, by allowing them to be present during the preparation of the detailed engineering of the plant. This is an important element for fostering the development of local skills in the field.

In both cases referred to in the preceding paragraph, the parties should agree on the number of engineers and other conditions related to the Purchaser's access to the Contractor's work. The costs of travel and subsistence will normally be at the Purchaser's charge. The access by the latter should be reasonable in scope and time, so as to avoid unnecessary or detrimental interference with the Contractor's work.

e) Appointment of a consultant engineer

Finally, the Purchaser should be recognized the right (which he may exercise or not) to appoint as his representative, a consulting engineer (or design office). Such an appointment would not alter the relations between the Purchaser, the Contractor and other participants in the Project, but would help the Purchaser to organize and supervise the work. Complex problems of responsibility may, however, arise out between the Purchaser and the consulting engineer, in case defects or omissions are identified in the plant. **/

Illustrative clauses */

7. Coordination of work

- 7.1 The Purchaser and the Contractor each shall appoint a Project Manager, who shall co-ordinate and monitor the work under this Contract on behalf of the Purchaser and Contractor, respectively, within the scope of the authority entrusted to each of them.

*/ See page 4, para. **/

**/ According with the FIDIC International General Rules for Agreement Between Client and Consulting Engineer and other conditions suggested by national associations of consulting engineers, the consulting engineer would only be responsible for the consequences of their proven mistakes and up to the amount of their fee or an amount reasonably proportionate to it. See also United Nations, Manual on the use of consultants in developing countries, UN sales no. 72-II-B-10.

- 7.2 The Purchaser and the Contractor through their designated representatives will meet periodically according to a pre-determined schedule and when necessary to examine the progress of work and mutually agree to expedite the work and resolve outstanding issues.
- 7.3 All notices, instructions and decisions on meetings shall be given in writing. Minutes of meetings and action plans shall be recorded and circulated for confirmation and necessary action. Minutes of meetings between Contractor's and Purchaser's representatives held at Site, or in the offices of Purchaser or Contractor shall after recording and confirmation have the same effect as notices in writing.
- 7.4 Whenever any approvals are required from the Purchaser under the provisions of this Contract, such approvals or reasons for withholding such approvals shall be conveyed to the Contractor within days of receipt, unless otherwise provided in this Contract. If no reply is received from the Purchaser within the period specified, such items submitted for approval shall be deemed to be approved.
- 7.5 Within days from the Effective Date of the Contract a meeting shall be held in between the Contractor and the Purchaser to discuss all matters of common interest, including but not restricted to the finalization of co-ordination procedure, list of Vendors, and design criteria. The matters related to the concept of location of the Plant and Off-Sites within the Site shall be finalized at such a meeting.
- 7.6 Within months from the Effective Date of the Contract, a meeting shall be held at the Purchaser's offices at (town) between the Contractor and the Purchaser to discuss work completed up to that time. The detailed in-Plant layout, design sizes of the Off-Sites, time schedule, project cost and production cost optimization, and other items of common interest shall also be discussed. The Contractor shall take into account in his design any changes suggested by the Purchaser, which are acceptable technically to the Contractor; and the Contractor shall advise the Purchaser of any changes in the contract price and/or time schedule arising from such changes.
- 7.7 The Contractor shall open an office at Site, for which an agreed amount of space shall be provided by the Purchaser. This office shall be managed within the jurisdiction of the Project Manager of the Contractor, who shall be responsible for all liaison with the Project Manager of the Purchaser. This office shall be opened in due time for checking the progress of Civil Works and before any of the Equipment arrives at Site. For the purpose of co-ordination, the Contractor's Project Manager at Site shall liaise with Senior Site Representatives of the Purchaser. The Purchaser and Contractor shall agree at the time of the meeting contemplated under Article, the quantum of services and office of the Contractor at Site.
- 7.8 The Purchaser shall have the right to review completed work of the Contractor in the Contractor's offices, so as to monitor the progress and status of the work. Such review will be reasonable both in scope and time so as not to unduly interfere with the Contractor's work.

- 7.9 The Purchaser, if he so desires, shall have the right to assign up to a maximum of engineers to the design offices of the Contractor at (.....) to be present during the detailed design of the Plant. The Contractor shall make available all technical documentation, as defined in Annex of the detailed design of the Plant to the engineers of the Purchaser. All costs in connection with the travel and stay of his engineers shall be borne by the Purchaser.
- 7.10 The Purchaser shall have the right to appoint from time to time a consultant engineer as his representative with the specified authority to participate in the meetings referred to above in this Article, and to review all work on the Purchaser's behalf and give such instructions and grant such approvals as may be necessary for the purposes of this Contract.
- 7.11 The Purchaser shall post an engineer with suitable powers at the offices of the Contractor at (.....) who shall have the right to examine and approve bid specifications, examine bid comparisons, approve and place orders for Equipment. The Purchaser and Contractor shall agree the quantum of services and office personnel to be provided by the Contractor to the Purchaser's engineers appointed to the Contractor's offices under this Article and Article .

8. Time schedule

The need to properly coordinate the whole work involved in the construction of the plant, confers utmost importance to the definition of a viable time schedule for the execution of the project. Such a schedule is crucial for the financial management thereof, and has enormous implications on the overall cost of the project and, thereby, on the ultimate cost of the products to be manufactured.

It is usual to establish - in an annex to the agreement - target dates for the different activities involved, and to set down later (upon discussion between the parties) a critical path network for the accomplishment of the specific duties at the Contractor's charge.

The Contract may also specify the schedule for some major events, including those which are under the Purchaser's responsibility, such as the opening of the tendering procedure for the equipment.

Illustrative clauses */

8. Time schedule

- 8.1 The target dates for different elements of the construction and completion of the Plant are given in the pert chart attached (see Annex). It is agreed that within months after the Effective Date of the Contract the Contractor shall prepare a critical path network, conforming to the bar chart attached, which shall be discussed between the Purchaser and Contractor and shall be mutually approved, and which shall list significant activities connected with the completion of the Plant.

*/ See page 4, para. **/

8.2 Except where otherwise stated, all dates or periods indicated in this Article and in Annex will be counted from the effective Date of the Contract.

9. Price and terms of payment

The Contractor's remuneration may be established in several forms. It may consist of a flat sum plus a fee for supervisory time-related services; it may be based on the reimbursement of actual costs incurred by the Contractor, plus a fixed percentage, or adopt a variety of other combinations.

Whenever the remuneration is stipulated on a time-related basis, it is advisable to include in the Contract an estimate of the time required for the execution of the work. Further, as the type of work varies, and the Contractor employs different categories of personnel, the Contract should specify the remuneration charged for each category thereof.

In some cases, in order to protect the remuneration against the consequences of inflationary processes, the Contractor may require the inclusion of an indexation clause, reflecting, for instance, the increases occurred in the remuneration of its engineering personnel at the home office. In such a case, it is advisable to refer to official indexes, which are publicly available and are reliable for both parties.

When the price is established as lump sum, it may amount from 7.5 per cent up to 15 per cent of the project cost, depending upon the type (size, site, complexity) of the project. In these cases, a time limit for the contract execution may be agreed to in advance. However, if the project is delayed due to reasons beyond the Contractor's control, or the Purchaser is desirous to keep some of the Contractor's personnel after the fulfilment of the agreement, a provision should be made in the contract to provide such services on mutually agreed terms.

Payments may be scheduled in a number of different ways. They may be effected at fixed times (e.g. 30 per cent of the total or estimated fee when the contract is signed; 20 per cent after three months, etc.), either as advances subject to reconciliation at a further stage, or as straight forward payments with only terminal adjustments.*/ This form, however, does not link the reception of payments with the effective and proper completion of work, and therefore, entails a considerable risk for the Purchaser. A preferable alternative is to relate payments (except the advance usually made after signing of the Contract) to the performance of the major Contractor's obligations such as the delivery of documentation on detailed engineering, the mechanical completion of the plant, etc. In order to secure the good performance of all Contractor's obligations, the Contract may establish that a given percentage of the total remuneration is payable after the "final acceptance" of the plant.

Payments may be effected by direct remittance to the bank designated by the Contractor, against a letter of credit, or any other warranty of bank or government for payment, from the Effective Date of the Contract, or in any

*/ See UNIDO, Guidelines for Evaluation of Transfer of Technology Agreements, Development and Transfer of Technology Series, no. 12, New York, 1979, page 31.

other forms agreed upon by the parties. The Contract should establish these modalities, taking the restrictions that may eventually arise from foreign exchange regulations into account.

Illustrative clauses */

9. Price and terms of payment

9.1 In full consideration for the performance of the Contract, the Purchaser shall pay to the Contractor the following:

9.1.1 A firm price of for the following items:

- a) granting of licenses and know-how.....
- b) supply of basic and detailed engineering.....
- c) procurement and inspection
- d) training of Purchaser's personnel

9.2 The payments due to the Contractor in accordance with 9.1 shall be made as follows.

9.2.1 Licenses and know-how:

- 20% as advance payment
- 40% at receipt by the Purchaser of documents set forth in article 4.3.1
- 40% upon issuance of the Provisional Acceptance Certificate by the Purchaser

9.2.2 Basic and detailed engineering procurement and inspection

- 20% as an advance payment
- 20% on the issue of bid specifications for all Equipment
- 10% on the issue of purchase orders for all Equipment
- 20% on the shipment of the Equipment
- 20% on the issue of the Provisional Acceptance Certificate of the Plant
- 10% on Final Acceptance of the Plant.

9.2.3 Training:

- 15% upon agreement of the programme of training
- 60% pro rata during training as specified in Annex
- 25% on completion of the overseas training of the Purchaser's personnel.

9.3 A reimbursable price estimated at a maximum of for the cost incurred for the provision of expatriate personnel for supervisory start up of the Plant and performance guarantee tests.

*/ See page 4, para. **/

- 9.4 The price referred to in 9.3 above shall be based on the daily rates as stipulated in Annex for each day of absence from the normal place of work of the expatriate personnel to be supplied by the Contractor. The daily rates will be related to a normal working week of hours. Overtime charges shall be paid, except for engineers and any staff who would not in similar situations be paid overtime charges in their home country, as follows:
- Above hour/week percent of normal rate
 - For weekly and public holidays per cent of normal rate.
- 9.5 The Purchaser shall provide to the Contractor's personnel air-economy tickets and other travel facilities required in the Purchaser's Country.
- 9.6 The advance payment shall be effected by direct remittance by the Purchaser to a bank designated by the Contractor, upon provision by the Contractor of a bank guarantee, as stipulated in Article 15.
- 9.7 Payments under 9.2 above shall be made against irrevocable divisible Letters of Credit established by the Contractor at a specified bank in (country), upon presentation of a certificate issued by the Purchaser stating that the respective obligation has been fulfilled.
- 9.8 The payments of services referred to in article 9.3 above, shall be made out of irrevocable divisible letters of credit established days before the commencement of services by the Purchaser in favour of the Contractor for the amount established in article 9.3 above upon presentation of monthly invoices countersigned by the Purchaser.
- 9.9 The Purchaser shall provide the Contractor's personnel living allowances in accordance with the rates and conditions set for in Annex the allowances shall be payable in local currency at Site and shall be made by the Purchaser every fortnight in advance.
- 9.10 In the event that the Contractor demonstrates the Performance Guarantees given in Article 10 during a period of less than months after the Effective Date of the Contract, the Contractor shall be entitled to receive as a bonus% of the fee stipulated in 9.2.2.

Payments under this Article shall be made within months of Provisional Acceptance of the Plant provided no defects which are not remedied appear in the Plant during this period affecting its capacity, performance or operation.

10. Performance guarantee and liquidated damages

(a) Mechanical and water trials

The testing of the plant as to its mechanical functioning takes place after the equipment is erected, installed, inspected and initially tested, in accordance with the general procedures set forth in the Contract. The tests are carried out in the presence of both parties' representatives, and the results are ascertained and recorded.

If the tests demonstrate a correct mechanical functioning of the plant, a "mechanical completion certificate" is normally issued (by both parties or by the Purchaser), and the Contractor is often entitled to receive the payments linked to such successful demonstration (see point 9 above).

The pharmaceutical industry uses different types of services and a wide variety of chemical and intermediates, some of which have corrosive, hazardous, or toxic characteristics. In the case of an antibiotic plant, sterility plays a crucial role. Any leakage of air or cooling water in the fermentor, in pipes or through the valves shall create microbial contamination spoiling the complete batch. Similarly, leakage of cooling water in the reactor will affect the yield and leakage of chemical products from the reactor in the cooling system or in the (jacket) will contaminate the water circulation system and return condensate system affecting the mass and energy balances resulting in higher cost of production.

The avoidance of prolonged mechanical testing and successful completion depends mostly on the proper supervision at all stages of the construction and erection. Such supervision and inspection would be a routine and some of the important features should be documented jointly by the Contractor and the Purchaser representative. Annex IV gives details regarding various observations for inspection and mechanical tests to be performed for successful completion.

(b) Scope of guarantees and tests

After successful mechanical and water trials, the plant should be started up by feeding raw materials, and operated for a period sufficient to obtain stabilization. After such a period, the performance guarantee tests should be carried out.

It should be recalled here that - as conceived in this document - the execution of the project involves the participation of a number of parties besides the Purchaser and the Contractor: the vendors of equipment, the subcontractors and the Licensor(s). The vendors of equipment have to guarantee the working of the equipment supplied by them as per specifications. The subcontractors are responsible for their individual works. The Licensor, having satisfied himself that the plant has been erected as per his basic know-how, has to fulfil the process guarantee of achieving the desired rated capacity of quality products using specified quantities of raw materials and utilities. Finally, the Contractor's main responsibility lies in the overall guarantee of getting the services in the whole complex as per requirement of the process, and is specifically responsible for obtaining the rated capacity of the plant.

Such a capacity is normally determined in terms of annual capacity. The first calculation could be done on the basis of 275 working days of 24 hours each. Due to the corrosive nature of a large number of chemicals a provision of 65 days in a year is generally made for routine and preventive maintenance.

For the determination of the annual capacity, it is not possible to run the plant for a full year. Instead, it is customary to calculate the capacity on running of 5 consecutive successful batches in the case of antibiotics and 10 consecutive batches in the case of synthetic drugs.

In the case of services, a continuous trouble free running of the services for 24 hours in an individual production block and a week in a complex as whole satisfies the guarantee of the services. */

It should be pointed out that the production of basic drugs involves a large number of stages. Based upon the capacity desired, the size of the equipment is calculated. Non-standard equipment and reactors create additional work of design and are costlier. For this reason, it is a common practice that the standard equipment nearest to fulfil the capacity parameters is selected. In this operation the actual capacity at different stages can vary. It is also the responsibility of the designer Contractor, not to play too safe and choose higher capacity vessels and reactors. This not only raises the cost of the project, but may present difficulties in matching the sequence of the reactions in an efficient way.

Since the undertaking of the performance guarantee tests implies the participation of the Contractor's personnel, he may require that a time limit be imposed on the period for demonstration. If, by reason of a delay not attributable to the Contractor, the test can not take place within that period, they may be deemed as successfully demonstrated. It is obvious that his solution shifts all the risks to the Purchaser, who should try to prevent the murgence of such a situation (see, as to the suspension of work, point 21 below).

(c) Rectifications

If the tests reveal defects in the plant or some part thereof, the Contractor would be bound to indicate the Purchaser the required changes or rectifications, and to provide according to his responsibilities - without additional payments by the Purchaser - all the engineering, drawings procurement and supervisory services as may be required for that purpose. In the case the Contractor neglects to take such action in a reasonable period, or is unable to eliminate the defects, the Purchaser should be authorized to carry out the necessary work on the Contractor's account.

After the corrections are made, a second demonstration would have to take place. Whenever the tests are satisfactorily run, a performance guarantee certificate is issued and the plant is provisionally accepted.

However, it is customary that the Contractor guarantees against design defects, for a period of 12 months following the test run. Once that period has elapsed, and all the Contractor's obligations have been fulfilled, the "final acceptance" of the plant takes place.

*/ For other details concerning the test run, see document ID/WG.393/1.

(d) Liquidated damages

Delays in the implementation of the project necessarily entail higher costs for the Purchaser. It is reasonable, hence, that he require from the Contractor proper securities as to the timely compliance of the latter's obligations.

One contractual means for coercing the Contractor in this respect is the establishment of liquidated damages per week or other period of delay. Liquidated damages may operate as a penalty or as a compensation for loss suffered, or as a combination of both. They may be subject to an upper limit, or apply as long as the delay is not remedied. In case of abandonment of the work, the cancellation of the Contract would apply.

Provisions as those referred to in the precedent paragraph may be stipulated for the case of delay in the compliance of the major Contractor's obligations, such as the delivery of the documentation on detailed engineering, and the undertaking of the mechanical completion of the plant.

Liquidated damages may also apply, according to the parties' established responsibilities, in case the capacity of the plant - as determined by the performance costs - is proven to be below the guaranteed capacity. In such a situation the amount of the penalty may be established in accordance with the extent of the deficiency found.

Illustrative clauses */

10. Performance guarantee and liquidated damages

- 10.1 As soon as the Plant or any part thereof is substantially complete, it shall be inspected by the Purchaser and Contractor before any tests are carried out.
- 10.2 When all the items of Equipment in the Plant or part thereof are ready and have been erected, installed and initially tested pursuant to this Contract, the Contractor and Purchaser shall review the procedures and shall undertake the demonstration of the Mechanical Completion of the Plant.
- 10.3 Immediately after Mechanical Completion, the Plant shall be started up by feeding raw materials by the Purchaser's personnel and shall be operated thereafter for a period of After this start-up period, the performance test run will be carried out.
- 10.4 The operations and tests referred to above shall be carried out by the Purchaser's personnel under the direction and supervision of the Contractor's personnel.

*/ See page 4, para. **/

- 10.5 The performance tests shall be undertaken in accordance with art. 10.15 below and Annex The detailed procedures of execution of such tests will be mutually agreed upon before the commencement thereof. Instrument tolerances will be as given by the supplier of equipment.
- 10.6 During the tests the authorized representatives of the parties will jointly ascertain and record the operating data and results. If the tests are fully and satisfactorily carried out, the Purchaser and the Contractor shall thereupon prepare a Provisional Acceptance Certificate which shall be signed by both parties following a joint examination of the Plant.
- 10.7 In the event that any defects are found during the tests mentioned above, for which the Contractor is responsible, the Contractor shall undertake all necessary measures which in the Contractor's judgement are necessary to remedy such defects.
- 10.8 The parties shall determine a mutually agreeable period to incorporate the changes required, and to repeat the tests. Such a period will not exceed from
- 10.9 If the Contractor refuses or neglects to take the necessary measures to ensure the elimination of the defects within a reasonable time, or does not observe the term stipulated in the precedent sub-article, or is unable to eliminate such defects, the Purchaser may take such remedial steps as are necessary to carry out or complete the required rectifications, modifications or replacement of equipment. The cost of such remedial steps taken by the Purchaser shall be to the Contractor's account and could be deducted from any payment due to the Contractor. In the case contemplated in this Article, the Purchaser shall also have the right to terminate the Contract.
- 10.10 The Contractor or the Purchaser, as the case may be, shall in every case keep such contemporary and accurate records of the costs of making good any defect(s) in pursuance of this Contract and as may be reasonably required and each party shall be entitled to receive copies of relevant documents.
- 10.11 The Contractor's obligation to rectify defects and to take corrective steps shall continue unabated, even if the period of extension granted by Article above is exhausted, and the Contractor shall continue his endeavours at his own cost to rectify the defects and take corrective measures provided the Purchaser agrees to allow such further extension(s) in time (in writing), as requested by the Contractor.
- 10.12 Subject to the completion of any and all work more particularly referred to in this Article and as elsewhere required under the terms of the Contract, the Purchaser shall issue a "Final Acceptance Certificate" within after the date of satisfactory completion of performance test run, unless during that period the Plant has shown defects requiring modifications, which were not apparent or recognizable at the time of such tests. In such case the Purchaser shall issue a Final Acceptance Certificate when all the defects have been removed.

- 10.13 The obligations of the Contractor shall be deemed to have been fulfilled, if for reasons not attributable to the Contractor the tests under this Article cannot be carried out within months from the Effective Date of the Contract, provided that in the event of Force Majeure the period shall be extended by the period of Force Majeure but not exceeding months.
- 10.14 The Contractor shall pay the amount of subject to a maximum per each (period) of delay in the execution of his obligations under articles of this Contract, provided that the delay is attributable to reasons for which the Contractor is responsible.
- 10.15 Should the Plant fail to conform to the guaranteed parameters, due to defects or faults attributable to the Contractor, the Contractor shall pay an amount of per per cent of deficiency.

11. Changes and additions to the scope of the Contract

The setting up of a plant for the production of pharmaceutical chemicals (bulk drugs or intermediates) involves a large number of activities and (as contemplated in this document) entails the participation of various parties. It is unlikely that all the requirements of the project could be foreseen at the time of signing an engineering contract, particularly if all technical details are not fixed initially but are decided during the project implementation. Further, as the execution of the Contract may take considerable time, changes may occur in regulations (e.g. environmental and safety standards) or variations may be required to incorporate improvements in know-how or basic design.

In order to contemplate those and other possible circumstances, it is advisable to confer the Contract sufficient flexibility to incorporate into its scope changes or additions it originally does not provide for. For this purpose a detailed procedure may be established, mainly consisting of the following:

- (a) request by the Purchaser and determination whether the services required are or not within the original scope of the Contract;
- (b) if the changes or additions are outside the said scope of the Contract, the Contractor should state at the outset the implications of every change or variations requested by the Purchaser in terms of cost and time, and, where relevant, its effect on the performance guarantees before obtaining the Purchaser's approval to proceed with the change or variation.
- (c) wherever changes/variations due to statutes or regulations are sought by the Purchaser, the same has to be carried out by the Contractor who should be compensated for the additional work.

- (d) for the case of disagreement on the Contractor's estimate of the cost and/or time delay and/or modification to the performance guarantees, the contract should provide for such contingency, requiring the Contractor to proceed with the execution of the change, pending the settlement of the dispute by reference to a mutually agreed expert of repute.
- (e) often changes are requested verbally by the Purchaser's site representatives resulting in subsequent disputes about payments. All changes should be conveyed in writing, by means of a "change order", i.e. a document issued by the Purchaser indicating the changes/variations required, and resulting modifications as regards to contract price, technical specifications, time schedule or other conditions of the Contract.

Illustrative clauses */

11. Changes and additions to the scope of the Contract

- 11.1 Whenever the Purchaser makes a request to the Contractor for change in design, or where services are required to be performed by the Contractor, which in the opinion of the Contractor are in addition to the services which the Contractor is obligated to perform under this Contract, or which in the Contractor's opinion require additional payment by the Purchaser, the Contractor shall advise the Purchaser of the cost of such further services, within days following the Purchaser's request.
- 11.2 If the Purchaser agrees that the services required of the Contractor are in addition to the Contractor's obligations under this Contract, the Purchaser shall (subject to negotiations as to the cost and extent of such services and effect on the time schedule, if any) agree to pay for such services in accordance with payment terms and time schedules to be mutually agreed.
- 11.3 The Contractor shall be entitled to claim for additional costs and/or time delays when a modification, change or variation occurs in the event of any one of the following:
 - 11.3.1 Any modification required by the Purchaser which is an addition to the scope of the work as per the obligations of the Contractor under this Contract.

*/ See page 4, para. **/

- 11.3.2 Any additional engineering/re-engineering required for compliance with applicable laws, and in conformity with local statutes consequent on changes in such laws/statutes enacted after the signing of the Contract.
 - 11.3.3 Any additional engineering/re-engineering required for compliance with local statutes consequent on changes in environmental protection standards.
 - 11.3.4 Any additional engineering/re-engineering required relating to incorporation of agreed improvements in know-how or technologies that have become available after the signing of the Contract.
 - 11.3.5 Any additional engineering/re-engineering required consequent on the Purchaser altering the specifications of the raw materials and/or changing the characteristics of the utilities and/or altering the basis of the meteorological data which had earlier been agreed as the basis of design between the Purchaser and the Contractor.
- 11.4 In all cases envisaged in Article 11.3 and its sub-articles, the Contractor shall furnish a breakdown in sufficient details to permit an analysis of all material, labour, equipment, sub-contracts and estimate project schedule overruns and specify design changes and shall further include all work involved in the variation and/or modification, whether such work was deleted, to be added or changed. The Contractor and Purchaser will thereafter meet and discuss the implications of such variations.
- 11.5 Whenever the provisions of Article 11.3 are applicable, the Contractor shall prepare and submit to the Purchaser a detailed cost and/or execution time estimate of the modifications to the Contractor's Services.
- 11.5.1 The Purchaser shall within days agree or disagree on the adjustments proposed by the Contractor.
 - 11.5.2 If the Purchaser agrees on the (a) cost, (b) execution time and (c) modified guarantees, if any, proposed by the Contractor, the cost shall be either added to or subtracted from the Contract Price as the case may be, and the Contract execution time shall be modified accordingly, wherever necessary.
 - 11.5.3 If the Contractor and the Purchaser do not agree either on the cost adjustments and/or time delays, and/or modifications of guarantees, the Purchaser shall have the right to request the Contractor to proceed to execute the work pending settlement of the dispute in the manner prescribed in Article 11.6 below.

11.6 The Purchaser and the Contractor shall mutually agree to nominate an independent expert and refer the dispute to the independent expert for a decision on the disputed points.

11.6.1 In the event that there is no agreement as to the choice of the independent expert, the parties shall mutually agree to refer the matter to (_____)*/ for the appointment of such independent expert.

11.6.2 The decision of the independent expert shall be without prejudice to the rights of either party to submit the dispute to (arbitration or courts) in accordance with Article; however, and in such event, the Purchaser shall make an "on account" payment to the Contractor of the sum in accordance with the decision of the independent expert but without prejudice to the rights of either party for further adjustments of the amounts so paid consequent on the decision rendered by the (arbitrators or courts).

11.7 Changes/variatioins as per the provisions in this Article of the Contractor's obligations, and any modifications to the Contract price and technical specifications contained in the Contract and/or time schedule, shall be incorporated in a written change order which shall be signed and issued by the Purchaser.

12. Bank guarantees

The Purchaser's security requirements as regards the fulfilment of Contractor's obligations may be satisfied through the stipulation of first or simple demand bank guarantees. They may include:

- a) Guarantees for advance payment, if any;
- b) Performance guarantees.

Under this type of guarantee the guarantor - generally a bank or an insurance company - undertakes to pay the Purchaser up to the guaranteed amount upon the simple request of the Purchaser. The guarantor is not allowed to judge whether the Purchaser claim is justified or not, but must effect the payment on the basis of the Purchaser's simple demand. In some cases, the Purchaser may require that the guarantee be granted by a bank of his country with the counter-guarantee of the Contractor's bank.

*/ To be determined by prior negotiations at the time of signing of the Contract.

The amount and term of validity of performance bank guarantees generally are the main issues of discussion and negotiation. The first aspect will be usually determined as a percentage of the contract value, or of the fee agreed upon. It may also be determined on the basis of the liability assumed by the Licensor (see point 16, below).

The terms of validity of guarantees may be indefinite, or extendable upon the simple request of the beneficiary. Another possibility is to determine a date of expiry, for instance, after x months from the satisfactory fulfilment of performance tests. The contract may also specify that the guarantee be partially released at the date on which certain events occur, for instance, at the date of delivery of the detailed engineering documentation and at the date of the mechanical completion of the plant.

Illustrative clauses */

12. Bank guarantees

- 12.1 In consideration of the advance payment remitted by the Purchaser the Contractor shall provide a first demand bank guarantee from a first class bank for an amount equivalent to the sum total of the advance payment required to be made by the Purchaser pursuant to Article The amount of this bank guarantee shall be released on receipt by the Purchaser of all documentation as provided for in Article
- 12.2 The Contractor shall provide the Purchaser with a first demand Performance Bank Guarantee on receipt of payment stipulated in Article for an amount equivalent to per cent of the total lump sum stipulated in Article
- 12.3 This guarantee will remain in force until the Final Acceptance of the Plant.
- 12.4 The guarantees referred to in this article shall be encashable by the Purchaser in (currency).
- 12.5 The Contractor shall take all actions, including renewals and extensions, to keep the guarantees valid for the periods provided for.

13. Liabilities, set-off and waiver

a) Liabilities

The negotiation of the scope and extent of the Contractor's liability is often one of the difficult issues to be dealt with, since each party is likely to support two clearly divergent views on the matter.

*/ See page 4, para. **/

Contractor's liability may arise out from:

- i) injury or damage caused to persons or property by negligence or omission by the Contractor, e.g. communication of defective designs;
- ii) losses and damages emerging from the non-compliance with the specific contractual obligations, e.g. failure to successfully demonstrate the tests not remedied by subsequent rectification;
- iii) losses and damages created by delays attributable to the Contractor which affect the implementation of the project as scheduled.

Limitations on the scope of the liability may consist, as it is usual in practice, of the exclusion of consequential losses or damages and losses of anticipated profits.

Limitations as to the amount of total liability have also been common practice in international agreements. They usually take the form of a percentage of the total contract's value or of the fee due to the Contractor. Another possibility is to discriminate such items where the Contractor's liability is limited, from those where a ceiling is not admitted, such as for the works necessary for rectification or correction of the plant.

In cases of damages or losses covered by insurance policies taken out by the Contractor, he may normally discharge - partially or totally - his obligations by reimbursing to the Purchaser any amount received by virtue of such policies.

b) Set-off

During the execution of the Contract, certain events may cause losses or damages to the Purchaser, for which the Contractor is liable. In order to attenuate the burden that such losses or damages impose on the Purchaser and to enforce the Contractor's responsibility therefor, the Contract may recognize the former the right to set off the amount of the loss or damage against any amount payable to the latter. Such a right may be subject, in order to ensure a fair decision for both parties, to a procedure as follows:

- i) the Purchaser should, firstly, notify to the Contractor in writing and substantiate the reasons, scope and amount of his claim, giving the Contractor a reasonable term for its consideration;
- ii) secondly, amicable and bona fide negotiations should be undertaken;

iii) Failing such negotiations, the Purchaser may be permitted by the Contract to set-off against any amount payable to the Contractor, without prejudice to the latter's right to resort to the procedures established for the settlement of disputes (see point 28 below, including eventually the nomination of independent experts) and if the issue is still unresolved, the recourse to the competent courts or arbitration as provided for.

c) Waiver

It is general practice to set down the principle that no previous waiver of a particular right or remedy under the Contract is to be deemed as a waiver of a future right or remedy. Such a principle confers flexibility to the parties in their reciprocal behaviour, and preserves the stability and integrity of the Contract.

Illustrative clauses */

13. Liabilities, set-off and waiver

13.1 The Contractor shall not be liable for any property or equipment of the Purchaser damaged or lost during transportation, erection, start-up and mechanical tests, except where:

- (1) such loss or damage has occurred due to a negligence act or omission of the Contractor, and
- (2) such loss or damage is not covered by the insurance specified in Article

Notwithstanding the above, the Contractor's liability for loss or damage to the Purchaser's property and equipment shall in any event be limited to the amounts recovered by the Contractor from his Third Party Liability Insurance, the coverage and value of which must be reasonable and agreed to by the Purchaser.

13.2 The total liability of the Contractor under the Contract shall not exceed () per cent of the total price as stipulated in Article 9 with the exception of the Contractor's unlimited liability for rectification or modifications necessary for the fulfilment of the guarantee as stipulated in Article, as well as the reimbursement to the Purchaser of any amount(s) received by the Contractor, under any insurance policies held by the Contractor as well as through those others specifically taken out for the purposes of this Contract.

*/ See page 4, para. **/

- 13.3 The Contractor shall not be liable under the Contract for loss of anticipated profits or for any consequential loss or consequential damage.
- 13.4 In the event that the Purchaser considers that he possesses a claim against the Contractor under, arising out of, or in any way connected with, this Contract, the Purchaser may at any time (whether before or after the completion of the work under this Contract and whether such completion is affected by the Contractor, the Purchaser or another person) calculate the amount of the damage or loss upon which such claim is based and (without restricting any rights of set-off or counter-claim given or implied by law) and notify the Contractor in writing the reasons, scope and amount of his claim. The Contractor shall consider the claim within days from receipt of the notification. In case of disagreement as to the validity or extent of the claim, the parties shall undertake amicable negotiations, failing which, and after days from the date of the notification referred to above, the Purchaser shall be entitled to set-off against any amount then or to be subsequently payable to the Contractor, and shall notify the Contractor in writing that the said right is being exercised. At any time up to days after the receipt of the notification, the Contractor may resort to the procedures established in article for settlement of disputes, but after the expiry of the said days, the Contractor shall be deemed to have acknowledged the validity, both as regards quantum and otherwise of the aforesaid claim of the Purchaser. Should the amount of the above-mentioned claim of the Purchaser exceed the amount or value of the set-off, nothing herein shall be construed as a bar to the right of the Purchaser to adopt any other legal measures available against the Contractor for the amount of such excess.
- 13.5 No previous waiver of a particular right or remedy by either party shall operate as a waiver of a future right or remedy (which would normally be invocable) unless otherwise stated.

14. Indemnification

Each party should be responsible vis-à-vis the other party, of its negligent acts or omissions, as well as for those of its employees and Sub-Contractors. The Contract may specifically state this principle, in order to confer reciprocal protection against any claims or proceedings brought by third parties for personal injury, death or property damage.

Illustrative clauses */

14. Indemnification

14.1 The Contractor shall indemnify and hold harmless the Purchaser and anyone employed by him from and against all claims, demands, losses, costs, damages, actions, suits, expenses (including legal fees) or proceedings

*/ See page 4, para. **/

by whosoever made for personal injuries, death or third party property damage brought or prosecuted in any manner based upon, arising out of, related to or occasioned by the negligent act or omission of the Contractor or his Sub-Contractors and their employees in connection with this Contract.

14.2 The Purchaser shall indemnify and hold harmless the Contractor, his employees and agents from and against all claims, demands, losses, costs, damages, actions, suite or proceedings for personal injuries, death (other than to Contractor's personnel) and property damage (other than to the Plant) occasioned by the Purchaser's and his Sub-Contractors' and their employees' negligence.

15. Insurances

It is of utmost importance that the parties take out adequate policy insurances covering at least the main risks involved in the execution of the engineering contract.

On the Contractor's side, as a minimum, the risks arising out of errors, omissions or negligence in engineering or in the supply of the stipulated service should be covered, as well as accident and liability insurances for its personnel.

On its side, the Purchaser should carefully review the different types of insurance cover available and required for the setting up of the plant including, for instance, construction risks, machinery breakdown, cargo insurances, etc. In the context of the agreement considered here, the Purchaser should, for instance, take policies against injuries or damages (including to the Contractor's personnel or property) occasioned by negligent acts of the Purchaser's personnel, at the site or at the Contractor's facilities.

The parties should prove, in due time, that such policies have been taken out and are kept in force. For the case where either of the parties failed to take out or maintain the required policies, the Contract may state the other party's right to do so, at the non-complying party's charge.

Illustrative clauses */

15. Insurance

15.1 Without restricting in any manner the generality of any other provisions of the Contract, and in particular any such provision as pertaining to the liability of the Contractor, it is expressly agreed that, throughout the period beginning from the date of commencement of the work, and continuing until the Mechanical Completion of the Plant, the following policies shall be taken out:

*/ See page 4, para. **/

- (a) The Contractor shall take out and keep in force insurance policies covering risks arising out of any error, omission or negligence in engineering or in the supply of services stipulated under the Contract, and personnel accident and liability insurances for the Contractor's personnel deputed to Site.
- (b) The Purchaser shall take out at his own charge all other appropriate policies, including coverage of the Plant from commencement of work and against any injury or damage derived to persons or property, including Contractor's personnel and property, through acts, omission or negligence of Purchaser's personnel.

15.2 Whenever required from time to time, the Contractor and the Purchaser shall submit to the other party adequate proof that the insurance(s) as contemplated by Article 15 have been taken and remain in force. The parties hereto shall also provide each other with certified documentation with regard to the coverage and value of the policies.

15.3 Should the Contractor fail to take out and/or keep in force the insurances contemplated by this Article within the scope of his responsibility, together with any other insurances to be taken out by the Contractor agreed between the Purchaser and the Contractor, then the Purchaser may at the Purchaser's option take out insurance(s) considered appropriate and necessary in the circumstances, in which event any premiums paid or payable by the Purchaser shall immediately constitute a debt due from the Contractor to the Purchaser, the amount of which debt may be retained as the Purchaser's monies out of any amount(s) otherwise payable by the Purchaser to the Contractor.

15.4 Should the Purchaser fail to take out and/or keep in force the insurance(s) contemplated by this Article within the scope of this responsibility, then the Contractor may at the Contractor's option take out insurance(s) considered appropriate and necessary in the circumstances in which event any premium paid or payable by the Contractor shall immediately constitute a debt due from the Purchaser to the Contractor.

16. Taxes and levies

It is generally understood that the Contractor will bear any taxes, rates, charges and assessments of any kind pertinent to his work under the contract and applicable outside the Purchaser's country.

The Contract should also determine which party will bear the taxes, etc. existing in the Purchaser's country. Under some national laws, the Purchaser would be bound to deduct from the Contractor's fee, whenever a payment is made, the amounts corresponding to the taxes applicable to the latter's income.

Illustrative clauses */

16. Taxes and levies

16.1 Each and every price cited in or contemplated by this Contract as described in Article 9 includes and covers all taxes, rates, charges and assessments of any kind whatsoever (whether Federal, State or Municipal, and whether or not in the nature of excise taxes/duties, land taxes, license fees, or otherwise) outside the Purchaser's country pertinent to the Contractor's services provided pursuant to this Contract, and/or the performance of the work, and all other costs and charges whatsoever relevant to such Contractor services and/or to such performance of the work by the Contractor.

16.2 All taxes and/or levies under any existing or future law of (Purchaser's country) applicable to the amount payable in accordance with this Contract will be borne by (Alternative a: the Contractor. Upon request, the Purchaser will provide the Contractor with the receipts of payment of such taxes or levies) (Alternative b: the Purchaser).

17. Suspension of work

Among the circumstances that may arise during the construction of the plant some may require the suspension of the work for a certain time. The Contract may include provisions to cover this situation and consider different hypotheses according to the length of the suspension.

If the suspension extends for a brief period (e.g. less than three months) the Contractor may be allowed a commensurate extension of time for the execution of his obligations; for longer periods (e.g. up to twelve months) the revision of the time schedule may be provided for. In any case, the Contractor might be entitled to claim the reimbursement of the additional costs caused by the suspension.

If the resumption of the work is delayed longer (e.g. more than twelve months), and there is no agreement as to the terms for continuation of the work, either of the parties might be allowed to terminate the Contract, in accordance with the specific provisions thereof (see point 25, below).

Illustrative clauses */

17. Suspension of work

17.1 The Purchaser may, when in the Purchaser's opinion it is deemed necessary, require the Contractor to suspend the execution of the work, or part of the work, either for a specified or unspecified period by communicating notice to that effect to the Contractor. If the period is unspecified, the Purchaser shall specify the period of suspension within days thereafter.

*/ See page 4, para. **/

- 17.2 The Contractor, upon receiving notice of the Purchaser's requirement pursuant to Article above, shall suspend all operations except those which, in the Purchaser's and Contractor's opinion, are necessary for the care or preservation of the Plant.
- 17.3 During the period of suspension, the Contractor shall not remove from the Site any part of the Plant or Equipment without the consent of the Purchaser.
- 17.4 If the period of suspension is (.....) days or less, the Contractor, upon the expiration of the period of suspension, shall resume the execution of the Contract in accordance with an extension of time granted by the Purchaser reasonably commensurate with the period during which the execution of the Plant or part of the Plant was suspended and the Contractor shall be reimbursed for his reasonably justified additional costs which should be evidenced by necessary documentation.
- 17.5 If the period of suspension is more than (.....) days, upon the expiration of the period of suspension, the Contractor shall resume operations and fulfil the Contract in accordance with the terms and conditions of this Contract, provided, however, that the time schedule will be extended accordingly and his reasonably justified costs as evidenced by documentation will be reimbursed to him for the period of suspension subject to any further amendments to the Contract in accordance with Article
- 17.6 If the period of suspension exceeds days and if either the Purchaser requests the Contractor to recommence the work upon amended terms (to be agreed mutually) and the Purchaser and Contractor are unable to reach agreement on the method for the completion of the Contract, or the Contractor states in writing that he is unwilling in any event to undertake further work, the Contract shall be terminated according to Article 25.
- 17.7 Both the Purchaser and Contractor shall make bona fide endeavours to resume the work as expeditiously as possible.
- 17.8 Payments if any made under this Article shall be governed by the provisions of Article

18. Effective date of the Contract

The effective date of the agreement is the date defined by the parties as the initial point in time for some or all terms agreed upon in the Contract. That date may coincide with the date of execution (signing) or be determined by the date upon which the last of some other events occur, such as the approval of the Contract by the authorities of the Contractor's or Purchaser's country, if required, or the remittance of an advance payment by the Purchaser.

Illustrative clauses */

18. Effective Date of Contract

18.1 The Contract shall become valid upon the formal execution (signing) by the duly authorized officers of the Purchaser and Contractor properly witnessed and sealed and in accordance with the applicable law. The Effective Date of the Contract shall be the date upon which the last of the following requirements has been fulfilled:

- 18.1.1 (i) Approval of the Contract by the Government of () where the Plant is to be located, such approval to be obtained by the Purchaser, if required.
- 18.1.2 (ii) Approval of the Government of () where the Contractor resides and has his principal place of business such approval to be obtained by the Contractor, if required.
- 18.1.3 (iii) The provision by the Contractor of the bank guarantee as provided under Article to be effected simultaneously with receipt of the advance payment by the Contractor, referred to in Article

19. Assignment of the Contract

The selection of an engineering firm is normally made on the basis of its experience, reputation and qualifications evidenced for the execution of the specific work to be undertaken. Therefore, the assignment of the Contract by the Contractor is in principle excluded, except if the Purchaser expressly gives his consent to it. Moreover, if the Contractor requires to sub-contract part of the work, the Purchaser should approve each particular transaction, without prejudice to the Contractor's responsibility for the due and timely execution of the sub-contracted work.

As regards to the situation of the Purchaser, there may be situations (such as when a state organization is involved) where the assignment of the Contract may be necessary. The Contract may provide the right to assign subject to adequate guarantees as to payments, or alternatively submit any assignment to the prior consent of the Contractor.

Illustrative clauses */

19. Assignment of the Contract

19.1 This Contract may not be assigned by the Contractor without the written consent of the Purchaser.

*/ See page 4, para. **/

19.2 (Alternative a: The Purchaser shall have the right to assign the Contract provided that such assignment does not increase the Contractor's liabilities over what they would have been if such assignment or transfer had not been made, and provided that the obligations of the Purchaser are binding upon the assignee, with assured guarantees for payment(s) under the Contract.)

(Alternative b: This Contract may not be assigned without the written consent of the Contractor, which shall not be unreasonably withheld).

19.3 Neither the whole nor any part of the Contractor's obligations may be subcontracted by the Contractor without the written consent of the Purchaser.

19.4 The Contractor shall ensure that every sub-contracting by the Contractor shall comply with all terms and conditions of this Contract.

20. Language of the Contract

The Contract should establish the language in which it should be interpreted, as well as in which all correspondence, data, documentation, etc. should be written.

In cases where more than one version in different languages are made, it is necessary to determine which version will prevail for the purposes of the use and interpretation of the terms of the Contract. As regards to the language of the technical documentation to be supplied by the Contractor, see point above.

Illustrative clauses */

20. Language of Contract

20.1 The governing language of the Contract shall be and the definitions in such language shall be final in the use and interpretation of the terms of the Contract.

20.2 All correspondence, information, literature, data, manuals, etc. required under the Contract shall be in language.

21. Termination and cancellation of the Contract

(a) Termination

For cases where circumstances beyond the Purchaser's control (which do not necessarily constitute, however, force majeure) prevent him from continuing the construction of the plant, he may be authorized

*/ See page 4, para. **/

by the Contract to terminate the same, subject to the reimbursement of the costs incurred up to that moment by the Contractor, or to the payment of the remuneration due, whichever is greater.

In such hypothesis, the Purchaser should receive all the technical documentation done by the Contractor at the date of the termination, as well as calculations, data, inspection reports and other materials corresponding to the Contractor's work.

The Purchaser may be also entitled to terminate the Contract, whenever the Contractor does not undertake or abandon the work, or when other grave circumstances (e.g. unauthorized assignment of the Contract, bankruptcy) have arisen out.

One of the main effects of cancellation, which may be either total or partial, is to interrupt payments to the Contractor, without prejudice to his right to institute actions or proceed to arbitration.

The right to cancel the Contract is essential to rapidly solve difficult situations created by the Contractor's failure to undertake or complete the contracted work. It allows the Purchaser to take the Contract out of the Contractor's hands and to complete himself, or by any other designated party, the pending work and thus avoid costly delays in the implementation of the project.

Similarly, the Contractor may declare the contract void in case of a fundamental breach by the Purchaser, and particularly if the latter fails to pay the former the amounts due in accordance with provisions relating to remuneration (see point 9 above), or when the Purchaser becomes insolvent or commits an act of bankruptcy.

Illustrative clauses */

21. Termination

21.1 In the event that the Purchaser is subject to any circumstances which are wholly unavoidable and/or beyond his control (but not including occurrences constituting force majeure) then the Purchaser may at any time by giving notice in writing to that effect, terminate this Contract.

21.2 The Contractor shall upon receipt of a notice pursuant to Article 21.1 above cease all operations forthwith.

21.3 If the Contract is terminated pursuant to Article 21.1 the Purchaser will pay to the Contractor an amount equal to the greater of:

*/ See page 4, para. **/

- 21.3.1 The cost of the work properly supplied or done by the Contractor as at the date of the termination, including the cost of terminating commitments made in good faith to his Sub-Contractors, as substantiated by appropriate evidence, less all amounts already paid to the Contractor by the Purchaser, and less all amounts which the Contractor is liable under the Contract to pay to the Purchaser or owing to the Purchaser, or
- 21.3.2 The amount calculated in accordance with the terms of payment which would have been legitimately payable to the Contractor up-to-date of termination provided the Contractor had in fact fulfilled his contractual obligations to such date.
- 21.4 In any of the following cases, the Purchaser may, without any other authorization, cancel the Contract and take all or any part of the Contract and/or of the work to be undertaken by the Contractor out of the Contractor's hands and may employ such means as the Purchaser sees fit to complete this Contract.
 - 21.4.1 Where the Contractor has delayed commencement of work for months, for reasons attributable to the Contractor, and the Purchaser has given notice to the Contractor and the Contractor has not replied or not taken action to commence work months.. after such notice was given.
 - 21.4.2 Where the Contractor has become insolvent and/or made an assignment of the Contract without the approval of the Purchaser.
 - 21.4.3 Where the Contractor has committed an act of bankruptcy.
 - 21.4.4 Where the Contractor has abandoned the work.
 - 21.4.5 In any other case where the failure of the Contractor to perform his obligations amounts to a fundamental breach of this Contract.
- 21.5 Where this Contract or any portion thereof has or have been taken out of the Contractor's hand under Article 21.7 the Contractor shall not, except as provided in Article 21.9 hereunder, be entitled to any further payment including payments then due and payable, but not paid, and the obligation of the Purchaser to make payments as provided for in the terms of payment shall be at an end, and either party at their option may institute actions for recovery of damages.
- 21.6 Where this Contract, or any portion or portions thereof has or have been taken out of the Contractor's hands under Article 25.7 and is subsequently completed by the Purchaser, the Purchaser shall determine the amount, if any, of retention monies and progress claims of the Contractor unpaid at the time of taking the work out of the Contractor's

hands that, in the Purchaser's opinion, are not required by the Purchaser for the purposes of the Contract and subject to any actions already instituted or proposed to be commenced, the Purchaser shall, if he is of the opinion that no financial prejudice to the Purchaser will result, authorize payment of that amount to the Contractor.

- 21.7 The taking of this Contract, or of any portion thereof, out of the Contractor's hands pursuant to this Article does not operate so as to relieve or discharge the Contractor from the obligations imposed upon the Contractor by law, except the obligation to complete physically the execution of such portion of the Contract as has been taken out of the Contractor's hands.
- 21.8 In the event of a termination of this Contract pursuant to this Article, the Purchaser shall be entitled to receive:
- 21.8.1 All the Technical Documentation completed or done at the date of termination, in accordance with Annexes
- 21.8.2 All calculation, computer print-outs or other materials pertaining to the detailed engineering, completed at the date of termination.
- 21.9 The Purchaser shall be given all inspection reports, reports on visits to Vendor's factories and copies of test certificates received from Vendors up to the date of termination.
- 21.10 Nothing herein shall invalidate the rights of the Purchaser or the Contractor as to contractual grounds of action in relation to damages or costs due to either party.
- 21.11 The Contractor may terminate this Contract, if the Purchaser fails to effect the payments due under article ("Contract price, terms of payment") within days after the Contractor has given notice of such failure to the Purchaser, or when the Purchaser becomes insolvent or has committed an act of bankruptcy.

22. Force majeure

According to the traditional conception of force majeure a contracting party is not deemed to be in default of its obligations if the performance thereof is prevented by contingencies which are unforeseeable (at the time of contract's signing), unavoidable and independent of the parties, and which render impossible the further execution of contractual obligations.

International contractual practice has generally attenuated the strict requirements of such conception. The unavoidableness is, thus, substituted by a reference to events beyond the control (or reasonable control) of the parties. Likewise, instead of the extinctive effect traditionally accorded to force majeure, the practice recommends to suspend the contract until the disturbing contingencies are overcome.

Provisions on this issue should normally include:

- (a) Definition of exonerating circumstances;
- (b) Enumeration of contingencies that may be comprised in the definition, such as force of nature (acts of God), acts of war (whether declared or not), strike, lock-out, governmental order or regulation, etc.;
- (c) Notifications of the occurrence of such circumstances in a given form and delay (and of their termination);
- (d) Proof to be supplied;
- (e) Effects of the force majeure;
 - (i) Exclusion of responsibility for non-performance;
 - (ii) Suspension of execution (eventually extension of contractual terms during the period of suspension);
 - (iii) Renegotiations, rescission or submission to arbitration or the competent courts.

Illustrative clauses */

22. Force Majeure

22.1 In this Contract, Force Majeure shall be deemed to be any cause beyond the reasonable control of the Contractor or the Purchaser (as the case may be) which prevents, impedes, or delays the due performance of the Contract by the obligated party and which, by due diligence, the affected party is unable to control, despite the making of all reasonable efforts to overcome the delay, impediment or cause. Force Majeure may include, but shall not be limited to any one or other of the following:

- any war or hostilities;
- any riot or civil commotion;
- any earthquake, flood, tempest, lightning, unusual weather or other natural physical disaster. Impossibility in the use of any railway, port, airport, shipping-service or other means of transportation or communication (occurring concurrently);
- any accident, fire or explosion;

*/ See page 4, para. **/

- any strike, lock-out, or concerted acts of workmen (except where it is within the power of the party invoking the Force Majeure to prevent);
- shortages or unavailability of materials (compounded by the same shortage or unavailability from alternate sources).

22.2 If either party is prevented or delayed in the performance of any of his obligations under this Contract by circumstances of Force Majeure, and if the affected party has given written notice thereof to the other party within days of the happening of such event, specifying the details constituting Force Majeure, with necessary evidence that a contractual obligation is thereby prevented or delayed, and that the anticipated period (estimated) during which such prevention, interruption or delay may continue, then the affected or obligated party shall be excused from the performance or punctual performance (as the case may be) of such obligation as from the date of such notice for so long as may be justified.

23. Applicable law

The parties should determine the law that will govern the Contract.

Some developing countries have encouraged or imposed in transfer of technology agreements, the application of the law of the Purchaser's country.

When arbitration is agreed upon, provided that the law permits it, the parties may choose a law that has a close and real connection with the contract. Arbitrators may be eventually required to decide "ex aequo et bono", without reference to a particular national law.

In order to avoid conflicts with public policies (ordre public) of the countries of either of the parties, and to ensure the enforcement of any decision or award, it might be advisable to stipulate that matters relating to such public policies will be decided in accordance with the applicable law of said countries.

Illustrative clauses */

23. Applicable law

23.1 (Alternative a: The laws applicable to the Contract shall be the laws of the Purchaser's country).

(Alternative b: This Contract will be construed under and governed by the law of (specified country or jurisdiction thereof), except as to matters relating to public policy of (Purchaser's or Contractor's country) which will be decided in accordance with the applicable law of that country).

*/ See page 4, para. **/

24. Settlement of disputes

Like in the case of the applicable law, some developing countries have favoured the position that any disputes in transfer of technology should be decided by the juridical courts of the Purchaser's country.

Another usual approach in international trade practice is to stipulate the recourse to arbitration, provided that the law of the parties allows it. In respect of the law governing the Contract, the parties may choose a law that has a close and real connection with the Contract, or stipulate that arbitrators decide "ex aequo et bono". In any case, the choice of the law should not be effective in matters relating to the internal or international public policy (ordre public) or sovereignty of the country where arbitration takes place and of the countries of the parties. With this reservation, the arbitration may conciliate its procedural advantages with the respect due to imperative rules of the States connected with the transaction, and also ensure its enforcement in the jurisdiction of such States.

If arbitration is provided for, the Contract should specify, at least, the following:

- (a) The number and method of nomination of arbitrators;
- (b) The seat of arbitration;
- (c) The procedure of arbitration (e.g. the Arbitration Rules of the United Nations Commission on International Trade Law).

The pertinent clauses may also refer to the character of the arbitral award, and to the language of the proceedings. In any case, any of the parties could request the submission of the arbitral award to an examination of legality, for instance, before the courts of the country where the arbitration has taken place.

It should be stressed that before submitting any controversy to the courts or arbitration, the parties should endeavour to solve it, first, by means of amicable and bona fide negotiations. If an agreement is not reached, it may be also advisable to provide for the nomination of experts (one by each party), and in the event that they cannot agree either, a third neutral expert may be nominated.

Illustrative clauses */

24. Settlement of disputes

24.1 In the event of any dispute, different of contention in the interpretation or meaning of any of the Articles to this Contract or reasonable therefrom, both parties shall promptly make endeavour to resolve the dispute or differences by mutual discussions and agreement.

*/ See page 4, para. **/

(Alternative a: Should the dispute or differences continue to remain unresolved, both parties may each nominate an expert to negotiate and reconcile the dispute or differences to resolve thereby the matter of contention between the parties arising out of the Contract. In the event that these two persons referred to cannot agree, they shall nominate a third Neutral Expert or in case the efforts of the Neutral Expert nominated by the two parties fail to resolve the differences within (6) months, both parties to the Contract shall proceed as provided for in 28.3 below).

24.2 In the event the contract is terminated or cancelled in accordance with article 25, notwithstanding the existence of a dispute, the Contractor and Purchaser shall continue to carry out their obligations under the Contract, and payment(s) to the Contractor shall continue to be made in accordance with the Contract provided that in the appropriate cases the Contractor is entitled to such payment(s), and the Purchaser has not exercised the right conferred under article 16.4.

24.3 Subject to the provisions of this Article, either the Purchaser or the Contractor may institute an action with respect to any claim, dispute or other matter that has arisen between the parties.

(Alternative a:

1. However, no demand for any such claim, dispute or other matter shall be made until the later of (a) the date on which the Purchaser or the Contractor, as the case may be, has indicated his final position on such claim, dispute or matter, or (b) the day after the Contractor or Purchaser, as the case may be, has presented his grievance in written form to the other, and no written reply has been received within days after such presentation of the grievance.

2. No demand shall be made after the (.....) day following the date on which the Purchaser or the Contractor, as the case may be, has rendered his written final decision in respect of the claim or dispute. The Purchaser or Contractor, as the case may be, shall be obligated to specify that the written decision is in fact the final decision within the meaning of this Sub-Article. Failure to demand (arbitration or court decision) within said (.....) days period shall result in the decision being final and binding upon the other party).

24.4 All claims, disputes and other matters in question arising out of, or relating to, this Contract or the breach thereof which cannot be resolved by the parties shall be decided by.....

(Alternative a: the courts of (country).

(Alternative b: arbitration).

24.5*/ Arbitration shall take place in accordance with
..... (law of arbitration or rules, e.g. Arbitration
Rules of the United Nations Commission on International Trade Law).

- (i) The award of the Arbitrators will be final and binding on the parties hereto. Judgement upon the award may be entered by the court of (country).
- (ii) The Contractor and the Purchaser agree that in the event of arbitration proceedings, the Arbitrators will have unrestricted access to the Plant for the purpose of the said Arbitration.
- (iii) Arbitration will be in (town) and all proceedings will be in language.

*/ This clause would apply in case arbitration is provided for in the contract.