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16073

Distr.
LIMITED

IPCT.10
12 December 1986

ENGLISH

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

GUIDE ON GUARANTEE AND WARRANTY PROVISIONS IN TRANSFER OF TECHNOLOGY TRANSACTIONS*

Jointly prepared by

UNIDO and ICPE secretariats**

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V.86-63193

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Background

The question of guarantees and warranties in international transfer of technology transactions has in spite of their crucial importance for a successful transfer of technology generally received much less attention in developing countries and international fora than extensively debated issues such as restrictive practices or price conditions in international transfer of technology. Even less attention has been given to a comprehensive coverage of the issue not limited to the legal aspects, but including the technical and economic aspects and subsequent managerial decisions which have to be taken all through the various stages of the project cycle starting well before the negotiating phase and only ending in the course of the operational phase.

The preparation, negotiation, drafting and implementation of guarantee/warranty provisions constitute one of the most complex and sensitive issues in transfer of technology transactions, particularly those involving large industrial projects. The importance of these provisions is particularly significant in the acquisition of foreign technology by developing countries, taking into consideration the differences in the technical/industrial natural environment and development stage between the technology supplying and acquiring parties and countries. The issue of guarantee provisions is even more accentuated in projects handled by public enterprises, given the dimension, multi-functional responsibilities and developmental impact those enterprises typically have on the national economy of developing countries.

Actual practice of the current international transfer of technology reveal a number of difficulties for arriving at a satisfactory set of guarantee/warranty provisions from the point of view of developing countries, even in the area of the so called "traditional" guarantees/warranties. This is the more so as regards guarantees in specific developmental goals to be pursued by public enterprises, such as, for example, the maximum use of local skills, materials and industrial capacities; dis-aggregation of technology packages and the adaptation to local conditions. Based on the above considerations UNIDO and the International Centre for Public Enterprises in Developing

Countries (ICPE), initiated an effort to prepare some guidance for developing countries enterpreneurs in this area.

Genesis of the Guide

This document was prepared on the basis of specifically prepared background dealing with legal systems, contractual practice, court and arbitration practice, and actual case experiences in international transfer of technology transactions to enterprises in developing countries and guided by the recommendations of an expert group convened by UNIDO and ICPE. The Guide has made extensive use of papers and documents specially prepared for ICPE and UNIDO for this purpose (see Annex 1); as well as existing documentation of ICPE, UNIDO, UNCITRAL, UNCTC, UNCTAD, WIPO and ICC. In the preparation of the final text valuable contributions was received from: Messrs. H. A. Janiszewski, M. Besso, V. Strauch and Ms. V. Patriksson.

Approach of the guide

As far as the issue of guarantee and warranty provisions has been dealt with in handbooks, manuals and other literature at all, it has been usually treated as a legal question which must be solved after a problem in contract performance has arisen. It is usually limited to the ex post interpretation of given contractual clauses. Literature on the negotiating and drafting process of guarantee and warranty provisions as far as it exists at all, is usually written from a technology supplier's[1] point of view as most of existing writing on licensing is done from the point of view of licensors.

This document pursues another approach:

- It has a managerial approach. It wants to provide practical guidance to the technology recipient[2] in planning and preparing for negotiations. Therefore, it cannot be limited to legal considerations, but must also encompass the entire range of technical, economic and managerial questions that must be decided by the project management.

- It has an 'ex ante' or preventive approach. The recipient is less interested to solve problems and to settle disputes after they have arisen, but his main interest is to avoid problems and disputes from the very beginning. Therefore, the main thrust of this document lies on the preparatory stage of the transfer of technology transaction, because it is at this stage that possible problems must be anticipated and practical solutions proposed.

- It approaches the problems from a developing country recipient's point of view, although many of the issues discussed could also be relevant to small and mediumsized enterprises in developed countries. A very simple practical reason for this is the imbalance between existing literature written from the supplier's and written from the recipient's point of view.

  But the main reason for approaching the problems from the recipient's point of view is that it is the recipient who is primarily affected by the technology, both by its effective working and by any defects.

- It pays special attention to developmental aspects. In particular for developing countries, the transfer of technology is not only a question of commercial profitability, but also of developing the economic infrastructure, using local resources and creating skilled labour. Especially when public enterprises are the recipients of the technology. the negotiation of guarantee provisions will often include these issues.

The structure of the guide follows the project development cycle, starting with the project preparation phase, which comprises the definition of the objectives of the technology transaction, the collection and evaluation of information on alternative technologies, potential technology suppliers and various organizational forms in which technology transfer can take place, resulting in the definition and rating of economic and technical parameters. (See Chapter II)

From the information obtained, various options can be analysed, providing a basis for the decision making process during the next phase, the contract preparation phase, where critical parameters will be translated into guarantee and warranty provisions. (See Chapter III)

The subsequent actual drafting of individual guarantee or warranty provisions must take into account the purpose and function to be fulfilled by the provision, the present legal situation and contractual practice as well as the main problems and possible solutions. A check-list summarizes the relevant issues to be observed. (See Chapter IV)

CHAPTER 1

Purpose and Scope of Guarantee and Warranty Provisions

1.1 Introduction and Summary

The significance of adequate guarantees/warranties should be seen in the context of the technology transaction as a whole and its function in the development process. There is a strong indication that the importance and scope of guarantee provisions comprises a wider field in transactions to recipients in developing countries than to recipients in industrialized countries. This is due to a number of structural differences such as: differences in the technical experience and the technological infrastructure of supplier and recipient; differences in the technical, economic, social and political environment in which supplier and recipient are operating. (Chapter 1.2)

While some guarantees/warranties are encountered in transfer of technology transactions between parties both situated in developed countries or developing countries, another group of guarantees/warranties is particularly important in transactions with developing countries. These guarantees/warranties are concerned with the integrations of the technology in the enterpreneurial and national environment of the technology recipient, such as use of local resources, creation of skilled labour etc. (Chapter 1.3)

Scope and content of guarantee provisions are shaped and conditioned by the legal environment as given by the law systems of the countries concerned.

Difficulties in arriving at satisfactory guarantee provisions may stem from the present legal situation which often does not adequately take into account the specific nature of technology as an intangible and the concerns of recipients in developing countries . (Chapter 1.4)

The terms "guarantee" and "warranty" have different shades of meaning in the various legal systems and are also applied in various forms. In this document, the terms are used in a rather broad sense to accommodate such differences. Both terms are used as having the same meaning unless specifically stated.
(Chapter 1.5)

The contractual stipulation of guarantees has advantages and disadvantages for the recipient, which have to be considered in each individual case. (Chapter 1.6)

Also alternative and complementary approaches to contractual guarantees have to be considered. (Chapter 1.7)

1.2 The role of Guarantees and Warranties in Transfer of Technology Transactions

In transfer of technology transactions to recipients in developing countries the importance and scope of guarantees comprises a wide field due to structural differences between the technical and economic situation of the supplier and of the recipient such as the recipient's lack of experience in working the technology, different local conditions etc. The difference between the North/North technology transfer and a North/South technology transfer and its impact on the scope of guarantee provisions may be characterized as follows:

1.2.1 Technological Level of the Supplying and Recipient Enterprise

In a North/Noth transfer, both supplier and recipient are basically on a comparable technological level; the technical structure of both enterprises shows similar features: both parties have usually already operated plants with similar techniques; they are familiar with the basic features of the technology; they have adequately trained personnel which are familiar in solving occuring problems; they know the supply markets and distribution channels; both of them entertain research and development divisions. When acquiring a new technology, the recipient therefore has no need to acquire a

whole technological package to put the new technology to work. The recipient is mainly interested in the assurance that the technology is actually able to do what the supplier maintains it can do and that the technology can be used without legal interference from third parties. In other words, the technology must not have material or legal defects. In cases like this, guarantees can be restricted to the assurance of the supplier that the technology transferred actually meets the description and has certain defined mechanical/functional capabilities and that it is without legal defects.

In a North/South transfer, on the other hand, the enterprise in a developing country will often be on a different technological level; its whole technical structure will be different. Thus, the technology can only be implemented, if technology and technological structure of the enterprise are brought together, either by adapting the technology to the existing structure of the enterprise or by adapting the structure of the enterprise to the technology, or both.

Depending on the gap between technological requirements of the technology to be acquired and the existing structure of the enterprise, the acquisition of the technology itself must be accompanied by complementary measures to put it into effective working such as training of personnel, provision of inputs, modification of the technology.

1.2.2 Social, Economic and Technological Environment of the Country

In case of a technology transfer between enterprises from developed countries, both supplier and recipient act in a comparable economic, technological and social environment. The countries of both parties have a similar level of technological experience and achievement; they have an infrastructure which provides access to most of the necessary inputs and to adequately skilled manpower. Both parties meet comparable factor allocation problems. The demand and

consumption patterns, the income distribution, the socio-cultural and legal structures have basic similarities. Therefore problems concerning the provision of inputs, the access to outlets, the usefulness of the products or their compatibility with the general situation in the country require relatively little attention of the parties. The "appropriateness" of the technology is a given factor or will at least be evaluated with the help of a set of criteria which is common to both parties.

The economic, technological and social environment in the developing country is different from that existing in a developed country. The access to necessary inputs, the impact of a technology on existing skills and production units, but also consumption patterns and income distribution will differ considerably from that in a developed country. Factor allocation problems encountered in the country of the supplier and in that of the recipient will differ, as well. Therefore, the issue of appropriateness of the technology requires far more attention than in the case of technology transfers between parties in developed countries, Furthermore the set of criteria to assess the appropriateness may differ, as well.

1.2.3 Public Interest Issues

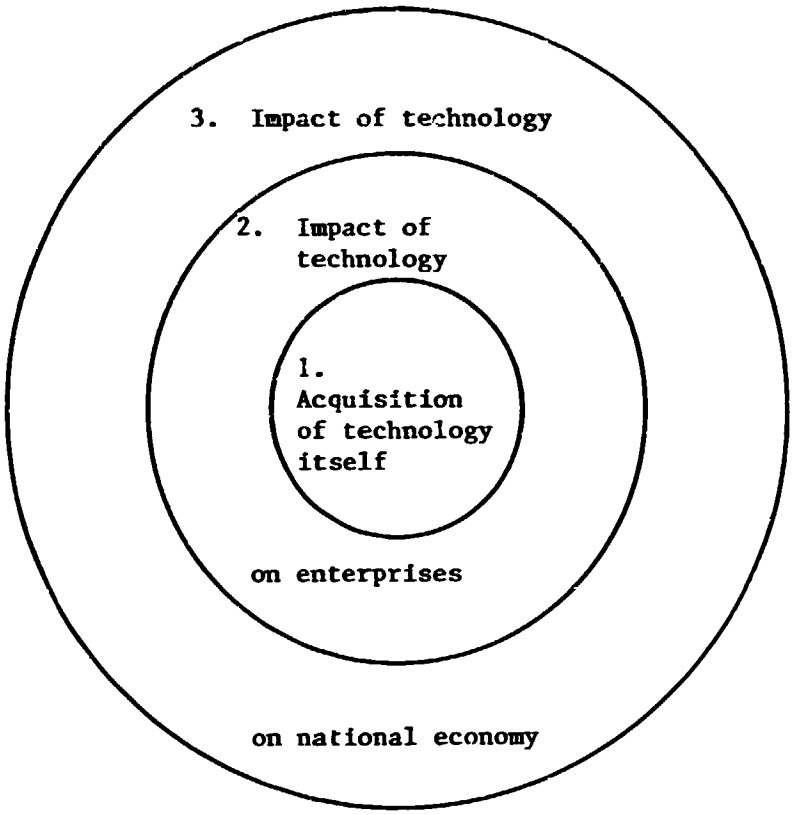
Private enterprises, especially those located in market economy countries, will usually pursue, within the general legal framework, their own personal interests. National development policies are, in principle, outside their interest, unless national policies are identical with their own interests or unless national policies have been incorporated into binding legal provisions or other forms directly influencing their behaviour. Thus, national resources will only be utilized, if this is economically justified. If this is not the case, they will only be used, if government makes it profitable by granting direct or indirect advantages or by direct legal interference such as imposing import restrictions for foreign resources or obligation to use national resources.

This attitude may not only be found within enterprises in developed countries, but also within private enterprises in developing countries. A recipient in a developing country, e.g., may be reluctant to undertake the effort of searching for, and using local resources. The willingness to use locally available resources or to provide for training of personnel may also be primarily a question of economic profitability to a private enterprise, and here again, it may value short-term profits higher than medium or long-term benefits. In this area, governmental regulations may be necessary to put into effect public interest issues. In addition, public enterprises may show more readiness to incorporate national development objectives into their business policy. This applies, in particular, to those objectives, which do not incur additional costs or where additional costs are off-set by benefits at once or in the long run. Thus, the use of local resources may require some preparatory work, but may otherwise be fully suited for use both from the technical and economic point of view.

It should be noted, however, that even public enterprises may find it difficult to comply with certain development objectives when negotiating the acquisition of technology at the enterprise level. This is particularly evident, when public enterprises have to compete with other enterprises at the national or international level which are free from similar obligations and they do not enjoy adequate governmental support.

1.3 Linkage Between Guarantees, Enterprise Objectives and National Environment

As discussed in sub-chapter 1.2 above, when technology is transferred to a developing country, guarantees should be discussed within the framework of the recipient's capacities and objectives, as well as in the framework of broader technological, economic and social implications of the technology transferred. In a simplified way, the following three levels or circles of consideration may be distinguished:



Level (circle) 1 concerns the acquisition of the technology itself and guarantees strictly related to the technology as such, e.g. content, description and completeness of the technology, its legal protection, confidentiality issues etc. Guarantees of this kind are often "the standard" set of guarantees in transfer of technology agreements between enterprises located in developed countries. These guarantees are of interest to enterprises wherever they are located. Usually suppliers are used to negotiate and undertake guarantees in these areas.

Level (circle) 2 relates to the utilization and application of the technology in the plant of the recipient. Relevant guarantees in this context are consumption of utilities and raw materials, productivity, quality etc. It is focused on the capacity and interest of the recipient to make effective and profitable use of the technology for his own benefit. Effects of the technology outside the enterprise are oe?f secondary importance. Such guarantees are of interest to recipients both in developed and developing countries, but recipients in developing countries will need such guarantees to a higher degree, because they are less familiar with the technology and because the technology will be operated under different conditions and with different inputs in a developing country. Guarantees of this type are more difficult to negotiate, because suppliers are less familiar with operating conditions and technological capacities of the recipient.

Level (circle) 3 goes beyond the considerations of the individual recipient and is concerned with the impact of the technology on the national economy as a whole and vice-versa. Guarantees would include aspects like use of local resources; effects on local technological conditions such as creation of skilled labour and creation of R & D activities; effects on local economic conditions such as foreign currency balance, consumption of scarce production factors etc; effects on local social and other conditions such as income distribution, effects on health, safety and environment.

Guarantees of this type often go beyond the short-term interests of the parties to the agreement. The supplier, often seconded by the recipient, will be reluctant to respond to objectives which are not mainly in the parties' own interest, but in the interest of the recipient country. An adequate consideration given by both parties to these aspects is however often of crucial importance for the integrability and long-term viability of the transfered technology in the new environment.

1.4 Legal Situation

Scope and content of guarantee provisions are also conditioned by the legal environment as given by the law systems of the countries concerned. The present legal situation on guarantees and warranties is characterized, inter alia, by the following:

- specific legislation on guarantees in transfer of technology transactions exists only in few countries;
- difficulties arise in applying the general rules of contract law in view of the intangible character of technology;
- the non-binding character of most of the relevant legislation;
- evolution of specific trade practices which do not always adequately reflect the situation of technology recipients in developing countries;
- differences in the bargaining power of the parties in North/South technology negotiations.

1.4.1 Main Legal Sources

- Specific Legislation

So far, only some countries, mainly developing countries, have enacted specific regulations on transfer of technology transactions. But even most of these laws usually do not deal specifically with guarantees or only treat them marginally. However at the international level, among others the draft International Code of Conduct on Transfer of Technology currently negotiated by an International Conference under the auspices of UNCTAD deals extensively with guarantee issues and may have an impact on national legislation in this respect.

- General Civil and Commercial Legislation

Under existing civil and commercial law, transfer of technology transactions are governed by the general contract rules. Their application usually raises a

number of problems because of the particular character of technology.

- Other Relevant Legislation

In addition to commercial contract and specific technology transaction laws other legal provisions may determine the scope or content of guarantee/warranty obligations. These provisions are covering among others, plant and personnel safety, environment conservation rules (pollution control), product and customer protection, anti-trust, investment and foreign exchange legislation.

- Trade Practice and Business Custom

Lack of adequate statutory provisions has led to the development of model contract terms. Originally, the authors were mainly associations of suppliers of technology such as ORGALIME or FIDIC. Therefore, it is quite natural that these standard contracts reflect primarily the interests of suppliers in developed countries and to a much lesser extend the concerns of enterprises, in particular public enterprises, in developing countries. Since the business community is used to the scope and structure of this type of standard contracts, there is a widespread tendency to consider such contracts as "normal". This renders the inclusion of guarantees protecting the interests of the recipient even more difficult. However, some international organizations, like ECE and UNIDO have also published model contracts, which contain provisions on guarantees. In 1976, UNIDO began to work on model contracts through sectorial consultations such as the pharmaceutical, petrochemical and fertilizer industries between developed and developing countries, taking into account guarantee and warranty issues more extensively. (See Annex II)

1.4.2 Binding and Non-binding Law

So far, in most countries without specific legislation on transfer of technology transactions, the majority of provisions of the law governing warranties and guarantees are non-binding, i.e. the parties may choose to regulate their mutual obligations different from the law, if they want to do so. Only some legal provisions have binding character such as the supplier's liability in case of fraud, or acting against good faith.

The freedom of parties in formulating their contractual guarantee provisions may have a two-fold function: they may extend the content of the guarantees beyond that provided for by law or they may reduce the content of guarantees below that provided for by law. In actual practice, contractual guarantee provisions often have the function to reduce the scope of warranties stipulated by non-binding legal provisions. Thus, guarantee provisions may

- reduce the quality level or performance requirements below those of the law (e.g. no warranty for legal defects such as invalidity of patents or no warranty for "intended" use, but only "normal" use);
- reduce the guarantee periods provided for by the law;
- shift the burden of proof from the supplier to the recipient or impose additional requirements on accepted evidence (such as require them to be written, or certified by an expert);
- limit the scope of liability as to type (e.g. no rectification or damages in natural, but only liquidated damages), scope (e.g. no damages for consequential loss), volume (e.g. maximum ceiling for damages) or time (e.g. shorter limitation periods), a guarantee provision offered or accepted by the supplier are not necessarily "per se" favourable for the recipient, but an instrument of the supplier to limit his liability under the applicable law.

On the other hand, relying only on relevant provisions of the law without the specific formulation of a contractual guarantee provision may introduce uncertainty into the contract because of possible different interpretations of the law.

1.4.3 Contractual Freedom and Bargaining Power

Since few norms on guarantees and warranties in transfer of technology transactions are binding, the principle of contractual freedom prevails. This enables the contracting parties to gear the contractual provisions to the specific circumstances and objectives of the individual transaction. On the other hand, objectives outside the interest of the parties may easily come out of sight and may not be reflected in the contract. In addition, the principle of contractual freedom usually works for the party with the stronger bargaining position. In this respect it should be borne in mind that the technology flows to developing countries are in major parts coming from transnational corporations (TNC). It is estimated that the share of TNC's in the world technology turnover oscillates between 60%-70% and it represents around 90% of the flows to developing countries. Usually, the bargaining power of TNC's will prevail over that of the recipient. An analysis of the content of present licensing contracts would show that guarantee provisions are mainly used to limit the liability existing under the applicable non-binding law instead of extending it beyond that scope.

The situation may only be different on those technology markets where the suppliers have to compete to secure licenses. If transfer of technology transactions must be registered, the registration authority may become a third party to the negotiations, usually strengthening the recipient's bargaining position. This may permit the recipient to require specific guarantees under which technology is likely to be accepted by the registration authority.

1.5 Meaning and Scope of "Guarantees" and "Warranties"

1.5.1 Meaning

In general legal terminology, the term "guarantee" is used in two ways:

- it may describe certain types of obligations of the supplier vis-à-vis the recipient to warrant against defects, and
- it may describe a secondary obligation in a three-party-relationship to answer for a third person's default.

- "Guarantee" and "Warranty" as warranty against defects

Guarantees existing of a primary obligation are an affirmation or promise that the matter supplied will be free from certain legal or factual defects or will meet certain standards. Thus, a technology supplier may guarantee that the patented technology transferred is free from third party rights, that the inputs transferred by him will meet specified quality levels, or that specified performance requirements will be met.

The terminology for this type of guarantee is different in various legal systems and not entirely coherent in contractual practice. Guarantees of this type are partially also referred to as "warranties"[3], "requirements"[4], "representations"[5], "conditions"[6] or just "obligations"[7]. Some laws stressing the effects on non-fulfillment of guarantee provisions treat the matter as a problem of "liability"[8], "breach of contract" or "effects of non-fulfillment". (For more details, see Chapter 3.5.5 "Consequences and Remedies in case of non-fulfilment"). The terms used in French are "guarante"[9] and in Spanish "garantia"[10]. Art. 2283 of the Civil Code of Mexico combines some of the different approaches. It reads, translated from Spanish, as follows:

Illustrative Case

"The vendor is obliged:

(I) to deliver to the purchaser the thing sold;
(II) to guarantee the quality of the thing;
(III) to be liable in case of dispossession."

Subsection (I) describes one of the primary obligations of the supplier which would be called "obligation" in most legal systems. Subsection (II) describes an additional obligation which would be considered as an "implied warranty" by some laws and as a "guarantee" or "condition" by some other laws. Subsection (III) stresses the legal consequences of non-fulfillment.

This document uses the terms "guarantee" respectively "warranty" in a rather broad sense and as having the same meaning, unless specifically stated.

- Guarantee as "Surety"

The term "guarantee" is also used to describe the obligation of one party (the guarantor) to answer to the other party (the creditor) for the fulfilment of an obligation of a third party (the debtor)[11]. In transfer of technology agreements this type of guarantee often takes the form of "bank guarantees", "performance bonds"[12], "safeties" or "financial guarantees"[13].

This document will use the term "financial guarantee" for the various forms of sureties[14]

1.5.2 Implied and Express Guarantees

Guarantees may be implied[15], which means that a law may contain obligations which are deemed being in force in any contract subject to the provisions of the law, even when they are not explicitly stipulated therein. Express guarantees on the other hand are obligations which will not become part of a contract unless they are explicitly mentioned therein.

Illustrative Clause 1

Art. 197 (1) of the Code of Obligations of Switzerland reads:

"The seller is liable to the buyer both for express representations made and that the object of the purchase has no physical or legal defects which eliminate or substantially reduce its value or its fitness for the intended use."

Here, the warranty against "physical or legal defects" in view of the intended use is implied, whereas other more far reaching warranties will only be applicable in case of express representation to this effect in the contract.

1.5.3 Binding and Non-binding Legal Warranties

Provisions on guarantees and warranties laid down by law, are very often non-binding and may therefore be derogated from by contractual stipulation.

Illustrative Clause 2

Art. 199 of the Code of Obligations of Switzerland reads:
"An agreement to exclude or to limit the obligation to warrant is invalid if the seller has fraudulently concealed the defects."

Under this provision, the parties are free to abrogate the implied warranties under Art. 197, in principle. Only the warranty against defects which have been fraudulently concealed is binding and may not be abrogated.

As discussed before (see Chapter 1.4.2), non-binding provisions will often enable the recipient to reduce the content of guarantees below that provided for by law.

1.5.4 Scope of Guarantee Provisions

The scope of the issues covered by guarantee provisions varies considerably in different national legislations and in commercial usage.

Within the context of this guide, the issues which are considered to be subject to guarantees result from the identification of the critical parameters which have a determinating influence on the successful implementation of a project. These parameters could be classified as those which relate to the objectives of the project and the corresponding technology transfer (e.g. product quantity and quality, raw material and catalyst consumption, utility consumption, patent validity, improvements, spare parts, development of technological capabilities etc.) and to the operating conditions in which the technology is supposed to operate (local raw materials, stalls, utilities, site conditions, etc.)

In order to reduce the risk of failure of the project, the technology supplier is expected to guarantee the fulfilment of his obligation by undertaking guarantees on issues, such as:

- completeness, correctness of documentation transferred;
- suitability of the technology to operate in local conditions;
- mechanical warranty of equipment and workmanship guarantee for engineering;
- performance of process parameters;
- legal title and infringements;
- access to improvements;
- equipment, spare parts;
- training.

This classification of issues which may be subject to guarantees is not without controversy, since the present negotiation practice among developed countries entrepreneurs regard only the first five as guarantees 'stricto senso', even though the remaining three may be of extreme importance for developing countries[16/].

1.6 Advantages and Disadvantages of Contractal Guarantee and Warranty Provisions

Contractual guarantees are an important means to ensure the achievement of the objectives pursued by the recipient but also to protect the interests of the supplier. The use of guarantee clauses may result in some of the following advantages for the recipient:

- The supplier is committed to certain results. He cannot merely pass on the technology to the recipient, but has to ensure that it is actually working in a specified way under specified conditions.

- The priorities defined by the recipient guide the plant design. The supplier cannot merely pass on a plant design developed for another recipient or for himself, but has to adapt it to the needs and requirements of the recipient.

- Demonstration of deficiencies may be facilitated and adequate remedies be provided for in case of delays or defects.

- Both parties are forced to do adequate "homework". The recipient has to specify the results he wants and for this purpose has to familiarize himself more precisely with his own needs, with raw materials and sources of energy available, with the requirements of training personnel, with different options open to him, etc. The supplier will study the technical and economic conditions, under which the technology will be operated more precisely.

In spite of these advantages, current contractual practice and experience of recipients often show a number of short-comings of presently used guarantee provisions. The following problems are encountered most frequently:

- Suppliers may refuse guarantees, especially performance guarantees on the ground that they have no adequate control of the conditions under which the technology is operated by the recipient. They may be only willing to grant guarantees, if they are given supervisory rights which in turn weakens the independence of the recipient and may slow down the absorption of the technology.

- In contracts related to the construction of plants, suppliers often drastically limit the scope of their liabilities, if the recipient insists on separate contracts for the different supplies such as provision of know-how and basic engineering, provision of detailed engineering, design and execution of civil works, and supply of equipment. Similarly, even in less complex technology transfers the supplier may only be willing to grant guarantees, if substantial inputs are bought from him or a source designated by him. This may discourage unpackaging and the use of local resources.

- The supplier may provide capital-intensive technology instead of labor-intensive technology, because the former may be less vulnerable to defects by operating staff.

- The supplier may overdesign the plant to be perfectly sure to meet the guarantee.

- The supplier may grant certain guarantees but omit others which permit him to comply easily with his obligations, e.g. guaranteeing a plant capacity, but not specifying the yield and other important production parameters.

- The supplier may use guarantees for the purpose of limiting his liability or excluding rights of the recipient, which otherwise are ruled by existing laws.

1.7 Alternative and Complementary Approaches to Contractual Guarantee Provisions

As has been mentioned before, the recipient may have difficulties to negotiate guarantees which satisfy his objectives. Some suppliers may reject guarantees altogether, others will use them mainly to restrict their liability below the level contained in the non-binding provisions laid down by law. Satisfactory guarantees may burden the recipient with heavy additional payment obligations. In other cases, guarantees may have undesired side-effects which contradict other objectives pursued by the recipient as example, tying arrangements linked to quality guarantees which exclude the use of local inputs.

For all these reasons, the recipient should also consider possible alternatives to guarantee provisions as well as possible steps which could supplement guarantee provisions and make up for some of their limitations. Such alternatives will be discussed in this section.

1.7.1 Use of Existing Laws

The impact of the legal environment on guarantee clauses has already been discussed (see Chapter 1.4). Binding legal norms have priority over contractual provisions. Insofar as there are non-binding norms, the recipient should compare the content of the guarantee provision proposed by the supplier with the legal situation. If the guarantee provision is more restrictive than the non-binding law the recipient may negotiate for the deletion of that clause so that the non-binding law would replace the clause, or at least avoid clauses which explicitly exclude the application of implied warranties.

Furthermore, it should be observed in this context, that practically all existing laws do not limit the maximum amount of damages to be paid if an implied warranty is not met. To the extent that the norms on implied warranties are also

applicable to a transfer of technology the statutory provisions are more favourable to the recipient than a contractual warranty which limits the maximum amount to a certain percentage of the royalty or payment. Therefore, from the recipient's position, a valuable guideline to follow would be not to waive a guarantee laid down by the law applicable to the contract, since legislation, in some cases even the legislation of the supplier's country may be supportive to the recipient's position.

1.7.2 Recipient's Capabilities with Reference to the Technology Transferred

One of the main reasons for the recipient to ask for guarantees is his lack of familiarity with the technology and his limited capability to detect defects and otherwise help himself in case of mal-functioning. All measures which narrow the gap between the technological capabilities of the recipient and the technological requirements of the technology will also limit the scope and necessity of guarantees.

The gap can be narrowed by improving the recipient's technological capabilities through training programmes, visits to the supplier's plant, technical assistance of the supplier etc. The gap can also be narrowed by choosing another technology which is more familiar to the recipient. In any case, the recipient should give account to himself, whether and to which extent he is able to master the technology.

In Yugoslavia, this requirement has even been transformed into a legal obligation:

Illustrative Clause 3

" An organization of associated labour may conclude with a foreign person a contract for the acquisition of a material right to technology provided the following requirements have been met:

(1) If it qualifies or if it gives a guarantee that it will qualify to manufacture products and/or perform services on the basis of the material right to technology acquired."

(Yugoslavia, Technology Law, Art 26(1) 17/)

1.7.3 Linkage of Payments to Fulfilment of Guarantees

The interest of the supplier to put the technology transferred into effective operation will be highly increased, if the payments due to him are directly dependent on the working of the technology, e.g. when the payment is based entirely or partially on the quantity and quality of the production and if royalty payments for patents and other industrial property rights are linked with the validity of these rights in the sense that if such a right is declared invalid by a court, the licensee will not pay the royalties. (See Chapter 4.6)

As far as rectification of defects is concerned, the supplier will rectify these in order to ensure the expected amount of royalties. However, he would refrain from rectifications which would cost more than he would loose because of reduced royalties payable to him in case of defects.

Performance of the technology and payments may also be linked by withholding part of the payment until the expected level of performance is reached or by making use of performance bonds (see also Chapter 4.10), when the technology fails to reach certain performance levels.

1.7.4 Joint Ventures and Other Participative Forms of Technology Transactions

If the supplier has a direct financial or economic interest in the proper functioning of the technology, guarantees may be of less importance. Especially, in the case of joint ventures, any failure of the technology may directly affect the returns of the supplier. This may induce him to rectify defects regardless of guarantee provisions. The impact of the type of

organizational forms upon the scope and necessity of guarantee provisions is discussed in Section 2.4.3.

1.7.5 State Guarantees

The government of the supplier country could assist in obtaining improved guarantees or may provide additional guarantees as for example in cases where the government of the supplier's country is directly involved, i.e. by sponsoring a transfer of technology project through loans or other export promotion activities. However, this may involve restrictions concerning the selection of a specific supplier from that country, who was not the recipient's first choice.

1.7.6 Informal Solutions

Informal links and mutual understanding and trust between supplier and recipient may often, in practice, be highly important to the success of a project. Good personal contact between counterparts are not a substitute for guarantees,but they can help to reduce the "small print" of guarantee provisions considerably and can obviate many problems at a later stage (for more details see Chapter 3.4.5 "Approach of the Parties to Negotiations").

CHAPTER II

Preparatory Stage of the Project - Impact on Guarantee and Warranty Provisions

2.1 Introduction and Summary

The transfer of technology transaction is in the majority of cases, and particularly in developing countries, a constituant part of a larger project package involving different components. Consequently, the preparatory activities for the acquisition of technology are, as a rule, inextricably connected with the overall project preparation or pre-investment activities.

The pre-investment phase typically comprises several stages: identification of investment opportunities (opportunity studies); preliminary project selection and definition (pre-feasibility studies); project formulation (feasibility studies and associated support/functional studies), the final evaluation and investment decision (for details see: Manual for the Preparation of Industrial Feasibility Studies, UNIDO, 1978).

The information collected, the analyses performed and the options taken during these pre-investment activities relate also to the technological component of the project package (choice of technology, selection of technology supplier, selection of the channel and modality of transfer of technology, etc.).

The specific position of the technology within such overall project context, often determines the "genetic code" of other constituant parts of the project (equipment, skills, etc.) as well as the basic conceptual design of the whole project and the interconnections among its constituant parts.

Within the project preparatory stage the following activities and decisions have a specific bearing on the proper - case specific - allocation of responsibilities and stipulation of corresponding contractual guarantees/warranties:

- definition of overall project objectives and of specific objectives and critical parameters which should be achieved through the transfer of technology transaction (See chapter 2.2);

- analyses and specification of site, location and operating conditions in which the transferred technology is going to operate (characteristics and availability of raw materials, equipment utilities, skills, specification of environmental conditions, etc.) (See chapter 2.3);

- search activities to identify technological alternatives, potential suppliers, available channels and modalities of transfer of technology and main characteristics and evaluation criteria for selection of different options (See chapter 2.4);

- information exchange between the recipient and the potential suppliers (See Chapter 2.5).

2.2 Definition of Objectives of the Transfer of Technology Transaction

The identifications of objectives of the recipient and their subsequent discussion with potential suppliers will help to clarify the contract intentions (later on normally reflected in the contract preamble) which represent important elements for the identification and definition of those parameters which may influence the successful implementation of the project.

The technology/investment profile will contain a first listing of relevant developmental, economic and technical objectives and parameters. In view of the variety of economic and technical parameters, their respective value must be rated to a certain extent at this early stage in respect to its cost benefit to the project as a whole.

For example, in a given project, intended to improve an existing production line, the technology may be expected to meet the following objectives of the investor:

- increased use of local raw materials,
- increased local employment
- increased sales of a final product

Each of the above objectives may be considered important by the investor and may be taken as the basis for the definition of the critical parameters. If for example the sales of a product depend on the quality of a product in terms of purity, the parameters which influence product purity become critical parameters. The use of local raw material, attractive for example because of its positive impact on product price, continuous supply and foreign exchange savings, may however have certain constraints on product purity. It is therefore important that these parameters should be considered jointly in terms of an attempt to set a rating.

If the social cost benefit ratio of improved quality and hence increased sales is proven to be more beneficial than for example the use of local raw materials or increased local employment, then increased sales shall be put higher on the investor's list of objectives than local supply or employment allowing for adequate trade-offs among them.

Having set the rating of the objectives it is important to establish a rating of the corresponding technical parameters, which would to a large extent determine the technology choice. If in the above example, increased sales and hence high and stable product quality, is an important objective, all those technical parameters which influence product quality (e.g. raw material specifications, catalyst, utility consumption etc.) should be rated accordingly within the overall context of the techno/economic feasibility of the project. At the same time, national development objectives, especially when formulated in a binding manner, and existing economic, technical and social patterns, must be considered. If, e.g., a technology which is technically and economically very promising, depends on specific inputs from abroad and these inputs may not be imported because of the government policy to cut down imports in certain technical sectors of the economy, then the project would have no chance, unless local alternatives for this input can be found.

2.3 Analysis and Specification of Operating Conditions in which the Technology is to be Used

Differences of the operating conditions between the supplier and recipient, which are particularly marked in the relations between industrially developed and developing countries (see Chapter 1.2) require a thorough assessment by both parties, in order to enable an adequate transfer and safe and efficient operation of the transferred technology in the new environment.

The specification of the recipient's operating conditions must be undertaken in order to identify meaningful case-specific critical parameters. As in the case of project "objectives" the recipient's "operating conditions" have to be made a constituant part of concrete "reference base" for the difinition and interpretation of guarantees, since otherwise "normal" operating conditions would be assumed.

It is of prime interest to the technology recipient that the human, material, environmental and other operating conditions of the environment in which the technology is to be used, are taken as the design basis for adapting the technology to the new environment or vice-versa. The "transplantation" of unadapted technology on an unadequately prepared and receptive environment is one of the major causes of failures in transfer of technology to developing countries and at the same time one of the main excuses of suppliers for not meeting the critical parameters.

2.4 Search and Evaluation of Information on Characteristics of Different Technologies, Potential Suppliers and Organizational Forms

A way to reduce the risk of project failure is to make a thorough evaluation of the information on the characteristics of available technologies, the potential technology suppliers and the organizational form of technology transfer and relate this to the guarantees issues.

2.4.1 Characteristics of Technological Options

A technology which is best suited to the specific "objectives" and "operating conditions" of the recipient represents in most cases the best informal guarantee for actually achieving the expected results of the technology transfer transaction. In evaluating different technological options from the point of view of guarantees, the specifications of different types of technologies have to be taken into account, like

- commercially proven or non-proven technologies,
- process and product technologies, etc.

2.4.2 Characteristics of Potential Technology Suppliers

Technology transfer transactions are usually long-term arrangements in which the capacity, reliability and the readiness of the technology supplier to cooperate are essential pre-requisites for an efficient transfer of technology.

If the supplier is known to be interested in the proper functioning of the transferred technology in the new environment and is ready to provide respective assistance, the risk of failure of the project is greatly reduced. From the point of view of guarantees it is useful to distinguish between different types of potential suppliers:

- Manufacturing Entities

  These enterprises generally conduct research or otherwise acquire technology with the intention of using the same by building the necessary installations and producing and commercialising the products based on the technology. The licensing of technology is usually their secondary objective, particularly in the early phases of the technology/product life cycle. The manufacturing firms

are usually best equipped to solve the many problems which arise in scaling up the technology from batch to pilot plant and to commercial scale and in operating the technology. These enterprises are familiar with all details of the working of the technology in their operating conditions (equipment, skills, inputs, etc.) and may be expected to guarantee for the suitability, performance, etc. of the technology also in its transfer context where the specified objectives and operating conditions may be different.

- Engineering Contractors

Engineering contractors may conduct research and development of their own or may have been given the right to license the technology of a manufacturing entity. Such an engineering contractor will provide most of the technical support and will also be responsible to meet the guarantees provided.

Usually, when the engineering contractor is also the technology supplier, it concerns well proven technology and the contractor has extensive experience in transfering such technologies. Very often they have already built a large number of similar plants and therefore have already a set of standard guarantees which it is sometimes difficult to change.

- Research Institutions

While such organizations often successfully conduct worthwhile basic and applied research and can provide training services, they are usually not equipped to do the development work, scale-up and commercialize the research results. Such research results (not proven commercially) usually cannot be licensed with guarantees which even come close to satisfying a cautious prospective technology recipient. As in the case of

unproven technologies, only the recipient with sufficient R & D facilities and experiences in scaling-up technologies from batch to commercial scale will consider this type of suppliers as a possible choice.

2.4.3 Characteristics of Organizational Form of Technology Transfer

Technology can be transferred in a variety of different forms which allocate and separate the responsibilities of the contracting parties in various ways. A potential supplier will usually only be willing to be responsible for meeting those critical parameters which can be influenced by him.

The problem mainly arises in connection with the transmission of a complex project package, including, inter-alia, industrial property rights, know-how, engineering, civil construction, equipment, catalyst and other inputs. If the recipient only acquires a single patent or a specific piece of know-how in order to improve a technology which he already masters and applies in his own production unit, questions of allocating responsibilities are less complex.

The main contract types, characterized by the allocation of responsibility, are the following:

- Separate Contracts

  In this case, the various elements of the project "package" are acquired from different sources Part of the inputs may stem from the recipient himself. Each supplier will be only responsible for the items delivered by him; the compatibility of the various items and the functioning of the technology as a whole are within the responsibility of the recipient. The main advantages of this approach for the recipient may be that he can select the best supplier for each of the items and in particular use local suppliers to the widest extent possible. On the other hand, the recipient bears the risks of failures

in the coordination process. If the project does not function properly, he has the burden of proof to show which of the suppliers is the one responsible. This approach requires that the recipient is experienced in the co-ordination and control of complex projects.

Since none of the suppliers will give a guarantee for the performance of the project as a whole, the individual performance for the various items are of particular importance. The recipient may also minimize his own risks by employing experienced construction managers to coordinate and supervise the different suppliers.

- Turnkey Contracts

Under a turnkey contract, one single supplier has the responsibility for the delivery of the whole project package, including everything from the basic design up to the "turning of the key" by the purchaser i.e. to start the operation of the plant. Usually, the supplier is not able to do all the work himself and will therefore employ sub-contractors. But the responsibility to deliver the entire technology in time and without defects rests with him. In such a cascade type contract the risks arising from coordinating the different inputs are borne by the supplier. According to the scope of the turnkey arrangement, the arrangement may be a "partial turnkey contract", a "total turnkey contract" or a "product-in-hand-contract". Under a partial turnkey contract the scope of the contract is limited to everything directly connected with the technology transfer while ancillary work such as administrative buildings, storage rooms, transportation facilities may be left out. Under a product-in-hand contract the supplier does not only assume responsibility for the proper working of the technology, but in addition for a certain performance achieved by the recipient operating the technology during a specified period. For the

purpose of this study, the term turnkey contract is used to cover also such arrangements as partial turnkey and product-in-hand contracts unless otherwise specified.

In turnkey contracts the most important criteria will be performance. The advantages of turnkey contracts for the recipient are mainly that he has only one partner who assumes full responsibility. The responsibility itself does not only cover the functioning of the separate parts of the project, but the proper functioning of the technology as a whole within fixed time limits. The main disadvantage is that the recipient has less, if any, influence on the choice of sub-contractors, especially local subcontractors.

The recipient may partially balance the disadvantages by obliging the supplier to use sub-contractors nominated by the recipient whenever these sub-contractors are sufficiently qualified or by obliging him to involve local sub-contractors for a certain percentage of the project value.

- Semi-Turnkey Contracts

Semi-turnkey contracts combine elements of the separate contracts approach and the turnkey contracts approach. The semi-turnkey supplier only provides part of the technology, while other parts such as civil engineering are provided by the recipient or subcontractors of the recipient. But the semi-turnkey supplier, being the main supplier, is responsible for the functioning of the technology as a whole, unless he can prove that a particular defect is not due to him, but due to a failure of the recipient or the recipient's subcontractors.

This type of contract will require in particular a precise allocation of respective responsibilities of participating parties. Its main advantage is the combination of unpackaging the technology bundle and at the same time keeping the supplier involved who knows the technology best and therefore can specify and control the various requirements best. Disadvantages may arise out of the difficulty to trace the source of an eventual defect. In addition, the recipient may be left with a non-functioning technology, if the defect is due to a failure of one of his subcontractors. Therefore, the recipient must have an interest to ensure that the supplier checks and approves the selection of the sub-contractors and the execution of their works or otherwise assists in the supervision of the supplies procured by sub-contractors.

- Participative Agreements

The responsibilities of parties may also be regulated in a more indirect manner by involving the supplier in the financial or commercial exploitation of the technology transferred, thus creating a "community of interests". Apart from joint ventures, the agreement may contain buy-back clauses, it may have the form of subcontracting agreement, the supplier may be otherwise engaged in the marketing of the product, or the payments may be directly related to the performance of the technology. In such cases, the supplier may have a commercial interest of his own that the technology functions properly, this interest corresponding to that of the recipient. Such arrangements may supplement guarantee provisions and ensure effective and speedy rectification of defects. At the same time, however, they may reinforce the dependency of the recipient upon the supplier.

2.4.4 Evaluation of Different Options

Some of the main factors to be taken into account when evaluating the information obtained in the preparatory stage in relation to guarantees are the following:

- Capability of the Recipient. A recipient with a competent engineering department and prior experience in coordinating the acquisition and installation of new technologies will be more likely to "unpackage" the technology bundle than a recipient without such experience. The latter may prefer some kind of turnkey agreement or will have to employ consulting engineers to coordinate and control the installation of the technology.

- Legal and Institutional Requirements. Generally institutions or governments, which are financing the technology, may impose certain requirements as to the form of the transaction. Some countries also have strict rules on the use of local suppliers, especially for civil engineering and consultancy.

Illustrative Clause 4

"In case any consultancy is required to execute the project, this should be obtained from an Indian consultancy engineering firm. If foreign consultancy is considered unavoidable, an Indian consultancy firm should nevertheless be the prime consultant."
(Annexure to application forms for foreign collaboration approvals 1982. Government of India)

In this case, a total turnkey contract is not possible since the technology must be partially unpacked.

- Availability of Adequate Suppliers. The choice will be influenced by the type of suppliers. In some cases, a supplier will not be willing to let subcontractors execute certain parts of the work, but will insist on doing them himself. In other cases, it may be exactly

the opposite. Thus, a manufacturing entity may be interested in licensing its know-how, but may be unable to provide for other parts of the project package, because it may not have sufficient engineering capacity or experience in transferring technology on his own.

- Reliability of the Supplier. In turnkey agreements, the success of the technology transactions strongly depends on the competence and accuracy of the supplier. While the capacity of the supplier is essential in any technology transaction, it is more important in turnkey agreements than in other agreements, because the supplier is entrusted with a very broad range of responsibilities. Thus, the supplier's prior experience in the concerned field will also influence the choice of the type of transaction.

- Scope of liability. The choice of the types of transactions may be limited by the scope of liability that can be negotiated with the supplier. As a rule, the supplier will have to extend his liability when his share of influence is broadened, e.g. when he is the only one to select the subcontractors.

- Price. Finally, the various types of transactions and corresponding responsibilities may have a different impact on the price of the technology. If the recipient does the coordination work himself, the total cost of the project should be lower than in the case of a turnkey arrangement, because he can choose the best offer for each project component and does the coordination himself. But when he has to employ consultants to do this job, the situation may look differently.

The high degree of responsibility of the supplier in a turn-key arrangement may lead to over-design or other

forms of safeguard arrangements which protect the supplier against the failure to perform, but which unnecessary increase the overall cost of the package which the recipient has to bear.

2.5 Information Exchange between Recipient and Potential Suppliers

As discussed before, in order to decide upon a technology which would meet the objectives of the project in the expected operating environment, it is important that at an early stage sufficient information exchange between the technology recipient and supplier takes place. The information exchange is an iterative process and not a one-way street. In order to provide the recipient with the necessary information on technology, the supplier needs a clear specification of the recipient's requirements. On the other hand, the recipient can provide meaningful information to the supplier only if he is aware of the basic characteristics of the technology to be transferred.

The recipient should carefully collect all the information which is necessary for the supplier to be aware of the objectives, operating conditions and other relevant circumstances of the specific case and to conform with his information obligation (critical parameters of technology, etc.). When the recipient has difficulties in collecting all the information due to his lack of experinece or lack of familiarity with the technology, he should indicate this and require the supplier to review all the information received from the recipient, or contract an expert to do the work on his behalf.

The information provided by the recipient will usually at least include the following:

(1) Information on recipient, such as

- location and site of plant
- scope of enterprise
- existing technological experience

- skill and availability of manpower
- specification of available raw materials, equipment, utilities

(2) Information on recipient's objectives, such as
- product quality
- capacity
- use of specified local resources
- use and training of local personnel

(3) Information on the local situation where the plant is to be erected and operated
- climatic, meteorological and seismological conditions
- soil conditions
- availability of raw materials
- general infrastructure (transport, utilities, communications)
- local regulation on investment law, transfer of technology, intellectual property, safety, health, pollution, taxes, export promotion, incentives etc.

The prospective technology suppliers will, at first only furnish a modest amount of information about the technology - so called "non-confidential information". As they grow confident of obtaining the business and against a secrecy undertaking by the recipient, they will generally provide more details. It is usual for the supplier to only respond to specific queries. Hence the potential recipient must know what to ask. At the same time, recipients must be aware that suppliers will not typically reveal many aspects of their know-how which they regard as secret during the preparatory stage (catalyst identity, refractory specifications, etc.).

It is usually possible for a recipient to conclude a "predisclosure or secrecy" agreement (sometimes for a fee) with the prospective supplier which requires that the recipient will not use any of the information he will receive (termed "designated confidential information") or will not communicate the same to third parties without the approval of the supplier. The disclosure agreement

will enable the recipient to study the design philosophy (the know-why) of the supplier's process and to visit and examine the supplier's manufacturing facilities. The competent recipient will then be able to identify - on his personal basis - those aspects of the process which would be most critical to the economy and safety of his intended operations. He can then use the information to identify the hidden risk areas and decide about the desirability of stipulating specific guarantee provisions.

The information provided by the supplier will usually at least include the following:

(1) information on supplier such as:
- economic and financial capability
- general technical experience
- specific experience concerning developing countries and the recipient's country in particular
- previous activities of the supplier in the field of the technology to be transferred (own utilization, R & D activities)

(2) Information on technology to be transferred (non-confidential) such as:
- information on critical parameters of the technology in question
- specification and characteristics of the raw materials needed
- environmental aspects
- information on equipment/piping (depending on the nature of the project)
- information on legal restrictions in relation to the use of technology (patent rights, know-how, trade-mark, rights, etc.).

(3) Information on licensing practices such as:
- general licensing practice (fees etc.)
- scope and content of guarantees usually granted (to other recipients)

- negotiability of guarantees (standardized set of guarantees vs. individually negotiated guarantees).
- experience of other recipients with technology suppliers

Only when such information is exchanged, both parties may work together in order to establish critical parameters of the technology, already taking into account the prevailing local conditions and establishing the division of responsibility between the parties.

CHAPTER III

Contract Preparation

3.1 Introduction and Summary

After having identified and rated the various project objectives and critical parameters, the recipient has to evaluate the risk involved and decide in which way he may be assured that the parameters will be met. As mentioned before, guarantees and warranties are one important way to obtain such assurances. However, they will fulfil this function only, if they are formulated in such a way that the risk involved in not meeting a critical parameter is adequately covered by the guarantee provision (Chapter 3.2).

Before starting negotiations the recipient has to decide how to approach potential suppliers and how to obtain offers. He may opt for a formal tender procedure or for informal discussions with various potential suppliers. The offers submitted by suppliers on the basis of the recipient's tender documents need careful evaluation. Legislation may impose a number of requirements, but in addition, the recipient has to develop his own set of criteria for evaluation (chapter 3.3).

The preparations for negotiation require, first of all, the formation of a multidisciplinary negotiating team with clearly defined responsibilities vis-à-vis the enterprise management and among the team members. The negotiating team must agree on working rules, and on negotiating position and strategy. Finally it must acquint itself with the supplier and his negotiating team and agree on a negotiating procedure (chapter 3.4).

The main objective and function of guarantee provisions is to provide a standard against which the effective performance has to be compared in order to determine whether promises have been met, or not. It is meant to avoid misunderstandings from the outset and to give clear guidelines for the resolution of differences. For this

purpose, the formulation of guarantee provisions must take into account a number of general requirements such as clarity and completeness, clear definition of responsibilities, scope of exceptions, obligations in case of non-fulfilment etc. (chapter 3.5).

3.2 Critical Parameters and Corresponding Guarantees

A specific guarantee relates to particular economic effects and risks involved in not meeting a critical parameter. The economic effects may be of a direct or indirect nature. Thus, a critical parameter may be for example the consumption rate. The corresponding guarantee may specify the consumption in a certain quantity per unit. If the consumption exceeds the guaranteed rate, the economic effects show up directly in higher manufacturing costs. Another critical parameter may be the attainment of a certain level of technical skills of the recipient's personnel; therefore, one of the contractual provisions may deal with training. Although a successful training has a clear impact on the profitability of the project, the economic effects cannot be expressed through the insufficiencies of the teaching programme, but only through measurable parameters such as production delays because of unqualified trained personnel etc. In this case, the economic effects are indirect and the measurement of the risk is more difficult. This situation is even more evident, if the negative effects are mainly of a social or developmental nature such as the failure to create local R & D capacities or the non-introduction of certain technological improvements by local enterprises. The risk potential of some of the main critical parameters in transfer of technology transactions may be summed up as follows:

- Deviation of product quality, which may be stipulated in a quality guarantee, may entail losses which depend on the degree of quality deficiency.

The maximum damage occurs if the supplied plant produces products which are defective to the point of their unmarketability and no rectification to this situation is possible. The minimum loss to the recipient in this case is at least the loss of investment costs and the corresponding interests.

- The consumption of raw materials, catalysts, energy and other utilities, which may be specified in particular performance guarantees, directly influences manufacturing costs. Thus, higher consumption rate than guaranteed will result in a lower profit than expected, in particular when it concerns expensive raw material like catalysts.

- The effect of impurities as example in the raw materials such as the so called catalyst poisons may be disastrous and cause the destruction of most expensive reaction inducing systems (catalyst, electrodes, bio-activators, etc.). Impurities could also cause plant damage through corrosion. If the supplier guarantees certain results on the basis of raw materials of a specific source, damages can be assessed only after "the fact" because it is difficult to foresee beforehand the extent of the damages.

- Time may be a critical factor, especially if the market is cyclic as it is the case with, for example, fertilizers. If corresponding guarantees on delivery dates of machinery, documents, time schedule of training etc. are not fulfilled, the delayed beginning of commercial production results in no income whilst expenses continue.

- The entire technology investment often will be based on the expectation that intellectual property is legally protected by valid patents and may be used without interference by third parties. Therefore one of the guarantees may deal with the protection against infringement and third party claims. In the case that intellectual property rights of third parties are infringed and consequent legal action results in, for

example, plant closure or substantial market losses, patent infringement clauses may provide for indemnification of damages to be paid to third parties. If production has to be discontinued by court order pending a final decision of the court, the losses resulting from the production shortfall have to be considered. In case of patent infringement the indemnity may also include the license fee to the patent holder if he agrees to license his patent or may include the cost of modifying the plant in such a way that the patent is not infringed anymore.

- The proper functioning of machines and equipment is one of the conditions for the efficient functioning of the whole project. For example the operation of a plant may have to be temporarily discontinued in order to replace defective pieces of equipment, which may cause a delay in the implementation of the project or a substantial production loss.

- The proper use of technology depends on the communication of all relevant information in a complete and correct form. The direct economic effects of not meeting a guarantee on completeness and correctness of information may only consist of some rectification or addition of documents, but may also cause delays in erections and commissioning of the plant and affect the entire production.

- In most cases, recipients, especially those in developing countries, look for technology, which is capable of industrial realization and which is commercially exploitable taking into account their objectives and operating conditions. They will look for a suitability guarantee. The negative effects of not meeting such a suitability guarantee can range from minor additional "adaptation" cost to complete project failure.

- When the recipient acquires a technology which is unfamiliar to him and which requires maintenance and operating personnel with specific qualification, training is one of the most

critical parameters. As discussed before, the economic effects of not meeting this parameter will be mainly of an indirect nature.

- If the technology relates to an area where the pace of innovation is very fast, guaranteed access to improvements is essential to maintain the profitability and competitiveness of the technology. The economic effects of not meeting the obligation to furnish the recipient with all relevant improvements may be measured by comparing the actual productivity, consumption rates and product quality with the productivity, consumption rates and product quality which could be attained when introducing the improvements.

3.3 Invitation and Evaluation of Offers

3.3.1 Non-Formal and Formal Tendering Procedures

After having decided to continue with the project after the preparatory stage, the recipient will approach potential suppliers to submit definite offers. He may do this in a non-formal way by contacting some potential suppliers or in a formal tendering procedure. Both of these procedures may be preceded by a "pre-qualification of suppliers" procedure.

Government agencies, public enterprises and private enterprises using loans by public national or international institutions often are obliged under national law, international treaties or credit conditions, to use a particular tendering procedure.

3.3.2 Tender Guarantees. These guarantees, also called bid bonds, may be asked by the recipient in case of formal tender procedures to ensure that the supplier who has submitted a tender will not withdraw his tender within a set time limit and that he will conclude the agreement on the terms offered by him, if the agreement is awarded to him. They usually consist of a direct payment of the potential supplier or, more

often, by a bank guarantee. It may actually be part of an overall bank or financial guarantee (see Section 4.10).

3.3.3 Scope and Specificity of Guarantees. The recipient has to decide whether the scope of the guarantees should be specified in detail before starting negotiations or whether this should be left to the subsequent negotiations. He has the following options:

- he is silent about the scope of the guarantees, but invite the supplier to offer guarantees on the issues listed (such as productivity, consumption of raw materials, catalysts, utilities, catalyst life etc.);

- he spells out minimum guarantees for the most critical parameters or for all items;

- he specifies definitely the precise content of the guarantees.

If the guarantee requirements are phrased too loosely, the bids may fall short of the recipient's expectations. Therefore, at least minimum requirements for the crucial parameters should be listed. If the guarantee requirements are phrased very precisely, some suppliers may not be able to fulfil one of the standards and therefore have to refrain from submitting a bid, even though they could offer a valuable trade-off. In the case of precisely defined guarantees, the supplier should therefore be allowed to submit alternative offers. Generally, it seems suitable to allow for some room for later negotiations, while fixing minimum requirements for the critical parameters.

3.3.4 Admission of Alternatives. In view of the fast development of new technologies, a recipient must envisage that he is not fully aware of all developments going on in the field of technology he wants to acquire. Thus, he may have described some machines or other parts of the technology in a way which

excludes alternative forms of meeting the requirement. Therefore, alternative offers should be invited. The recipient, however, will then be confronted with the problem to evaluate the alternatives properly and according to the rating he has given to the various critical parameters.

The recipient may also reserve his right to unpackage or to package the technology differently from the invitation for bids. He may, e.g. reserve his right to acquire certain parts of the equipment from another supplier, even though a turnkey agreement is envisaged primarily. In such a case the guarantees must be phrased in such a way that they can be applied in both cases, or they will have to be adjusted in the course of contracting.

3.3.5 Procedures for Evaluation. In some countries, general criteria and procedures for evaluating an offer as a whole are stipulated by law. Furthermore, it may be stipulated that certain evaluation procedures of the bids should be followed.

Within the scope set by legal requirements and the obligations imposed by creditors the recipient has to develop his own set of criteria for the evaluation of the bids. The criteria will reflect the rating of critical parameters established at an earlier stage. But the content and explanatory notes given by the potential suppliers may necessitate a readjustment in certain cases. Thus the recipient may have given a high priority to the low consumption of utilities based on the assumption that oil had to be used as utility which is rare and expensive in his country. Now one of the suppliers may have offered a process based on natural gas as utility which is available at more favourable prices. Or the recipient has requested a high purity of the product on the assumption that products with a lower purity cannot be sold on the world market. One supplier may not be willing to give this guarantee, but offers to buy all products with a lower purity at a certain price. Depending on the level of the price offered, the recipient may give less importance to the product purity.

3.4 Preparations for Negotiation

3.4.1 Formation of the Negotiating Team

The formulation of guarantee provisions has to satisfy technical, economic, managerial and legal requirements and therefore necessitate a multi-disciplinary team approval. The negotiating team should preferably consist of the members of the project team who have familiarized themselves with the various aspects of the project during the preparatory stage.

3.4.2 Definition of the Negotiation Position

On the basis of the preparatory work and the evaluation of the offers received the negotiating team has to formulate its negotiating position. Where a tendering procedure has taken place, the basis of discussions will be contained in the tender documents. But even in this case, the own position must be further specified and possibly modified in view of the offers received. It should define the position on the various critical parameters which must be guaranteed and the scope of the guarantees expected. It should also set clear priorities in order not to waste bargaining strength or time on less important issues. 18/

Usually the party who presents the initial draft of a contract has some advantages in the further negotiating process. Obviously, this draft will reflect the proposing parties own position. The other party may find it difficult to negotiate away from the proposed general framework of the contract or to oppose the whole set of proposed guarantee provisions, because it may fear to appear to be obstructive.

It is part of any negotiating process that each party has to yield on certain issues. Therefore, the negotiating team should formulate a maximum position for the beginning of negotiations and a minimum position on which it can fall back during negotiations.

Especially the minimum position should be carefully drafted and then be examined in an imaginary test run in order to find out whether the risks involved can still be accepted.

In addition to the maximum and minimum position, the negotiating team should consider possible alternatives. Thus trade-offs may be possible between the scope of guarantees and the amount of royalty payments or between two different parameters to be guaranteed. E.g., fuel efficiency not guaranteed by the supplier may be far more important to a recipient than product purity guaranteed by the supplier. The recipient may thus want the process to be re-designed to achieve the desired fuel efficiency and for fuel consumption to be guaranteed. The negotiating team may also consider alternatives to guarantees as such (for discussion of these alternatives see Chapter 1.7).

3.4.3 Division of Responsibilities and Working Rules within the Team

The powers and negotiating latitude of the negotiating team as a whole as well as the tasks ascribed to each member of the team must be clearly specified.

The team should agree on working rules such as the form in which records are kept, the team member responsible for drafting and distributing the records, the form of interventions during the meetings etc.

3.4.4 Auxiliary Support

On certain questions which have a bearing on guarantees it may be necessary to consult specialists inside or outside the recipient's enterprise. Thus the supplier may ask for additional clarification, for example on soil conditions or on the quality of local inputs. The supplier may also present new data which must be checked etc. On said matters it is therefore important to make sure that the experts can be reached on short notice.

3.4.5 Approach of the Parties to Negotiations

The negotiations may be considerably facilitated, if the negotiating teams of recipient and supplier know each other or have at least a perception of the basic attitude of the other side on the technology transfer agreement to be negotiated. First of all, it is important to clarify if the other side has the same understanding of technical, legal and economic terms. It should be taken into account that the legal, economic and socio-historical environment may influence the understanding of specific terms or functions. Thus, parties may have a different perception of such terms as "qualified employees" which are often used in provisions on training or the "engineer" which has a far wider function in the United Kingdom and some other countries than in continental European countries and which influence the division of responsibilities. This will become even more important when either party does not speak or write the other parties language.

The general approach towards negotiations may differ, as well. Thus, legal tradition in the U.S.A. will lead lawyers to seek very detailed provisions in transfer of technology agreements, whereas other legal systems may place more emphasis on general concepts of good faith etc., leading to less concern with protective clauses.

In addition, the parties should try to get to know the corporate policy of the other side. Thus, an enterprise may, as a principle, exclude specific types of guarantee formulations; some potential sub-contractors proposed by the recipient may meet resistance because of prior bad experiences; etc. The negotiation procedure itself also contains psychological components. The negotiating team therefore has to plan a strategy which will not entail an appreciable loss of face or infringes on the social behaviour or the emotional sphere of the members of the other party's negotiating team.

3.5 Structural Aspects of Guarantee Clauses

The substantive elements of a guarantee provision will, depend on the specific type of contract and technology and the subject matter of the clause (for a discussion of these elements see Chapter 4). But there is a number of structural elements which reoccur independently of the content of the individual provision. They will be shortly discussed in this section.

3.5.1 Clarity and Completeness

Guarantee provisions should be formulated in an unmistakable language, and whenever possible, be materialized with numbers, listings, mathematical formulas and drawings. Ambiguous terms should therefore be avoided or defined properly in a definition section. The standard should be related to local operating conditions. Taking as a reference the operating conditions in the technology suppliers plant or country can create great difficulties. It is also important that both parties have a clear view on each others objectives and the meaning and scope of the guarantee provisions and that the purpose of the contract is stated in "Recital" or "Whereas" clauses.

3.5.2 Time Element

Delay in production start-up and appearance on the market place of the product, especially if the market is cyclic as it is the case with, for example, fertilizers, may have a great effect on the overall profitability of the project. It is therefore important to clearly state in the contract the commissioning date of the plant. Furthermore, delivery dates of machinery and documents, time schedule of training etc. should be clearly spelled out. In addition, time is an important factor in asserting and enforcing claims.

3.5.3 Burden of risk

Liability clauses will only apply when the clause clearly stipulates who has to bear the risk and for what period of time. Thus, arrival of equipment at recipient's site may terminate the "burden of risk" of the supplier, unless it is clearly specified that the risk only passes over to the recipient after inspection, after acceptance test run or even after the performance test run.

3.5.4 Burden of Proof

In case of non-fulfilment of the contract or a dispute arises, it is often unclear who has to prove a certain fact. While this can be a complex legal subject, in general, it is the party who initiate a claim who has the burden of proof. From the recipient's point of view, it is of course preferable that the supplier has to show that the requirements are met. But often the recipient will have the burden of proof for defects. In any case it is important to include in the contract who has to bear the burden of proof and more important which requirements are to be met. This applies for example to time limits, notification requirements and to the means and procedure of proof such as number of necessary samples, testing institution and procedures, etc.

3.5.5 Consequences and Remedies in case of non-fulfilment

Some guarantee provisions may contain specific stipulations on remedies and sanctions in case of non-fulfillment like replacement of defective parts or rectification or adjustment of the process.

In this connection one has to differentiate between absolute and penaltiable guarantees. For example, it is possible to request for a guarantee of the supplier to carry out the modifications/repairs until the specified production capacity is achieved (absolute guarantee). It is also possible to

specify in a contract that the supplier has to pay liquidated damages if the production is e.g. less than 100% but more than 95% of the specified production capacity (penaltiable guarantee). In some cases the two types of guarantees may also be combined by e.g. an absolute guarantee for reaching a plant capacity of at least 95%, whereas shortcomings between 95% and 100% may be covered by a penaltiable guarantee.

The non-fulfillment of guarantees most frequently relates to:

- delays, if the agreed periods contained in the time schedule for the delivery of equipment, the construction of works, the commissioning or the performance test runs etc. are not met;

- defects which prevent the working of the technology in accordance with the contract or which otherwise affect the quality and durability of the components of the technology;

- damage to property or injury to persons which are not the result of a faulty technology itself, but result from additional negligence, violation of secondary obligations etc. During the transfer of technology process, especially during the construction period, the property of third persons may be damaged or persons be injured. In addition, the products even when produced in conformity with the technology may have some defects or cause damage to other persons.

In case of delays, contractual practice usually provides for liquidated damages or penalties fixed for each week or day of delay.

In case of defects, the primary remedy is often some kind of rectification, where this is possible. If the supplier is unable or unwilling to rectify the defect contractual practice often provide for the right of the recipient to make good the

defects himself at the expense of the supplier. However, this right is often subject to prior written notice and limited to expenses which are "reasonably and inevitably incurred".

In case of damages, the loss caused by the supplier will be dealt with in a similar way as with defects in the technology. But in these cases the supplier's liability is usually dependent on a certain degree of fault on his side such as (gross) negligence. The liability may consist of the supplier's obligation to hold the recipient free from claims of third parties. Sometimes it is limited to the amount paid by the supplier's insurance.

The type and scope of the remedies in case of non-fulfilment should be formulated in such a way that they serve as an incentive for the supplier to fulfil his obligation and that they compensate the recipient for the damages incurred. Its range varies considerably and may be distinguished as follows:

- Rectification. Since the recipient is interested in obtaining a well-working technology, rectification of the defects is the primary and most important remedy for him. Payments etc. are always a substitute for the main objective. Therefore, proper rectification in a timely manner should be the remedy wherever applicable.

  Often the suppliers insist on clauses relieving them from their obligation to rectify defects, if the rectification is too time-consuming or costly. The recipient should try to avoid such clauses or at least build barriers as high as possible against the right of the supplier to pay off his primary obligation by a sum of money.

  Even if the supplier fails to rectify the defect, the recipient should not accept damage payments, but reserve the right to do the rectifications himself or have them done by a third person, the original supplier being obliged to cover all costs. This way, however, may not

be feasible in case of expert knowledge which cannot be obtained from elsewhere.

Rectification may take the form of repair, replacement or adjustment of the technology to meet the contractual requirements.

- Alteration of payments. The various forms of alteration of payments are: lower rates of royalties, return of payments, revision of the payment scheme, price reduction and suspension of payments. All these measures may alleviate the financial burden of a non-functioning technology, but they do not cure the defect itself. Therefore, they should only be accepted, if rectification cannot be attained or if the defects do not substantially affect the functioning of the technology close to the performance level expected. This type of remedy may also be acceptable for defects which can be repaired by the recipient himself or for which it is easy to find third persons who are able to do the repair. The alteration of payment should be equal to the diminution of the value of the technology.

Illustrative Clause 5

> "The purchaser who has taken over the works shall be entitled to a price reduction if the defects discovered during taking-over cannot be cured. The price reduction shall be equal to the difference between the value which the works without defects would have had, and the value of the defective works, at the time of the discovery of the defects."
>
> (see UNCITRAL, A/CN9.WGV/WP.11/Add.3, p.20 fn.9 19/)

The value of the defective technology may also be determined for the time when the purchaser claims price reduction. The price reduction may also be fixed from the very beginning, i.e. by stipulating that the price reduction will amount to ...% of the total price for each percent below the agreed production capacity.

Often the supplier will try to insist on limiting the reduction of payments to a maximum amount or maximum percentage. This may be acceptable in case of reliable suppliers and additional clauses covering damages and insurance. Otherwise, the limitation of the maximum reduction in payment may be an indication that the supplier himself does not trust the technology or is hesitant to believe in its proper functioning at the site of the recipient and under conditions encountered there.

- Damages. Generally the damage provisions relate to direct damages and exclude consequential damages such as loss of anticipated profits. In case of sophisticated technologies, e.g. chemical or pharmaceutical processes, the potential consequential damages may be far more important than direct damages. In such cases, consequential damages should be dealt with in liability clauses. The possibility of taking a respective insurance which may be entirely or partially borne by the supplier should be also considered as an alternative.

  Usually, the liability for injuries or damages is limited to a maximum amount which may equal an insurance taken, a certain percentage of the payments or an absolute amount.

  Since the estimation and calculation of damages is difficult, parties may determine in advance in their contract, an agreed sum of money, which is to be paid by the party who fails to perform (liquidated damages). Such a sum often serves as a means by the supplier to limit his liability, and rarely covers the actual damage incurred by the recipient. Therefore, liquidated damages should only be agreed to if the potential damage can be foreseen rather clearly and if the agreed sum covers this foreseeable damage or if it is extremely difficult to calculate the damage at all.

- Penalties. Penalties should be used mainly as an incentive to the supplier to fulfil his guarantees. They

are often used in cases of delays of the main works or delays in rectification.

- Termination. If the defects are grave or if the technology transfer has not yet progressed very far, the recipient may also reserve the right to terminate the contract.

Illustrative Clause 6

"The recipient shall be entitled to cancel this contract in full or in part if, despite repairs carried out by the supplier or after he has declined to eliminate the defects, the following conditions obtain:

a) The net power amounts to less than 95 per cent of the net nominal power;

b) The guaranteed value for specific heat consumption is exceeded by more than 10 per cent;

c) Within two years following reception of the nuclear power station, it was determined that the supplies and services provided by the supplier under this contract were defective in such a way as to hamper normal operation of the nuclear power plant;

d) If for reasons ascribable to the supplier, reception of the power plant was delayed for more than one year."
(The negotiation and enforcement of guarantee clauses: a case study on the construction of the first Argentine atomic plant
Juan A. Valeiras, ICPE, 1981)

This, of course, is the admittance that the technology transfer has failed altogether. The loss of time and a great part of negotiating and implementation efforts are usually very difficult to recover. Termination of the contract therefore should always be a ultima ratio. In the case of turnkey projects and similar transactions, the right of stop the plant erection may be important, when certain defects show up and the continuation of works would enlarge the damages or make a rectification of defects more difficult and costly.

Illustrative Clause 7

"The purchaser shall be entitiled to check the production of any equipment and the construction of the works and to order stoppage of any production or construction which results or would result in defects in the works. The contractor shall discontinue such production or construction, and shall expeditiously replace or repair any defective supplies already effected, or any defective part of the plant."

(UNCITRAL, ibid, p. 16, fn. 4)

- Financial Securities. Some technology transactions, especially turnkey contracts, usually provide for some financial security provided by the supplier or a third party to the recipient. This financial security may be used by the recipient, if certain contractual commitments are not fulfilled. The financial securities may take the form of performance bonds, stand-by letters of credit retention money.

  In all these cases, the recipient has access to a certain amount of money, if the supplier fails to fulfil his obligations properly. Apart from the function to ensure the coverage of certain damages or losses, these securities also work as an incentive to the supplier to perform his obligations properly in order to have the financial guarantee released or the last portion of the retention money paid. These securities are a comfortable cushion for the recipient. But usually they do not exceed 10% of the total value of the technology transfer. The recipient must also be aware of the considerable costs of such securities for the supplier which raise the price for the technology accordingly.

- Bonus System. A bonus system is a "positive" sanction. It may be combined with a penalty system, granting bonuses in case of early termination of work or reaching a better performance than guaranteed and imposing penalties in case of delays or poor performance.

Illustrative Clause 8

"If the supplier is not able, within a reasonable period, to fulfil the guarantees in respect of power and thermal consumption indicated in annex 9, it shall pay the following compensation to the recipient:

a) For each full percentage point below the net nominal power, an amount of DM 3 million;

b) For each full percentage point by which the specific heat consumption guaranteed is exceeded, an amount of DM 1 million;

For each full percentage point by which the guaranteed net power is exceeded, and also for each full percentage point betlow the guaranteed specific heat, the recipient shall extend to the supplier half the amounts provided for in the case of failure to achieve the guaranteed values. The maximum amount to be extended by the recipient as a bonus may not exceed the amount fixed as a penalty in paragraph.....".

(See "A case study on the construction of the first Argentine atomic plant". Juan A. Valeiras, ibid. p.12)

3.5.6 Exemptions and Force Majeure

Impediments which were unforseeable at the time of the conclusion of the contract may occur after the conclusion of the contract and may prevent a party from performing his contractual obligations. They can be of a physical nature (e.g. earthquakes) or they may be of a legal nature (e.g. amendment of laws which prevent the use of equipment specified in the contract). Exemptions and force majeure can be evoked when it becomes impossible to implement the contract for reasons beyond the control of a party whether temporarily or permanently and which could not by reasonable efforts be overcome or avoided.

Circumstances which may be the grounds for exemptions and force majeure should be determined by the parties after taking into account the nature of the project, but considering the

losses which may be caused by the failure of performance. It is generally desirable to limit the scope of exemptions and force majeure clauses. The wider the scope the greater is the uncertainty concerning the obligations in the contract as the parties are excused from performance in a wide range of circumstances.

It should also be observed that different terms such as "frustration" are being used to express exemptions and that the notion of e.g. force majeure may have a special meaning in some legal systems.

3.5.7 Check List for Structural Design of Guarantee Clauses

1. Clarity

Definition of ambiguous terms

- in the individual clauses itself
- in a "Definitions" section

Definition

- by means of an exclusive listing of items or
- by an abstract formulation or
- by a combination of an abstract formulation with a non-exclusive list of examples

Use of descriptive terms, not value judgements

Use of objective criteria, not subjective criteria

2. Completeness

Completeness of the guarantee as to

- quantity (and tolerances)
- quality (and tolerances)
- place
- measurements

- language

3. Time element

- time of delivery
- time of start up
- legal consequences

4. Burden of risk

- bearing of risks
- passing of risk

5. Burden of proof

- as to the party
- as to quality requirements, tolerances
- as to number, size and type of the samples
- as to time requirements (for test, for notification)
- as to involvement of third parties

6. Causes for remedies

- delays
- non-compliance with guarantees
- injury or damage caused to persons or property (negligence and omissions)

7. Consequences and remedies

- Rectification
  -- repair
  -- replacement
  -- alterations, adjustment
  -- time
  -- place
- substitute repair
  -- by recipient

-- by third parties
-- criteria for selection of third parties
-- consequences of defective performance by third parties
-- notification requirements
-- scope of repair
-- scope of compensation

- Alterations of payments
  -- suspension
  -- reduction
  -- return
  -- revision
  -- maximum limits
- Damages
  -- direct damages
  -- consequential damages
  -- loss of profits
  -- calculation methods
  -- liquidated damages
  -- maximum amount
- Penalties
- Termination
  -- discontinuation
- Securities
  -- performance bonds
  -- stand-by letters or credit
  -- retention money
- Bonus system

8. Exemptions and force majeure

- unforeseeable
- physical nature
- legal nature
- incapability of performance
  -- not to be overcome or avoided by conceivable measures
  -- beyond control
- exemption from liabilities

CHAPTER IV

The Formulation and Content of Individual Guarantee/Warranty Provisions

4.1 Introduction and Summary

This chapter deals with the following guarantee/warranty provision:

- Guarantees on completeness and correctness
- Suitability guarantees
- Mechanical warranty
- Performance guarantees
- Legal title and infringement
- Improvements
- Spare parts
- Training
- Financial guarantees

For the discussion of the individual guarantee/warranty provisions, the following basic structure is used in each sub-chapter: the first section shortly defines the terms used and discusses the purpose and functions which should be fulfilled by a provision on the issue. The second section describes which type of legal regulation and/or contractual provisions are actually used. The third section analyses the problems encountered when negotiating, drafting and executing provisions on the issue. The last section summarizes in the form of a check-list some basic points to be considered, by the contractual parties.

The materials consulted in preparing this chapter are various national laws, model contracts developed by private organizations such as Orgalime or F.I.D.I.C., model contracts developed by various organization of the UN, especially UNIDO, and individual contracts mainly between suppliers in developed countries and recipients in developing countries.

4.2. Correctness and Completeness of the Technology

(a) Purpose and Function

The full and correct communication of the technology to the recipient is the primary obligation of the technology supplier. Even though such an obligation seems to be self-evident, actual experience has shown that in several cases incomplete documentation, documentation of insufficient specificity or untimely delivery of documentation has impeded the successful implementation and assimilation of the technology, particularly in developing countries, where the recipient was not familiar with the technology and where the supplier was not aware of the need for additional specification, manuals for assembly of equipment and operation, etc.

A guarantee on completeness and correctness is closely interrelated with the description of the technology. It usually expressly refers back to the definition of the scope and content of the technology to be transferred and the Annexes relating thereto.

Care must however be taken in drafting such a clause because it could reduce the protection of the recipient as any explanation or further documentation requested by the recipient not included in the contract may be refused by the supplier.

Guarantees on completeness and correctness will be less relevant in pure patent licencing agreements. When the transmission of know-how is at stake, the completeness and correctness of the documentation transmitted and of the other elements in which the know-how is incorporated are essential to the agreement. This applies even more so if third parties such as contractors or sub-contractors have to rely on design specifications or other relevant information from the supplier for carrying out their function.

(b) Present Legal Situation and Contractual Practice

Some of those countries with specific legislation on transfer of technology arrangements prescribe the "detailed", "specified", "correct" or "complete" description and transmission of "all" technical data in a rather general form.

Illustrative Clause 9

> "A contract for the acquisition of material rights to technology, shall provide for: ... a guarantee by the technology supplier that the technology transferred, the mode of its transfer, and the documentation are complete..." (Yugoslavia, Technology Law, Art. 24(2)[17])

Brazil has a regulation, distinguishing between different types of contracts:

For patent licenses:

Illustrative Clause 10

> "The contract shall expressly specify the number and the title of the patent or patent application in Brazil". (Normative Act. No. 15 of 11 September 1975, Sect. 2.5.1.a [20])

For contracts on the supply of industrial technology or for technical and industrial co-operation:

Illustrative Clause 11

"The contract shall:

(a) explicitly define and give dimensions or details of all the technical data and information relating to the technology to be transferred, and accurately and clearly specify the scope or field of activity of the technicians." (ibid., Section 4.5.1.a and 5.5.1.a)

For technical service agreements:

Illustrative Clause 12

"The contract shall:

(a) explicitely define and give details of the amount of the services to be proviede and accurately and clearly specify the scope or field of activity of the technicians." (ibid., Section 6.5.1.a).

Other legislations without specific regulations on the issue will consider obligations on completeness and correctness as implicit obligations and apply general principles of law: if it is possible to describe the technology in a sufficiently clear and precise manner, its incomplete or incorrect transmission may be considered as incomplete or faulty fulfillment of the contractual obligations or even as non-fulfillment.

In contractual practice, provisions on completeness and correctness are often covered in other guarantee clauses in the agreements rather than in specific ones on completeness and correctness.

However recent model provisions include such guarantees, stating that all the documentation supplied by the supplier should be correct, complete and up-to-date.

Illustrative Clause 13

"Subject to the terms and conditions hereinafter set forth, the Transferor makes to the Transferee the following guarantees:
(i) all the written Know-How and the Technical Information handed over or disclosed to the Transferee pursuant to the provisions of this Agreement will be correct, complete, up-to-date and adequate....." (WIPO, Licencing Guide for Developing Countries, (1979) Fn. 137.)

In addition such clauses may also stipulate that the documentation will be presented in a comprehensible manner for

a qualified person in the field. The various aspects related to safety and emergency instructions in connection with the use of the technology in the recipient's country, should also be covered in such documents.

The consequences of non-fulfillment differ. Consequences laid down by law include rectification, nullity of the contract, reduction in price, or compensation for damages. Contractual provisions may st' 'ate more specifically how to carry out the obligation of the supplier to complement and/or rectify the documentations transmitted, regulate an adjustment on dates of delivery and subsequent guarantee periods or apply the general provisions in the case of non-fulfilment or faulty fulfilment.

Illustrative Clause 14

> "In the event that documents supplied are incomplete or inaccurate, or have to be completed or modified, the date of delivery of the documents will be deemed the date on which such completion of modifications are supplied by the Licensor." (UNIDO, PC.50/Rev.1, Sect. 3.3.1).

(c) Problems and Possible Solutions

- Immaterial character of technology. One major problem in describing technology arises from the fact that the complete technology can seldom be embodied in some kind of material specification. While patents and other industrial property rights can be described by their number of their patent application or registration, manufacturing know-how and organizational advice may present difficulties in being sufficiently documented[21]. Thus, it may only be possible to describe certain aspects of know-how by the nature of the products to be manufactured with the know-how; technical and professional expertise may only be defined by job descriptions or described in terms of the results or objectives to be achieved. In such cases, additional provisions may be needed such as an express assurance that the supplier will provide additional information upon request of the recipient.

Illustrative Clause 15

"The LICENSOR shall ensure that all information required for the detailed engineering of the Plant by the LICENSEE or the Contractor is made available in accordance with the time schedule, place of delivery and number of copies required, as detailed in Annexures 6 and 7. In the event that documents supplied are incomplete or inaccurate and have to be completed or modified, the date of delivery of the documents shall be the date on which such completions or modifications are supplied by the LICENSOR. If any explanation is required by the LICENSEE or the CONTRACTOR, such explanation shall not be reasonably withheld by the LICENSOR." (UNIDO PC.50/Rev.1, Sect. 3.3.1)

- Completeness. Due to the immaterial character of technology, it is difficult to define when the technology is "complete". The supplier may therefore only be willing to assure the completeness of the documentation but not that of non-documented technology. Therefore it may be important to ensure the completeness by other means, such as inclusion of "know-why", i.e. explanation why certain technical solutions have been adopted thus facilitating the comprehension of the technology; obligation to transmit the technology to the same extent as it is used by the supplier visits to supplier's plant, etc.

Considering that a mere reference to the "completeness" may give rise to disputes on what is meant by it, it is proposed to have a detailed, but open-ended list, which does not exclude the transmission of additional documents not expressly mentioned:

Illustrative Clause 16

"The documentation to be supplied for this purpose shall include, but not be limited to:

a) the Process Engineering Design Package described in Annexure 8, and

b the other technical information, data and drawings listed in Annexure 6."
(UNIDO, PC. 50, Rev.1, Sect. 3.3.A)

- Correctness. The documentation supplied has to be correct and correspond to the agreed technical specification in order to assure that the expected results will be achieved.

It is not unusual that drawings and other technical documents contain certain errors. Therefore it is important that the recipient inspects them, as minor mistakes may be easily detected but might have severe consequence for the project if not discovered at an early stage.

It may even happen that documents are not copied from the master drawing which contains all amendments and changes or that amendments are added to the shop documents and not to the master drawing.

Illustrative Case

> The workshop of the supplier has detected an obvious mistake in one document and corrects it in the working document, but not on the master drawing from which the copies for the recipient are drawn. The head of the workshop wanted to do this, but before he was able to do so, he was injured, went to hospital and forgot to report the mistake. The recipient got a copy of the incorrect master drawing, but because of his lack of familiarity with the technology he did not recognise the mistake and produced deficient goods for a considerable time.[22/]

The following discussion illustrates possible ways and means to reduce the risk of incomplete and incorrect transmission of information:

- Quality and content of documents. The documents, their correctness and completeness can be assessed on the basis of certain criteria in order to prevent the occurance of problems later on. These criteria are among others:

  -- Reproducability: documents should be easily reproducable both with regard to print and size of the documents;

-- Language: translation of the documents into the recipient's language may facilitate the use, but also has the danger of translation errors or use of ambiguous terms;
-- Measurements, norms, standards: especially if one of the parties uses the metric system and the other one not;
-- Operating conditions clearly indicated
-- The description of the technology may be too scientific to be understood by the recipient's personnel. Therefore, a criterion such as "comprehension by a normally qualified person in that field" is sometimes used in contractual practice. The term "normal", however, is rather ambiguous. A more precise language may be desirable (e.g. "engineer with a degree in chemistry and three years of expereince in an ammonia plant"), but it meets the problem that different portions of the technology also require different levels of comprehension.

- Transmission of documents. In the case of complex technology transactions, not all documents will be transmitted at the same time, but as the planning, construction, and erection of a plant progresses. The relevant dates and places of delivery need to be fixed in order to avoid delays. The use of flow charts or similar devices may be useful.

- Changes of documentation. Very often, some of the documents and the specifications need to be altered, because the technology should be tailored to the recipients specifications as agreed upon in the contract and also adapted to specific local conditions, e.g. to the local inputs and utilities used, or to changes in the legal requirements such as worker's safety or environmental protection. In such cases, it will be decisive to ensure that the supplier introduces the

necessary changes and/or approve of any changes to be introduced by the recipient in the documents, because the supplier's liability usually ends when the recipient does not comply with all specifications set out in the technical documentation. Approval of changes may be ensured by having the supplier sign the documents that have been changed or by an exchange of letters. The method by which changes will be agreed to should be included in the guarantee provision or in another part of the agreement.

Changes, however, may also be introduced by the supplier, when he has to provide the "latest" "up-to-date" technology available. As a rule this is in the interest of the recipient and it should be recalled in this connection that most technology transfer legislations provide for the obligation of the supplier to transmit introduced improvements of the technology to the recipient. However, the recipient may have an interest not to incorporate certain changes because orders may have gone out already and further changes would incur additional costs or require changes in the provision of inputs, etc. The provision should specify that the guarantees will apply, even if the recipient does not make use of changes transmitted after a certain point of time. In this context it should be mentioned that often a "freezing date" is agreed upon, which defines the date at which for the purpose of the fulfilment of the contract obligations changes in the plant design are not to be introduced anymore.

- Other parties. Apart from the recipient other parties such as the contractor, engineering companies, suppliers of equipment, etc., may have to rely on certain parts of the technical information. Therefore, the documents should be drafted in such a way to make it comprehensible to these persons also. The supplier, on the other hand, may obtain certain parts of information himself from

third parties. He may not be ready to assume the same degree of responsibility for this portion of the information. These areas need to be clearly specified. It may also be possible to obtain certain guarantees directly from the original supplier.

- Examination. Sometimes errors in documentation will only show when the technology is being implemented or even later on when it is actually being run over a longer period of time (see illustrative case on correctness above). It will often be impossible to examine the correctness and completeness of the documentation immediately due to the extensive amount of figures, charts, graphs, etc. The guarantee provision must provide for an adequate period in which the recipient may give notice of any errors.

- Liability, exemptions. Sometimes suppliers try to restrict their liability by excluding errors due to negligence (see illustrative example on correctness), by guaranteeing the completeness only to the best of his knowledge. An objective standard, such as "good engineering practice in the field", "latest state of the art", "identical with that used by the supplier," may give less cause for different understandings. The supplier may also try to exclude liability for documentation which stems from third sources or to limit liability by the recipient's obligation to examine the documentation at once. Since it is practically impossible for the recipient to examine the completeness and correctness of the documentation at the time of transmission and since the correct transmission of the technology is the most important individual aspect and essential prerequisite to ensure its later working, the period to notify errors should in any case not end before test runs have been finished.

- Corrective action. The main remedy should always be rectification of the fault, since the objective of the whole transaction can only be fulfilled if the documentation is complete and correct. As long as rectification has not taken place, the recipient should have the right to withhold part or all of his payments. All remedies including coverage of consequential losses may be adjusted to the importance of the fault. Thus, parties may exclude or restrict certain remedies or compensations in case of minor faults.

  Faults in the documentation will delay the completion and effective working of the technology at the recipient's premises. Therefore, "immediate or prompt" correction is most essential. To avoid ambiguities, a precise time span may be added ("immediately, but in no case later than x days after notification of the error or omission").

- Alternatives. A precise definition of the technology in the agreement may be sufficient where the applicable law considers this to be an implied warranty. However it should be observed in this context that many laws underline the risk inherent to technology and do not therefore apply those implied warranties which would be granted in case of other contracts, e.g. sales contracts on goods.

(d) Check List

1. Disaggregation of technology as to industrial property rights, secret and non-secret documented know-how, non-documented know-how.

2. Patents and other industrial property rights:
   - Listing of patents
   - number of patents
   - country of application, registration
   - present state of application/registration procedure

3. Documents
   - type
     -- design layout
     -- models
     -- process description
     -- construction documents
     -- operating manuals
     -- maintenance manuals
     -- material and energy balance
     -- P and I diagrams
     -- safety records
   - number
   - reproducibility
   - language
   - measurements
   - size of documents
   - standards
   - ownership
   - safety instructions
   - etc.

4. Non-documented technology
   - job description of experts involved
     (see also Sect. 4.10 and 4.11)
   - reference to product to be
     manufactured
   - reference to process to be applied
   - reference to field of use
   - visit to recipient's plant
   - oral or written explanations on
     request
   - inclusion of know-why

5. General criteria to describe completeness and correctness
   - use of specific or general language identical to
     that used by the supplier
   - latest developments known to

6. Changes in documentation
   - reasons for changes
   - approval to changes by other parties
   - form of approval
   - costs in case of changes
   - effects on guarantees in case of changes
   - freezing date

7. Other parties
   - approval of specific documentation by third parties (e.g. specific plant design by civil engineer or supplier, as the case may be)
   - limitation to disclosure for technology supplied by third parties to supplier

8. Examination
   - responsibility of examination
   - time of examination
   - plan of examination

9. Liability, exemptions
   - standard
   -- "good engineering practice"
   -- "latest state-of-the-art"
   -- "to the best of supplier's knowledge"
   -- exclusion of negligence
   - unapproved changes
   - technology from third sources
   - time limits
   - minor faults

10. Corrective action
   - rectification by supplier
   - rectification by recipient

- time element
-- "immediately", "promptly"
-- "not later than x days after notice"
-- "within a reasonable time"
- withholding of payment
- direct damages
- consequential losses
- reduction of payments
- termination of contract
- nullity of contract

11. Alternatives
- implied warranties
- technical capacity of the recipient

12. Legal requirements under applicable law

4.3. SUITABILITY OF THE TECHNOLOGY

(a) Purpose and Function

The recipient of the technology pursues certain objectives with the acquisition of the technology. If these objectives cannot be fully achieved with the technology transferred, such technology has little value for the recipient and the transaction may have been useless for him. In such a situation, a suitability guarantee may ensure that the responsibilities of the parties for achieving one or more of the following functions are defined:

- technical exploitability of technology
- commercial exploitability of technology
- capacity of technology for achieving specified results under specified conditions.

The first function, strictly speaking could not be considered a suitability guarantee in the developmental context. The last function of suitability guarantee has some similarity to a performance guarantee (for a detailed discussion on performance guarantees, see Sect. 4.5. below). Actually, there may be no need for a suitability guarantee, if a broad performance guarantee has been agreed upon. On the other hand, a suitability guarantee may be particularly important, when it is not possible to agree on a performance guarantee. Generally, a supplier will be reluctant to agree to a performance guarantee if he only provides know-how, e.g. without engineering/equipment etc., because the set-up of other elements needed for working the technology is beyond his control or influence. But in such a case, a suitability guarantee could be granted, by stating that the technology will meet the intended objectives of the technology transfer under specified conditions . (This requires a precise definition of the intentions, expected results and circumstances in which technology is going to be used.

(b) Present Legal Situation and Contractual Practice

Very few laws or regulations have specific rules on the suitability aspect governing transfer of technology transactions. In some countries, such laws or guidelines require that the technology must be a "proven process". The former Argentinian Law on Transfer of Technology contained the following "implicit clause":

Illustrative Clause 17

> "The supplier guarantees that the technology to be transferred, enables the recipient, through the acquisition, to achieve his proposed technical aims ... (Art. 8 a)"

However, the general principles of commercial law concerning fitness or technological exploitability of transferred technology may apply if the parties have not made specific contractual stipulations on the subject.

Present contractual practice often restricts the scope of the suitability guarantees to conditions prevailing at the supplier's plant. Such a clause could read for example:

Illustrative Clause 18

> "The licensor guarantees that the patents, technical information and other data transfered under this contract are suitable for manufacturing of the drug as stipulated herein, if used under the same conditions, and with the same intermediaries and other materials as used by the licensor at licensor's plant at the time of signing of this contract."

Often contractual provisions only guarantee the commercial exploitability in general:

Illustrative Clause 19

> "The contractor also hereby agrees that such documents referred to in this Article 4.5 shall cover and be based upon the commercially proven know-how available to the Process Licensors (such documentation to cover the know-how at the

time of the signing of the Contract, or if mutually agreed to, at a later date)". (UNIDO, PC 25, Rev.1. Section 4.5. p. 100.)

In some cases, the licensor rejects a comprehensive suitability guarantee and only guarantees that the technology is technically exploitable or has been technically tested by the supplier.

Illustrative Clause 20

"The grantor guarantees that the process has been technically tested in his works and that it has evidenced the following characteristics... The grantor will take no part in the use made by the grantee of the know-how hereby ceded and accordingly gives no undertaking that the grantee will obtain similar results in the use thereof." (ORGALIME, Practical Guide for Preparing a Know-How Contract, 3rd ed., Bruxelles, 1969, p. 27).

In some cases a specific termination clause of the contract is stipulated as part of the suitability clause. The need of a termination clause becomes particularly important when the supplier does not warrant the technical or commercial exploitability. The clause is generally used only when it concerns transfer of a research result where the supplier has little or no experience in its application at industrial scale.

Illustrative Clause 21

"The licensor does not warrant that the invention is capable of industrial realisation nor shall he be responsible for the general result. If industrial realisation proves impossible or too difficult for the licensee, either party may determine the contract. In such a case neither party shall be liable in damages to the other. The licensor does not warrant that the invention is capable of commercial exploitation. The risks of such exploitation shall be assumed solely by the licensee." (ORGALIME, Model Form of Patent License Agreement, Bruxelles, Clause 5 III. and IV.)

This clause, as some others, gives the recipient the right to terminate the contract when he is unable to reach technical realisation within a certain time limit. Similarly, some clauses may be drafted not providing for a suitability guarantee, but for a termination clause when the technology effectively proves to be unsuitable or to be economically or technically out-dated.

c) Problems and Possible Solutions

Scope of guarantee. The main problem encountered is the view of many suppliers that the transfer of technology, especially the transfer to countries with a different type of technical, economic and social infrastructure, different qualification of personnel and different use of inputs, is heavily risk loaden. Suppliers will maintain that this hinders them to grant suitability guarantees.

On the other hand, the technology is even more risk loaden for the recipient who does not know the technology yet and has not used it. The better supplier and recipient know each other and the better they can evaluate the present working of the technology as well as the conditions under which it is going to be applied in the recipient's country, the greater the chance to reach the objectives of the agreement. This underlines the importance of extensive communication and mutual information exchange in the preparatory stage of the transactions.

The most extensive suitability guarantee would assure the attainment of certain specified results. If such a guarantee cannot be reached, at least the technical and commercial exploitability should be assured. It may be accompanied by the supplier's assurance that he has successfully worked the technology himself and his readiness to let the recipient verify this by visiting the supplier's plant[26/]. Such a provision may be useful independently of the content of the other parts of the guarantee.

Of course, it will not be possible to obtain suitability guarantees for unproven technologies. Such agreements should always provide

for the right to terminate the contract., e.g. when the recipient concludes that he does not succeed, despite his best efforts to exploit the technology on a commercial basis. Alternatively, the recipient should ensure that there is no obligation on his side to exploit the technology or no obligation to pay remuneration independently of the use of the technology.

Criteria for measuring the suitability. Since the recipient is going to use the technology at his plant, he needs a suitability guarantee geared to conditions prevailing there. The supplier will only be ready to accept such conditions, if they are known and familiar to him. Usually, he will refer back to the conditions of his own plant and in such a case a compromise may be to specify the conditions in the contract.

The recipient will have to take care that the specifications are realistic in view of manufacturing conditions in his plant. Otherwise, the suitability guarantee will be without practical meaning.

Separation of responsibilities. If several parties are involved, it should be specified to which extent the suitability of the technology depends on conditions set by third parties and who is responsible to meet the specifications set forth.

Corrective action. If the technology has proven to be unsuitable, measured against the specification contained in the suitability clause, the general types of corrective action should apply. First of all, the supplier should be obliged to complement, rectify or up-date the technology in such a way that it responds to the suitability guarantee. Subsequently or alternatively, damage claims should be possible. The right of the recipient to terminate the contract and/or be paid back part or all of his payments could also be provided for.

Alternatives. As mentioned before, a suitability guarantee may be substituted by a performance guarantee as the suitability of a technology can usually only be measured against its performance.

On the other hand, performance guarantees are often only negotiated when it concerns a high degree of "packaging" and involvement of the supplier and may therefore conflict with some other objectives of the recipient.

Extensive information about the technology in the pre-contractual phase may acquaint the recipient with the technology to such a degree that suitability guarantees may become less important.

An efficient way of securing suitability guarantees is to provide for the payment of the technology in the form of royalties based on performance such as sales. In such a case, the supplier may be stimulated to assist the recipient in arriving at marketable production in order to obtain royalties.

A suitability guarantee provision should not be contracted, if the supplier only accepts a "negative" suitability guarantee whose main purpose is to disclaim or exclude implied warranties existing under the relevant applicable law.

d) Check List

1. Type of technology

   - proven/unproven
   - familiar/unfamiliar to recipient
   - commercial exploitation by supplier or others

2. Scope of guarantee

   - achievement of specified results
   - commercial exploitability, feasibility
   - technical exploitability
   - right of visit to supplier's plant

3. Criteria for measuring suitability

- conditions at recipient's plant
- conditions specified in the agreement
  -- intention of the parties
  -- expected results
  -- specification of raw material, intermediates etc.
- conditions at supplier's plant
- adequacy of conditions for recipient's situation

4. Separation of responsibilities

- third party involvement with effect on suitability guarantee

5. Corrective action

- forms of rectification
- form, extent of damage claim
- right of (unilateral) termination

6. Alternatives

- performance guarantees
- prior information on technology
- payments in relation to performance such as sales
- application of implied warranties of relevant law

7. Requirements under applicable law.

4.4. MECHANICAL WARRANTY

(a) Purpose and Function

Many technology transactions such as turn-key contracts are not restricted to the transfer of patented or unpatented knowledge, but include the provision of construction and design plans, as well as the supply of machinery/equipment, tools, spare parts, materials or erection of plants. It is desirable that these different items meet certain standards or achieve certain results.

The guarantee that the plant as a whole is mechanically capable of meeting the operation requirements ("dry-run") is normally called a mechanical warranty. Depending on the subject matter, also the terms "engineering guarantee" or "guarantee for designs" (for design, construction plans, etc.),"equipment guarantee" or "material guarantee" (for machines, tools, equipment, etc.) and "construction guarantee" or "guarantee for workmanship" (for the erection of works) are used as synonymons of mechanical warranties.

While performance guarantees usually apply to the performance of a complex technological process, mechanical warranties have a similar function for specific parts or equipments to be used in that process or for the mechanical capacities of the plant as a whole. Sometimes they are also called performance guarantees, e.g., when the supplier of a specific piece of equipment guarantees a certain performance of the equipment under specified conditions.

Mechanical warranties, like most guarantees have the two-fold function to assure the recipient of a certain minimum quality (e.g. durability) of the parts supplied and to define the liability of the supplier. For the speedy implementation of the technology in the recipient's country the mechanical warranty should be established in such a way as to permit the detection of defects of certain inputs at an early stage. At

a later stage it may be impossible to trace back the origin of some defects, once the input has been installed and the process has worked for a time. At a minimum, precious time will be lost and the damages caused to the entire plant and process may be considerable and even exceed the maximum amount of liability of the supplier. In addition, the tests specified to see whether the requirements of the mechanical guarantee are met will ensure that the recipient's personnel is involved and becomes acquainted with the technology at an early stage which will facilitate the absorbtion of the technology, the development of maintenance and repair capabilities, etc.

(b) Present Legal Situation and Contractual Practice

Legislation usually leaves the specification of quality standards to the negotiations of the parties. If they have not defined them, the non-binding norms of the law of obligations, commercial law and some specific regulations such as product liability, will apply. These laws generally require that the goods delivered must be free from defects and/or must be fit for the contractual purpose and that services and workmanship must meet the standard that can be expected from a person using proper skills.

In contractual practice the scope of items covered depends on the scope of the contract. It may include items such as plant and equipment, materials, tools and supplies, as well as all civil works, which may include all the buildings, roads, foundation and other work requiring civil engineering.

The extent of the warranties is sometimes defined in very general terms such as "any defects", by a reference to general standards such as "sound engineering practice" or by a reference to "specification in the contract" and its annexes. It is better when a reference is made to the various sources of defects like faulty or improper design, workmanship, material, manufacture, fabrication, shipment or delivery.

The main corrective action, in case of non-fulfilment, to be undertaken by the supplier, is usually to remedy the defects by repairing or replacing the defective part(s). But often the mechanical warranty is subject to a number of qualifications, specifications and liability exceptions, limiting the scope of the supplier's liability such as in the following exaple of a mechanical warranty clause, which was used in a contract between a developed and a developing country:

Illustrative Clause 22

> "The supplier warrants the good quality and construction of the supplied machinery and shall be responsible, during the warranty period for repairing or replacing free of charge any part of which defects arise by reason of the quality of the material, poor workmanship or improper installation, excluding normal wear and tear or damage made by improper operation by the recipients personnel, by overloading beyond the contractual limits or by force majeure."

Accordingly, the supplier may exclude from his liability, defects arising from:

- equipment not properly used;
- changes undertaken by the recipient without prior authorization by the supplier;
- materials provided for or design stipulated by the recipient;
- the recipient's faulty maintenance;
- repairs carried out improperly by the recipient;
- normal wear and tear;

(See below p. "Limits to the extent, exceptions").

The modalities of the remedy are usually further qualified by such elements as:

- notification of the defects; (different requirements for visible and hidden defects);
- time limits in which the remedy has to be effected;

- place of the repair;
- cost and rick of transportation, traveling etc.;
- standard of workmanship.

Contracts generally stipulate that the recipient is obliged to notify the supplier in writing without delay of any defects that have appeared and to give the supplier every opportunity of inspecting and remedying them.

The time limits in which the remedy has to be effected are often expressed in terms which state that the supplier shall "remedy the defects forthwith" or "promptly undertake the necessary corrective action".

As to the place of repair, a contract may state that the recipient shall return to the supplier any part in which a defect has appeared for repair and replacement by the supplier, except in those cases where it is appropriate to undertake the repair on site.

The standard of workmanship to be applied for the repair of defects are often worded in contractual practice to be proceeded with "due diligence" and a failure to meet this requirement may provide for the recipient to "proceed to do the necessary work at the supplier's risk and expense provided that he does so in a reasonable manner".

A mechanical warranty clause usually provides for an extension of the warranty period as a consequence of non-fulfilment e.g. for defects of equipment, materials, tools and supplies, etc. for which the supplier is liable. Such a clause may state that a fresh warranty period equal to the original warranty period shall apply, under the same terms and conditions as those applicable to the original items, to items repaired, or supplied in replacement of the defective ones.

If the items subject to the mechanical warranty are used more intensively than stated in the contract, the contract may

provide for a reduction of the warranty period.

If the supplier does not fulfill his obligation to remedy, or if he fails to remedy the defects "within a reasonable time", the recipient may take consequential actions such as the right to undertake the remedies himself at the cost of the supplier.

Alternatively sanctions similar to those in the general rules of the applicable law will be applied such as right to withhold part or all of the payments, to terminate the contract in case of severe defects and/or to ask for compensation for damages and consequential loss.

In addition, there is usually a provision in the contracts on the liability for damages caused by the defective part. But the scope of such provisions is usally very limited by excluding certain damages such as loss of profit altogether, by limiting the liability to a certain maximum amount by making it subject to a specific level or fault such as "gross negligence".

c) Problems and Possible Solutions

Type of warranty

The most important question in connection with mechanical (as well as performance) warranties is the question whether the supplier is only bound to a certain level of diligent and careful workmanship in providing material or executing works ("obligation de moyen") or whether he is bound to achieve a certain result regardless of the best efforts applied by him ("obligation de resultat").

The recipient should urge for provisions guaranteeing certain objective well-defined results instead of provisions guaranteeing that the supplier will do his best to achieve certain results. For the same reason the results guaranteed should not be qualified by a reference to fault. Therefore,

clauses of the following type should be avoided:

Illustrative Clause 23

"Supplier undertakes to remedy any defect in case that the supplier has been guilty of gross misconduct (or negligence)."

Scope of Warranty. The scope of the mechanical warranty depends on the subject matter of the specific agreement. It may cover any of the items mentioned above in particular items such as equipment materials tools and supplies, but the recipient should make sure that all items contained in the technology are covered by a guarantee.

Extent of warranty. Mechanical warranties mainly cover "defects" of different kinds. Therefore, parties must have a clear understanding, when a certain part is defective. For the main part of the technological equipment, detailed specifications should be set out. Another possibility would be a reference to international standards (ISO, DIN), but to avoid differences, the titles and numbers of those standards should be expressly quoted. A more general criterion could simply refer to the standards usual in that business and/or country. Because of its evident vagueness it should be avoided.

Limits to the extent, exceptions. Usually, the supplier will only warrant those mechanical elements which are under his control and exclude defects which are caused by factors beyond his control.

The recipient may seek to involve the supplier in the inspection, control and approval of the inputs provided by the recipient or other parties involved. To this extent the supplier may be made liable for the effects of insufficient control, unless he explicitly disclaims responsibility for certain inputs.

Also, the meaning of ambiguous terms such as "faulty maintainance" should be specified, e.g. by using a more objective expression like "disregard of the supplier's written instructions"27/.

Period of Warranty. While the recipient's interest should be to inspect each item of the technology supplied as early as possible, the proper functioning of the various items may depend on their installation in the plant as a whole and may only show after some time of operation. Therefore, the mechanical warranty should not only be met at the time of delivery, but should also extend for some time thereafter. It may be measured by calendar time or by operating hours. In view of the fact that the erection of a plant may take a number of years, the warranty period should start only after successful acceptance test runs. In return, the supplier may require that the warranty period will start even without acceptance test runs, if the recipient is without due reason, unwilling to start the test run. It may also be practical to refer to the actual operating time. In this case, delays and interruptions do not effect the warranty period. The length of the period will depend on the type of equipment.

A mechanical warranty normally provides for a maximum warranty period of the supplier's liability.

Although the stipulation of a maximum warranty period might be understandable - it is commonly accepted as reasonable to provide a release of the supplier's liabilities after a certain period - such a period should be negotiated with sufficient care and flexibility in order to avoid the risk of expiry of the warranties before the equipment or the plant are fully tested in normal operating conditions.

Inspection and tests. The recipient should have an interest to assure himself of the proper functioning of each item as early as possible in order to minimize potential damages and time delays. In many cases, a first inspection should take

place at the plant of the supplier, a second inspection should be undertaken at the site of the recipient at the time of delivery in order to detect transportation damages and to ascertain functioning characteristics under local conditions before installation.

Test procedures, where necessary, should be clearly spelt out. In a number of cases, the recipient may not have the testing equipment or the expertise to test the material hjimself. In such cases, he should ensure that testing equipment is made available to him or that consultants or laboratories agreed by both parties are acknowledged to perform the tests.

Corrective action. Remedy of defects. The recipient is not interested in damage payments, but in a properly working technology. Therefore, remedy of any defects is the primary objective and its working deserves particular care. The time, during which the defect has to be rectified, the place of rectification, the diligence applied for the rectification and all cost and risk elements that may evolve in the course of rectification should form part of the warranty provision. Looking at the time element a term such as "forthwith" often used in contractual practice, might be replaced by terms asking for outmost speed such as "with all (possible) speed" (FIDIC)[28], "expeditiously" or "in minimal time". To speed up repairs or replacement, the recipient may be obliged to promptly notify the supplier.

Illustrative Clause 24

> "In the event that any defects are found in the equipment, erection or civil works within their warranty period, the purchaser will immediately inform the contractor by telegram/telex and contractor will promptly respond to the communication." (UNIDO/PC.25, Rev. 1 Sect. 28.9).

In principle, all costs directly connected with eliminating the defect, including transportation and travelling costs,

should be borne by the supplier, even if the original obligation had to be fulfilled "ex supplier's works" or "FOB"[29/]. In this case the recipient has payed already the transportation costs for the first defective part. There is no reason to have him pay this a second time, unless the defect falls within his responsibility.

Other corrective actions should only apply in addition to the primary corrective action of remedying the defect or when the supplier fails to remedy the defect. Such a failure may not only be present when the defect cannot be eliminated, but also when it is unduly delayed or when the repair is not done with proper care.

The corrective action proposed in the illustrative clause 25 is that the recipient himself will take the necessary steps to remedy the defect.

Illustrative Clause 25

> "If the contractor shall make default or delay in diligenty commencing, continuing the completing the making good of such defect, breakage or failure in a manner satisfactory to the purchaser, the purchaser may proceed to do so independently and to place the works in good operating condition in accordance with the contract, and the contractor shall be liable for all costs, charges and expenses incurred by the purchaser in connection herewith and shall pay the purchaser an amount equal to such costs, charges and expenses upon receipt of invoices." (UNIDO/PC.25 Rev. 1, Section 28.3. sentence 2).

This approach may also be used in the case of minor defects, where involvement of a contractor from abroad would be unjustifiably costly, or in emergency cases. But care must be taken, that the supplier will not be relieved from his other guarantee obligations on the ground that the remedy taken by the recipient was not authorized.

Defects of a part often do not only affect the specific part, but may cause damages to other portions of the works, injuries to employees and other persons, and loss of profits. Such damages should be covered by a clause entitling the recipient to damage claims. However, such provisions are met with strong reservation from the side of the suppliers. They may only be ready to accept liability to an extent which can be insured at a reasonable premium.

Separation of responsibilities. If the technology supplier is not the supplier of the equipment as well, the equipment will usually not be covered by any guarantee given by the technology supplier. Therefore, the recipient has to ensure that independent suppliers will also agree to guarantees. Since the equipment will be used together with the technology, any guarantee concerning the technology will be affected by the quality of the equipment. The recipient should try to oblige the technology supplier to inspect all equipment and other parts and to affirm that it is consistent with the specifications on which his own guarantee is based. The same, of course, applies to any equipment supplied or works undertaken by the recipient himself. If the recipient is not able to commit the supplier to such extensive inspection obligations, the specification of any equipment or material acquired from third parties should be scrupulously harmonized with the specifications given by the technology supplier.

If the technology supplier has to provide all the equipment and uses the subcontractors for this purpose, the fulfillment of any mechanical warranty is his responsibility. Nevertheless, the recipient may be well advised to inspect the material himself, as well. This does not only help him to develop a better understanding of the technology as already pointed out, but it is an additional device to avoid defects at a later stage. This is of particular importance, if the maximum amount of liability which may be obtained from the supplier is limited, as is the usual practice.

The recipient, however, has to take care that the inspections undertaken by him do not relieve the supplier from his own liability for the equipment and do not prejudice the recipient's right to claim a warranty at a later stage.

Illustrative Clause 26

> "All equipment, materials and work preformed in connection with this contract with the exceptions to be agreed between the contractor and the purchaser, shall be available for inspection by the purchaser (through his duly authorized representatives). The contractor and his sub-contractors shall provide safe and necessary access for the inspection envisaged by this Article. The purchaser shall be afforded full and free access to the shops, factories, site or places of business of the contractor, the subcontractors and/or suppliers for such inspection to determine the condition and progress of work under the contract. Neither the failure to make such inspection nor failure to discover defective workmanship, materials, or equipment, or approval of, or payment to the contractor for such work, materials or equipment (pursuant to this contract) shall prejudice the rights of the purchaser thereafter to require correction, replacement, or reject the same as herein provided." (UNIDO/PC.25/Rev.I, Section 14.5).

The recipient should bear in mind that mechanical warranty are not only guaranteed to him by suppliers, but that he may be the grantor of mechanical warranties as well, to the extent that he provides equipment etc., through his own facilities or through own sub-contractors.

Alternatives. It is sometimes suggested that a warranty of good workmanship with construction and erection of the works might not be necessary in a turn-key contract, because these warranties are only for the construction and pre-operation stage of the project and expire when the performance guarantees become effective. This will only hold true for a turn-key contract. Even there, the performance guarantee may be phrased more continuously in certain parts, or the

responsibility for the non-fulfillment may be difficult to be established. In such cases a mechanical warranty has a right of its own. In addition, mechanical warranties have the important task to verify any defects at the earliest stage possible. For these reasons performance guarantees can only partially replace mechanical warranties.

If the technology supplier does not provide the equipment by himself or through own sub-contractors, he may be obliged to inspect all parts coming from third parties (see above) and/or at least provide the recipient with a list of potential suppliers who have the capability of providing the equipment of specified quality.

Since mechanical warranties may also be used to restrict the suppliers responsibility under the non-binding norms of the applicable law, it may in some cases be a better way to refrain from a warranty altogether and rely on the law.

(d) Check List

1. Type of mechanical warranty
   - "best-effort" obligation (obligation de moyen
   - achievements of result ("obligation de resultat")
   - degree of fault necessary

2. Scope
   - design
   - engineering
   - construction

   - materials
   - tools
   - equipment
   - spare parts
   - foundation of buildings
   - civil works
   - plant.

3. Extent

- key word used
-- defects
-- breakage
-- failure
- definition of "defect or other key word
-- specification in the contract
-- reference to international standards and norms
-- reference to purpose of contract
-- reference to "good engineering standards" or usual practice in the field
- cause of defect
-- no reference
-- (non-) exclusive list of causes
(faulty) design
(faulty) material
(faulty) manufacture, fabrication
(faulty) workmanship
(faulty) shipment
(faulty) transportation
- conditions in recipient's country.

4. Limits to extent, exceptions

- maintenance by recipient
-- faults of recipient
-- disregard of instructions
- changes by recipient
-- specific disclaimer by supplier
-- obligation of supplier to inspect and issue certificate of acceptance
- materials and designs of recipient
-- specific disclaimer by supplier
-- obligation to inspect (certificate of acceptance)

-- checking procedure.

5. Warranty period

-- measurement

-- calendar time

-- operating time

-- achievement of results

- differentiation of length of period according to item concerned

- beginning of period

- extension of period

-- reasons

-- items covered by extended period

-- use of actual operating time as alternative

- maximum period

- warranty period for replacement parts.

6. Inspection, tests

- place of inspection

-- supplier's plant

-- site of recipient's plant

- time of inspection

-- before shipment

-- after arrival at recipient's site

-- after installation

- inspection personnel

-- recipient's personnel

-- consultants

-- independent persons.

7. Test procedures

- measurements, specifications

- test methods

- qualification of testing personnel

- availability of testing equipment.

8. Corrective action, rectification

- form of rectification
-- repair
-- replacement
-- additions
- place of rectification
-- recipient's plant
-- supplier's plant
- diligence to be applied
-- due diligence
-- good workmanship
- speed
-- forthwith
-- expeditiously
-- with all possible speed
-- in minimal time
-- in a reasonable time
- notification by recipient
- cost of rectification
-- direct costs/replacement parts
-- shipping costs
-- travel expenses
-- other expenses

9. Other corrective actions

- reasons
- failure to rectify
-- failure to rectify in time
-- damage
- injury to persons inside/outside the plant
-- loss of profits
-- minor defects
-- urgency
- remedy by recipient
-- prior notification
- form of remedy
-- requirement for reimbursement
-- effects on supplier guarantees

- damages
-- for delays
-- for damages to other parts of technology
-- for injuries
-- for loss of profits
-- calculation of damages
-- maximum amount of damages
- retention of payment
- diminution of payment
- termination of contract

10. Separation of responsibilities
- inspection with relation to third parties/sub-contractors of supplier
- pre-inspection by recipient and consequences
- inspection of equipment of third parties by supplier

11. Burden of proof

12. Alternatives
- performance guarantees
- information
- reliability of suppliers
- no mechanical warranty - use of (non-) binding provisions of applicable law

13. Legal requirements

4.5 Performance Guarantees

a) Purpose and Function

From the recipient's point of view, the successful set up of an industrial plant is assessed by the achievement of performance goals which were envisaged by the parties when signing the contract. For this purpose, the final acceptance of the plant only takes place when it is shown that the technology will operate and produce certain specified results measured by such parameters as product quality, production rate, productivity, yield, catalyst consumption, utilities consumption, rejection rate, scraploss, shell life, etc.

While mechanical warranties deal with the proper mechanical functioning of equipment and works, performance guarantees deal with the results of the technology which are to be obtained under specified conditions.

Thus, the primary function of a performance guarantee is to define the responsibilities of the parties to achieve the agreed results of the technology transfer transaction. Correspondingly, it will provide for sanctions and remedies, if the expected results, as contractually defined, are not met.

The value of a performance guarantee is dependent on its precise and adequate characterization of the parameters that must be met. Therefore, the recipient has to familiarize himself very closely with the technology to be able to define a complete set of critical parameters. This shows the important preventive function of performance guarantees: since the recipient is interested in a smoothly running technology without defects and since the supplier is not interested in costly repairs or damages, a performance guarantee will induce both of them to take the necessary steps during the process of transferring the technology to make sure that the performance parameters will be met.

Suppliers, however, are often hesitant to agree to performance guarantees, especially in complex technology transactions where numerous subcontractors are involved and inputs come from a wide variety of sources. They argue that they do not have full control of all the inputs and that potential damages may surpass their own returns considerably. This is why they usually try to narrow down the extent of performance guarantees.

b) Present Legal Situation and Contractual Practice

An overview of the legislation on transfer of technology in force in developing countries, reveals that the majority has not expressly dealt with the regulation of performance guarantees.

One exception is the Yugoslavian "Technology Law"[17/], which stipulates that agreements for the acquisition of technology must provide for guarantees on the achievement of predetermined results.

Illustrative Clause 27

> "A contract for the acquisition of material rights to technology shall provide for:
>
> A guarantee from the supplier of technology (by fixing penalties, damages for losses or in some other way) regarding the achievement within the envisaged term of the results specified in the contract, account being taken of the conditions under which, as specified by the contract, the technology is to be used;" (Art. 24(6)).

Another exception is the Mexican "Technology Law"[30/] which stipulates in Art. 15 XIII, that a contract may not be approved when "the supplier does not warrant the quality and results of the contractual technology".

Among the regulations of developed countries, the International Commercial Contracts Act (1976) of the German Democratic Republic may also be cited in this regard. It prescribes that under contracts for plant erection the parties have inter alia obligations regarding the proof of quality guarantees and the execution of performance tests.

In contractual practice, performance guarantees usually consist of the following elements:

- conditions which are a prerequisite for the performance guarantee such as:
  - construction requirements fulfilled
  - absence of mechanical defects
  - availability and specified quality of feedstocks
- specification of performance parameters such as:
  - capacity
  - consumption of raw materials, utilities etc.
  - product quality
  - time of test run
- performance test procedure regulating aspects such as:
  - starting time
  - duration
  - performance test parameters (evaluation criteria)
  - personnel in charge (supplier(s), recipient etc.)
  - test methods
- Corrective action and extent of liability in case of failure to meet the performance guarantee
  - repair and modification
  - compensation for defects and damages

- Prerequisites for performance guarantees

Usually a number of prerequisites for the performance guarantee, are required to be fulfilled by the recipient in order that the supplier guarantees the performance of the technology transferred.

Such conditions may e.g. include firstly that the performance test run can be made only if the plant is free from mechanical defects which would affect the possibility of carrying out the performance test run under steady and safe conditions. Secondly that the plant must be constructed in accordance with process designs and specifications provided by the supplier. Thirdly, as the plant must be operated during the test run within the normal operating conditions, the recipient should assure that sufficient raw materials (feedstocks) of specified quality are on hand for a run at designed capacity for the number of days stated in the contract.

A clause illustrating these conditions would read as follows:

Illustrative Clause 28

"9.01 LICENSOR guarantees the performance of Said Plant in the following respects and under the following terms and conditions:
(a) in a performance test run, hereinafter described, during which Said Plant is free from mechanical defects substantially affecting process operability, Said Plant, if constructed in accordance with process designs and process specifications provided by LICENSOR pursuant to this license and approved by the LICENSOR for construction and if Said Plant is prepared for operation in accordance with LICENSOR's instructions and subsequently operated in accordance with such instructions of LICENSOR at not substantially greater than Designed Capacity but not less than the guaranteed capacity (except as permitted by the said instructions) will meet the guarantees of Section 9.01 (b) of this ARTICLE 9 when employing:
(i) .... tons of feedstock meeting the following specifications:
Impurity of Component: x .....
Quantity (Maximum): .....
Test method: ....."

- Performance parameters

All performance parameters or performance criteria e.g. capacity, raw material consumption and product quality relevant for the achievement of the objectives of the contract should be clearly spelt out in the exhibits or in the guarantee provision itself:

Illustrative Clause 29

"9.01. (b) When Said Plant is operated in a test run to produce _____ (1) production of _____ will be at the rate of not less than _____ million pounds per calendar year, when calculated over 330 stream days per calendar year; and (ii) yield to specification product as shown below will not be less than _____ weight percent based on the total weight of feedstocks charge to Said Plant (iii) when so operated, the product shall meet the following quality specifications:

Chlorides and other halides, 100 ppm maximum in total, American, Society of Engineers Test Method".

Time of the test run. As mentioned before, the performance tests are normally carried out after certain previous and important prerequisites for the performance guarantee have been fulfilled. It is usual that contracts on the matter determine a time limit for the realization of such tests for instance X months from the effective date of the contract or from the date at which the operation of the plant has started.

Depending on the type of contract, the supplier and recipient often have conflicting interests as to fixing the lapse of time within which the performance tests should be executed.

For instance in a turn-key contract, the recipient will be interested in having the test run carried out as soon as possible, because the time limit for the test run also corresponds to the date of delivery of the plant.

In a licensing agreement where the licensor is only responsible for providing the know-how but not for the construction of the plant, the licensor will be interested in having the performance test run completed as soon as possible as it will bring his responsibilities to an end and release a part of the payment which will become due upon the completion of the performance test(s).

On the other hand, and still in the case where the licensor is not responsible for the construction of the plant, the licensee should safeguard against the risk that delays in construction may result in the completion of the plant at a later date than the date at which the licensor's responsibility in relation to the test run expires. Such a situation would release the licensor from his obligations before the performance of the plant could be verified.

To avoid or minimize such a risk the time limit for the test run should be negotiated in a flexible way, to allow for delays that usually occur in the construction and completion of industrial plants; and also the licensee should make his best efforts and urge his suppliers and sub-contractors in order to make possible the conduct of the guarantee test run within the time limit contractually established.

Both parties aim at diminishing their risks and a compromise between the different interests of the supplier and recipient should be found, by fixing a time for the test run which is reasonable and acceptable to both parties.

A contract could also provide for an additional period in which the supplier's obligations continue to exist but at additional costs, in case of delays not attributable to the supplier.

- Performance test procedure

If performance guarantees are provided for, the test procedure and conditions as to starting time, place, personnel etc., will be described. A simplified clause to be completed according to the parties' requirements could read as follows:

Illustrative Clause 30

"1. In order to determine whether the warranty set forth in clause "warranties" herein has been met, (1) licensor and licensee agreeing that licensee's plant has reached normal operating conditions, a test run shall be carried out (2) in presence on site of licensor personnel, (3) the details of which shall be agreed upon by the parties. (4) The performance test shall be a (72) hour period of continuous operation. (5) The production capacity, raw material requirements and quality of the product shall be measured and analysed. If the warranted results are met, the test run is considered successful and a joint confirmation shall give relief to licensor."

The above clause regulates (1) the starting time of the test, (2) the participation of the supplier, (3) the test procedure, (4) the duration of the test and (5) the performance criteria.

Details of the test procedure itself are left to agreement at a later time. In such an agreement, the role and qualification of the licensor's personnel to be present on site during the test run would also have to be specified.

- Corrective action and extent of liability

If the performance test fails to meet the guaranteed results, the supplier usually has the right to repeat the test for a certain number of times:

Illustrative Clause 31

"If the performance test fails to meet the guaranteed results, LICENSOR shall have the right to have, upon reasonable notice to LICENSEE,
and at a time satisfactory to LICENSEE, one and additional and continuous seventy-two (72) hour performance test under the conditions set forth herein to demonstrate the ability of Said Plant to meet the guarantee."

As a next step, he is usually obliged to repair any defects or modify the plant design in order to meet the performance guarantee. Alternatively, he may be required to provide all necessary information for the necessary modification, bearing however the costs incurred for such modification.

Illustrative Clause 32

> "In the event that, on the first or a subsequent performance test run, Said Plant fails to meet one or more of the production or quality guarantees of Section 9.01 (b) (i) or 9.01 (b) (ii) of this ARTICLE 9 as a result of incorrect design of the Licensed Process as furnished to LICENSEE by LICENSOR then within ninety (90) days from the said first performance test run of Said Plant by LICENSEE, LICENSOR shall undertake at its own expense to examine Said Plant and promptly to provide all necessary process designs, drawings and specifications for any modifications of Said Plant or otherwise to modify the said information so furnished to LICENSEE by LICENSOR, as deemed necessary by LICENSOR to insure that the conditions guaranteed by LICENSOR as aforesaid will be met; ....."

In general practice, the supplier's liability for repair and modification is limited to a maximum amount or percentage of the fees or royalties established in the agreement. In some cases the supplier may at recipient's option, up to the limit of the supplier's financial liability, reimburse to the recipient the actual costs required for changes and modifications. Alternatively the supplier may, at recipient's options be required to pay the liquidated damages agreed upon in the contract instead of the obligation to repair the defects and/or modify the plant design. In case the contractual payments are determined as a royalty on the sales, the liabilities can be established as a part of the royalty to be deducted for the purpose of refunding the costs for modifications or payment for compensation as agreed upon between the parties:

Illustrative Clause 33

> "If any modification recommended by LICENSOR in accordance with this provision is carried out by LICENSEE, then LICENSOR shall credit against one-half (1/2) of the royalty paid and payable by LICENSEE with reference to Said Plant up to the appropriate refund of the cost of such modifications determined by LICENSOR to be necessary to enable Said Plant to perform in accordance with the unmet guarantees."

As shown above, the guarantee provisions normally include an obligation of doing, i.e. repair and modification required after unsuccessful test runs which sometimes can be offset against an obligation of giving money.

The obligation of giving money is normally limited to a maximum amount or to a percentage of the fees or royalties established in the agreement. Therefore it may constitute a weak remedy for the recipient, as it usually provides for a very limited financial compensation in case of failure to repair the defects and modify the design needed in order to put the technology or the plant into efficient operation. The monetary compensation for not achieving the performance obligation should be negotiated and fixed in such a manner as to press the supplier to do his best to "perform".

Contractual provisions may not only limit the supplier's liability with regard to its amount, but may also narrow the scope of liability to the direct losses and exclude any consequential loss or damage as well as the loss of anticipated profits.

Therefore, if not properly negotiated, a performnce guarantee clause may give to the recipient a weaker protection than the one he could have under the provisions of the general law of most countries.

c) Problems and Possible Solutions

Even when the agreement provides for technically adequate performance guarantee clauses, they may not have a persuasive effect on the supplier to perform as well as a real compensatory value for the recipient, because of factors like the limitation of the overall liability of the supplier and the frequent establishment of low liquidated damages.

When negotiating a performance guarantee, which is the most complex and difficult issue in the field of guarantees, they often fail to be satisfactory because,

- they may be subject to very tight preconditions which are difficult to be met by the recipient;

- they may induce the supplier to overdesign the whole plant thus raising costs;

- they may only be granted against higher costs for the technology;

- they may provide for insufficient remedies in case of failure.

Proper selection of critical parameters.

The recipient, with e.g. the help from outside expertise in complicated cases, should ensure that all relevant production parameters are adequately covered in the guarantee provisions. Otherwise, the supplier may easily disclaim from his liabilities without attaining the aims of the recipient.

Illustrative Case

When building a plant for alcohol established by a public enterprise in Costa Rica, the contractor guaranteed a certain capacity, but avoided any specification about the yield and other key parameters.

The plant did not work economically for a long time, because the capacity could only be performed with excessive use of materials and utilities.

Availability of materials

Some materials with very strict specifications may not be easily available or may represent an undue economic burden for the recipient like reliance on (expensive) inputs from abroad.

In order to avoid such inconvenience for the recipient, he should investigate the effects on the final product characteristics and commercial value, if he uses raw materials with different specifications. If, for example, feedstocks of the required purity are not available in the developing country where the plant is going to be built, the reason for the required purity should be discussed with the supplier before the recipient agrees to such guarantee conditions. Perhaps the specifications can be changed. If not, perhaps the licensee will be advised on how the feedstock can be cleaned up to achieve speficied quality prior to the point where it is fed to the recipient's plant.

Adpatation to local conditions.

Usually the supplier will avoid to grant a performance guarantee convering the local operating conditions, on the basis that he has only operated the process in his own environment.

However, the recipient must ensure that the technology will operate in his environment and an appropriate guarantee should be provided for in the agreement even if it requires additional research and work for the supplier to make the necessary adaptation.

Overdesign

One should also always remember that too demanding and strict guaranty provisions may lead the supplier of technology to overdesign, with the result that the cost of the overdesign is borne by the recipient.

For example, a plant of 100,000 t/y capacity will provide a guaranteed capacity of 100,000 t/y and be designed usually at 105.000 t/y. Unreasonable insistence about guaranteed capacity, may however, force the supplier to design the capacity of the plant at 120,000 t/y.

Time and Place of Guarantee

Usually, the performance guarantee test only takes place after the mechanical works have been completed and the production has been stabilized. Detection of defects at this late stage may imply considerable delays and costs. Therefore, in some industries, prior to the signature of the agreement, the fitness of the process particularly with regard to raw material, should be tested in the supplier's plant.

Test procedures. As with the performance guarantee itself, the recipient or his consultants must fully comprehend the test method and be able to evaluate the test results. Test procedures should be as close as possible to normal operating conditions. They should be executed by the recipient's personnel to the greatest extent possible. As far as some functions are executed by the supplier's personnel, personnel of the recipient should be present for purposes of learning, helping and witnessing. The duration of the test-run will depend on the technology. In the chemical industry, a one, two or three day performance test-run is normal. In the fertilizer industry, a 7-day test is suggested after the plant has been working continuously at around 80% capacity for 21 to 30 days.

Division of responsibilities. As it has been mentioned before, the type of transaction and the type of contract influence and play and important role as regards the division of responsibilities between the parties, which may have a great impact on and strongly affect the formulation of performance guarantees.

In this sense, the simplest case is that of a turn-key contract while the most complex one is when separate contracts are established for different supplies and works.

This lack of balance has not an easy solution. Certainly, it is not advisable, as suggested by the ECE, to promote the "packaging" of the transaction in order to increase the level of guarantees granted by the supplier[31].

Such a recommendation contradicts the policies of many developing countries which encourage the unpackagaing with an aim to reduce costs, foster the participation of national suppliers of goods, services and technology and facilitate the latter's absorption[32].

Furthermore, unpackaging of large and complex projects has been made in some cases, without prejudice to the overall guarantee and responsibility of the technology supplier. An example of this is the set up of the first atomic plant in Argentina, where the supplier agreed to guarantee the functioning of the whole plant, including the net electric power, heat consumption and maximum annual loss of heavy water, despite the fact that he was obliged to sub-contract locally to the largest extent possible.[33]

Corrective action

The main obligation of the supplier should always be to rectify the defects. As has been stated before, the supplier may terminate his efforts to overcome the failure by paying a certain amount of money instead.

The fact that the supplier is permitted to replace an obligation of doing which is the real interest of the recipient by an obligation of giving money represent a key weakness in the current modalities of performance guarantees. Even if it would be sufficiently compensatory it does not solve the recipient's real problem i.e. to put the technology or plant into operation within a reasonable time. When the supplier has failed, the recipient is generally in a very bad position to rectify the existing defects. In particular, when the setting up of a new plant is involved an irreversible situation has been created once the stage of performance test has been attained and the courses of action available for the recipient are consequently subject to serious constraints.

The recipient should avoid this situation since he is not interested in damage payments, but in a properly working technology. Therefore, no limitation should apply as regards the work required for rectifying defects for which the supplier is responsible. In order to retain certain flexibility, as recommended by the UNIDO "Model Forms" for fertilizer plants, performance guarantees may be classified in "absolute" and "penaltiable"[34/]. Absolute guarantees reprsent the obligation of the contractor to meet the guaranteed parameters without any limitation of liability as to his obligation to rectify the plant to meet those guarantees. Such guarantees cannot be satisfied by the payment of liquidated damages. The contractor is thus obliged to "make good" the plant to make it capable of achieving the guarantees. Penaltiable guarantees are those guarantees which can be satisfied by the contractor on payment of liquidated damages. If the contractor is unable to meet those guarantees he can either rectify the plant to make it capable of meeting those guarantees or, at his option, pay liquidated damages and thereby free himself of any further obligation in regard to the fulfilment of the penaltiable guarantees.

In some cases the two types of guarantees may also be combined by e.g. an absolute guarantee for reaching a plant capacity of at least 95%, whereas shortcomings between 95% and 100% may be covered by a penaltiable guarantee.

Alternatives

If performance guarantees are not possible to obtain, the recipient may, by performance or demonstration tests at the supplier's plant, at an early stage of the transaction reduce the risk of a failure of the project. This procedure, applicable in particular in process industries, may at least permit a timely verification of the technology's suitability to attain the expected parameters. Such "look and see agreements" and the choice of well known proven technology may serve the same purpose i.e. reducing the risks of the recipient in the project. Furthermore, the recipient's risks may also be reduced by requesting the technology supplier to approve the detailed engineering of the plant or the detailed design of any major items of equipment which may affect the performance guarantees agreed upon. In some instances, technology suppliers may be reluctant to accept such an obligation and would try to substitute it by the duty to check (but not to approve) the elements referred to. Moreover, a more extensive use of the "performance bond guarantees", as practised in the United States, might be explored. (For more details see chapter 4.10 - Financial guarantees). Overdesign may also be a means to ensure the fulfilment of some performance parameters and finally a supplementary measure may be the duplication of critical items of equipment; some spare items may act as stand-by for several others.

d) Check List

1. Need of performance guarantees
   - familiarity with technology
   - risk involved
   - cost of guarantee
   - reputation of supplier
   - type of technology

2. Scope, critical parameters
   - locally available materials, etc,
   - rating of critical parameters, possible trade-offs
   - adaptation of specifications to local conditions
   - overdesign

3. Time and place of guarantee
   - at supplier's plant
   - at recipient's plant
     - after mechanical guarantee
     - after stabilization

4. Test procedure
   - prerequisites
     - mechanical acceptance
     - dry run
     - official permits
   - prior notification
   - commencement of test
     - delays caused by supplier
     - delays caused by recipient
     - delays caused by third parties
   - duration

- personnel
  - present at test
  - operating crew
- inputs, utilities
  - quantity
  - quality
  - responsibility for procurement
- duration of test
- performance criteria
- test methods
  - measurements
  - methods for analysis
  - responsibility
  - tolerances
- evidence
  - certificates
  - record books
  - photos
- cost of test procedure
- effects of failure
  - supplier's responsibility
  - recipient's responsibility
  - responsibility of third parties
- repetitive tests
  - time, requirements
  - maximum number

5. Changes (of technology)

- reasons for changes
- effects on performance guarantee
- effects on test procedure

6. Division of responsibilities

- unpackagaing vs. packaging
- co-ordination of various responsibilities
- responsibility for individual items

- inputs
- personnel operating test runs
- assistance
- notifications
- delays

7. Corrective action

- rectification
  - time
  - changes
- absolute v penatiable guarantees
- liquidated damages

8. Alternatives

- look and see agreements
- demonstration or performance of well known proven technology
- packaging
- prior approval of all equipment by supplier
- performance bonds

4.6 LEGAL TITLE AND INFRINGEMENT

a) Purpose and Function

If part or all of the technology transferred consists of patents or other industrial property rights (IPR), the linensee can only fully utilize it, if the title to the technology is valid, meaning that the licensor is in an undisputed legal position concerning the technology. Usually, there are three areas of particular concern:

(1) The actual existence of the legal protection (ownership and validity), which may, in addition, include the maintainance in force of the I.P.R. for the time of the agreement;

(2) The possibility that the use of the licensed I.P.R. may infringe the I.P.R. rights of third parties (third party claims);

(3) The possibility of operating without legal interference by third parties (infringement suits).

For practical purposes a distinction could be made between a refusal of an application for a patent and an invalidation of a granted patent as a result of third party claims.

In the first case, a pending patent application is refused when the industrial property administration declines to grant the patent because the application fails to conform with the requirements of the patent law.

In the second case, an already granted patent is declared to be invalid after claims on invalidation of the patent right itself, which subsequently will lead to an annulment of the patent if changes or modifications in the technology to repeal such an infrigement, is not or cannot be made.

(b) Present Legal Situation and Contractual Practice

As far as the ownership of the technology is concerned, most laws stipulate that a licensor who concludes a transfer of technology agreement implicity warrants that he is the owner of the technology or has other forms of rights to the technology which empower him to conclude the agreement[35/].

As far as the validity of the technology is concerned, the legal approach differs: under some laws patent licenses etc. do not import a warranty of the patent validity[36/]. Other laws apply the general rules of civil law, under which the subject matter of a contract must be free from legal defects and under which the licensee therefore may claim damages, if this is not the case[37/]. In this respect Brazil has taken a unique approach by limiting, until a patent application has been published and a request for examination has been filed, the possibility of licensing such a patent application[38/].

Some laws ensure that the licensor has to ensure that the industrial property rights of third parties are not infringed:

Illustrative Clause 34

"(The patentee shall) guarantee, for the duration of the contract, that third parties shall have no right in the patent which would prevent or limit its exploitation."
(Hungary, Patents Act, Section 18(i)).

Illustrative Clause 35

"(The Ministry of Patrimony and Industrial Development) shall not register the acts, (agreements or contracts referred to in the second Article hereof in the following cases:

> If it is not expressly established that the supplier shall be liable for the infringement of industrial property rights of third parties." (Mexico Transfer Law, Art. 15, Sect. XII)30/

Other laws only require that the licensing contract must contain express contractual provisions on this issue:

Illustrative Clause 36

> "(A contract for the acquisition of material rights to technology) shall provide for:
>
> The rights and obligations of the contracting parties in case the assignment of the material rights to technology and the sale of products manufactured thereby have violated the rights of third parties."
> (Yugoslavia Technology Law, Art. 24(9))17/.

The legal consequences of acts by third parties which infringe the licensed rights, are usually not regulated expressly. Under general principles of law the licensor may be required to take appropriate steps to ensure that the licensee can enjoy the full right of the patent licensed. But a solution is mainly left to contractual practice.

In contractual practice, the licensor will usually give a warranty of title, which means that he has the right to possess the patent, or copy rights, etc. stated in such a warranty of title. E.g. in an agreement within a petrochemical industry for the production of ammonium nitrate between a developed and a developing country, the licensor states in the guarantee clause that:

Illustrative Clause 37

> " ..... it has complet property and/or the right of disposal for all patent rights ..... and other industrial property which are used for the engineering or in the process within the scope and terms of this Agreement."

A full warranty of legal validity, stating that the licensor or technology supplier is the true and first inventor of the invention or that there are no lawful grounds of objection to the grant of the patents to the licensee so far as it is aware, is very unusual, because it is difficult to be sure that there is no reason whatsoever for attacking the legal validity[39/]. But a warranty of the licensor as regards his own knowledge of and steps taken by him to ensure the legal validity is quite common.

Illustrative Clause 38

"The licensor hereby warrants that to the best of its knowledge the technical informations to be disclosed pursuant to the Agreements do not constitute infringement of patents of third parties."

- Third party claims

The consequences of a patent infringing third party rights are subject to a number of variations in present contractual practice.

- Licensor takes full responsibility

In this case the licensor bears the full risk of third party claims as to the responsibilities for the defense and for any damages or sums that may become payable, as well as the adjustments necessary to cope with the obligations and restrictions emerging from such claims.

When the licensor takes full responsibility with regard to third party claims he will undertake at his own expense the defense of any such suit or action.

In such a case, the licensee is completely dependent on the action of the licensor, with respect to legal action, as the licensor will have sole charge and direction of the defense and the right to be represented therein by advisory council of its own selection at his own expense.

The licensee may be expected to co-operate in such suit or action to the extent possible and to furnish evidence in his control.

When a clause defines the licensor's full responsibility to bear the full risk of third party claims, "the licensor shall fully indemnify and hold harmless the licensee of any sums payable by infringement and shall reimburse in full to the licensee any royalties, license fee or damage paid to a third party as a result of a ruling of a competent court."40/

In the event of any notice or claim of infringement of third parties' patents, the licensor may stipulate the right to eliminate the alleged or adjudicated infringement by (1) procuring for the licensee an appropriate licence or (2) making such changes in the technology as necessary to avoid such infringement. The costs incurred by making use of such a right should be borne by the licensor and the changes required shall not release the licensor from meeting the performance guarantees as stipulated in the contract.41/

- Licensors' limited responsibility

Other approaches used, when a patent infringes third parties' rights, stipulate limitations on the liabilities of the licensor and do not hold the licensee harmless in all respects.

Usually the licensor undertakes the defense of such a suit or action at his own expense, but in the event, that the alleged infringement is denied by court, some clauses state that the licensee must repay the licensor the cost of conducting the case. Other clauses go even further in obliging the licensse to undertake such suits and actions at his own expense.

Another limitation of licensors' responsibilities is that he will hold the licensee harmless against any judgement or damages which may result from any suit alleging infringement of any patent of a third party up to a limit of e.g. a certain percentage of the total payments previously received by the licensor from the licensee.

- Consequences with respect to royalty payments

Some clauses provide for suspension of royalty payments or their continuance at a reduced percentage during the period of legal proceedings attacking the validity of the patent.

In the event of invalidation of the patent, usually all royalty payment obligations related to the patent will cease.

If the contract does not specify the conditions for reimbursement of royalty payments already paid by the licensee, the legal situation may be different depending on the country. Either it will consider reimbursement of all or part of the royalties paid on the concept that the invalidation of the patent affects the patent license from the beginning or it will not require the licensor to repay to the licensee funds which are already paid to the licensor as the value of the information initially given to the licensee as well as his opportunity to enter the market for the patented products are considered a fair exchange for the sums paid.

In this connection, it should be pointed out, that to avoid uncertainty, a provision on reimbursement should indicate whether royalties paid on sales for the product should be reimbursed as to all amounts or up to or beyond a specified amount, paid during a certain period prior to a specified date, e.g. the date of the final decision annuling the patent.

Infringement by a third party

If the (valid) patent is infringed by third parties, contracts usually oblige the licensee to inform the licensor, but may also state that the parties shall promptly inform each other of any infringement of the patent, which become known to them.

In present contractual practice, the obligation to take the necessary steps in case of such an infringement may rest upon the licensor, the licensee or both jointly.

Contractual practice also uses a number of variations relating to the responsibility of the licensor and licensee for the costs and expenses incurred by the proceedings undertaken to stop an infringement by the third party and the right to retain any benefits, such as damages, which may be recovered from such proceedings as such costs, expenses and benefits not always correspond to the one responsible to initiate and undertake the proceedings against infringers.

One approach is, that the parties jointly undertake the proceedings against infringers and determine their respective responsibilities and the distribution of costs and expenses.

Another approach is that the licensor is obliged to undertake the proceedings at his own expense. The licensor will then also enjoy the benefits of any sum payable by the infringer in the form of royalties, license fees and damages.

In the event that the licensor fails to undertake the proceedings as stipulated, the licensee may take the appropriate legal action against infringers directly if permitted by the applicable law or on the basis of powers and authorizations provided by the licensor.

Any sum payable by infringers will belong to the licensee, but he will also be responsible for all costs and expenses incurred thereof.

A third approach, is that the licensee is obliged to undertake at his own expense the proceedings against infringers. As just mentioned above, he can do this directly if permitted by the applicable law or on the basis of the necessary powers and authorizations provided by the licensor. The licensee will also in this case enjoy the benefits of any sum payable by the infringer. If the licensee does not take prompt legal action, the licensor may at his own option take such actions. The costs and expenses will be paid for by the licensor and he will also enjoy the benefits from a successful outcome of such actions.

If as a result of an infringement by a third party, the licensee's income for the product or process is actually or likely to be substantially reduced, some contracts may provide for a reduction of the contract price to an extent commensurate with such a reduction in the licensee's income, if the licensor does not take appropriate action against the infringer.

c) Problems and Possible Solutions

Warranties as to legal title and infringement of industrial property rights are long-known and a lot of court cases exist. In spite of this, legal views on a number of items are still divergent and the legal principles on these matters have not been settled in a number of developing countries. Even if patents only play a sub-ordinate role in the whole context of technology transactions, these issues need to be drafted carefully, because insufficient regulations in this area may easily affect other portions of the transaction.

Legal title, ownership. The ownership of the licensor to the patent licensed is considered as an implicit warranty. Nevertheless, it may be stated in the contract itself to avoid any misunderstanding and to make sure about the present state of registration/application of each of the patents and its scope (see illustrative clause 37).

Validity. Licensors are hesitant to give blanket warranties with respect to the legal validity, because the patent could be invalidated at any time.

When a patent application has been filed, the risk that the patent will not be granted, which occurs when the application fails to confirm with the requirements of the patent law e.g. when an invention is in public domain or someone holds the right of the patent, will make the licensor hesitant to warrant that the application will result in a full patent title at a later stage.

The disclaimers presently used in contractual practice, do not share the burden of risk between licensor and licensee in a balanced way. The validity of the patent lies mainly in the sphere of risk of the licensor; he has also the better means to discover potential rights of third parties, having developed the technology and knowing the present state of technological activities in this field better than the licensee. The main problem then consists of determining the extent of care that must be unfolded by the licensor to make sure that his patent will obtain or keep its legal validity. A minimum requirement would be that the licensor gives at least detailed information which activities he has unfolded to find prior patent applications, etc. This information would facilitate the licensee's assessment whether or not the legal validity of the patent has a reasonable chance to survive. Thus, the contract should, at least state, that the licensor, to the actual extent known to him, guarantees thath there is no limitation, including any pending official procedure or litigation, which adversely concerns the existence or validity of the patent.

Postponement of contract. It is sometimes suggested that the agreement should enter into force only after the patent has been granted when patents ate still pending. Since patent registration procedures can be very lengthy, this may lead to

undesirable delays and costs with respect to the investments made by the licensee during the preparatory phase.

Adaptation of the contract. The primary goal of the recipient should be to obtain the technology in spite of the invalidation of one or more of the patents involved, if the technology as a whole is still valuable. This may require adaptations and modifications by the licensor on the technical and on the commercial side. On the technical side, infringement of third party rights may be avoided by making changes or modifications in the technology or by procuring the licensee, if necessary, a third parties licence in order to ensure him the right to continue the use of the technology. The costs required should be borne by the licensor and such changes on the technical side should not release the licensor from meeting his guarantee obligations. On the commercial side, payment conditions may have to be adjusted. It seems to be fair that the licensor also takes over all those fees, royalties and damages which the licensee has to pay to a third party as a result of a court ruling, since it was the patent licensed by the licensor which was the cause of these expenses. The situation may only be different, where the licensee has been alerted during the contract negotiations and is fully aware of disputes or claims in relation to the legal validity of a patent. The licensee should also negotiate for liability of the licensor for the licensee's own damages and losses.

Consequences of full invalidation without possibility of adaptation because of third party claims

If an adaptation of the technology and the contract terms is not possible or not desirable, a termination of the contract should be provided for. National jurisdications take different views as to the question whether royalty payments should be reimbursed once the patents are invalidated. To avoid uncertainty, a provision on reimbursement should be

included in the agreement wherever possible, in addition to the other rights. (See above "Licensor takes full responsibility").

Consequences of patent application refusal

The possibilities of terminating the contract and of having royalty payments reimbursed should also be provided for when a patent application is refused.

If such a right is recognized, re-imbursement is usually determined from the date of the refusal of the patent application , but the extent of such re-imbursements could be very much disputed particularly when the recipient has profited from the use of the know-how or has received technical information or has otherwise benefited by his protected situation, for a period prior to the refusal. A provision on (partial) reimbursement, could avoid these kinds of disputes and uncertanties.

Infringement by a third party. The most important action is a co-operative speedy procedure to stop such infringements in order to minimize damages. Therefore, both parties should be subject to strict and expeditious notification procedures. In principle, the obligation to take proceedings against the infringer should stay with the licensor. The licensor will often have an interest of his own to take the proceedings himself in order to be able to defend himself against the inevitable counterclaim of the infringer that the patent of the licensor is invalid[42/]. Moreover, licensors are often hesitant to delegate the court proceedings to the licensee, if they think that the licensee has less experience in the technology concerned and less experience in patent litigations.

Nevertheless, there may be situations where the licensor shys away from court action because he is afraid of the high costs of the litigation procedure or because he fears invalidation

of his own patent. In addition he may be unfamiliar with the local legal or administrative conditions.

Illustrative Case

An inventor had licensed a patented textile machinery innovation exclusively to a small enterprise. The innovation proved to be highly valuable. International manufacturers soon discovered the value of the product and cut-produced the small licensee. The sales, though growing, were not as high as they could have been, if the licensor would have taken legal action against the other producers which produced competing equipment coming within the claims of the patent. The licensor, however, was not willing to litigate and risk its patents, even though his royalty income could have been higher. The licensee had no possibility to force him, because he had failed to insist upon a clause requiring the licensor to take legal action against firms that produced competing equipment coming within the claims of the patents.
(See H.I. Johnson, Experiences with Three Licensees XIX les Nouvelles 33(34) (1984))

To avoid such situations the contract should provide for the obligation of the licensor to undertake proceedings against infringers and in the event that the licensor fails to do so, provide for the right of the licensee to take the appropriate legal action.

If the licensee is entitled to pursue the infringer by himself, caution should be taken that this does not affect licensor's guarantees vis-a-vis the licensee.

The recipient should make sure, that the licensor will hold him harmless of damages due to infringements by third parties, at least to the extent that he can recover them from the third party. (See above "Infringement by a third party").

Alternatives. A measure which could complement rather than substitute patent warranties, is extensive information on the patent situation. The better the licensee knows the state-of-the-art and the R+D going on in a specific field, the easier is his evaluation of the potential validity of the patents.

Patent warranties can be partially replaced by implied warranties in some national legislations. Caution, however, is necessary, because legislation differs, and even within one country the scope of an implied warranty may differ according to the circumstances of the case.

d) Check List

1. Legal title, Ownership
   - ownership or other legal position of licensor with regard to technology;
   - state of patent application/registration;
   - type of patent awarding procedure.

2. Validity
   - knowledge of prior applications (countries, time, persons);
   - knowledge of right of other persons;
   - knowledge of public use;
   - degree and kind of activities unfolded to discover eventual third party rights (patent search, etc.)

3. Invalidation
   - reasons;
     -- non-payment of fees;
     -- non-fulfillment of requirements;
     -- third party rights;
     -- contestation by licensees.

4. Corrective action in a case of invalidation
   - postponement of contract validity
     -- subscription of contract after filing of patent application;
     -- pending validity of contract (subject to patent grant);
   - adaptation of contract;
     -- adaptation of technology;
     -- procurement of licenses from third parties;
     -- adaptation of payments;
   - termination of contract;
   - royalties;
     -- retention;
     -- reduction;
     -- termination;
     -- re-imbursement;
   - damages.

5. Litigation with third parties
   - notification;
     -- by recipient;
     -- by supplier;
   - responsibilities;
     -- of licensor;
     -- of licensee;
     -- co-operation requirements;
   - costs;
   - damage claims.

6. Infringement by a third party (see points under 5.)

7. Alternatives
   - information;
   - implied warranties under applicable law.

8. Requirements under applicable law.

4.7 IMPROVEMENTS

a) Purpose and Function

In many fields of technology the pace of innovation is very fast. A newly acquired technology may become obsolete or at least highly uneconomical within a few years. Other innovations may permit to replace raw materials or other inputs which must be imported by raw materials which are locally available, etc.

Since the recipient may lack experience and since extensive research and development efforts may exceed his financial and technological possibilities, the access of the recipient to improvements of the supplier may be essential to keep the use of the technology viable and should thus be considered within the context of guarantees. The importance of a provision on improvements will be more significant with regard to relatively new processes than with regard to relatively old and largely applied processes. Likewise, the recipient will be more interested in such a provision when the supplier himself is applying the technology and actively promoting research and development activities. Finally, the recipient's familiarity with the technology and his own research and development capacities will determine the need of an improvement clause.

b) Present Legal Situation and Contractual Practice

Many legislations deal with the access to improvements as a problem of restrictive practices. Experience shows that many contracts, especially those with recipients in developing countries, contain grant-back provisions obliging the recipient to grant back in form of a license - sometimes free of charge - or even in form of assignment any improvements made by the recipient. Therefore, some countries with technology laws object to grant-back clauses in very broad terms, differentiate between exclusive and non-exclusive,

reciprocal and non-reciprocal grant-back obligations with or without remuneration.

Illustrative Clause 39

> "... provisions of the following type shall be among those regarded as unfavourable terms or aspects of the contract:
> 2. Provisions for the obligatory transfer of patents, improvements or innovations introduced or developed by the recipient after acquiring the technology covered by the contract."
> (Spain, Ministry of Industry Order, Sect. 3(2)[43/].

Other countries only prohibit grant-backs which are non-reciprocal or without remuneration or exclusive[44/].

Illustrative Clause 40

> "The Ministry of Patrimony and Industrial Development shall not register the acts, agreements or contracts referred to in the Second Article hereof in the following cases:
> II. If the obligation is set forth to assign or grant a license, onerously or free of charge to the supplier of the technology, in connection with the patents, trademarks, innovations or improvements that are obtained by the acquirer, except when there is reciprocity or a benefit for the acquirer in the exchange of the information"
>
> (Mexico, Technology Law Art. 15.II)[30/]

Some laws stipulate the obligation of the supplier to keep the recipient informed on the improvements; the recipient then can choose whether he wants to request the supplier to place the improvement at his disposal.

Illustrative clause 41

> "The obligation of the supplier of technology to keep the recipient informed of, and at the recipient's request, place at his disposal, all improvements, including registered and/or protected discoveries in connection with the

technology transferred, which are available to the supplier of technology, as well as the know-how needed for the use thereof;"

(Yugoslavia, Technology Law Sect. 24(4)[17/45].

As far as improvements are dealt with in present contractual practice at all, provisions usually concentrate on the obligation to inform the recipient on improvements and to place them at his disposal. In addition, the time period for this obligation and the issue of remunerations is spelt out.

Illustrative Clause 42

"The licensor agrees to communicate to the Licensee and to put at his disposal every modification and improvement introduced during the present contract time without they resulting in additional payments".

Usually such provisions are formulated as reciprocal provisions imposing identical obligations upon the recipient.

Only recently, improvement provisions are formulated in greater detail, in particular when drafting model contracts such as the below quoted model clause suggested by UNIDO:

Illustrative Clause 43

Transfer of improvements

1. "The licensor will promptly furnish to the Licensee, without additional payment, all improvements on the technology transferred developed by the Licensor during the lifetime of the Contract".

2. The Licensor will also inform and, subject to a reasonable fee to be agreed upon, furnish to the Licensee any improvements acquired by the Licensor upon terms requiring payment by the Licensor to any third party.

3. For the purpose of 1 and 2 above "improvements" will constitute any modification of the technology transferred, including operating

technologies and process developments, 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 in the production of the Drug. Major changes which essentially alter the technology transferred do not constitute "improvement within the meaning of this clause.

4. If the improvements transferred to the Licensee are patentable and the Licensor acquires patent rights thereon in (country of the Licensee), the Licensee will be entitled to use such patent rights without additional payments.

5. In the event that the Licensor decides, with respect to such patentable improvements, not to apply for patents in (country of the Licensee), the Licensee will have the right to apply for a patent in the Licensee's name and at its own expense."

This provision defines in detail the scope of improvements (Subsection 3) and clarifies the inclusion of patented improvements (Subsection 4). It distinguishes different sources of the improvements (licensor - Subsection 1 - and third parties - Subsection 2) and their remuneration, specifies the time ("promptly") and duration ("during the lifetime of the contract") of the obligation (Subsection 1) and finally empowers the licensee to apply for a patent for patentable improvements, if the supplier does not do himself (Subsection 5).

c) Problems and Possible Solutions

Definition and scope of "improvements". In order to avoid misunderstandings, the term "improvement" should be defined, because it is sometimes understood as not to cover patentable or patented improvements. One major difficulty is to decide which improvements are still related to the technology. Any of the following elements or a combination of them such as in subsection 3 of Illustrative Clause No. 43 may be used:

- relationship with the technology: "modification", "change", "advance" of the technology, including its "operation", "maintenance" and "process";

- type of improvement: "invention" or "design", whether patentable or not;

- results to be achieved with the improvement: technical or economic advantages, reducing costs, increasing sales, improving yield;

- exclusions: substantial alterations of the basic technology, new technologies;

- improvements of third parties acquired by the supplier.

In case of disagreements between the parties the contract could stipulate that an independent expert are to be consulted to decide upon whether or not improvements are still related to the technology covered by the contract.

Form of transmission. Since improvements are usually made internally, proper communication channels must be set up. Regular information on recent developments or even regular meetings or visits to exchange experience could be envisaged in order to ensure that improvements are actually passed on. The actual transfer of the improvements may require transmission of documents, in some cases practical training at the supplier's or recipient's plant or other forms of technical assistance.

Parties should also clarify whether the improvements are granted on an exclusive or non-exclusive basis. The supplier may be more willing to grant improvements on an exclusive basis in order to limit the number of users. This may also work to the advantage of the recipient, who is the only one to benefit from the improvements, but other potential users of the technology are excluded, thus limiting the broad

absorption and dissemination of the technology in the recipient's country.

Time of transmission. The recipient must weigh two conflicting interests: on one side, he will be interested to get the improvements as soon as possible; on the other side, he wants to obtain improvements which can be utilized without further research and which produce commercially proven results. The option will depend on the capabilities of the recipient to do his own research or adaptative work. In any case, the stage of development of the improvement should be clearly indicated.

Duration of transmission. Most frequently, the duration of the obligation ends with the termination of the contract. But in some cases, especially in case of turnkey contracts, the supplier may be obliged to transmit improvements to the plant design for a certain period after the final acceptance in order to keep the plant up-to-date. In other cases, e.g., patent or know-how licenses, the obligation to supply improvements may end before the end of the license, when the recipient does not need additional information or when he wants to avoid restrictive grant-back obligations.

Confidentiality. The readiness of the supplier to transmit additional improvements will often depend on the recipient's assurance to maintain their confidentiality. Thus, a supplier may be particularly reluctant to transmit improvements towards the expiration date of the contract, if he fears the risk of an early disclosure. The recipient therefore may accept a

certain confidentiality period after the end of the agreement, if he expects sufficiently important improvements. On the other hand, the transfer of minor improvements should not be used to extend confidentiality or other burdensome obligations beyond the contract time.

Remuneration. In case of reciprocity, improvements for both

sides are usually free of charge. But even if the supplier unilaterally provides improvements,they are usually remunerated through the royalties or other regular payments since improved products usually result in higher output or higher prices and thus raise the supplier's income through royalties. The situation may be different in some lumpsum agreements or when the price for the basic technology has been expressly reduced, because the probability of improvements had been very vague at the time of conclusion of the transfer of technology agreements.

Corrective action. The recipient should ensure that the relevant rules governing the transfer of the main technology also govern the supply of improvements, e.g. remedies in case of delayed transmission, faulty documentation. In order to avoid misunderstandings, the contract should state that (or which) general rules of the contract apply. It should also clarify how the use of the improvements will affect the guarantees.

The general rules of the contract, however, should be carefully scrutinized whether their application will be adequate in all instances. Thus, the agreement may set fixed dates for notification of faults which may be too short or too early for improvements which are transmitted at a later stage. Or the supplier may be obliged to transmit improvements at a time when they are not yet commercially proven.

It should also be mentioned in this connection, that if the improvements or developments alter the terms and conditions of the technology substantially, renegotiation should be provided for.

Alternatives. In some cases, especially when the recipient is entirely unfamiliar with the technology, the transfer of technology agreement may be complemented by a technical assistance agreement which obliges the supplier to operate

certain elements of the plant or to supervise the operation of the plant or to give at least continuous advice for a given time period. Under such contracts, the access to improvements may take place as part of the technical assistance. The recipient should be aware of the financial implications of such a contract and even more of the continuous dependence on the supplier. This may slow down the process of absorbing and mastering the technology by the recipient.

Another alternative could refrain from any improvement provision whatsoever. This may be the proper approach when the technology has reached a high degree of maturity and further improvements are not very likely. The situation may be similar it is unlikely that the supplier will be able to supply any improvements, e.g, because he is not operating the technology himself or has given up to operate it. The recipient may also take this course of action if he can reasonably rely on his own research and development resources or on other research and development resources readily available to him.

A useful complementary measure may be regular meetings of technicians of both parties and regular visits to each other's plant. Those meetings and visits will facilitate the task to demonstrate and comprehend all improvements made by either side. Otherwise, it could happen that the transmission of certain improvements is forgotten or that the other side does not fully comprehend the implications of a new development.

d) Check List

1. Definition and scope of "improvements"

- connection with the "main" technology
  - -- modification, change, advance
  - -- referring to operation, maintenance, etc.
- type of improvement
- results to be achieved by the [illegible]ment

- patented, patentable, non-patentable improvements
- exclusions

2. Form of transmission

- information channels
- documents
- training
- technical assistance

3. Time of transmission

- development stage
- production stage

4. Duration

- shorter than duration of contract
- equal to duration of contract
- longer than duration of contract

5. Confidentiality

- subject matter of confidentiality obligations
- duration
- impact on sub-licensing
- effect on other obligations of the transfer of technology agreement
- effect on the use of other parts of the technology which must not be kept confidential

6. Reciprocity

- extent of supplier's research and development activities
- extent of recipient's research and development activities

7. Exclusivity

- in the supplier's country
- in the recipient's country
- in third countries
- obligation to assign (back) improvements
- right/obligation of either party to obtain legal protection where the other party is not willing to do so

8. Remuneration

- type of contract (reciprocal or non-reciprocal)
- type of remuneration for main obligation (lump-sum, royalties)
- extent of innovative activities of either party
- source of improvement (party to the agreement or third party)

9. Corrective action

- reference to general rules of the contract
- specific rules
  -- non-fulfilment
  -- type of improvements
  -- stage of development of improvements
- renegotiation

10. Alternatives

- technical assistance scheme
- regular meetings of technicians of either side
- access to improvements from third sources
- use of own research and development faciltities

11. Legal situation

- prohibition of certain types of grant-back provisions as restrictive practices
- obligation to give access to improvements

4.8 SPARE PARTS

a) Purpose and Function

Interruptions because of the breakdown of certain parts of a plant must be cut down to the shortest time possible in order to limit the negative effects on productivity, capacity and cost efficiency. Therefore, from the recipient's point of view, the access to and availability of spare parts are a prerequisites for the continuous running of the plant and the satisfactory working of the technology. Especially when the supplier is the major or sole source for certain types of spare parts, the supply of such elements must be ensured at the time of the agreement.

The provisions of spare parts may be an important source of income for the supplier. Thus, the supplier may see the technology transfer in such a way as to ensure a recipient's dependence on him for spares for as long as possible. In such cases, the payments for the provision of inputs over a series of years may easily outweigh the royalties paid for the technology itself. A guarantee to provide certain spare parts is often turned into a tying clause by the supplier where the acquisition of additional goods is a condition for obtaining the technology itself[46]. Thus, the recipient must be aware that though such a provision looks like a guarantee it may enable in reality the supplier to enjoy a monopolistic position in the supply of spare parts. To avoid this the recipient should ensure that provision is made for the possibility of obtaining spare parts from a third source.

b) Present Legal Situation and Contractual Practice

Most national laws are mainly concerned with negative aspects of obligatory supply of components and spare parts, i.e. with tying. They usually prohibit contractual clauses which oblige the recipient to acquire from the supplier additional goods not needed or wanted.

Only few laws expressly stipulate that the recipient shall be entitled to obtain spare parts etc. if he requires them.

Illustrative Clause 44

"The transferor shall, if the transferee so requires, continue to supply spare parts and raw materials for a period of up to five years following the termination of the agreement."
(Zambia, Industrial Development Act 1977, Sect. 15 g)

Illustrative Clause 45

"An indication that components, spare parts and services related to the technology concerned will be supplied at the request of the recipient of the technology as well as an indication of the terms governing the supply thereof."
(Portugal, Technology Regulations, Art. 6.1. (d)).45/

In contractual practice, different approaches are found. One approach is to specify all relevant intermediate products, spare parts etc. in great detail, to attach designs, documents etc., to identify the prospected quantity needed, to indicate sources of supply and in some cases even to prepare procurement documents. This is to enable the recipient to decide himself where and when to purchase the items.

The following clause illustrates the case when the procurement of spare parts both of a proprietary respectively a non-proprietary nature is to be done by the supplier (contractor). Similar rules would also apply when the recipient would purchase the spare parts himself.

Illustrative Clause 46

"10.1 The contractor shall supply to the purchaser the following services in connection with the procurement of a two-year requirement of spare parts, for use from the period after successful completion of the Performance Guarantee Tests...

10.1.1 The contractor shall submit a list of spare parts for the approval of the purchaser ...

10.1.2 Where spare parts of a proprietary nature are to be procured, the contractor shall obtain from the suppliers directly in the name of, and for, the purchaser a list of a two-year supply of spare parts as recommended by the supplier, for approval of the purchaser.

10.1.3 For all other spare parts, and for any other equipment to be purchased through the contractor, the contractor shall prepare bid documents on the basis of the technical specifications prepared by him and submit the same to the purchaser, for relevant approval, and shall issue the same to the Vendors.

10.1.4 The contractor shall send the bid documents on behalf of the purchaser to the respective Vendors listed in the Vendors list (which list shall be previously agreed upon between the parties).

10.1.5 The contractor shall use its best endeavours to obtain from the Vendors a minimum of 3 competitive offers."
(UNIDO, PC 74, Art 10, p. 125).

Another approach provides for the supply of the necessary spare parts or other goods directly from the supplier for a specified time. This is particularly important for inputs which are legally protected or which cannot be produced by the recipient himself. A two-year period as in illustrative clause is frequent, but it may also be far longer.

Illustrative Clause 47

"The Supplier guarantees the availability of spare parts for 10 years from the date of commissioning of the equipment at reasonable prices to the Owner."
(Provision in a contract for the erection of a bottling plant in Africa)

The term "reasonable prices" may give rise to different interpretations. Some laws and contracts therefore state the requirement that the prices must be "consonant with current world market prices" or "non-less favourable then the price usually charged by the licensor or by other reliable sources for the same intermediates, and under comparable circumstances".47/

A third approach entitles - and obliges- the recipient to buy the equipment from the supplier, but the recipient is free to buy from other sources, if these are more competitive.

Illustrative Clause 48

> "The recipient will buy from the supplier, the components and spare parts which have to be imported. Nevertheless, the recipient will have the right to directly consult the usual sub-contractors of the supplier indicated on a list supplied by the latter. However it is agreed that when equal conditions prevail as to price and quality, preference will be given to the supplier." (Clause in a contract between two parties for a motor-vehicle assembly).

c) Problems and Possible Solutions

Classification, identification of third sources. A pre-condition for any regulation of the supply of components and spare parts is to have a very clear picture of all the items needed and of their function such as normal maintenance, strategic and emergency spares. For this purpose it may be desirable to classify the various types of spare parts since special provisions may be made with respect to certain types of spare parts. Furthermore, the design, documentation, quality requirements must be spelt out in detail, the projected demand must be calculated, the sources of supply must be identified etc.

The identification of the supply sources is of outmost importance for the recipient in order to purchase spare parts directly from a third source. Therefore, he must know who

those source suppliers are and why they were chosen by the supplier. This information is valuable especially when it concerns items which tend to change technologically due to process and market developments. The information should be given by the supplier and such an obligation should be stated in the contract.

Availability of components and spare parts. On the basis of an analysis of availability, a decision can be taken how to ensure the supply of these goods.

Just a simple obligation by the supplier to furnish any components or spare parts the recipient may request, can create certain obstacles especially in cases when the supplier does not himself produce the relevant parts. So may for example the supplier charge the recipient a handling fee which is higher than the cost price for spare parts obtained from a third source which would be avoided if the recipient dealt directly with this third source himself.

On the other hand, for some types of spare parts it will be very important for the recipient that the supplier guarantees the availability of certain important spares or for those which require special procurement procedures. If important spare parts are only available from the supplier, because they are legally protected or the supplier is the most economical source, the contrac should provide for the obligation of the supplier, at the request of the recipient, to furnish spare parts produced by the supplier and which are necessary for using the technology.

To obtain safe procurement at reasonable conditions it is important to scrutinize which parts and components must be obtained from the supplier, at the same time avoiding inclusion of items which can be obtained from other sources.

For instance some spare parts may be available from a multiplicity of sources under competitive conditions. It may

also be so that the recipient himself, at least after a certain time, will be able to produce the spare parts himself or they may be produced by companies in the recipient's country. Moreover, in certain cases standardized equipment can be procured for the replacement of old and worn-out items.

Conditions of supply - quantity and time. In principle, the quantity and time of goods to be delivered will be determined by the recipient. If he is obliged to acquire a certain amount of spares which are supposed to cover the need for a certain period of time according to the recommendations of the supplier, the recipient should be entitled to refuse items which are found to be in excess of requirements within that period.

Freedom of choice. The recipient should provide for enough flexibility to adjust to economic or technical changes, especially in long-lasting contracts of supply. Thus, he may be able to produce certain material himself after some time. Such materials may also be available from other sources or it may be possible to replace them by other materials. Therefore, the recipient should strive for a provision which entitles him to produce spare parts etc. himself or to buy them from other sources. The interests of the supplier may be taken into account by giving the preference to him when his prices and quality are comparable to those of other potential suppliers.

Duration. The recipient needs maintenance and spare parts as long as the technology is being operated. Therefore, he has to ensure that especially critical items can be obtained during this whole period. This is particularly relevant, when the supplier or a third person is the only or the most advantageous source for certain parts of equipment. Thus, the production of the recipient may be badly affected, when the supplier ceases to produce the item, changes the design or transfers the production rights to a third party who is less willing to supply the recipient. For these items, long-term

supply contracts or the right to production drawings and relevant machines are essential.

But even when equipment is available from a variety of suppliers, the provision of spare parts by the supplier of the main technology may greatly facilitate the task to overcome start-up and maintenance difficulties in the initial stage of the operation of the technology. A two-year period from the time of commissioning is frequent, but it may also be for a longer period.

Illustrative Clause 49

"In respect of any equipment acquired by the Licensee from the Licensor ...., the Licensor shall continue to be obliged to maintain, replace or repair such equipment or parts thereof for a period of 5 years after the acceptance of the equipment".

Pricing. As mentioned before, the supply of components and spares is an important source of income for the supplier; the prices charged are a decisive element of the overall costs of operating the technology. This, of course, holds particularly true when the recipient is obliged to purchase a number of items from the supplier. In India, public enterprises are instructed to proceed as follows:

Illustrative Case

Where, it is unavoidable to agree to channelise procurement of equipment through the collaborators, Ministries/Undertakings as far as possible should not agree to pay prices which are higher than the world market prices as tested through global tenders or through consultants or otherwise by comparison with the prices of similar or near similar items supplied by the same collaborator to other parties in India and abroad. The prices to be charged for the equipment, components and stores should not be left to the collaborators. Right to procure components/equipment directly from the concerned supplier ought to be provided

> in the agreement in case the prices quoted by such suppliers are lower than those quoted by the collaborators. The enterprises should examine carefully this aspect and resist any attempt by the foreign collaborator to supply equipment/materials at higher prices than the global tender prices.[48]

Since the procurement obligation may cover a long period, the price formula must allow for some flexibility to be able to reflect economic and technological changes. At the same time, it must contain safeguards against excessive pricing. The two methods used most commonly are a reference to world market prices or a reference to the prices charged by the supplier to other purchasers. But even these references may create problems: it may be difficult to determine world market prices, especially when the respective goods are not sold in large quantities or when world market prices show differences according to the various circumstances of the individual case. It may also be difficult to find out the actual prices charged by the supplier to third parties, especially if hidden rebates and other price reductions are practiced in the relevant sector of industry.

Corrective action. Spare parts may not be considered as part of the main technology covered by the contract. Therefore, the contract should clearly specify the rules to be followed when these items show faults, when they are not delivered in time etc. The contract should also clarify the effect of delayed delivery or faults of spares etc. on guarantee periods and the like. In most cases, a reference to other parts of the contract is sufficient. Often, the analogous application of the provisions concerning mechanical guarantees may prove to be adequate.

Alternatives. The need for a provision on components and spare parts depends on the type of technology, the general market situation, i.e. availability of the goods from other sources, and the technical capabilities of the recipient. If the recipient is not dependent on the supplier for such goods,

the omittance of a provision to purchase spare parts from the supplier may be one solution. The omittance of a provision on spare parts may only be viable in some cases. At least, a detailed specification of all the intermediate products and spares needed should be part of the general documentation. When the recipient needs inputs, the supplier may also be involved through some kind of technical assistance: he could assist in the procurement of the inputs, by providing information about the sources of supply and the prices thereof, by preparing tender documents and by assisting in the evaluation of offers. He could also be charged with the operation and/or maintenance of the plant for a certain period, including the procurement of spare parts etc.

In some cases, the supplier may guarantee the access to certain spare parts or other goods for a defined time. If he stops to produce those spare parts himself before the end of that period he may be obliged to transmit all relevant know-how and possibly all machines etc. to enable the recipient to produce those spare parts etc. himself.

d) Check List

1. Clarification of objectives

2. Specification of relevant items
   - list of items
   - designs and documentation
   - quality requirements
   - projected quantity requirements
   - sources of supply

3. Availability
   - sources of supply
   - legal or factual monopoly by the supplier
   - general market situation
   - quality, quantity and price of goods from other sources

- Separate lists/differentation as to availability

4. Quantity
   - Quantity needed for specified time periods
   - remittance of excess quantities purchased

5. Time of delivery

6. Freedom of choice
   - Obligation to purchase vs. option to purchase
   - Obligation to supply vs. option to supply
   - adaptation to changing conditions
   - criteria for preferential treatment of supplier
     -- price
     -- price offered to other recipients
     -- right to supply at the price of the cheapest bidder

7. Duration
   - Start-off period
   - Defined time after start-off
     - One or two years
     - until expiry of last guarantee
   - Period equivalent to the normal lifetime of the technology

8. Pricing
   - firm price
   - firm price and indexation
   - consonant with world market prices
   - consonant with prices charged by other recipients
   - cost reimbursement formula

9. Corrective Action
   - Specific regulations
   - exemption from some of the general regulations
   - reference to the general contract regulations, especially those governing equipment

10. Alternatives

- mere prohibition of tie-ins
- omission
- technical assistance provision
- transmission of all relevant information to enable recipient to produce the respective item himself

11. Legal Requirements

- prohibition of tie-in provisions
- restrictions on importation
- obligation to provide inputs

4.9 TRAINING

a) Purpose and Function

A complete technology transfer requires adequately trained personnel to operate the technology. For this purpose it is essential that the technology recipient's personnel has all necessary knowledge and expertise to efficiently operate the technology , maintain the plant, replace broken equipment, trace the origin of defects and undertake necessary adjustments. Therefore, the adequate training of personnel for these different tasks is crucial for the effective functioning of the technology.

Training can be dealt with under a separate contract or as part of the technology transfer agreement. In this chapter training will only be discussed in the context of a technology transfer agreement and not when provided for under a separate training contract.

For developing countries in particular, which often lack skilled personnel and specialized local training facilities to carry out training, the technology supplier could very well be the main source of such training. If this is the responsibility of the supplier, he should also be responsible for and guarantee a certain quality of the level of training so that the plant can be operated effectively.

As the supplier's personnel usually leave the site shortly after the commissioning of a plant, training of local personnel is essential. Even if the supplier is willing to provide his own key personnel to operate and maintain the technology, this would run counter to the interest of the recipient to absorbe the technology and minimize the expenditures. Above all, a technology which is not operated by local personnel will remain an enclave and cannot be absorbed, assimilated or indigenized into the technical, economic and social infrastructure of the recipient's country.

b) Present Legal Situation and Contractual Practice

The laws of most developed market-economy countries usually leave the matter of personnel training to be settled by the parties concerned, whereas all developing countries that have enacted legislation on the transfer of technology have made specific provisions for the training of personnel, thus demonstrating the particular importance of this aspect of technology transfer.

Some laws only require the inclusion of a training programme or the like into the contract, leaving the details to the parties.

Illustrative Clause 50

> "Agreements for the transfer of technology shall include, whenever possible, appropriate programmes for the training of personnel." (Portugal, Technology Regulations, Sect. 6.3)45/ 49/

The type and quality of training required is often described by using such terms as "appropriate" or "adequate" or by requiring that through such training the ability of the local personnel to "handle", "operate", "master" and/or "assimilate" the technology transferred "for making the best use of it" has to be assured.50/

Illustrative Clause 51

> "The contractual obligation, ... shall establish the period deemed necessary to enable the recipient to master the technology by fully assimilating it and making correct use of it, and by obtaining actual results from embodying it.." (Brazil, INPI, Normative Act 015, Sect. 5.4)

Some laws set out some of the requirements for training that must be met such as qualification of the personnel to be trained, qualification of the personnel giving the training, the fields in which training shall take place, timetable, duration, place and methods of training.

Illustrative Clause 52

"Any technical assistance shall, where necessary, include technical personnel as well as full instructions and practical explanations expressed in clear and comprehensive English on the operation of any equipment involved ..."
(Zambia, Industrial Development Act 1977, Sect. 15d).

A number of laws also try to ensure that the training actually results in the employment of local personnel. To this end, some laws request reports on the implementation of training programmes[51/] entitle government authorities to follow the progress being made in the training programme[52/] or set definite percentage schemes on the portion of local personnel that must be employed[53/].

Contractual practice differs very much depending on the complexity of the technology transferred and the technical capabilities of both the supplier and the recipient. A short version of a trainin clause may only contain the number of persons to be trained, the period and place of training and the distribution of expenses.

Illustrative Clause 53

"6.1 Owner's technicians numbering upto three shall receive training at the supplier's or sub-supplier's works for a period of eight weeks each.

6.2 Round trip air tickets for the trainees shall be paid by the owner. The supplier shall pay all expenses in the suppliers' country including their pocket-money."
(Contract for a bottling plant in Africa).

Such a short version leaves a number of ambiguities as to the qualification of the technicians, the field and type of training and the time of training. Thus, some contracts spell out the qualification and prior experience for each person to receive training. Sometimes even the selection or prequalification test is done by the recipient together with the supplier. Such a clause would read as follows:

Illustrative Clause 54

> "The licensor will provide training to qualified employees of the licensee nominated by him and agreed upon by the licensor at the licensor's plant, with respect to the manufacture, quality control and packaging of the products, including on-the-job training for ... the production and control of at least ... batches from the beginning to the end".

The number and qualifications of the trainees will be as follows: ..."

The level and quality of the training may be referred to in general terms:

Illustrative Clause 55

> "... the training services by the transferor for the transferee's personnel will be of a quality not less than that provided by the transferor to his own personnel and adequate to meet the needs of the transferee."
> (WIPO, Licensing Guide for Developing Countries (1977) , fn. 137 (vi)).

The contract may also indicate that details such as the language to be used, the training equipment, teaching methods to be used, the number of lessons, the number of working days, etc.

c) Problems and Possible Solutions

Field of training. The contract should specify the different areas of training according to the various categories of personnel. It is important not only to train the personnel in "normal" operating procedures, but also in product testing,

workshop practices, emergency shut down procedures, the solution of incidential problems, etc. Often trainees form the foundamental team which in future will train their own staff. The trainees should therefore also be given a basic understanding of teaching methods including the use of technical documentation and other media which they can use when training and organizing their own staff.

Place of training. Usually training should start well in advance of the commissioning of the plant itself in order to enable the recipient's personnel to play an active role in setting up the plant. The training during this first phase often takes place at the supplier's plant. However it is essential that the technology used there is similar to the technology to be transferred. Whenever possible, it would be desirable to obtain training in a similar plant built by the supplier in another developing country. This would enable the trainee to become acquainted with specific problems encountered in operating and maintaining the technology while it was working in a developing country over a period of years. On the other hand, certain improvements and research and development activities may only take place at the supplier's home plant and this may therefore require a visit to that country. Such a visit may be more worthwhile after the recipient's personnel has become familiar with the basic technology and is in a better position to understand and discuss the intricacies of the technology.

Time of training. In general, three phases may be distinguished:

(1) Training before the technology is actually transferred or the plant set up. This is particularly important for those who will assume supervisory functions during the setting phase.

(2) Training during the pre-operational and commissioning activities at the plant site. This mainly concerns the operating staff.

(3) Training after commissioning. This is necessary in order to cope with unexpected problems, short-comings of previous training and new developments within the branch. This type of training is often referred to as technical assistance.

Duration of training. Training programmes should be set up in such a way as to ensure a speedy absorption of the technique. Continuing training programmes could be an indication of a continued dependence on the supplier. On the other hand, a technology can only be carried out efficiently if the personnel is adequately trained. The parties should therefore agree to a realistic and flexible time schedule. The supplier may be obliged to extend training if the personnel is not

adequately trained after the initial period. (This should not however result in additional payment obligations on the part of the recipient, unless the supplier can show that this extension is solely caused by factors within the responsibility of the recipient, i.e. selection of personnel against the advice of the supplier).

Pre-qualification of trainees. In most cases, the supplier will not guarantee the successful outcome of his training, unless the pre-qualification of trainees is clearly specified. This may be a Diploma and/or practical professional experience. A qualification test could also be used. The qualification criteria should be mutually agreed upon. The selection of trainees is usually done by the recipient.

A problem frequently encountered is what to do with a trainee who is not able to follow the training programme. The parties involved should provide for a procedure on how to deal with such cases by mutual consent, e.g., an obligation on the part the supplier to inform the recipient on the progress of the trainees, and the right (or obligation) of the recipient to replace trainees who fall short of the original expectations.

Illustrative Clause 56

> "The client shall be informed of any trainee, who, despite the selection process, does not, during the training period, prove to have the qualities required to fulfil the job designated to him or her, so that he can be immediately replaced." (Contract for the construction of a pharmaceutical glass factory in Northern Africa).

Another problem is the danger that qualified personnel will not stay at the site, but move through their own choice to other localities or are moved e.g. to another area of higher national priority.

In order to overcome such problems, a directive to public enterprises in India therefore recommends the following:

Illustrative Clause 57

"Adequate safeguards and stipulations should be made to ensure that the trained technicians on return are obliged to serve the sponsoring undertaking for considerably long periods so that the advantages of training are not lost to the undertaking." (India, Guidelines in connection with foreign collaboration agreements of public enterprises 1982, Sect. 4.1.e).

Qualification of trainers. Little attention is given to the qualification of trainers. Their background experience and educational abilities will strongly influence the success of training. Therefore, minimum requirements or the qualification of the trainers should also be laid down. When the prospective trainers are known, it may be useful to insert their names in the relevant contract provision.

Content and Methods of Training. One of the greatest concerns is that the training of the recipient's personnel is not reduced to theoretical class-room teaching, but includes practical experience in the working of the technology. The possibility of discussing questions with practitioners, of taking notes and photographs, obtaining instruction material etc. can greatly help becoming acquainted with the technology.

Illustrative Clause 58

"(a) Personnel designated by the transferee shall be given adequate opportunity to study the method of manufacture of the product at the manufacturing plants of the transferor. Such personnel shall be given adequate opportunity to acquaint themselves with the production design, production engineering, processes of production and testing of the product and with related shop practices and operations at such plants, and to discuss such production design, production engineering, process of production, testing

> practices and operations with the transferor's appropriate engineers and production personnel at such manufacturing plants. The transferee's designated personnel shall be permitted to make notes and sketches and to procure pertinent information and photographs in the possession of the transferor relating to the foregoing including purchase material costs and methods of quality control which may be in use in connection with the manufacture of the product."
> (WIPO, Licensing Guide for Developing Countries (1977), fn. 164a)

Remuneration. Different modes of remuneration for training when it is part of the main contract are used. For example, the training cost can be calculated to be included in the technology fee e.g. royalties, up to a certain extent. The training costs can also be paid separately, for instance as a fee per trainee per day. This last mode of remuneration is a common practice when training of e.g. a team of trainees is carried out abroad at the supplier's premises or at other similar premises when the supplier does not have any training facilities of his own.

When training is provided on site in the recipient's country by representatives of the supplier payment is not calculated as a training fee, but as a fee for covering the salary and daily allowances for living expenses for the representative(s) of the supplier.

From the recipient's country point of view solutions which save foreign currency expenses are often preferable. This solution may more easily overcome problems associated with local regulations, availability of resources etc. In any case, the training provisions should have clear stipulations on the various expenses of the personnel of both supplier and recipient such as: local living allowance, accommodation, transportation, medical care, taxes, import of household essentials and foodstuffs etc.

Dissemination. From the recipient's point of view the dissemination of knowledge acquired by the trained personnel both at the enterprise level and possibly also at the country level is of particular importance. In order to be able to fulfil this task, the trained personnel should not only become acquainted with the technology, but should also learn how to train others in that technology.

Alternatives. The supplier may not always be able to provide for training, for example, if he is a contractor and not running his own plant. Apart from that, the recipient may be interested in acquiring information and training independently of the supplier. Thus, a third party may be better suited for this task. This third party could be another supplier in a developed country, but it could also be a producer or a consultancy firm in a developing country or even the recipient's country itself. Some national laws already prescribe to using already existing local facilities to the extent that they exist. In some cases, international organizations or other non-profit making institutions may be able to provide training facilities. An important supplement to training may be a system of exchanging experience and information among recipients, but in most areas such information systems from the recipient's view point are not yet very effective, if they exist at all.

d) Check List

1. Field of training

- production
- design
- maintenance
- repair
- marketing
- training others

2. Place of training

- supplier's plant
- recipient's plant
- plant of third parties using similar technology
- plant in effective working for several years
- up-to-date plant
- access to recent research and development facilities

3. Time of training

- before transfer of technology
  - -- supervisory personnel
  - -- preparatory activities
- during transmission
  - -- participation in supervision
  - -- participation in commissioning
- after transmission
  - -- new developments
  - -- unexpected difficulties
  - -- adaptation

4. Duration of training

5. Prequalification of trainees

- qualification
- professional experience
- qualification procedure
- responsibility for selection
- replacement
- continuity

6. Qualification of trainers

- qualification
- perfessional experience

- specific persons

7. Content and methods of training

- theoretical
- practical
- watching, doing, asking, discussing
- designs, photographs, notes, drawings
- teaching methods
- teaching aids, equipment
- language
- training hours
- working days
- size of groups

8. Remuneration

- living allowance
- transportation
- accommodation
- medical care
- additional equipment
- currency
- remittances abroad

9. Dissemination

- teaching ability
- right to pass on information

10. Exemptions

11. Legal requirements

- programme of training
- implementation reports
- maximum duration
- minimum percentages of local personnel to be employed

12. Legal Consequences in case of failure

13. Alternatives

- other suppliers
- other recipients
- other consultants
- international organizations
- non-profit making institutions

4.10 FINANCIAL GUARANTEES

a) Purpose and Function

Financial guarantees such as performance bonds and bank guarantees have the function to ensure that, if the supplier fails to perform his obligations, at least a guaranteed sum of money will be available to make good for the non-fulfilment of certain guarantees or other obligations.

The use of financial guarantees has spread considerably in recent years, especially in large-scale contracts between suppliers in developed countries and recipients in developing countries, because recipients in developing countries often lack experience in selecting reliable suppliers and evaluating their proper performance.

Experience of recipients in developing countries shows that long and costly dispute may arise about the question whether a guarantee has been met or not. This is the reason why in recent years the so-called "unconditional" or "independent" guarantees or "guarantees on first demand" have evolved. Payment obligations under such a guarantee are independent of the proof by the recipient, that the supplier has failed to perform. It is sufficient, i.e. the failure to perform is "proven" by the fact that the recipient asserts the non-performance and demands the payment by the guarantor.

It should be noted that financial guarantees may refer to the bidding procedure or to the contractual performance. The former are also called bid bonds or bid deposits and have the function to ensure that the bidder if selected actually will conclude the contract under the terms and conditions contained in his offer. This sub-chapter will only deal with the other type of financial guarantee, i.e. the performance bond.

b) Present Legal Situation and Contractual Practice

Most civil laws know the contract type of surety or guarantee.

Illustrative Clause 52

"The contract" of suretyship (cautionnement) is a contract under which a person enters into an undertaking vis-à-vis the creditor to guarantee payment of the debt contracted by the debtor." (Switzerland, Code de obligations, Art. 492).

Most conditional or accessory guarantees would be covered by this type of contract. But it seems that there is no law which prescribes the use of financial guarantees in connection with transfer of technology transactions. However, there is a number of state agencies or institutions which will only contract, if a financial guarantee is included into the agreement.

Very common are financial guarantees whose amount are determined as a percentage of the contract value or the payment agreed upon.

Illustrative Clause 60

"Upon signing of acceptance Protocol the Supplier shall submit to the Owner a performance bond in the form of a bank letter of guarantee in the same currency of the contract, equal to 10% of the FOB price, as a final guarantee deposit."
(Contract for the purchase of Bottling Plant between a developed and a developing country).

c) Problems and Possible Solutions

Subject matter of the guarantee. Usually financial guarantees either have the purpose to secure advance payments and/or to secure the full and faithful discharge of performance and other guarantees and obligations. In the context of this document, financial guarantees for the proper performance are

more important. The financial guarantee should clearly define all obligations and guarantees which are covered by it.

The guarantor is usually a bank or insurance company. Usually, the supplier is requested to present a guarantee by a "first class bank" in order to ensure that the bank is able to fulfil the guarantee. In United States practice, the guarantor may also be a bonding company which usually guarantees that the contract will be finished by another supplier or by the bonding company itself.

The type of guarantee may be a conditional or an unconditional guarantee. Under conditional guarantees which are also called accessory guarantees the guaranteed payment usually must be effected, if the recipient shows some kind of evidence that the contractual guarantees or obligations have not been met. Under unconditional guarantees which are also called first demand guarantees, the payment is due on simple demand by the recipient. The demand as such is conclusive evidence of the supplier's failure to comply with his contractual guarantees.

Conditional guarantees often have shown unsatisfactory results for the recipient, because it is the recipient who has to initiate court proceedings to establish proof of non-fulfilment of guarantees which is necessary before the financial guarantee could be seized. The lengthy and costly procedure puts the recipient at a disadvantage vis-a-vis the supplier, especially if a supplier should act in bad faith.

Unconditional guarantees avoid these disadvantages for the recipient: he can draw upon the guarantee without any prior litigation. It is the supplier who bears the risk, especially if a recipient should act in bad faith. Therefore, licensors are usually very reluctant to grant straightforward first demand guarantees. In order to find a balance between the interests of both parties, a number of intermediate solutions have been developed which either limit the first demand guarantee to a certain extent or narrow the obligations

of evidence to be shown by the recipient. These solutions may consist of:

- Subsidiary guarantees: The recipient may have a first demand guarantee, but he may only draw upon it, after he has given prior notice to the supplier and has given him an opportunity to make good the default within a certain time limit. Of course, the subsidiary clause could also be applied to conditional (or accessory) guarantees.

Illustrative Clause 61

"If the Employer shall consider himself entitled to any claim under the bond or guarantee he shall forthwith so inform the Contractor specifying the default of the Contractor upon which he relies. Should the Contractor fail to remedy such default within 40 days after the receipt of such notice the Employer shall be entitled to require the bond or surety to be forfeit to the extent of the loss or damage incurred by reason of the default."

- Conditional guarantee, but the recipient may establish proof of non-fulfilment of the guarantee by a certification of an independent engineer or other expert, i.e. the recipient need not initiate court or arbitration proceedings.

- Conditional guarantee, but the burden of proof is shifted to the guarantor, i.e. not the recipient has to prove non-fulfilment, but the guarantor has to prove fulfilment of the guarantees. Such conditional guarantees may come very close to first demand guarantees, if the number and type of defenses available to the guarantor are restricted.

- A variation of this last type of guarantee would be a guarantee which is payable on first demand after notification to the supplier, unless the supplier can present prima facie evidence in a speedy summary arbitral

proceeding that he has fulfilled his obligations. The maximum time limit for obtaining such a provisional ruling should be determined in the contract.

These various approaches attempt to release the recipient from a lengthy and costly procedure before benefitting from the guarantee while at the same time protecting the supplier against the unjustified seizure of the guarantee.

Scope of financial guarantees. The guarantee may be a payment guarantee or a performance guarantee (bond). Payment guarantees usually consist of a sum of mc presenting 5% to 10%, sometimes 15% of the contract price. The amount of the guarantee may also be determined on the basis of the liability assumed by the supplier. It should be high enough to provide adequate security to the recipient. Thus, it will depend on the reliability of the supplier and the complexity and difficulty of the technology transfer. In some cases, the guarantee may even reach the total value of the contract, if it is phrased in such a way that the amount of the guarantee must be re-established by the supplier once the recipient has seized the guarantee for the first time.

Performance bonds with bonding companies usually provide for the obligation of the bonding company to remedy any defects and/or to complete the agreement. The completion may be carried out by the bonding company itself, by a new contractor selected by the bonding company or by the recipient or jointly by both parties, the bonding company bearing the additional cost. While performance bonds may be a viable solution for construction works etc., their use may be more difficult in case of defects of the core technology, because other persons than the supplier himself will be less familiar with the technology or may have no access to the technology at all and thus be in a less suited position to cure defects.

Period of validity of guarantee. In principle, the period of validity of the financial guarantee should be linked to the

duration of the supplier's guarantees. Especially in the case of first demand guarantees the duration should not be measured too narrowly to avoid the situation that the recipient claims the guarantee for the only reason that the period is close to expiration and it is not yet entirely clear whether all guarantees are actually met. To avoid this situation the clause could also provide that the duration may be extended upon simple request of the recipient. A fixed guarantee period without the possibility of prolongation should be avoided in complex technology transactions, because delays are frequent and defects often show only at a late stage.

Particular problems may arise when the defect happens during the time of validity of the guarantee, but is only discovered after the expiration of the guarantee period or if the guarantee is only drawn upon at a later stage. Such problems may be solved by making the (original) performance guarantee and the financial guarantee terminate on the same date and also making the notification limits terminate at the same date. In the latter instance, the legislation and jurisdiction of some countries, e.g. Turkey, may set limits to contractual stipulations. In Turkey, the Supreme Court treats financial guarantees as guarantee contracts which means that the beneficiary has a right of action for 10 years under the mandatory statutory provisions on limitations.[54/]

Reduction. In order to make financial guarantees less costly, the amount of the guarantee may be reduced as work progresses and certain portions of the work are accepted by the recipient. The reduction scheme may be phrased in general terms or it may specify the events, at which certain percentages of the guarantee are released.

Illustrative Clause 62

> The guarantee required in a contract between an International organization and a contractor from an industrialized country for the supply of iron plant in a developing country provides that:

> "... the amount of this guarantee shall decrease automatically according to the value of supplies provided and/or services performed by the contractor upon submission to the international organization by the contractor of sufficient documentary evidence, such as progress reports and invoices."
> (UNCITRAL, Yearbook 1982, p. 370, para. 109)

Variation. Usually, scope and extent of a financial guarantee as well as the guarantor's fee for issuing the guarantee are based on the original content of the transfer of technology agreement. In complex transfers, alterations may become necessary. The formulation of the financial guarantee should make sure that it also applies in case of alterations at least to the extent that the supplier's obligations are not extended substantially. It may even provide that all variations will be covered, either by simple notice to the guarantor or even automatically. But it seems that the automatic inclusion of variations into the financial guarantee would only be acceptable to the guarantor, if the variations do not go beyond a certain scope.

Alternatives. Financial guarantees basically have their origin in the unfamiliarity of the recipient with the supplier and with the technology to be transferred. The better the recipient knows the supplier and has well-founded confidence in his capabilities, the less imperative are financial guarantees. Similarly, in the case of a well-proven technology which is well known to the recipient, financial guarantees are less important than in the case of new technologies unknown to the recipient. An alternative to financial guarantees is a payment scheme which provides for partial payments only after completion and acceptance of parts of the technology transfer. Such a payment scheme may also provide for a certain percentage of retention money. The supplier may also be obliged to take a number of insurances and entitle the recipient to the payments of the insurance in case of defects. In a number of cases, the use of revolving letters of credit or standby letters of credit which are less

costly may be sufficient.

d) Check List

1. Subject matter of financial guarantee
   - tender
   - advance payment
   - final payment
   - performance and other guarantees
   - financial guarantees by recipient

2. Guarantor
   - bank (first class or other)
   - insurance company
   - bonding company
   - government, governmental institution

3. Type of guarantee
   - accessory/conditional
   - unconditional/first demand
   - subsidiary/non-subsidiary
   - burden of proof, evidence
     -- on recipient
     -- on supplier
     -- certification by independent engineer (expert)
     -- arbitral award
     -- court decision
     -- summary arbitral or court procedure

4. Scope of financial guarantee
   - payment
     -- percentage of price
     -- percentage of contract value
     -- percentage of liability
     -- remedy of defects
   - fulfilment of contract
     -- by bonding company
     -- by third party selected by bonding party

-- by third party selected by recipient
-- by third party selected jointly by bonding party and recipient

5. Period of validity
   - indefinite
   - definite period
   - extension by request of recipient
   - linkage to duration of supplier's guarantees
     -- identical duration
     -- fixed time limit beyond duration of supplier's guarantees
     -- notification requirements fixed to duration of supplier's guarantees
   - statutory requirements

6. Reduction of scope of financial guarantee

7. Variations
   - General extension
     -- upon acceptance by guarantor
     -- upon notification
     -- automatically
   - extension only to specified variations
     -- which do not increase liability of supplier
     -- which do not increase liability of supplier substantially
   - no extension, only original obligations of supplier

8. Alternatives
   - well-known, well-proven, reliable suppliers and technologies instead of unknown, new suppliers and technologies
   - payment scheme according to progress of work
   - retention money
   - insurances

9. Statutory requirements

FOOTNOTES

1/ In further text of this document the term "supplier" will be used to denominate different categories of technology suppliers, except in cases where specific reference will be made to industrial property right's transfers where the term "licensor" will be used.

2/ In the further text of this document the term "recipient" will be used, except in cases where specific reference will be made to acquisition of industrial property rights, when the term "licensee" will be used.

3/ See, e.g., U. S. A., Uniform Commercial Code, Section 2-313, para. 1 (a) which reads:
"Any affirmation of fact or promise made by the seller to the buyer which relates to the goods and becomes part of the basis of the bargain creates an express warranty that the goods shall conform to the affirmation or promise".
It seems that the term "warranty" has a more restricted meaning in English law, where it only covers promises which are collateral to the express object of the contract, see UNCTAD, Guarantees and Responsibilities of Source and Recipient Enterprises, TD/AC.1/14 para 13.

4/ See, e.g., Brazil Normative Act No. 15, Sect. 2.5.1., 4.5.1., 5.5.1., 6.5.1.

5/ Under English law, "representation" is usually a statement which induces a party to a contract, but is not part of the contract. Misrepresentation may not give rise to a breach of contract, but to a right to rescind it and claim damages as the case may be. Warranty is an undertaking to fulfil something as part of the contract. Breach of it is, therefore, breach of a contract.

6/ Under English law, "condition" is used for a major term of contract, "warranty" for a minor term. Breach of a condition is considered to go to the root of the contract so as to entitle the innocent party to terminate it. If a warranty is broken, the innocent party's remedy is limited to damages, see RM Goode, Commercial Law, p. 126

7/ See, e.g. Mexico, Codigo Civil, Art. 2283

8/ See, e.g., Germany, Fed. Rep. of, Civil Code, Sect. 459

9/ See, e.g., France, Code Civil, Sect. 1625 which reads:
"The guarantee to which the purchaser is entitled from the vendor refers to two objects, the first being the peaceable possession of the item sold, and the second, hidden or latent defects in the said item."

10/ See fn. 7 above. Partially, the terms "eviccion" and "saneamiento" are also used in this context; see, e.g., Mexico, Codigo Civil, Art. 2119 ff.

11/ See, e.g., the Definition in German Democratic Republic, International Commercial Contracts Act. Sect. 245
The terms used in English speaking countries will be "guarantee" (or "guaranty" or "surety"; see, e.g., for the U.S.A Black's Law Dictionary 833-34 (rev 4th ed. 1968).

French speaking countries use the term "guarantie", "cautionnement" or "caution"; see, e.g, for Algeria Ordonnance No. 67-90, Art. 77-85; for Switzerland, Code de obligations, Art. 492 which reads:
"The contract of suretyship (cautionnement) is a contract under which a person enter into an undertaking vis-à-vis the creditor to guarantee payment of the debt contracted by the debtor".
Spanish speaking countries use the term "guarantia" or "seguridade"; see, e.g., Mexico, Codigo Civil, Art. 2796

12/ See, e.g, UNIDO, Guidelines for contracting for Industrial Projects in Developing Countries, New York 1975 (Doc. ID/149, Sales No. E.75.II.B.3), Annex XIV.

13/ This is the term used by GATT, Agreement on Public Purchases of 12 April 1979, see Art. V Sections 2 b, 4 f and 12 f.

14/ For a discussion of "financial guarantees" see Chapter 4.10 below

15/ The former Argentinian Law on Technology Transfer expressly used the term "implicit clauses", see Law No. 21.617, Art. 8

16/ For a comprehensive discussion on issues considered to be subject to guarantees see UNCTAD's draft International Code of Conduct on Technology Transfer in particular Chapter V, dealing with "Responsibilities and Obligations of the Parties", WIPO, Licensing Guide for Developing Countries, Geneva 1977, p. 75 f, especially footnotes 137, 143, 153, 154, 157, and p. 158 f, Sections G. 5 and G. 6. See also the Yugoslav Law on Long Term Co-operation, Art. 24 (See fn. 17 below for the full name of the Law).

17/ The law on Long-term Co-production, Business and Technical Co-operation and the Acquisition and Assignment of Material Rights to Technology between Organizations of Associated Labour and Foreign Persons (1978).

18/ See also Smith D. N. and Wells L. T., Negotiating Third World Mineral Agreements, p. 160

19/ Draft Legal Guide on Drawing up International Contracts for Construction of Industrial Works

20/ Basic rules and norms for the registration of contracts involving the transfer of technology and related agreements.

21/ See Aselmann, Specification and remuneration of foreign know-how, reprinted in the Law and Business of Licensing, p. 497 f. Aselmann gives a figure of 60 to 70% of the total manufacturing know-how required by a less experienced licensee in a developing country for machine tools or electric equipment, which can be described in the form of drawings, operational layouts, instructions, graphs and procedures; ibid., p. 499.

22/ See International Chamber of Commerce, Le transfert de technologie pour le dévelopement. Declaration of the ICC at the UN Conference on Science and Technology for Development, Vienna, 20-30 August 1979, p. 23 f.).

23/ India, Guidelines in connection with foreign collaboration agreements of public enterprises (1982) Sect. 1.1)

24/ Transfer of Technology Law of 1974. Law no. 21.617

25/ See e.g. USA, Uniform Commercial Code, Section 2-312. For Germany, Fed. Rep. of, Stumpf. Der Know-how Vertrag. 3rd rev. ed. Heidelberg (Verlag Cherrie). 1977.

26/ See e.g. ECE (Economic Commission for Europe), Trade /222/ Rev. 1, para 41.

27/ See UNIDO/PC.25/Rev. 1 Section 28.6.1

28/ Federation Internationale des Ingenieures - Conseils (FIDIC). Conditions of Contract (International) for Electrical and Mechanical Works (including Erection on Site) Sec. ed. 1980 clause 28. See also clause 33.2.

29/ See e.g. UNIDO/PC.25/Rev. 1, Art 28.3.

30/ Law for the Control and Registration of the Transfer of Technology and the Use and Exploitation of Patents and Trademarks (1982).

31/ ECE (Economic Commission for Europe) /Trade/ 117 (1973) p.9

32/ See Gilberto García G., Nétodo de desagregacion technológica. Junta del Acuerdo de Cartagena, J/GT/110, March 1982.

33/ Juan A. Valeiras, The Negotiation and Enforcement of guarantee clauses: A case study on the construction of the first Argentine atomic plant ICPE, 1981, pp. 20-21.

34/ UNIDO/PC.25/Rev. 1. 1983. Art. 26.

35/ See e.g. VDNA, Der Lizenzvertrag, ed. H. Stumpf, Frankfurt 1968 4th ed. p. 148 fn. 307.

36/ See Vukovich. Implied Warranties in Patent, Know-how and Technical Assistance Licensing Agreements, 56 California Law Review 168 (1968) p. 186 fn. 113.

37/ See VDNA, Der Lizenzvertrag, ed. H. Stumpf, Frankfurt 1968, 4th ed. p. 59 ff.

38/ Normative Act No. 015 of September 1975. Sect. 2.1.2.

39/ See WIPO, Licensing Guide for Developing Countries (1977) fn. 86 (ii)

40/ See UNIDO/PC.50/Rev. 1 Art 7.1 and 7.1.2.

41/ See WIPO, ibid fn. 95.

42/ See e.g. N. I. Roos: A Case History: "Work Mate", in Les Nouvelles, June 1983, p. 102-111 (105).

43/ See also Colombia, Decree No. 1234, Art. 2; Nigeria, Industrial Property decree, Sect. 6(2)(d).

44/ See e.g. Yugoslavia, Technology Law, ibid Art. 37(2); The Philippines, Rules and Regulations to Implement the Intent and Provisions of Section 5 of P. D. 1520 creating the Technology Transfer Board within the Ministry of Industry (1978), Rule V Sect. 1(c) (3) and (4); see also some market economy countries such as Germany, Fed. Rep. of, Act against Restraints of Competition, Sect. 20(2) No. 3; Japan, Anti-monopoly Act Guidelines, Sect. 1.7.

45/ See also Portugal, Decree 53/77 (1977), Art. 6(1), Regulations governing Transfer of Technology.

46/ E.g., the role of the patent system in the transfer of technology to developing countries - Report prepared jointly by the United Nations Department of Economic and Social Affairs, the UNCTAD Secretariat and the International Bureau of the World Intellectual Property Organization (TD/B/AC.11/19/Rev.1) (United Nations publication, Sales No. E.75.II.D.6), paras. 372-377, and the studies listed in the corresponding footnotes.

47/ See e.g. the Commission of the Cartagena Agreement, Decision 24, Art 20(c) and 25(b).

48/ India, Guidelines in connection with foreign collaboration agreements of public enterprises (1982).

49/ See also the Philippines, Rules and Regulations to Implement the Intent and Provisions of Section 5 of P.D. 1520 creating the Technology Transfer Board within the Ministry of Industry (1978) Rule VIII. 1.3.

50/ See e.g. Venezuela, Decree 63, Art 5B; Yugoslavia, Technology Law Art 24(3) (see fn. 17 above for the full name of the law).

51/ See e.g. the Philippines, Technology Regulations (see fn. 31) Rule VIII 1.4.

52/ See e.g. Brazil. Act 015, Sect. 5.4.4.

53/ See e.g. Nigeria, Petroleum Act.

54/ See Turkey, Code of Obligations, Art. 127.

ANNEX I

ICPE/UNIDO Background Documents

ICPE/UNIDO
TDT.VII/EGM.83/CRP.

1. List of development objectives which may be reflected in guarantee clauses

2. Issues to be covered by guarantee clauses

3. Formal aspects of drafting guarantee clauses transactions of public enterprises in developing countries, Volkmar Strauch, ICPE, 1981

5. Current practices in the negotiation, drafting and enforcement of guarantee clauses in transfer of technology transactions by public enterprises - Case study on Argentina, Luis Alberto Ravizzini, ICPE, 1981

6. The negotiation and enforcement of guarantee clauses: a case study on the construction of the first Argentine atomic plant, Juan A. Valeiras, ICPE, 1981

7. Guarantees and warranties in transfer of technology transactions of public enterprises in developing countries (drafting and enforcability of performance guarantees), Carlos M. Correa, ICPE, 1982

8. Preparation by licensee for contract negotiations (with special reference to guarantee provisions), Role of the licensors in the preparatory stage of formulation of guarantees and warranties, Monitoring of project implementation by the licensee; Dudley Smith, UNIDO, 1982

9. Damage liquidation provisions: liabilities, penalties, direct loss provisions, consequential loss provisions; Arbitration in case of non-fulfilment of warranties, Marc Besso, UNIDO, 1982

ANNEX II

UNIDO Model Forms of Contracts

UNIDO model forms of turnkey lump sum contract for the construction of a fertilizer plant including guidelines and technical annexures (UNIDO/PC.25/Rev. 1);

UNIDO model form of cost reimbursable contract for the construction of a fertilizer plant including guidelines and technical annexures (UNIDO/PC.26/Rev. 1);

UNIDO model form of agreement for the licensing of patents and know-how in the petrochemical industry, including annexures, an integrated commentary and alternative texts of some clauses (UNIDO/PC.50/Rev. 1);

UNIDO model form of licensing and engineering services agreement for the construction of a fertilizer plant including guidelines and technical annexures (UNIDO/PC.73)