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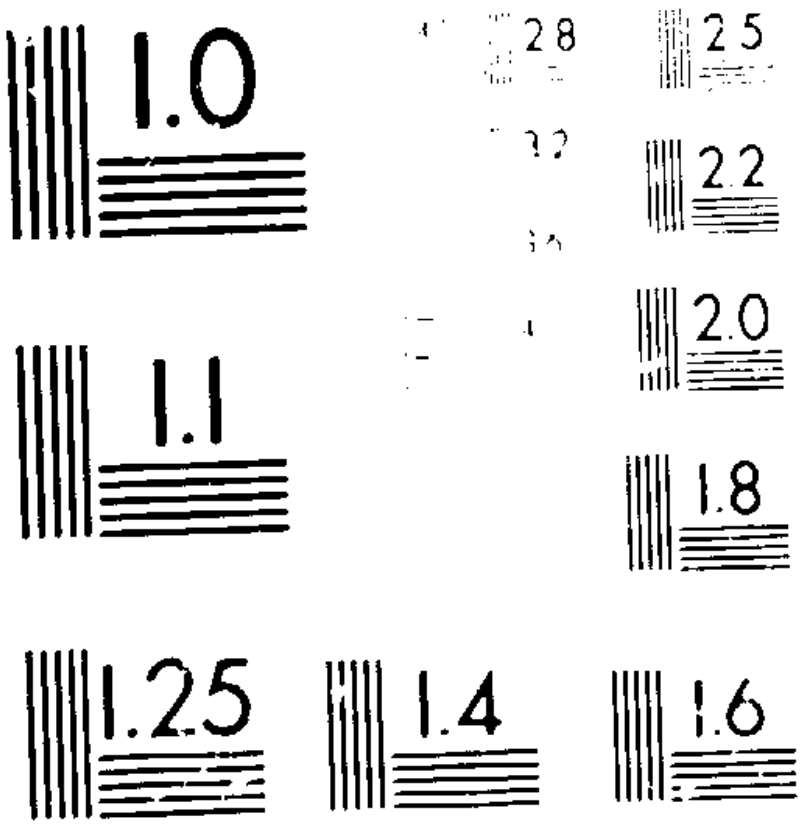

TIES NEWSLETTER

TECHNOLOGICAL INFORMATION EXCHANGE SYSTEM

Issue No. 29 12777 May 1985

Dear Reader,

I am pleased to inform you that the Ministry of Industry of Egypt has kindly offered to host the Tenth Meeting of Heads of Technology Transfer Registries, scheduled to take place from 8-13 December 1985 in Cairo, for which UNIDO is very grateful.

The organization of this annual TIES meeting in Egypt coincides with the efforts of the Egyptian Government to establish a coherent national technology transfer policy. For this purpose a draft law on technology transfer has been prepared.

The draft legislation presented covers seven chapters. It defines the terms contained in the law in view of the fact that the law governs issues which have not been covered in any preceding legislation in Egypt.

It proposes the obligation to register technology transfer contracts with the Academy of Scientific Research and Technology with a view to effecting the processes of examination, control, evaluation and guidance as well as the collection of such contracts as a guiding reference for new contracts.

Furthermore it governs conditions disadvantageous to national interests and contracts may not be concluded and, consequently, may not be registered whenever they contain any such conditions.

It also governs other unfair conditions which lay a heavy burden on the acquiring party. However those conditions may be tolerated in certain cases.

The draft legislation also deals extensively with the guarantees that must be provided in contracts for the transfer of technology in order to fulfil the purpose intended and in order to be in harmony with the technological policy. In particular the fact that the law proposes the obligation of the technology supplier to inform the recipient of the hazardous risks of the technology concerned, especially vis-à-vis the environment and public health.

It stipulates how disputes are to be settled with a view to resolving these in the most speedy and reliable ways. The law provides that the Egyptian courts shall primarily have jurisdiction to decide on such disputes and allows for arbitration. Arbitration takes place subject to specific controls which are contained in the law. The law also states that disputes shall be subject to the provisions of the Egyptian law.

It concludes with the listing of sanctions which are to be imposed in case of violations of the provisions of this law.

It is hoped that the TIES members, when visiting Egypt, will have ample opportunity to exchange views on the application of this law, if enacted, with the officials concerned on the basis of their own experience in applying similar types of regulatory control.

The topics discussed at the Tenth Meeting of Heads of Technology Transfer Registries will focus on the development and application of the Computerized Registry Information System (CORIS) which at present is being considered by a number of TIES members and which will be available in Spanish by September 1985. Furthermore, the issue of payment evaluation will be discussed following attempts to create a monitoring system on service fees. Other items to be discussed will include regional co-operation, guarantee and warranty provisions in technology transfer agreements and issues to be considered in software contracts. The meeting will also address itself to the issue of training of registry personnel, and the role which registries can play in advising national enterprises on technology transfer issues.

G. S. Sohi
Director
Division for Industrial Studies

Recent legislation

Spain

Ministry of Industry and Energy

3513 ORDER of 22 February 1985 to simplify the procedures for enrolment in the Register of Contracts for the Transfer of Technology

Gentlemen:

In paragraph (2) of the Ministerial Order of 5 December 1973, it is provided that contracts for the transfer of foreign technology, which this Department is responsible for examining since the subject falls within its competence, will be the subject of a report and recommendation by the corresponding sectoral Directorate-General.

The requirement of this general procedure, which does not deal with the qualitative and quantitative content of the contract, can have the result that insufficient attention is given to some documents, and may concomitantly reduce the possibility of a more suitable evaluation of those contracts which, because of their economic and technological importance, require a more detailed study. Special attention must be devoted to this situation at a time when the Register of Contracts for the Transfer of Technology is becoming an instrument for the effective support of technological policy, instead of being an obstacle to the entry of foreign technology, the selective analysis of which must be increased.

For this reason, this Ministry has seen fit to make the following provisions:

Point 2.2 (2) (d) of the Order of 5 December 1973, which sets out rules for entering contracts for the transfer of foreign technology in the Register created by Decree 2343/1973 of 21 September, is modified, to read as follows:

"(d) Contracts not included in previous subparagraphs, the examination of which is the responsibility of the Ministry of Industry and Energy within whose competence the subject falls. The corresponding sectoral Directorate-General will report on them, making reference, as appropriate, to the importance and implications of the restrictive clauses contained therein, if any, and to the particular impact of the corresponding costs in the light of industrial policy in the sector to which the transfer is oriented; and it will recommend the type of registration or non-registration, as the case may be. With contracts of less economic substance that have no restrictive effect, the report and recommendation by the sectoral Directorate-General may be dispensed with, but in its place the full text of the contracts being registered in the stated circumstances will be submitted."

For your information and action.

Madrid, 22 February 1985.

SOLCHAGA CATALAN

Considerations on the entry of Spain into the European Economic Community in the field of the contractual transfer of technology

(This article has been prepared by Mr. Antonio Cano Martin, Chief of the Spanish technology transfer registry, and was presented at the annual meeting of the Spanish Association of Pharmaceutical Manufacturers).

Introduction

The subject of the contractual transfer of technology, in view of the foreseeable early entry of Spain into the European Economic Community, calls for an in-depth analysis of the legislation in force in our country, in order to make the modifications necessary to reconcile the principles of free competition stated in general terms in Article 85 (1) of the Treaty of Rome, the exceptions stated in Article 85 (3) set out in EEC Regulation 2349/84, and the information requirements of the Spanish administration in this area, so that, by means of the exploitation of information on flows of technology it will be possible to develop measures leading to an improvement in the technological capacity of our productive sectors. That should give rise to an increase in our current level of investment in research and development, which represents approximately 0.4 per cent of gross domestic product, and an improvement in technological balance, in which the current index of coverage is some 22 per cent.

Relating these figures to the chemical-pharmaceutical sector, we have a value of 0.45 per cent in the chemical and 2.5 per cent in the pharmaceutical sector, as the ratio of investment in research and development to total sales, the sector having an overall index of coverage in the technological balance of 19.3 per cent. The total foreign expenditure for technology in 1983 in the chemical-pharmaceutical sector reached a figure of nearly $47 million, while revenues were $9 million, a modest figure but indicative of the efforts being made by Spanish firms.

As is well known, there are three basic channels for the acquisition of technology:

- The import of machinery and equipment, where the technology is incorporated in the product;

- Direct investment of foreign capital in the Spanish productive system;

- Transfers under contracts, that is, trade-mark licences, patents, know-how, processes, formulas, technical assistance, etc.

From the perspective of accession [to the European Economic Community], we shall examine technological flows arising from contractual agreements, which in our legislation are governed by Decree 2343/73 of 21 September 1973 and Ministerial Orders of 5 December 1973 and 30 June 1981.

Comparison of Community and Spanish legislation

For the purposes of comparison between the Spanish and Community legislation, I shall concentrate my remarks on the repercussions which European Economic Community legislation will have on our Register of Contracts for the Transfer of Technology, with reference to the objectives of technological policy, administrative procedure and the examination of restrictive or prohibited clauses in contracts for the transfer of technology.

Objectives

Among the objectives stated by the European Economic Community is the prohibition of agreements which prevent, restrict or distort the free play of competition within the common market.

Specifically, Article 85 (1) states:

"The following shall be prohibited as

incompatible with the common market: all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between the Member States and which have as their object or effect the prevention, restriction or distortion of competition within the common market, and in particular those which:

(a) Directly or indirectly fix purchase or selling prices or any other trading conditions;

(b) Limit or control production, markets, technical development, or investment;

(c) Share markets or sources of supply;

(d) Apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;

(e) Make the conclusion of contracts subject to the acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts."

In paragraph 2 of the same article, agreements or decisions prohibited pursuant to paragraph 1 are declared null and void. Nevertheless, paragraph 3 states that the provisions of paragraph 1 may be declared inapplicable in the case of any agreement, decision or concerted practice which contributes to improving the production or distribution of goods or to promoting technical or economic progress, while allowing consumers a fair share of the benefit and which does not impose on the undertakings concerned restrictions which are not indispensable to the attainment of these objectives, i.e. improving the production or distribution of goods or promoting technical or economic progress, and which do not afford such undertakings the possibility of eliminating competition in respect of a substantial part of the products in question.

In Article 86 abuse by one or more undertakings of a dominant position within the common market or in a substantial part of it is prohibited with particular reference to the following abuses:

"(a) Directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions;

(b) Limiting production, markets or technical development to the prejudice of consumers;

(c) Applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;

(d) Making the conclusion of contracts subject to the acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts."

Article 87 (2) (b) sets out the compromise for regulating the measures for the application of Article 85 (3), taking into account the need to ensure effective supervision on the one hand, and to simplify administration to the greatest possible extent on the other.

Subparagraph (c) of the same article undertakes the commitment to define, if need be, in the various branches of the economy, the scope of Articles 85 and 86 and in paragraph (e) agrees to define the relations between national legislations on the one hand and community provisions on the other.

The exceptions stated in Article 85 (3) were through Regulation 2349/84 of August 1984, which lists a series of contractual clauses accepted as not restrictive of competition, with a time horizon extending to 31 December 1994.

In that Regulation, which fundamentally seeks a compromise between defending the industrial property rights and the objectives of free competition, agreements which guarantee market exclusivity for products protected by patent licences and restrictions on parallel export are considered to be acceptable. These restrictions on parallel exports of chemical and pharmaceutical products have been listed in the final agreement which, with regard to patents, has been drawn up between Spain and the Community. Under the agreement, the owner of a patent for chemical or pharmaceutical products is permitted to prevent the import and marketing of this product in any member State in which the product is protected by a patent right, even if the product has been marketed for the first time in Spain by the owner himself or with his consent.

Having listed the objectives of the Community provisions, let us now see the corresponding provisions in Spanish positive legislation.

Decree 2343/73 of 21 September, which regulates the transfer of technology, establishes as the objectives that the Administration should obtain a detailed knowledge of the content of the technology acquired and the conditions governing its acquisition, together with a clear knowledge on the part of the Administration of the criteria for preference from the point of view of the public interest with regard to the terms and conditions for acquisition of technology.

We can therefore see at the objectives level, that the Spanish Decree seeks, by the measure of registration to obtain information about what technologies are obtained by contract and under what conditions the contracting takes place; accordingly, an attempt is being made to use the Register of Contracts as an aid, in the informative sense, for decision-making in the area of technological policy.

Such an objective is perfectly compatible with the Community provisions, and it is appropriate to refer in this respect to the

provisions adopted in Article 13 of Regulation 2349/84, which explicitly provide that nothing prevents the publication of general information or surveys on conduct within the context of contractual agreements for the transfer of technology.

Nevertheless, in the clauses of the above-mentioned Decree and Ministerial Orders which develop it, it may be necessary to introduce some modifications in order to bring them into harmony with the Community provisions and simplify administrative procedures to the greatest extent possible.

Administrative procedure

In its current form, a prerequisite required for the authorization of payments by the Directorate-General for External Trade, is the entry of the contract in the Register kept by the Directorate-General for Industrial and Technological Innovation. In the latter Directorate-General an analysis of the contract is carried out, technical reports are requested from relevant bodies and a decision is taken whether or not to authorize the entry or to authorize it with an unfavourable annotation. Once the contract has been registered it is passed to the Directorate-General for External Trade, which is responsible for authorizing foreign payments.

In the European Economic Community there is no obligation for prior submission of the contract; but one or both parties may (Regulation 17/62) notify the EEC Commission of agreements which are contrary to Article 85 (1) and whether it is intended to invoke Article 85 (3). It will also be possible to request from the Commission a negative certification that the agreements do not infringe Article 85 (1). Agreements which have restrictions for one of the parties will have to be notified to the Commission within one month. The difference in procedure is, therefore, that in the EEC there is no obligation to notify all contracts for the transfer of technology while in Spain it is compulsory to register all contracts which provide for continuing payments, as well as all technological services not excepted by the Order of the Ministry of Trade of 14 September 1979.

It is understood that the submission of contracts to the procedure of entry in the Register of Contracts for the Transfer of Technology in order to make them valid in Spanish territory must in my view be maintained, since technology markets are neither transparent nor competitive, and given the excessive technological dependence of our country, the negative balance with respect to the other Community countries, the weak negotiating position of enterprises acquiring technology and the information needs of the Administration in this area, provided that the procedure and the time taken for registration are significantly simplified. Work is in hand on this objective of simplifying the procedure and reducing the delay, using new data processing equipment for this purpose, assign of a simplified memory query print-out and a Ministerial Order which will shortly be published in the Spanish Official Bulletin.

Restrictive clauses and prohibitions

A detailed reading of the Community and Spanish provisions will allow us to detect possible points of disagreement and the taking of steps to adjust legislation to that of the European Economic Community.

I shall comment successively on those articles which may presumably give rise to discussion. I shall begin by analysing Decree 2343/73 of 21 September, whose fifth, seventh and ninth articles may raise some doubts as to their legal viability in the Community environment.

Article 5 lays down that no contract shall be registered which implies a limitation on the export possibilities of the resident or his sources of supply, without prior information of the Ministry of Trade (now the Ministry of Economy and Finance). In this article, taking account of the agreements made relating to patents for chemical and pharmaceutical products which allow restrictions of parallel exports to territories where the product is protected by a patent or the more general statement in Community Regulation 2349/84 and which accepts as a clause not restricting competition the obligation by the licensee not to exploit the licence or introduce products manufactured under the protection of the licence in territories covered by exclusive licences, it is clear that the compulsory report of the Ministry of the Economy and Finance is irrelevant. This aspect will have to be very much taken into account by Spanish companies when they sign contractual agreements in order to ensure that the contracts contain equitable clauses on the distribution of markets, providing at least for exclusivity of exploitation of the licence on Spanish territory.

With regard to the restrictions imposed on the licensee concerning his sources of supply, it must be taken into account that Regulation 2349/84 of Article 2.1 generally considers the obligation of the licensee to obtain supplies of products or to use services of the licensor or of an enterprise designated by the licensor to be not restrictive to competition, always on the understanding that such products or services are necessary to properly exploit the licence granted. Nevertheless, paragraph 9 of Article 3, of the above-mentioned Regulation makes reference to the non-validity of agreements which oblige the licensee to use inappropriate licences or accept patents, products or services which he does not desire.

On this point it must be said that there is total agreement between the Spanish administrative practice and the Community provision so that we see no problem in reconciling them.

With regard to Article 7 of the Decree which refers to the possibility that the granting of administrative authorization for the installation, expansion or transfer of the industries included in the first and second titles of Decree 2072/68 may be conditional on there being no refusal of registration or registration subject to adverse annotations in

respect of the company, it can be said that in so far as the chemical-pharmaceutical sector is concerned there is practically no impact, given that the sector, except in matters relating to narcotics, is fully liberalized.

Article 9 refers to practices of the Ministry of Industry and Energy aimed at the diffusion of information on technology acquired through contracts and the improvement of the transparency of the market in transfer of technology, the objectives of which have no point of friction with the Community provisions, and, as has been said before, this is where the greatest efforts of the Directorate-General for Industrial and Technological Innovation are being directed.

Finally, I shall comment on Article 10, which obliges those bodies, entities and enterprises referred to in Article 9 of Decree 017/1968 which contract for the purchase of technical studies and services with foreign consultancy and engineering firms to justify this by stating that they have attempted to obtain the services from at least two firms in the special section of the Register of Consultancy and Industrial Engineering Enterprises. The bodies and enterprises referred to are entities and autonomous bodies under the Ministry of Industry and Energy, national enterprises, those obtaining authorizations of an industrial nature or mining concessions from the Ministry of Industry and Energy and those to which benefits may be granted in the future for the development of industry or mining. We realize that the article in question is difficult to defend, but nevertheless the facts show that within the EEC practically all these services are almost 100 per cent carried out by local enterprises, and given that the level of our engineering is comparable with that of the best in the community market it is quite possible that, with an appropriate trade policy, it will be feasible to ensure that industrial projects are carried out in Spain, at least with regard to the detailed engineering. With regard to basic engineering it is indisputable that our enterprises will have to make a great effort in research and development in order to be able to offer genuine processes.

Examination of the Ministerial Orders of 5 December 1973 and 30 June 1981 which implement Decree 2342/73 of 21 September

Having analysed the articles of the Decree which could raise doubts relating to Community legislation, let us now pass on to the provisions of the Ministerial Orders of 5 December 1973 and 30 June 1981 implementing the Decree 2343/73 of 21 September.

In the third point, 3.2, the following restrictive conditions or adverse aspects are set out:

(a) "Limiting the acquisition of technology from other sources, and conditioning, limiting or annulling research, development and innovation activities by the recipient based on technology transferred under the contract, or laying down conditions concerning the use of non-patented knowledge once the term of the contracts has expired."

With regard to the first part of the paragraph it is clear that there is no question about its perfect harmony with Community principles. Nevertheless, the phrase "laying down conditions concerning the use of non-patented knowledge once the term of the contracts has expired" may contradict the exceptions provided under Regulation 2349/84 which, in Article 2.1.7, accepts as a practice not restricting competition the obligation imposed on the recipient not to publish know-how on termination of the contract.

(b) "Transfer of technology for which there is proven domestic capacity for supply with an equivalent level of quality and reliability, or technology considered to be polluting because there are other cleaner technologies in existence, or technologies which are inherently wasteful of energy or which use imported raw materials or components instead of domestically produced substitutes."

This paragraph is controversial, since it allows the Administration to decide in favour of the use of equivalent national technology and products in the domestic sphere and would constitute, in fact, a privilege for Spanish companies under a principle of nationality incompatible with Community rules.

In spite of this, we understand that, in specified circumstances and sectors, there would be the possibility of invoking Articles 85 (3) and 86 (b) of the Treaty of Rome, in so far as the contracted technology may imply a limitation of technical development to the prejudice of consumers.

(c) "Prohibiting, excessively restricting in geographical area or not expressly authorizing with regard to specific areas the export of goods produced by the recipient, and making compulsory the acquisition of raw materials, components and other intermediate goods or equipment from the licensor or suppliers determined in the contract."

As can be seen, this paragraph is a development of the fifth article of Decree 2343/73 already discussed and one that Community Regulation 2349, in Articles 1 and 2.1, accepts transitionally as not restrictive to competition, given that exclusive licences exist in other Community countries and the products and services imposed are necessary to guarantee the quality of products.

(d) "Imposition of the use of registered trademarks by the licensor in Spain and establishing the right of the licensor not previously acquired by other means to intervene, control or impose conditions on the licensee management or its strategy for expansion or diversification."

On this point, it must be said that

Article 2.6 of Regulation 2349/84 considers it not restrictive to free competition for the licensee to be obliged to indicate the ownership of the patent on the manufactured product.

(e) "The imposition of significantly higher payments than those applied in the market in similar situations, and minimum counter supplies when the payments are based on rates proportional to the level of activity at various magnitudes."

The comment raised by this point is that, in accordance with Article 2.1.11 of the Community Regulation, the licensor has the obligation to treat the licensee as the most favoured beneficiary on conclusion of the licensing agreement.

With regard to the prohibition of minimum payments, it must be said that this practice is considered not restrictive of competition under Article 2.1.2 of the Community Regulation, which accepts payment of minimum quantities, manufacture of a minimum number of products or the realization of a minimum number of exploitation activities.

(g) "Imposition of an inappropriate duration of the contract or its direct consequences, whether in terms of brevity or prolongation, or extending the period of the contract without improvements being introduced in it."

The only obstacle to the validity of this paragraph, in terms of Community legislation, is the requirement for improvements where contracts are extended. Community legislation prohibits automatic extension when the validity of the patent has expired and payment for know-how falling within the public domain. For the purposes of extension, EEC legislation establishes that the holder of the licence will be treated as the most favoured licensee.

(h) "Imposition of a requirement that, with regard to interpretation, a foreign language version prevails, where the contract has been signed in languages other than Spanish."

We understand that this paragraph lacks validity, a version in any Community language being considered valid. Nevertheless, for the purposes of analysis by the Spanish authorities, it should be possible to require the submission of a sworn translation of the contract.

The third point, 3.3, refers to action where dependence on the outside for technology and use of trademarks accumulates, affecting more than 50 per cent of the turnover of the Spanish enterprise; there is a requirement for the presentation of a programme of technological development aimed at the assimilation of the technology received and the technological development of the sector concerned or its industrial environment.

We understand that this point could be maintained, article 85 (3) being invoked in connection with specific sectors and technologies.

References to legislative change in the Law of Patents in relation to chemical and pharmaceutical products

The agreement reached in Luxembourg on 10 April 1984 on the patents item within the negotiations between Spain and EEC obliges the Government, from the time of accession, to make Spanish legislation compatible with the principles of free circulation of goods and the level of protection given by the Community to industrial property. This agreement affects the following fundamental questions:

- The patentability of chemical, pharmaceutical and food products;

- The inversion of the burden of proof for process patents;

- Establishment of procedures for substantiating facts;

- Rules on contractual licence, obligatory licence, exclusive licence and initial patent.

Patentability of chemical and pharmaceutical products

The acceptance of the patentability of chemical, pharmaceutical and food products will imply that no one will be able to manufacture the patented product without the authorization of the owner of the patent, whatever process is used in manufacture, and, moreover, no one will be able to import the said product if the patent is in force.

At the present time, as is known, protection only relates to the process, allowing the possibility of manufacturing the same product provided that it is made by a different process from the one patented, and the import of the product is also permitted if it is obtained by a different process from that patented in Spain.

This change in our patent legislation will give rise to problems in our chemical and pharmaceutical industry, which has directed its efforts in research and development to the improvement of processes for the manufacture of products already known and in rare cases to the production of new products which require, on the whole, a much greater investment of human and financial resources in research and development.

It will be possible to patent chemical and pharmaceutical products in Spain from October 1992, while the patentability of food products is envisaged from the date Spain actually enters the EEC and, in any case, on the entry into force of the new law.

Inversion of the burden of proof for process patents

The object is to establish the legal presumption by virtue of which, where a

product directly obtained by the process is new, it is assumed in the absence of contrary proof that any product with the same characteristics has been developed by the process entered in the Register of Patents in the first place, and it will be the defendant who will have to show that the process used by him is different from that used by the owner of the patent for the product. Holders of subsequent patents for processes for obtaining the same product will no longer be able to make use of this instrument of inversion of the burden of proof but will have to use the normal procedures - that is, it will be the plaintiff who will have to prove that the other patented process is the same as his.

The agreement reached implies that it will be applied to new process patents from the time of accession and, with regard to process patents granted before entry, will begin to apply from 7 October 1992, with the important proviso that the inversion of the burden of proof cannot be invoked against the owner of a process patent obtained before entry.

Establishment of procedures for substantiating facts

This consists of giving any person who considers that his rights of industrial property have been infringed, the right to go to a judge who, assisted by experts, will ascertain, at the place where the facts occurred, the existence of proofs which evidence the infringement of patented rights. For the judge to accept the request, it must be shown that substantiation by any other method is impossible. In order to guarantee compensation to the defendant for the improper use of the procedure, the judge can order the establishment of a deposit designed to indemnify the defendant for damages caused by the process of substantiating the facts. This procedure will be initiated at the latest with effect from 7 October 1992.

Regulations for contractual licence agreements

With regard to the chapter on contractual licence agreements and obligatory licences, our industrialists will have to take into account the fact that the owner of the patent is not obliged to supply the accompanying know-how, unless there is agreement to the contrary, and that obligatory licences are not exclusive - although our direct legislation upholds the principle of commercial good faith between the holder of the patent and the licensee, according to which it is presumed that the patent licence must include the know-how essential to its operation, an aspect which takes on particular importance in the case of obligatory licences, which may be granted for reasons of public interest; these clearly include protection of public health.

In connection with this point there is the agreement reached on the possibility of establishing restrictions on parallel exploitation of chemical and pharmaceutical products until 1995, by virtue of which the holder of a patent for a chemical or pharmaceutical product has the right to prevent the importing and marketing of this product in any territory where the product is protected by a patent right, even if the product was marketed for the first time in Spain by the owner of the patent, or with his consent.

Conclusions

The integration of Spain in the European Community offers a challenge to our industrial sector which will have to make a considerable effort in research and development and in its marketing policy to compete in a wider market, where there are prestigious companies with consolidated marketing networks and a high level of technology.

With regard to the chemical-pharmaceutical sector, Spanish enterprises will have to achieve a major quantitative and qualitative change, and in particular increase investment in research and development to place them at levels closer to international standards and direct their research towards obtaining new products instead of processes.

The harmonization of our legislation on contractual licence agreements will involve changes at the level of administrative procedure, an area in which work is currently in progress, emphasizing the role of the Registry of Contracts as an information tool at the service of technological policy.

Let us hope that the date of entry into force of the European Patent Convention, 5 December 1992, one week away from the celebration of the fifth centenary of the discovery of the New World, will mark a new historic milestone which will bring to light the inventive potential which undoubtedly exists, of Spanish scientists, engineers and companies.

Registry news

Philippines

TECHNOLOGY TRANSFER BOARD
1984 ANNUAL REPORT

For the year 1984, the Technology Transfer Board (TTB) acted on 80 agreements, 75 of which have been conditionally approved, three endorsed to the Central Bank and two denied. For the same period, the Board rendered action on 27 requests for reconsideration. A total of 82 contracts were officially accepted, while 72 agreements were registered after full compliance with conditions imposed by the Board.

The majority of technology transfer agreements registered with the Board during the year were in the manufacturing sector which comprised 91 per cent of the total amount. The distribution for specific sectors was as follows: food, beverage and food additives - 11.29 per cent; drugs and pharmaceuticals - 9.88 per cent; industrial and household appliances and parts thereof - 9 per cent; road vehicles and parts (except rubber tyres) - 6.88 per cent.

In terms of tangible benefits accruing specifically to local companies and to the country in general, total estimated foreign exchange earnings from projected export activity over five years is US$290.5 million. Likewise, total foreign exchange savings from the required reduction in royalty sales is estimated at US$15.5 million over five years while estimated tax revenues accruing to the Government from withholding taxes on royalties is P305.5 million. An estimated average annual level of employment of 15,557 is expected to be generated from the registered contracts.

Among the agreements registered with TTB in 1984 involving export-oriented and large investment projects were:

- Philippine Global Communications, Inc. with RCA Global Communications, Inc., USA - for the provision of technical services in the field of communications with an estimated foreign exchange earnings over five years of US$73,794,700;

- Wrigley Philippines, Inc. with W.M. Wrigley, Jr., USA - for the manufacture of various chewing gum products with an estimated export earnings valued at US$28,970,500 over five years;

- Pacific Cement Company, Inc. with Holderbank Financière Glaris Ltd., Switzerland - for the manufacture of cement with an estimated foreign exchange earnings of US$22,271,000 over five years;

- Filipro, Inc. with Société des Produits Nestlé S.A., Switzerland - for the manufacture of liquid milk with projected exports over five years estimated at US$18,481,000;

- Kimberly Clark Philippines, Inc. with Kimberly Clark Corporation, USA - for the manufacture of household sanitary products, disposable hygiene products and other consumer products with an estimated foreign exchange earnings of US$10,570,000 over five years;

- Pacific Elevator and Escalator Corporation with Otis Elevator Co., USA - for the production of escalator products and parts with projected foreign exchange earnings valued at US$9,357,000 over five years;

- Alcon Laboratories Philippines, Inc. with Alcon Pharmaceuticals Ltd., USA - for the manufacture of rhinologic, opthalmic and dermatologic products with an estimated export earnings of US$7,410,000 over five years; and

- Filipro, Inc. with Food Ingredients Specialties S.A., Switzerland - for the manufacture of instant noodles, seasonings, and food ingredients with an estimated export earnings of US$6,772,640 over five years.

On the developmental aspect, intensive efforts have been undertaken to broaden the data base of locally available technologies, alternative sources of technologies within and outside the country in order to more effectively assist the local technology buyers in the selection of appropriate technologies as well as ensuring that the purchase of technology occurs under the most favourable terms for the technology recipient. Computerization of the information network will definitely assist the Board in the efficient management of information relevant to the evaluation of technology inflow as well as in extending advisory services to the government and private sectors.

COUNTRY PROFILE - Senegal

Legislation

(A) Foreign investments

(1) Laws and regulations in force

The new Code of Investment is embodied in Law No. 81-50 of 10 July 1981. Law No. 81-50 is supplemented by Law 81-51, enforced in 1982, and by Decree No. 82-299 of 11 May 1982 which established the composition and working procedure of the Interministerial Committee of Investments.

(2) Registration

The Interministerial Committee of Investments, within the Ministry of Planning and Co-operation is the entity in charge of co-ordinating, stimulating and follow-up on the implementation of the development projects, taking into account the Government's economic policy. The Committee also gives advice on requests for incentives as foreseen in the Code of Investment.

(3) Scope

The provisions of the Code of Investment are applicable to all physical and juridical persons irrespective of their nationality established in Senegal and carrying out an activity in one of the following sectors: industries, agriculture, livestock, forestry, fishery, energy generation, tourism, mining, prospecting and exploitation, transportation by air, by sea or railways and telecommunications.

(B) Industrial property

(1) Laws and regulations in force

Senegal is a party of the Bangui Agreement which created the African Organization of Industrial Property (OAIP) and established a uniform system for the protection of industrial property rights among the 13 member countries.

The Bangui Agreement came into force on 8 February 1982 and OAIP is in charge of applying the common administrative procedures, therefore playing the role of a national office of industrial property for each of the member countries.

(2) Scope

- Product and process patents;
- Utility models certificates;
- Trade marks for products and services;
- Industrial drawings and models.

(C) Technology transfer

(1) Laws and regulations

So far, the basis for the transfer of technology control in Senegal is the Bangui Agreement which provides for the registration of contracts involving the licensing of industrial and intellectual property rights.

(2) Scope

- Product and process patents;
- Utility model certificates;
- Trade marks for products and services;
- Industrial drawings and models.

(3) Restrictive practices

- Payment of royalties for a non-exploited industrial property right;
- High level of royalties;
- Import of raw materials and supply of equipment from the licensor;
- Restrictions to the export of the licensed products.

Institutional arrangements

(A) Competent approval authority

Ministry of Industrial Development and Handicrafts, P.O. Box 4037 DAKAR (Senegal)

(B) Co-ordination

The Ministry of Industrial Development and Handicrafts has co-ordination linkages with the Ministry of Economics and Finance; advice may also be requested from any other service or Department.

CHINA SETS RULES ON TECHNOLOGY IMPORTS

China has issued new rules on its technology imports which forbid foreign firms from putting restrictive articles into contracts, according to the New China News Agency.

The rules say foreign firms cannot contractually stipulate which products Chinese companies can make with the technology they buy, or which countries they can sell those products to.

"The regulations provide that the foreign party may not impose restrictive articles in a contract," it said.

"These (restrictive articles) include ... the amount, variety and sales prices of products manufactured with imported technology, and stipulations as to sales channels and the export market," the agency said in a summary of the rules.

Companies exporting technology to China under Licensing and other agreements have often relied on contractual clauses to protect their export markets from future Chinese competitors using their technology, one foreign analyst said. The regulations appeared to remove this protection.

The rules came into force on 24 May. They cover transfer of patents and industrial property rights, know-how related to production processes, formulas, designs, quality control, and technical services, the agency said.

Chinese firms will not be able to sign technology transfer contracts exceeding a 10-year term without special permission, and foreign firms cannot prohibit China's use of imported technology after the contract expires. (Source: Financial Times 31 May 1985).

We hope to be able to publish the full text of these new rules in a future issue of the TIES Newsletter.

REGISTRY CHANGES

Recently some changes have taken place at the management level of various technology transfer registeries participating in TIES:

In Brazil, Mr. Mauro Fernando Maria Arruga has succeeded Mr. Alvaro Brando Soares Dalra as president of the National Institute for Industrial Property. Mr. Arruga was previously director for Technology Transfer at INPI.

At Siex in Venezuela, Mr. Alfredo Gonzalez Amaré has been succeeded by Mr. Jesus Maria Ponle, former ambassador to Japan, as superintendente of Siex.

In Colombia, Mrs. Gloria Posada de Velasquez has succeeded Mr. Diego Narango Mera as superintendente (E) of the Superintendencia de Industria y Commercio.

Mr. S. R. Kapur, Joint Secretary of the Department of Industrial Development of India has been replaced by Mr. B. Sahay. Mr. Kapur has taken up the post of Secretary of Electronics in his home state of Punjab.

The last change was the nomination of Antonio Cano Martin, chief of the Spanish Registry as deputy director general of programming and monitoring at the Spanish Ministry of Defence. A successor to Mr. Martin has not yet been nominated.

Technology acquisition

JOINT NOIP/UNIDO WORKSHOP ON THE EVALUATION OF TECHNOLOGY TRANSFER AGREEMENTS INVOLVING EQUITY AND NON-EQUITY PARTICIPATION, LAGOS, NIGERIA, 11-15 MARCH 1985

The Workshop: A summary report

The National Office of Industrial Property (NOIP)/UNIDO Workshop discussed in the main five principal subjects based on the keynote paper relating to the Nigerian experience in the field of transfer of technology, i.e.:

(i) The economic impact of transfer of technology to developing countries and the roles of transnationals and their subsidiaries, in this process;

(ii) The contractual obligations for equity and non-equity forms of technology transfer with the remuneration for such technology and the impact taxation has on it;

(iii) Trade mark policies of developing countries;

(iv) National policies on the management of value added and the monitoring of transfer of technology agreements; and

(v) The creation of national, technical and consultancy capabilities.

At the outset it was recognized that the national management of technology was a critical issue in the process of industrialization and that the industrial development of Nigeria was contingent upon the adoption of specific, clear and firm policies in this regard. It was acknowledged that the experience of developing countries which had passed the stage that Nigeria is presently going through is relevant to Nigeria and that this experience needs to be shared. However the instruments that Nigeria may choose to make use of in implementing its national objectives must be forged from its own unique heritage. The methodologies of developing countries which have established systems for the national management of technology can therefore only be guidelines or optional strategies for Nigeria.

The establishment of a National Office of Industrial Property (NOIP) in Nigeria is a major step towards the creation of an institutional matrix for the acceptance, adaptation and diffusion of technology in the country. The linkages that have to be established between the institutions concerned and entwining of policies are as important as the creation of the institutions themselves. Institutions, strategies and policies must reinforce each other and must be backed by political will.

Technology transfer does not mean indiscriminate acceptance of technologies. The proceedings of the Workshop clearly demonstrated that there should be a careful selection process so that priority sectors of the economy are catered to. Technology transfer again is not a painless process. Where there is a system of priorities, there will be distortions in the economy. The constituencies in the low priority sectors will have to bear the burden of diminished transfer of resources until such time as attention can be given to them. The transfer of technology is the transfer of a complex package of rights, capacities, capabilities, expertise and information. The absorption of technology is an evolutionary process and cannot, because of its complexity, be a one-time transmission. The ability to acquire technology is determined primarily by the capacity of the recipient and the condition and dynamism of the technology market. Nigeria by itself or any single developing country cannot, in the present circumstances, influence this market. Commentators at the Workshop underscored the need for a change in the technology market to be created by the collective action of developing countries and economic co-operation between and among them. International institutions, such as UNIDO, can and should play an important role in achieving convergence in the technological objectives of developing countries placed in similar or near similar technological environments.

In recognizing the achievements of countries like India, there was an awareness in this Workshop that one cannot transplant methodologies and thereby achieve technological goals; at best they can serve as models.

Infrastructure

The creation of a technologic infrastructure in Nigeria will have to be based on a set of principles which balance indigenous and imported technologies. National goals of developing countries must be based on self-reliance in key sectors to be achieved in the shortest possible time. Technological infrastructure is a system of national centres, research and development laboratories, standards institutions, design and prototype centres, and sectoral development centres, with linkages both to industry and the educational system. Weaknesses in the technological structure are reflected in the inability to monitor the quality of imported goods, the ability to utilize national raw materials and the lack of the full complement of skills required to carry through the project implementation process and indeed the absorption of technology itself. Decisions taken during the pre-investment phase are crucial determinants of the degree to which the transfer process contributes to the development of technological capacity. It is in this context that the development of national consultancy capabilities has to be effectively dovetailed. The most serious consequence of a weak structure is the inability to unpackage imported technology - the very heart and core of the process of attaining national self-reliance.

The management of technology embodied enterprises

The Workshop required that in synthesizing key elements of the national system of technological enterprises, the enterprise management was perhaps the more vital factor than consideration of whether technology is transferred with or without equity. This is particularly important in the case of Nigeria where there appears to be a tendency to entrust the management of enterprises in complex and non-complex areas to expatriate managers. However, while recognizing that management is a more important issue, it does not entail the loss of rights for the local partner in determining the overall destiny of the enterprise. National control involves the setting up of objectives and holding the manager responsible for achieving them. Failure to set targets is equivalent to losing control and from the national partner's point of view must be considered as mismanagement.

Remuneration

In the Nigerian context remuneration for technology has assumed very serious

proportions because of the recessionary environment in the country. In a rush to aquire technology, Nigeria has in the past expended large sums of money. It is now recognized that compensation has been paid for products and rights which do not have any role in effecting forward or backward linkages in the economy. Whatever attempt made to regulate remuneration in Nigeria has until recently been ad hoc and arbitrary in nature. A clear sense of urgency was felt by the group to devise a system whereby there could be a rational approach to this matter. In this context a method developed at UNIDO, which looks upon all remuneration in technology transfer on the basis of profit-sharing, was commended. It was realized that NOIP's role in the regulation of technology payments could be assisted by the determination of national reference parameters related to profit-sharing (LSIP). The mechanistic interpretation of payment ratios is practically irrelevant to the transfer of technology.

Payments need to be regarded in the context of the contractual relationship between the licensor and the licensee, the quality of the technology transfered, the enduring benefit that the technology brings to the country, national and sectoral balances of payments and the national fiscal policies. One of the important recommendations made at the Workshop was that the nature of co-operative linkages between the licensor and the licensee should not affect the payment for technology which must be seen on its own merits.

The impact of national taxation on technology payments has to be examined before determining remuneration for technology. No prescription was provided as to the pattern that Nigeria could adopt. Developing countries generally do tax royalties and down payments, but payments net of tax appear to be acceptable in some situations or countries. However, the opinion in the Workshop was divided on the desirability of permitting taxes to be borne by the licensee in substitution of the licensor. It was recognized that transnational companies view incomes from royalties and profits flexibly and often take advantage of low rates of taxes on royalties to transfer profits.

The Workshop paid particular attention to the question of remuneration for trade marks, technical assistance and consultancy, viewing them in their separate contexts. The UNIDO experts appeared to be of the unanimous view that there should be no compensation for use of trade marks except when used in exports, open-market economics and on capital goods. On the matter of technical assistance and consultancy, it was the opinion of the experts that remuneration be based on pre-determination of the quantum, the quality and the skill-level of the work and not on percentages of equipment or project cost since the incentive for economy in designing is lost thereby. Tendering should be systematically exploited to reduce fees. Exchanges of views in this matter also indicated that it was feasible to exchange information between developing countries on quantum of compensation for expert services. The possibility of using the UNIDO TIES system for the flow of this information was also noted.

Trade marks

The Workshop recognized that sometimes a trade mark is a guarantee of quality, but this quality assurance is not critical for all types of products. In many cases these trade marks establish dominant positions in the market without being carriers of technology. It was unanimously decided that acceptance of trade marks without a substantial component of technology would be detrimental to the development of a developing country. Where trade marks are used conditions should be created for the use of hybrid trade marks so that the national component of such a mark can survive in the long run and create independent markets for the national product. There are many successful examples of the efficacy of this concept in India.

Local value addition

Local value addition is important for conserving foreign exchange and for generating employment opportunities and the Workshop highly commended attention being paid to this aspect. Local value addition by its impact on domestic resources and skill levels contributes to the strengthening of the technological structure.

However, it is possible that it may sometimes create distortions through inefficient combination of imports, or improper evaluation of local raw material costs. Furthermore, attractive incentives to enhance local value addition can adversely affect the division of profit between the licensor and licensee. Again, adequate care should be paid to ensure that national subsidies do not artificially create a measure of local value addition where there may be none. In a world in which the knowledge content of productivity is rapidly increasing, value addition by technical complexity has much to be said in its favour. The Workshop recognized that the concept of a CKD based manufacturing plant was a good starting point as it may ultimately be possible to create a national ancillary industry. However a CKD plant must have an objective behind it and a monitoring plan to support its progressive value addition must take place. This is a conscious exercise which cannot be left to the whims and fancies of the entrepreneur.

Monitoring

The objectives of national planners and enterprises are quite often non-convergent. Technology agreements can be manipulated to obtain the sanction of regulatory agencies. The Nigerian experience demonstrates that the project that is implemented, falls far short of the expression of the agreement. Hence there is a need to closely monitor high investment projects. An environment needs, however, to be created to obtain the co-operation of the national enterprise. Levels of skill and attitudes necessary for monitoring will have to be developed, all part and parcel of the technological infrastructure to be created within the country.

GUIDE ON GUARANTEE AND WARRANTY PROVISIONS IN TECHNOLOGY TRANSFER TRANSACTIONS

Further to the extract on the suitability of technology taken from the above paper, we present hereunder a section on the correctness and completeness of technology.

Correctness and completeness of the technology

(a) Purpose and function

The full and correct communication of 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 incomplete documentation or documentation of insufficient specificity 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, 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 for the supplier for carrying out their function.

(b) Present legal situation and contractual practice

Some 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 1

"(A contract for the acquisition of material rights to technology) shall provide for: ... a guarantee by the technology supplier that the transferred technology, the procedure of transfer, and the documentation are complete ... " (Yugoslavia, Act on Long-Term Co-operation, Art. 24 (2).)

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

Illustrative Clauses 2 and 3

For patent licences:

"The contract shall expressly specify the number and the title of the patent or patent application in Brazil" (Basic rules and norms for the registration of contracts involving the transfer of technology and related agreements. Normative Act. No. 15 of 11 September 1975, Sect.2.5.1.a).

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

"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:

"The contract shall:

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

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

In contractual practice, provisions on completeness and correctness are often covered in other guarantee clauses in the agreements 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 4

"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 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, Licensing Guide for Developing Countries, Fn. 137.)

In addition, such clauses may also stipulate that documentation will be presented "in a comprehensible manner for the qualified person in the field" and that such documents should cover all aspects related to safety and emergencies in connection with the use of the technology in the recipient's country.

The consequences of non-fulfilment differ. Consequences laid down by law include nullity of the contract, reduction in price, or damages. Contractual provisions may stipulate the obligation of the supplier to complement and/or rectify the documentation transmitted, regulate an adjustment on dates of delivery and subsequent guarantee periods or apply the general contractual provisions in the case of non-fulfilment or faulty fulfilment.

Illustrative Clause 5

"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 the number of their patent application or registration, title and exterior design, know-how may take the form of drawings, whereas manufacturing know-how and organizational advice will often not be documented.* 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 purpose 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 6

"If any explanation is required by the licensee or the contractor, such explanation shall not be unreasonably 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 comprehenson 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.

A mere reference to the "completeness" may give rise to disputes on what exactly is meant by it. Therefore it is proposed to have a detailed, open-ended list.

Illustrative Clause 7

"The documentation to be supplied for this purpose shall include, but not be limited to ..." (UNIDO, PC.50/Rev.1, Sect. 3.3).

Correctness. Documents are not always copied rom the master drawing which contains all amendments and changes. On the other hand, in some cases amendments may only be 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 licensee got a copy of the incorrect master drawing, but because of his lack of familiarity with the technology he did not recognize the mistake and produced deficient goods for a considerable time. (See International Chamber of Commerce, Le transfert de technologie pour le développement. Declaration of the ICC at the UN Conference on Science and Technology for Development, Vienna, 20-30 August 1979, p. 23.)

Quality and content of documents. The documents, even if correct, may give rise to a number of problems:

- Reproducability: documents should be easily reproducable both with

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* See Aselmann, Specification and renumeration of foreign know-how, reprinted in the Law and Business of Licensing, p. 497. Aselmann gives a figure of 60 to 70 per cent 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.

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: especially if one of the parties uses the metric system, and the other not;

- Operating times indicated: since they may strongly depend on certain climatic conditions, the use of specific inputs, etc., are often considered as trade secrets and many suppliers are reluctant to transmit them;

- Norms and standards to be used;

- In spite of the aforementioned provision 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 qualifed 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' experience in an ammonium plant"), but different portions of the technology also require different levels of comprehension.

"Up-to-date". The technology transfer is often a process which takes place over a longer period of time. Therefore, the relevant date, generally called the "freezing date", at which the technology has to be correct and complete needs to be specified (such as date of conclusion of the contract, of government approval, commencement of plant installation, etc.). Therefore, mere reference to "up-to-date" in the illustrative clauses quoted above seems to be too imprecise.

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 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 has to be adapted to specific local conditions, e.g. to the local inputs and utilities used, or because legal requirements such as workers' safety or environmental protection have been changed. In such cases, it will be decisive to ensure that the licensor approves of any change in the documents, because his 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. There, the recipient may have an interest not to incorporate certain changes because orders 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.

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. Usually errors in documentation will only show when the technology is being implemented or even later 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. Any guarantee period should only commence after completion or correction of the documentation.

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 understanding. 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 technology 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 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. The right to liquidate direct damages or even consequential loss will be more difficult to obtain. All remedies may be modified by the importance of the fault. Thus, parties may exclude or restrict certain remedies 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" verification 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 may be sufficient where the applicable law considers this to be an implied warranty. But care should be taken, since 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.

Close familiarity of the recipient with the technology may also be a substitute to a guarantee of completeness and correctness. When the recipient, due to his knowledge of the technology, can himself judge whether the technology as described is correct and complete, he does not need a guarantee to that effect. The recipient may have had the necessary knowledge before entering into negotiations, but he may also have acquired it in the course of negotiations by means of consultants' advice, predisclosure agreements, look-and-see agreements or visits to the plant of the supplier.

(d) Check-list

1. Specification 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:

   - number of patents
   - country of application, registration
   - present state of application, registration procedure
   - title

3. Documents:

   - type
   - number
   - reproducibility
   - language
   - measurements
   - size of documents
   - standards
   - ownership
   - safety instructions

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
   - visits to supplier's plant
   - latest developments known to supplier

6. Relevant time for completeness and correctness:

   - up-to-date
   - as of specified date
   - as of date of conclusion of contract
   - as of date of government approval
   - as of date of commencement of plant installation

7. 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

8. Several 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

9. Examination:

   - responsibility of examination
   - time of examination
   - plan of examination

10. 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

11. 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 payments
- direct damages
- consequential losses
- reduction of payments
- termination of contract
- nullity of contract

12. Alternatives:

- implied warranties
- technical capacity of the recipient

13. Legal requirements under applicable law

LICENSING OF CONSULTANCY SERVICES IN INDIA

(In continuation of the Indian experience on the transfer of technology, licensing of trade marks and consultancy services, the first part of which we presented in TIES Newsletter No. 28 of March 1985, we now reprint the section on consultancy services. The part we reprint hereunder is taken from a paper written by Mr. S. Kapur, Secretary to the Government, Punjab Transport Department at Chandigarh, India.)

Consulting and engineering services establish the link between the supply of knowledge and the demand for its use. For the purpose of this paper it is proposed that consulting services be co-related with pre-investment work, while leaving aside the term engineering to identify the design and calculation of work required to implement a project (detailed engineering). Engineering work is also needed during the preparation of a project for evaluating technological alternatives at the pre-feasibility stage and for undertaking preliminary engineering at the feasibility stage. Pre-investment work demarcates the choice of technology and therefore the allocation of resources. For this reason, the development of consultants taking up pre-investment work should have the highest priority in the process of building local technological capabilities.

Consulting services needed for major development projects in India, such as those required by modern industrial enterprises in the developing countries who find themselves in a similar situation to that of India at the time of independence in 1947, were almost totally secured from external sources and in many cases were provided by the suppliers of equipment or finance with practically no participation from local counterparts. The limited domestic qualified staff dispersed in university departments, government and national research centres at best found a minor role with the foreign consultants mostly as individuals and not as institutions.

However there has been a dramatic change over the past 38 years in India's position. Side by side with the development of industrial production, the Indian consultancy organizations have also extensively developed and diversified their activities to meet the requirements of a vastly expanding and sophisticated industrial market. Besides meeting domestic requirements to a considerable extent, these organizations have stimulated the growth of exports in the form of consultancy services, engineering and construction contracts and turnkey projects in different countries in Africa, Southern and South East Asia and the Middle East. The main areas in which such consultancy services are now being provided are the construction of power stations, road transport, railway lines, roads, housing colonies, water and sewage systems, hotels, industrial establishments for cotton textiles, cement, sugar, paper, agricultural machinery, electronics, pesticides, leather and tanning, pharmaceuticals and machine tools etc.

Indian consultancy firms cover a wide range of industrial activity and cover the entire gamut of services such as planning, market surveys, preparation of feasibility studies, project know-how, project engineering and construction in the fields of civil engineering, industrial plant and machinery, water treatment, power generation, transmission and distribution, and refrigeration equipment.

Normally the preparatory phase activities in relation to a project are divided into three categories: project identification; process definition; and supplier selection.

Table: Structure of the preparatory ph

Stage	Type of ac
Project definition	Pre-feasibilit...
Process specification	Feasibility studies
Supplier selection	Engineering specification and tender invitation

In the technology literature these categories are equated with the preparation of economic and engineering based reports and analyses which provide the basis for deciding on the viability of the project. The link-up between these activities and the aforementioned categories is clearly shown in the above table.

While acquiring foreign technology to increase productive capacity is a legitimate objective of industrial enterprises, in India it is also believed that the process of acquiring technology from abroad can provide a unique and important vehicle by which local industry can substantially increase its technological capabilities and therefore those of the economy as a whole. From this perspective, the whole transfer process should

be viewed not just as a means for acquiring productive capacity at the lowest price but as a learning process which can have major positive long-term effects upon the development of the country's technological capacity and ultimately upon its whole pattern of development and economic growth.

Decisions taken during the pre-investment phase are crucial determinants of the degree to which the transfer process contributes to the development of technological capacity. It is believed that so far too little attention has been given to this stage by researchers, policy makers and most importantly by enterprise managers responsible for technology acquisition. As a result of this neglect it is believed that important opportunities to capture gains from technology transfer have been missed.

It is in this context that the development of consultancy capabilities has been given primary importance in Indian policy. Para. 4.10 of the Technology Policy Statement of February 1983 reads:

> 4.10 Engineering Consultancy
>
> Engineering consultancy is a vital area for ensuring speedy technological and industrial development. It ensures the appropriate utilization of indigenous materials, plant and machinery. Engineering consultancy provides an essential link between R&D institutions and industry, and thus promotes effective transfer of technology. Capability for total systems engineering, process development and project management should be developed with collaboration, if required. Wherever capability exists, utilization will be promoted. Even where foreign technical collaboration or consultancy is considered unavoidable, association of designated Indian consulting engineering organizations would be preferred. Indigenous engineering consultancy, in both private and public sectors, will be promoted on a sound professional basis in the context of the overall national perspective of technological self-reliance.

The guidelines, mentioned in Section II above, also clearly state that consultancy services required to execute the project should normally be obtained from an Indian consultancy firm. If foreign consultancy is also necessary, an Indian consultancy firm should be the prime consultant.

The characteristics of public enterprises, their 'raison d'être' and their functions in India have been extensively analysed elsewhere and need not be discussed here. There is little doubt that at the present moment, the public sector in India faces severe problems and is experiencing a major critical onslaught from forces that oppose its existence. Nevertheless it remains a crucial force in India because of its commanding role in the industrial, natural resources and infrastructural sectors. By extension it is involved in the acquisition of foreign technology. In fact the Government of India expects that the public sector will act as an important, if not the principal, conduit through which foreign technology is to be introduced into the local economy. It is for this reason that public sector consulting organizations such as MECON (metal enterprise), E.I.L. (oil-based technologies), B.H.E.L. (power generation equipment), R.I.T.E.S. (railway consultants), N.T.P.C. (thermal and hydroelectric power projects), N.I.D.C. (general consultants), E.T.D.C. (electronics projects) etc. have been created and encouraged by the Government. Public financial institutions have also set up technical consultancy organizations to provide ready consultancy to middle-level entrepreneurs. The National Planning Commission set up a Committee on Technical Consultancy Services which submitted its report in 1970 regarding the channelling of national efforts to develop Indian consultancy firms in an appropriate manner. A number of public policy supports were provided to boost the confidence and capability of these organizations. Engineering and consultancy firms are enlisted by the Ministry of Industry. Foreign collaborations are also permitted by Indian consultancy firms on the following grounds:

(a) Where the technology is not available in India;

(b) Where, although the technology is available, the Indian firm wants to strengthen its technology base; or

(c) Where the Indian firm proposes to obtain collaboration to increase the export potential.

Thirty-three such collaborations were approved during the period 1977-1984.

India expects its indigenous consultancy capability to pave the way for unpackaging of technology. Over the years there has been a gradual movement away from absolute dependence on "project package" purchase of technology towards licensing contracts, purchase of patents and know-how and foreign technical assistance. This has involved a shift from wholly owned subsidiaries of foreign companies to joint ventures and minority participation of technology suppliers as well as to outright purchase of technology. Various components of the technology package are now analysed in a bid to separate them wherever practicable and to obtain them from indigenous and other sources. In all technology contracts, increasing attention is being given to the terms and conditions, particularly those concerning costs, means of payment, restrictive clauses, use of domestic resources, duration of contract, exports, patents etc. Among the problems faced in unpackaging technology are:

(a) Excessively broad technology packages, preventing both selectivity and cost reduction through negotiations;

(b) Restrictions on adequate control over use and adaptation of technology;

(c) Inappropriate purchase of raw materials, components, spares and

capital goods, even where better options exist;

(d) Costs of transfer of technology are high and rising.

High priority is increasingly assigned to unpackaging of imported technology in order to ensure that only the essential constituents of technology package are imported. It is sought to ensure that indigenous capabilities are fully utilized for gradual elimination of dependence on imported technology.

The Indian Parliament's Committee on Public Undertakings undertook a detailed and comprehensive study of foreign collaboration agreements of public sector undertakings and made a series of recommendations in their 89th report (Fifth Lok Sabha 1975-1976). The Bureau of Public Enterprises thereafter issued a revised set of guidelines for public sector undertakings in 1977. Based on these a check-list has been prepared for negotiating and approving consultancy arrangements. This can be useful both for the public as well as the private sector. The important points to be observed are:

1. Basis for foreign collaboration and selection of technology

(a) Foreign consultancy ought to be of high priority and in areas where technical know-how, materials and talents are not indigenously available.

(b) In making the choice of technology care should be taken to safeguard against obsolescence and incompatibility in order to ensure that the technology selected is not only the most modern but also appropriate to Indian conditions.

(c) An Indian consultant should also be associated from the very beginning.

(d) In the public and private sectors a large capacity for manufacturing processing units has already been built up. For example, the Heavy Engineering Corporation, HAMCO and BHPV have the capacity to manufacture steel plants, large-scale coal mining machinery and port handling equipment, machinery and equipment for the petrochemical and fertilizer industries etc. There should be a meaningful co-ordination between these large machinery manufacturing units and the processing undertakings so that an indigenous manufacture of machinery and equipment may be undertaken with the aid of foreign technology and know-how where absolutely essential and where this co-ordination could be carried out in as integrated a manner as possible so as to satisfactorily meet the requirements of the processing industry as well as the objectives of indigenization.

(e) Indian enterprises must keep a careful watch on the improvements/developments in technology know-how taking place elsewhere so as to avail themselves of the facilities through the collaboration agreements.

2. Parties to the contract

(a) The principal party to the agreement should have the necessary expertise and proven experience in the field forming the subject-matter of the contract and should not be dependent on other parties for its successful performance.

(b) In most cases the foreign collaborator will simultaneously have the role of consultant and supplier, but in time there will be separate agencies for consultancy and supply. In such cases their roles should be distinctly specified.

3. Selection of consultants/suppliers

(a) The foreign collaborator should be chosen on the basis of proven process technology and on the basis of his reliability to complete the work within the stipulated period.

(b) Interconnected or subsidiary contracts should also be finalized at the same time as the main contract.

4. Purpose and scope of the contract

The purpose and scope of the contract should be clearly defined. If a project requires any change due to unforeseen circumstances after the consultancy agreement is signed, necessary provision should be made available enabling such changes.

5. Supply of know-how

(a) The project may be broken into sub-elements to ensure that designs and processes are obtained from the most suitable manufacturers in the world.

(b) The improvements effected by collaborators to the designs/processes/equipment supplied by them under the agreement would be made available to the contracting Indian party.

(c) In cases where machinery and equipment and technologies are imported from different sources there should be stricter integrated planning and co-ordination with a view to obviating any difficulties in commissioning the plants and putting to effective use the installed capacities and achieving maximum results.

6. Detailed working drawings and specifications

(a) Supply of information and data on design and development including detailed drawings, design sheets, specifications and calculations by the consultants should be ensured on a regular and continuous basis for a clearly specified period.

(b) It has been experienced that supply of mere documentation by the collaborators has been an impediment in the transfer and assimilation of

technical know-how for production processes. Therefore supply of detailed design sheets, specifications and design calculations should be insisted on.

(c) Relevant clauses should contain such details as quality of raw materials, specifications for substitute materials and alternative suitable processes, etc.

7. Payment of know-how fees

Where the agreement provides for payment of know-how fees in instalments, a sufficient interval may be allowed between instalments to permit completion of all formalities and procedural requirements.

8. Limitation of the duties of consultants/suppliers

The consultant's recommendation shall not be mandatory in nature. The final decision in any matter, technical or economic, shall rest with the undertaking/Indian Government. The responsibility of the consultants vis-à-vis that of the management should be clearly set out. The consultant should not have a free hand to commit the management of the undertaking without prior consultation.

9. Schedule of indigenous equipment/components and supplies

(a) Maximum indigenous participation in design and manufacture should be ensured.

(b) Break-up of sub-assemblies and component prices may be indicated in the contract itself.

(c) It might be advisable to first settle the prices of the main equipment on a competitive commercial basis and then ensure that the total prices of sub-assemblies and components is as close to the price of the main equipment as possible.

(d) It should be ensured that the schedule of delivery of indigenous equipment is synchronized with that of the imported equipment in order to avoid delays in erecting and commissioning plants which may occur due to the non-supply of indigenous equipment in time.

10. Remuneration for consultancy service

(a) Payment of licence fee may be split into two parts - the first half being payable for the granting of the right to set up the plant including supply of drawings, design data, etc. and the second half after commissioning of the plant.

(b) Some agreements provide that the last instalment of the licence fee becomes payable within a specified period from the effective date of the agreement. In such cases, if the completion of the project is delayed, the last instalment of the fee becomes payable before the guarantee test runs are held, with the result that the licensor has no financial liability for non-fulfilment of guarantees if the guarantee test runs are held beyond the period mentioned in the agreement. To overcome this difficulty the licensor may be asked (i) to extend the specified period as far as possible, or (ii) to be responsible for the process guarantees even after the last instalment of the licence fee has been paid.

(c) In case of delay in execution or unsatisfactory performance in addition to the clause of liquidated damages, etc., a right to postpone the payment of instalment could be secured.

(d) Fixing of remuneration as a percentage of the total cost of the project or as a percentage of the cost of plant and machinery is open to objection as the incentive for economy in designing is thereby lost. Secondly, it would be difficult to know in advance what the commitments would be on account of the consultants' fee. Thirdly, it might result in an unintended benefit on account of the increase in cost of work due to extraneous reasons such as contractor's delays and failures. In order to avoid these difficulties the fee should be calculated on the basis of the estimated cost as much as possible when based on a percentage and be expressed in the consultancy agreement as a definite figure. If necessary, provision may be made for varying the figure by negotiation if the scope of the project is changed as a result of which a substantial change will occur in the nature of the work to be performed by the consultants.

(e) Where an agreed fixed fee is payable either in a lump sum or in instalments and where the consultants require a portion of the fee to be paid within a few days of the agreement being signed, it would be necessary to limit the payment to as small an amount as practicable. The payment of the remaining amounts may be made in instalments at different stages, e.g. on the submission of the project reports, on submission of drawings and designs, during the erection period and when the plant has gone into production and gives a satisfactory performance. It would be essential that it be possible to withhold the last instalment in the event of a serious defect or failure. The number of instalments should, as far as practicable, be related to the amount of work accomplished.

(f) Certain facilities may have to be made available to the consultants in regard to residential and office accommodation, travelling allowances both from the parent country to India and within India, provision of vehicles, equipment, medical facilities, etc. When assessing the remuneration, the inclusion of such benefits should be clearly borne in mind.

(g) Some of the items of work may have

to be done in the country, while others may have to be done outside. It is necessary therefore, that a clear indication be given with regard to both so as to determine the amount of remuneration. It would also be useful to include in the agreement a list of staff that would be posted within the country so that no confusion or dispute can arise at a later stage. A part of the fee corresponding to the portion of the work to be done in India should be paid in non-convertible Indian rupees.

(h) The taxation aspects in respect of the remuneration, salaries, etc. to be paid should be kept in mind and not left open.

(i) If materials are supplied to the collaborators/contractors for completion of the plant, the 'issue rates' covering storage and departmental charges should be agreed upon in advance. This aspect should be finalized at the time of conclusion of the agreement. Tenders may be invited on the basis of the project supplying such materials and also on the basis of the contractor furnishing all the materials.

11. Location of sites

Advice from the foreign consultants on the location of plants should be sought only in exceptional cases, since Indian experience and expertise is adequate in setting up industrial undertakings. The functions of the planning and development units set up in some projects also include studies on location. Occasion for seeking the advice of foreign consultants should, therefore, be confined only to such projects for which India has no experience at all.

12. Duration of agreement

The agreement should be for a definite period and should be fixed on a realistic but strict basis according to the merits of each case and in close consultation with the enterprise concerned.

13. Guarantee on performance and maintenance of quality

(a) The performance guarantee bond should clearly indicate the liability of the consultant for unsatisfactory performance and non-fulfilment of the contract in respect of quality, faultless operation, and level of production etc.

(b) Guarantee clauses relating to the professional competence of technicians deputed as also for the accuracy of documents supplied should provide the right of claiming damages and replacement of the defective supplies.

14. Penalty clause

(a) A clause for recovery of liquidated damages should be included (in addition to the right to terminate the agreement in case of delay in execution or unsatisfactory performance) and also a right to postpone the payment of every instalment in such a situation should be secured. It may also be desirable in many cases to have a performance guarantee bond directly enforceable by the enterprise with regard to the functioning of equipment and the like.

(b) Where possible penalty clauses for non-adherence to the committed delivery schedules of equipment, components, materials, designs, specifications, know-how, etc. should be provided.

15. Indemnities

The consultancy agreement should provide a safeguard to the public enterprises in the contingency of any infringment of patent rights and other claims by third parties.

16. Arbitration

The Indian Arbitration Act is definitive and it should normally be possible to include the provision of arbitration in the collaboration agreement in conformity with the Indian Arbitration Act 1940. However, in cases of collaboration agreements for sophisticated technology where there may be few collaborators, the arbitration may have to follow the rules and regulations of the International Chambers of Commerce, if so insisted upon. Even in such cases the venue for arbitration should as far as possible be in India. The number of arbitrators, umpires and their nationality should be indicated.

17. Law of the country

The contracts, particularly those with foreign parties, should contain an express provision as to the law by which they are to be governed. It would be desirable wherever possible to state that the contracts are governed by Indian Law.

18. Notices for termination of agreement

There should be a clause for premature termination of a consultancy agreement in case the work is found to be unsatisfactory or not suitable. There should also be an indication regarding the manner of settling accounts in cases where such contingency arises. As far as possible, the amount of remuneration should approximate the amount of work actually done and legitimate expenses incurred by the consultants. It should also be clearly laid down that whatever work has been done by consultants shall be the property of the employer and all papers, drawing, designs, etc. should be secured in suitable form before final payments are made.

19. Approval of Government

All such agreements have to be approved by the Government as per the procedure described in Section III before remittances on account of these can be made.

Meetings

Expert Group Meeting on Guidelines and Master Agreements for the Import, Assembly and Manufacture of Agricultural Machinery and Training, Vienna, 6-10 May 1985

Third Meeting of the Advisory Panel on Petrochemicals, Vienna, 3-5 June 1985

United Nations Council for Namibia - Extraordinary Plenary Meetings, Vienna, 3-7 June 1985

Expert Group Meeting for the Initiation of a Regional Network for Microelectronics in the ECLAC Region, Caracas, Venezuela, 3-7 June 1985

United Nations Commission on International Trade Law, eighteenth session (General Assembly resolution 2205 (XXI)), Vienna, 3-21 June 1985

Second Consultation on the Capital Goods Industry and Energy-related Technology and Equipment, Stockholm, Sweden, 10-14 June 1985

High-level Intergovernmental Meeting on Agro-Industry Development, Brasilia, Brazil, 10-14 June 1985

Expert Group Meeting on Strengthening of National Industrial Training of Institutions, Vienna, June 1985

UNCITRAL Expert Group on the New International Economic Order, Vienna, 2-6 September 1985

Expert Group Meeting on Industrial Co-operation in the Field of Agricultural Machinery Design and Manufacture with Special Emphasis on the Role of the Medium- and Small-scale Enterprises, Caracas, Venezuela, 23-26 September 1985

Ad hoc Panel of Experts in the Pharmaceutical Industry on Contractual Arrangements, Vienna, 3rd quarter 1985

Investment Promotion Meeting for Ecuador, Ecuador, November 1985

Investment Promotion Meeting for Mexico, Mexico, November 1985 (tentative)

Investment Promotion Meeting for Central Africa, Libreville, Gabon, 4-9 December 1985

Third Consultation on the Petrochemicals Industry, place to be determined, 4th quarter 1985

Publications

ID/326. Development and transfer of technology series No. 22. Informatics for industrial development (ISSN 0250-801X).

ID/326/Abstract.

UNIDO/IS.507/Add.1. Electric power equipment production in developing countries: Options and strategies. An analysis of 11 country case studies. Statistical data. Sectoral Working Paper Series No. 25, Volume II.

UNIDO/IS.514. The Idiom user's handbook for policy-oriented model-structures. World Modelling Working Paper.

UNIDO/IS.517. Africa in figures.

UNIDO/IS.519. Tariff and non-tariff measures in the world trade of oilseeds, vegetable oils and related products (prepared by the UNCTAD secretariat). Sectoral Working Paper Series No. 28.

UNIDO/IS.521. Advisory Group Meeting on Applied Microbiology, Nairobi, Kenya, 6-9 March 1985. The role of the International Centre for Genetic Engineering and Biotechnology in fostering development through applied microbiology.

UNIDO/IS.522. Mid-decade review of the implementation of the Vienna Programme of Action.

ID/B/340. Annual report of the Executive Director, 1984 (ISSN 0250-7889)

In this issue:

Spain - procedures for enrolment in the Register of Transfer of Technology Contracts

Spain - Considerations of entry to EEC in field of contractual transfer of technology

Philippines - 1984 Annual Report of TTB

Senegal - Country profile

Registry changes

Nigeria - Joint NOIP/UNIDO workshop on the evaluation of technology transfer agreements involving equity and non-equity participation

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