in favour of payment for such retransfer and in favour of applying the same principle for the transfer of improvements of the technology from the contractor to the purchaser.

88. It was agreed that UNCITRAL should not duplicate the work in regard to the proposed code of conduct on transfer of technology. However, it was generally felt that it would be desirable for the legal guide to refer to relevant issues under consideration by UNCTAD so that the parties would be made aware of them.

Future work

89. There was general consensus that the remaining topics listed in the study by the Secretary-General in A/CN.9/WG.V/WP.4, para. 36 should be completed by the Secretariat and examined by the Working Group.

90. It was pointed out that other topics such as maintenance, spare parts, customer's service, technical assistance, variations, financial arrangements, time limits, feasibility studies, modes and effects of notices, supply of raw materials and industrial input, tenders, liability of a consulting engineer, joint and several liability of several contractors and bankruptcy might also be included.

91. The Working Group requested the Secretariat to complete the remaining preparatory work for its next session. It was suggested that sufficient time should be made available to the Secretariat to prepare the remaining aspects of this subject in order to make the documents available well in advance to the participating countries for their study. However, the Group agreed that the Secretariat should be given a discretion regarding the organization of work including the selection of the additional topics suggested.

92. The Working Group also entrusted the Secretariat with the drafting of the legal guide.

93. As regards clauses related to industrial co-operation, the Working Group considered the note by the Secretariat on the subject (A/CN.9/WG.V/WP.5)* and agreed that work on it be deferred. The Working Group agreed to concentrate its work on contracts for the supply and construction of large industrial works at the present moment. However, it requested the Secretariat to submit, at a future session, a preliminary study on specific features of industrial co-operation contracts after the preparation of the legal guide on contractual provisions relating to contracts for the supply and construction of large industrial works.

94. Some views were expressed on when the next session should be held. One suggestion was to hold the next session early in 1982. Another view was that the next session of the Working Group might be arranged just before the next session of the Commission as was done this time so that again many members may be represented. The Working Group expressed its wish to the Commission to take into account the urgency of the project in determining the date of the next session of the Working Group.

* Reproduced in this volume, part two, IV, B, 2.

B. Working papers submitted to the Working Group on the New International Economic Order at its second session (Vienna, 9-18 June 1981)

1. Study of the Secretary-General: clauses related to contracts for the supply and construction of large industrial works (A/CN.9/WG.V/WP.4 and Add.1-8)*

CONTENTS

* Referred to in Report, para. 71 (part one, A, above).

Part one

[A/CN.9/WG.V/WP.4*]

INTRODUCTION

1. The Working Group on the New International Economic Order at its session held in New York in January 1980 recommended to the Commission for possible inclusion in its work programme, *inter alia:*

> "4. Harmonization, unification and review of contractual provisions commonly occurring in international contracts in the field of industrial development such as contracts on research and development, consulting, engineering, supply and construction of large industrial works (including turn-key contracts or *contrats produits en main*), transfer of technology (including licensing), service and maintenance, technical assistance, leasing, joint venture, and industrial co-operation in general."[1]

2. The Working Group was of the opinion that this item would be of special importance to developing countries and to the work of the Commission in the context of the new international economic order. The Group therefore requested the Secretariat to prepare a study on this item and submit it to the Commission at its thirteenth session. That study[2] reviewed the various types of contracts used in the context of industrialization, described their main characteristics and content and referred to the work carried out in this field by other organizations.

3. The Commission, at its thirteenth session, welcomed the recommendations of the Working Group concerning subject-matters to be included in the work programme of the Commission and agreed to accord priority to work related to contracts in the field of industrial development.[3]

4. In considering the various different types of contracts set forth in the study of the Secretary-General, there was wide agreement in the Commission to commence work on contractual provisions relating to contracts for the supply and construction of large industrial works and contracts on industrial co-operation in general. It was noted that these contracts were of a complex nature and included elements found also in other types of contract. It was thought that these contracts would, therefore, form a basis for possible future work in respect of other related contracts. It was also felt that the elaboration of model clauses, model contracts or model rules in regard to the supply of large industrial works was a logical sequence to the law of sales.[4]

5. The Commission, therefore, requested the Secretary-General to carry out preparatory work in respect of contracts on the supply and construction of large industrial works and on industrial co-operation.[5] The present study is submitted in compliance with that request.

6. It was generally agreed that the Secretariat in carrying out the preparatory work should have a certain measure of discretion.[6] The Commission endorsed the suggestion by the Secretariat that its work should comprise studies of the available literature and the relevant work of other organizations and should analyse international contract practices. It was noted that the work of the Secretariat would be facilitated if members of the Commission provided the Secretariat with copies of such contracts.[7]

7. The Secretariat is not yet in a position to base its study on an analysis of actual contracts except in a few instances. The collection of contracts in the field of industrialization which the Secretariat has at its disposal is so far too limited to permit substantial conclusions. The Secretariat, however, based its findings on the study of general conditions, model forms of contract and available relevant literature.

A. *Work done by other international organizations*

1. *Conditions and models under study*

8. The present study took into account, in particular, the following documents:

(*a*) General Conditions for the Supply and Erection of Plant and Machinery for Import and Export, No. 188A and 574A prepared by the United Nations Economic Commission for Europe (ECE), referred to as the ECE General Conditions or as ECE 188A/574A;

(*b*) Guide on Drawing up Contracts for Large Industrial Works (ECE/TRADE/117), referred to as the ECE Guide;

(*c*) Conditions of Contract (International) for Electrical and Mechanical Works (including Erection on Site)

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* 21 April 1981.

[1] A/CN.9/176, para. 31 (Yearbook . . . 1980, part two, V, A).

[2] A/CN.9/191 (Yearbook . . . 1980, part two, V, B).

[3] Report of UNCITRAL on the work of its thirteenth session, *Official Records of the General Assembly, Thirty-fifth Session, Supplement No. 17* (A/35/17), para. 143 (Yearbook . . . 1980, part one, II, A).

[4] *Ibid.*, para. 136.

[5] *Ibid.*, para. 143.

[6] *Ibid.*, para. 141.

[7] *Ibid.*, para. 139. By a note-verbale dated 31 October 1980 the Secretary-General solicited the member States of the Commission to provide copies of such contracts and other relevant materials assuring to keep confidential all materials that are of a confidential nature when received. At the time of the preparation of this study, only an industrialized State communicated its willingness to provide the Secretariat with such materials in the near future.

with Forms of Tender and Agreement prepared by the Fédération Internationale des Ingénieurs-Conseils (FIDIC), second edition 1980, referred to as FIDIC-EMW; and,

(*d*) Conditions of Contract (International) for Works of Civil Engineering Construction with Forms of Tender and Agreement also prepared by the FIDIC, third edition 1977, referred to as FIDIC-CEC.

9. In addition to those general conditions which are intended for use in international commercial relations, the present study took into account the work of the United Nations Industrial Development Organization (UNIDO) which is engaged in drafting model contracts for the fertilizer industry. The relevant documents are:

(*a*) Second Draft of the UNIDO Model Form of Turn-key Lump-Sum Contract for the Construction of a Fertilizer Plant (ID/WG.318/1), referred to as UNIDO-TKL;

(*b*) First Draft of the UNIDO Model Form of the Semi-Turn-key Contract for the Construction of a Fertilizer Plant (ID/WG.318/2), referred to as UNIDO-STC;

(*c*) Third Draft of the UNIDO Model Form of Cost Reimbursable Contract for the Construction of a Fertilizer Plant (ID/WG.318/3), referred to as UNIDO-CRC;

(*d*) Consolidated Comments upon the Second Draft of the UNIDO Model Form of Turn-key Contract for the Construction of a Fertilizer Plant (ID/WG.318/4), referred to as comments; and,

(*e*) Alternative Draft to the Third Draft of the UNIDO Model Form of Cost Reimbursable Contract for the Construction of a Fertilizer Plant (ID/WG.318/5), referred to as counter-proposal.

2. *Work of UNIDO*

10. The Second Consultation Meeting on the Fertilizer Industry at Innsbruck, Austria, 6-10 November 1978, reviewed a Preliminary Draft of the UNIDO Model Form of Cost-Reimbursable Contract for the Construction of a Fertilizer Plant (ID/WG.281/12). This meeting also discussed the preparation of other UNIDO model forms of contract for the construction of a fertilizer plant (ID/WG.281/2).[8]

11. An Expert Group Meeting on UNIDO Model Forms of Contract for Fertilizer Plants was held at Vienna, Austria, 26-30 November 1979. To this meeting the following documents were submitted:

(*a*) Second Draft of the UNIDO Model Form of Cost Reimbursable Contract for the Construction of a Fertilizer Plant (ID/WG.306/1);

(*b*) First Draft of the UNIDO Model Form of Turn-key Lump-Sum Contract for the Construction of a Fertilizer Plant (ID/WG.306/2).

12. After that Expert Group Meeting the UNIDO Secretariat prepared further drafts (ID/WG.318/1-3, see paragraph 10, *supra*). Some members of the Expert Group, representatives of contractors from France, Germany, Federal Republic of, Japan, United Kingdom and the United States of America, referred to in this study as an international group of contractors, prepared their consolidated comments upon the Second Draft of the UNIDO Model Form of Turn-key Contract and their Alternative Draft to the UNIDO Model Form of Cost Reimbursable Contract (ID/WG.318/4-5, see paragraph 10, *supra*).

13. These UNIDO documents were submitted to the Third Consultation on the Fertilizer Industry at São Paulo, Brazil, 29 September-2 October 1980, but only part of the UNIDO-TKL model contract was discussed.[9] Therefore, another Expert Group Meeting on Model Contracts for the Construction of a Fertilizer Plant took place at Vienna, Austria, 23 February-6 March 1981, which considered the UNIDO-TKL and UNIDO-CRC models. Another meeting will be held 13-16 April 1981 and it is hoped that these two models will be finalized at the meeting. The UNIDO-STC model and another model on know-how and transfer of technology are expected to be ready by the end of the year.

3. *Work of ECE*

14. The ECE has published several sets of general conditions for contracts on supply and construction of large industrial works.[10] Among them only ECE 188A and 574A, prepared in 1957, have been taken into account, because it was felt that they are representative of approaches undertaken by ECE.

15. The differences between ECE 188A and ECE 574A are marginal. They relate mainly to the formulation of the exonerating circumstances and to the settlement of disputes by arbitration. These differences have their origin in the elaboration of the General Conditions No. 188 by West European countries in 1953 and their later revision in an East-West context in 1955 which led to the adoption of No. 574.

16. The ECE General Conditions relate to a contract which may be called a semi-turn-key contract. They do not relate to any particular branch of industry and are in general oriented on the model of relations between parties from developed countries.

4. *Work of FIDIC*

17. The FIDIC Conditions have been drafted separately for civil engineering works and for electrical and

[8] Report of the Second Consultation Meeting on the Fertilizer Industry (ID/221).

[9] ID/260, paras. 49-56.

[10] See A/CN.9/191, para. 47 (Yearbook . . . 1980, part two, V, B).

mechanical works. The latter relate more or less to all branches of industry. In both cases it is assumed that the purchaser will retain the services of an engineer as his agent, but that the engineer will nevertheless act fairly between the contractor and the purchaser.

18. The FIDIC Conditions are aimed at holding a fair and reasonable balance between the requirements and interests of the parties concerned. The two sets of FIDIC Conditions (see paragraph 8, *supra*) were inadvertently omitted in the study on international contracts in the field of industrial development (see footnote 2, *supra*).

B. *Aim and scope of the study*

1. *Aim of the study*

19. The present study aims mainly at identifying legal issues in contracts on the supply and construction of large industrial works (referred to as "works contracts"). For each topic the study attempts to describe the main characteristics, examines and compares the provisions contained in the various forms under study (see paragraphs 8 and 9, *supra*) and comments on them where appropriate.

20. The analysis of the various forms under study is not exhaustive. This is because the purpose of the analysis is not to evaluate existing models as such but to identify legal issues on which the Commission might usefully undertake work without necessarily duplicating the efforts of other organizations. It does not matter, therefore, that the UNIDO model contracts are still in draft form or that all the forms under study have been prepared for different types of contracts, for specific sectors of industry or for an industry in general.

21. It is to be noted that our study proceeds mainly with an examination and comparison of similar provisions on a given issue found in the various forms under study. Of necessity, these provisions have to be isolated from their context. However, no value judgment is intended when comparisons are made as each provision has to be evaluated in its own context. Where a provision appears to favour one party, there might be other provisions which favour the other party. And it has to be borne in mind that all provisions can be more or less counter-balanced by the price.

2. *Contract on supply and construction of large industrial works: a definition*

22. In a previous study the contract on supply and construction of large industrial works has been defined as a "comprehensive contract between the client [the purchaser] and *one* contractor (supplier) only. This contract comprises all the various aspects of such a transaction: design, drawings, documentation, delivery, assembly, building, installation, putting into operation, demonstration tests, controls, initial operation of the plant and taking-over. Thus the main characteristic of this contract is its comprehensive nature and complexity."[11]

23. This comprehensive contract, in a pure form, would be a turn-key contract. However, for various economic, financial and technical reasons, not all purchasers favour the turn-key concept.

24. Often, the purchaser participates in the construction of the plant (e.g. in the provision of the necessary connexion for power and water and supply of materials). Very often the purchaser provides all civil engineering work including the construction of buildings; he may also provide the personnel for the assembly, erection, testing and start-up of the plant.[12] Through such participation by the purchaser, the contract becomes a semi-turn-key contract.

25. The purchaser in a turn-key, and more often in a semi-turn-key, situation may make use of a consulting engineer. The involvement of such an engineer, however, does not change the contract into a tripartite transaction: the engineer is acting on behalf of the purchaser.

26. Where the engineer represents the supplier's side, he himself becomes the contractor, who will be responsible for the procurement of all necessary supplies and services. In this situation a cost reimbursable contract will usually be concluded.

27. These are only the main types of contract on supply and construction of large industrial works. Various industries require to a certain extent different approaches (e.g. see part two, XV, *Guaranties*). A chemical plant is different from a rolling mill, and a machine-tool factory is different from a textile mill. The division of labour and the responsibility between the contractor and the purchaser may be different according to their specific purposes.

3. *Legal nature of a contract on supply and construction of large industrial works*

28. While it may not always be easy to distinguish between a contract for work on goods where the contractor also provides the materials and a contract for sale of goods yet to be produced, contracts on supply and construction of large industrial works are clearly distinct from contracts for the sale of goods.[13] Nevertheless, contracts for the supply and construction of large industrial works have some common features with contracts

[11] A/CN.9/191, para. 40 (Yearbook . . . 1980, part two, V, B).
[12] *Ibid.*, para. 42.
[13] *International Encyclopedia of Comparative Law,* vol. VIII, *Specific Contracts,* chapter 8, "Contracts for Work on Goods and Building Contracts" Tübingen, J. C. B. Mohr (Paul Siebeck, 1980), pp. 3 *et seq.*

for sale of goods as a part of the obligation of the contractor is to deliver a plant or equipment.

29. Article 3 of the United Nations Convention on Contracts for the International Sale of Goods, concluded at Vienna in April 1980* (A/CONF.97/18, hereinafter referred to as Sales Convention), provides that contracts for the supply of goods, to be manufactured or produced, are to be considered sales. There are, however, two important exceptions.

30. The contract is not a sales contract if the party who orders the goods undertakes to supply a substantial part of the materials necessary for such manufacture or production. Except for a pure turn-key contract, in the sphere of manufacture of plants, a supply of materials by the purchaser is quite frequent.

31. The contract is also not a sales contract if the preponderant part of the obligation of the party who furnishes the goods consists in the supply of labour or other services and the "delivery" of the project, the transfer of technology, the erection of the plant, and the putting into operation are supplies of labour and other services.

32. However, the Sales Convention may become applicable in such situations where a contractor and a purchaser conclude a series of separate contracts, e.g. for the supply of equipment, licensing or assembly.

33. Even though the Sales Convention may not be applicable to all works contracts, nonetheless, reference is made to it as it may provide the analogy on how related issues in a works contract may be solved.

34. The study did not, however, look into any national law. It has already been observed that most national legislations do not contain provisions relating specifically to contracts for supply and construction of large industrial works.[14] Most provisions which courts would apply are not of a mandatory nature. As far as mandatory rules are concerned, the Secretariat was unable to obtain them.

4. *Scope of study*

35. Part two of this study examines clauses which relate to the following:

I. Drawings and descriptive documents
II. Supply
III. Erection
IV. Passing of risk
V. Transfer of property
VI. Transfer of technology
VII. Quality
VIII. Inspection and tests
IX. Completion
X. Take-over and acceptance
XI. Delays and remedies
XII. Damages and limitation of liability
XIII. Exoneration
XIV. Renegotiation
XV. Guaranties
XVI. Rectification of defects
XVII. Termination
XVIII. Applicable law

36. The subjects which are not included in part two and on which the Secretariat intends to carry on its preparatory work for the next session of the Working Group are, *inter alia,* the following:

(*a*) formation of contract; (*b*) definitions; (*c*) subcontractors; (*d*) assignment; (*e*) performance bonds; (*f*) insurance; (*g*) price calculation; (*h*) price revision; (*i*) invoicing; (*j*) payment conditions; (*k*) currency and rates of exchange; (*l*) storage on site; (*m*) liaison agents; (*n*) personnel and additional labour; (*o*) training; (*p*) taxes and custom duties; (*q*) settlement of disputes; (*r*) language of the contract; and, (*s*) interpretation of the contract.

37. Part three contains some questions which the Working Group may wish to discuss in addition to the general questions for future work as described below.

5. *Terms and notions*

38. In the various forms under study and also in those contracts in the Secretariat's collection, the names of parties in a works contract have been variously described. Thus, "contractor" is also referred to as "erector", "holder of contract", "client's contracting party", "vendor", "supplier" or "seller" (provided "supplier" and "seller" are not defined in a contract as denoting a third party as in a cost reimbursable contract). "Purchaser" is also referred to as "client", "customer", "buyer" or "employer". However, throughout our study, the parties to a works contract shall be referred to as "contractor" and "purchaser".

C. *Future work*

39. In its suggestion for possible work to be done by UNCITRAL, the previous study suggested the following courses of action open to the Commission: (*a*) to consider widening the scope of the General Conditions prepared by ECE; (*b*) to prepare new general conditions; (*c*) to prepare a model contract form for transactions in the field of industrial plants in general; (*d*) to deal with

* Yearbook . . . 1980, part three, I, B.
[14] A/CN.9/191, para. 46 (Yearbook . . . 1980, part two, V, B).

certain specific clauses of such contracts; and (*e*) to consider the desirability of a draft convention on international contracts for the supply and construction of large industrial works.[15]

40. At the same time, however, it was also suggested that any decision on the direction the work should take and the ultimate end product should be taken in stages on the basis of progress made in the course of preliminary work.[16] This was confirmed by the Commission at its thirteenth session.[17]

41. However, some general direction of work would have to be agreed. In this connexion, in view of the importance given by the Commission to the legal aspects of contracts for the supply and construction of large industrial works, the Working Group might wish to consider whether the preparation of a legal guide in order to assist parties in the negotiation of contracts might be adequate as a preliminary objective.

42. Certainly there are in existence several guides or guidelines such as those prepared by ECE and UNIDO.[18] The ECE Guide, however, addresses itself to enterprises in Europe. Moreover, this Guide is rather brief and general and does not discuss all the legal issues in depth. The various UNIDO documents, on the other hand, deal mainly with economic, technical, administrative and financial aspects of the installation of large industrial works.

43. It appears desirable to have a more comprehensive legal guide which, *inter alia,* identifies the legal issues to be kept in mind when negotiating and drafting contracts on industrial works, describes various approaches pointing out the advantages and disadvantages of each approach and suggests alternative solutions.

44. As work progresses, the contents for inclusion in such a guide may become clearer and a stage may be reached when a model clause approach would be feasible in the context of some clauses. The work may also reveal that a uniform law approach would be appropriate in the light of conflicting national rules as regards other legal issues involved (e.g. in a manner similar to the project currently undertaken by the Working Group on International Contract Practices on liquidated damages and penalty clauses). The examination may further reveal that the preparation of UNCITRAL definitions on some contract terms might be desirable because of the frequent use of legal shorthand in the drafting of contracts—confusion as to their meanings is likely to ensue particularly when parties to an international contract belong to a different legal system or where trade practices differ, (i.e. a similar consideration which prompted the International Chamber of Commerce to adopt INCOTERMS in order to eliminate such difficulties.[19]

45. The process of identifying the proper formula for end products on distinct legal issues and the implementation may very well progress in parallel with the preparation of guidelines. As the work develops, the scope of each area (e.g. types of contract to be covered) would also become clearer. In fact, such process in stages would be essential in order to attain a meaningful guide designed to contribute to the establishment of a new international economic order in a pragmatic manner. And, only after such processes, a more ambitious approach may become more feasible.[20]

46. Whatever the future decision may be, it appears indispensable first to analyse all relevant issues in depth on each concrete legal issue involved, taking into account the interest of both parties and the need for equitable and balanced solutions. Keeping these considerations in mind, this preliminary study has been prepared to assist the deliberations of the Working Group.[21]

Part two

[A/CN.9/WG.V/WP.4/Add.1*]

I. Drawings and descriptive documents

A. *Preliminary remarks*

1. Throughout the various phases of a contract for the construction of large industrial works, a number of documents are issued by the parties in order to determine the scope of the work to be performed, to follow up on its performance and to enable the purchaser to operate the plant. These documents may consist of catalogues,

[15] A/CN.9/191, paras. 52-55 (Yearbook . . . 1980, part two, V, B).
[16] *Ibid.*, para. 148.
[17] Report of the United Nations Commission on International Trade Law on the work of its thirteenth session (A/35/17), para. 141 (Yearbook . . . 1980, part one, II, A).
[18] A/CN.9/191, paras. 48 and 50 (Yearbook . . . 1980, part two, V, B).

* 26 May 1981.
[19] The ECE General Conditions do not contain a distinct provision on definitions. The FIDIC Conditions and the UNIDO model contract contain many definitions but they are often different from one another.
[20] Since contracts for supply and construction of large industrial works are frequently concluded on the basis of public tenders, it has been suggested that drafting of procurement regulations with contract conditions may be a useful and promising approach for UNCITRAL. As the work progresses to a mature stage, such an undertaking may also become a relatively easy task.
[21] Since a future decision would ultimately have to be taken by the Commission, the Working Group may also wish to note that a report of the Secretary-General (A/CN.9/203) (reproduced in this volume, part two, V, B), which will be before the fourteenth session of the Commission, has discussed, *inter alia,* future courses of action which are open for the Commission.

prospectuses, circulars, advertisements, illustrated matter, price lists, specifications, drawings, technical documents, programmes and manuals. The time at which the documents are provided by one party to the other and the rights and obligations resulting therefrom will depend on the type of documents.

2. The engineer usually plays a great role in contracts such as those under study. His role is even greater with respect to drawings and descriptive documents. In some cases, the purchaser will be relying entirely on his expertise in this field. Reference to the engineer acting in this capacity can be found mostly in the FIDIC Conditions of contract.

B. *Types of document and time for submission*

1. *Preliminary documents*

3. The ECE General Conditions contemplate the possibility of documents being submitted by one party to the other in the preliminary stages of the negotiation of the contract. These are usually catalogues, prospectuses, circulars, advertisements, illustrated matter or price lists. Clause 3.1 of both ECE 188A/574A states that "the weights, dimensions, capacities, prices, performance ratings and other data" included in these documents "constitute an approximate guide". These data will bind the parties only if they are "by reference expressly included in the Contract".

2. *Specifications and drawings*

4. In order to award the contract, the purchaser will call for tenders. His call for tenders under the FIDIC Conditions will include not only the general conditions of the contract but also the specifications (clause 1.1 of FIDIC-EMW and 1 (1) (*k*) of FIDIC-CEC) which often contain drawings (clause 1.1 (*p*) of FIDIC-EMW and 1 (1) (*l*) of FIDIC-CEC).

3. *Programme and time schedule*

5. If the specifications and the drawings set out the technical details of the works to be undertaken by the contractor, clause 12.1 of FIDIC-EMW provides that it is the "programme" which is submitted by the contractor that shows "the order of procedure" in which the works are to be carried out, "including the design, manufacture, delivery to Site, erection and commissioning thereof".

6. Clause 12.1 of FIDIC-EMW mentions further that the contractor will also indicate in the "programme":

> ". . . the times by which the Contractor requires the Employer to have obtained any import licences, consents, wayleaves and approvals necessary for the purpose of the Works."

7. Article 12.3 of UNIDO-TKL provides that the time schedule is to be included as an Annexure to the contract. For some of the documents enumerated the approval of the purchaser must be obtained.

8. Once the contract has been awarded, clause 5.1 (*a*) of FIDIC-EMW requires that the contractor provide "Drawings, samples, patterns and models as may be called for" in the specification or in the programme.

4. *Drawings to be provided by contractor*

9. Under the terms of clause 5.4 of FIDIC-EMW, the contractor must also

> ". . . provide Drawings showing the manner in which the Plant is to be affixed together with all information relating to the Works, required for preparing suitable foundations, for providing suitable access for the Plant and any necessary equipment to the point on Site where the Plant is to be erected and for making all necessary connections to the Plant (whether such connections are to be made by the Contractor under the Contract or not)".

10. A similar provision exists in the ECE General Conditions. Clause 12.1 of both ECE 188A/574A reads:

> "The Contractor shall in good time provide drawings showing the manner in which the Plant is to be affixed together with all information relating, unless otherwise agreed, only to the Works, required for preparing suitable foundations, for providing suitable access for the Plant and any necessary equipment to the point on the site where the Plant is to be erected and for making all necessary connexions to the Plant (whether such connexions are to be made by the Contractor under the Contract or not)".

11. Under clause 5.1 (6) of FIDIC-EMW, during the course of the works, the engineer may require the contractor to provide him with "Drawings of the general arrangement and details of the Works". The contractor is obliged to provide him with such drawings. The only case in which he can refuse to comply with the engineer's request is when the engineer requires him to supply copies of shop drawings.

12. Under clause 5.1 of FIDIC-EMW, the drawings and other documents thus submitted must be approved by the engineer. In the event the engineer fails to manifest his approval, there is a presumption that the documents are approved if 28 days have elapsed after their receipt. If the documents are not approved by the engineer, they are to be modified and re-submitted.

13. UNIDO-TKL spells out the delivery procedure of documentation. Articles 2.2.1 and 2.2.2 of Annexure XV of UNIDO-TKL provides as follows:

> "2.2.1 The documentation shall be delivered to the PURCHASER's representative in the CONTRAC-

TOR's offices or despatched to the PURCHASER by air-way bill on a freight pre-paid basis and the PURCHASER shall acknowledge each despatch immediately after receiving it. The date of delivery shall be taken to be the date of delivery to the PURCHASER's representative or the date of the air-way bill as the case may be.

"2.2.2 The documentation shall be supplied in six (6) copies and a reproducible copy (with the exclusion of the catalogues, pamphlets and manuals supplied by the Vendors)."

5. *Documents to be provided at the end of the works*

14. At the end of the works, before they are taken over, other documents have to be provided by the contractor to the purchaser. Under clause 5.6 of FIDIC-EMW, these documents consist of:

". . . Operating and Maintenance Instructions together with Drawings (other than shop drawings) of the Works as completed . . ."

The reason for providing these drawings is to enable the purchaser to maintain, dismantle, reassemble and adjust all parts of the works.

15. Under clause 5.6 of FIDIC-EMW these documents are deemed to be of such importance that:

". . . unless otherwise agreed, the Works shall not be considered to be completed for the purposes of taking over under the terms of Clause 32 (Taking Over) until such instructions and Drawings have been supplied to the Employer."

16. Article 3.1.2 of UNIDO-TKL provides that the contractor is to furnish the purchaser with operational and maintenance manuals. Although article 3.2.6 of UNIDO-TKL provides that "The services relating to Management of Plant Operations, optional Management Assistance and optional Technical Advisory Services . . . shall be embodied in appropriate arrangements and agreements . . .", article 1 of Annexure XXI enumerates the various manuals which are to be provided by the contractor as part of his contract services, namely operating manual, maintenance manual, manual of safety procedures, manual of analytical procedures, manual for monitoring environmental aspects, manual for instrumentation maintenance, and special instructions for maintenance and calibration of on-line analysers.

17. Furthermore, under article 3 of Annexure XXI of UNIDO-TKL:

". . . the CONTRACTOR will provide the PURCHASER in original, all pamphlets, installation, operation and maintenance instructions etc., received from Equipment manufacturers and sub-Contractors of the CONTRACTOR and where required shall identify the equipment to which such instructions refer."

C. *Modification or variation*

18. Clause 5.2 of FIDIC-EMW states that once the drawings have been approved by the engineer, they are "not [to] be departed from except as provided in Clause 34 (Variations)".

19. It is understandable that, as the works progress, the parties and the engineer may find that the original drawings need to be varied or modified in order to conform to the quality standards imposed by the contract. (See part two, VII, *Quality*.)* Modifications or variations can also be required because of an error or an omission in the drawings.

20. Clause 12.3 of both ECE 188A/574A state that:

"Any expenses resulting from an error or omission in the drawings or information . . . which appears before taking over shall be borne by the Contractor . . ."

21. The FIDIC-EMW Conditions contain a similar provision; clause 5.5 states that:

". . . any expenses resulting from an error or omission in or from delay in delivery of the Drawings and information . . . shall be borne by the Contractor."

22. However, clause 6.1 of FIDIC-EMW provides for an exception to this liability of the contractor as follows:

"The Contractor shall be responsible for any discrepancies, errors or omissions in the Drawings and information supplied by him, whether they have been approved by the Engineer or not, provided that such discrepancies, errors or omissions are not due to incorrect Drawings or inaccurate information furnished to the Contractor in writing by the Employer or the Engineer."

23. Under article 6.3 of FIDIC-EMW, the purchaser is responsible for the "Drawings and information supplied by the Employer or by the Engineer in writing and for the details of special work specified by either of them". Accordingly, article 6.3 of FIDIC-EMW goes on as follows:

"The Employer shall pay to the Contractor for alterations of the work necessitated by reason of incorrect Drawings or information so supplied to the Contractor a sum ascertained and determined in like manner to the valuation of variations under Clause 34 (Variations)."

* A/CN.9/WG.V/WP.4/Add.2 (reproduced below).

24. The situation with the UNIDO-TKL model differs. In spite of being a turn-key contract, under article 15.1 of UNIDO-TKL the purchaser has full powers ". . . to direct the CONTRACTOR to alter, amend, omit, change, modify, add to or otherwise vary any of the Works . . ."

25. This direction must be given in writing. Once he has been thus directed, the contractor ". . . shall carry out such work and be bound by the same conditions, so far as applicable, as though the said variations were stated in the Contract and Specifications."

26. Paragraph 2 of article 15 of UNIDO-TKL makes reference to the "PURCHASER/Engineer". This would seem to indicate that the purchaser may retain the services of an engineer or that an engineer is closely involved with the project and that his decision or his instructions are considered as being those of the purchaser.

27. Under article 15.3 of UNIDO-TKL, if the changes requested by the purchaser are solely due to "defects, omissions or errors in the Plant(s) or Work(s)", resulting from "any discrepancies or mistakes in design, process, engineering, instructions, specifications, inspections, procurement, fabrication and supply, civil engineering, erection, and errors and/or omissions (as the case may be)", the contractor will have to bear their costs.

28. On the other hand, article 15.2 of UNIDO-TKL provides that if the changes requested by the purchaser do not result from such defects, omissions or errors, the difference in cost is to be added to or deducted from the contract price, the engineer intervening in the assessment of the difference. In the event that no agreement is reached by the parties, reference is made to the provisions of the contract concerning settlement of disputes and arbitration.

29. Under article 15.4 of UNIDO-TKL, variations can also be initiated by the contractor if he "is of the opinion that such variation is necessary to correct any defect in the Works which has occurred or which would otherwise occur . . ."

30. In such an event, the contractor is not allowed any extra costs under article 15.5 of UNIDO-TKL ". . . even if such changes or variations are as a result of changes in detailed project schedule created by change in material deliveries, and/or incidental to time changes related to mechanical completion, or due to changes in piping layout or design performed by the CONTRACTOR as a result of detailed engineering."

31. The procedure to be followed to vary or modify the drawings varies from one type of contract to another. Needless to say, in contracts where an engineer is closely involved, he will have a great role to play in these matters.

32. Under the FIDIC Conditions the procedure to be followed to modify the drawings varies slightly from one set of conditions to the other. However, as a rule, it can be said that nothing can be modified or varied without the written permission of the engineer.

33. Under clause 34.1 of FIDIC-EMW, the engineer must give the contractor reasonable notice of the variations to be undertaken, so that the contractor can make the necessary arrangements. The same article provides that once the contractor has been advised of the variations to be made, he "shall carry out such variations and be bound by the same conditions, so far as applicable . . ."

34. Article 15.6 of UNIDO-TKL provides that in the event that the modifications are initiated by the contractor, the purchaser must approve them. However, in view of the nature of the contract, the article provides further that:

> "The PURCHASER shall not refuse to approve any variation which is necessary to correct any defect in the Works which has occurred or which would otherwise occur if the CONTRACTOR's proposal is not accepted, or if any modifications or rectifications are required . . . In all other cases, the PURCHASER may give or refuse his approval as he thinks fit and his decision shall be final."

35. It may happen that modifications or variations which are required by the purchaser are of such a nature as to prevent the contractor "from fulfilling any of his obligations under the contract". In such a case, article 15.8 of UNIDO-TKL provides that the contractor:

> ". . . shall notify the PURCHASER thereto in writing and the PURCHASER shall decide forthwith whether or not the same shall be carried out. If the PURCHASER re-confirms in writing his intention to carry out the variations, then the said obligations of the CONTRACTOR shall be modified to such an extent as may be justified . . ."

36. Under article 15.12 of UNIDO-TKL, once the purchaser has approved the modifications, they are to be embodied in a change order to be signed by the parties or their authorized representatives, and:

> ". . . such Change Orders shall be deemed to form part of the Contract and subject to all of the terms and conditions therein, unless otherwise excepted."

37. Article 15.10 of UNIDO-TKL provides that in the event of a dispute as to whether the variations are within the contractual obligations of the contractor it shall be decided by a neutral party. The same article also provides that if the purchaser considers that the services to be rendered as a result of such variations are exorbitant, the quantum of payment shall also be decided by the neutral party. And, pending his decision, the contractor has to proceed without delay to effect the changes.

D. *Ownership of the documents*

38. On account of the nature of some of the information contained in the drawings and documents submitted by one party to the other, some of the forms under study contain provisions dealing with the ownership of the documents.

39. Clauses 3.2 and 3.3 of both ECE 188A/574A provide that the "drawings or technical documents intended for use in the construction or erection of the Works or of part thereof" and submitted by one party to the other (purchaser to contractor or vice versa) remain "the exclusive property" of the party who furnished them.

40. This restriction has the effect of imposing on the party receiving the documents an obligation as to confidentiality. This is why clauses 3.2 and 3.3 of both ECE 188A/574A state that he cannot copy, reproduce, transmit or communicate them to a third party without the other party's consent.

41. In the case of the documents provided by the contractor to the purchaser, an exception is provided for by article 3.2 of both ECE 188A/574A which states:

"the said plans and documents shall be the property of the Purchaser:

"(*a*) If it is expressly so agreed, or

"(*b*) If they are referable to a separate preliminary development contract on which no actual construction was to be performed and in which the property of the Contractor in the said plans and documents was not reserved."

42. As for the documents to be provided by the contractor at the commencement of the guaranty period, clause 3.4 of both ECE 188A/574A provides that they become the property of the purchaser without any restriction. However, the contractor may stipulate that they should remain confidential.

43. The other forms under study do not contain any such provisions. However, it goes without saying that the documents dealing with matters related to transfer of technology partake of the obligation as to confidentiality imposed to the parties in this respect. (See part two, VI, *Transfer of Technology*.)*

II. Supply

A. *General remarks*

44. The items which the contractor has to supply in order to commence erection of the works are varied and numerous and include machinery, materials, erection equipment, labour, utilities and temporary and ancillary works. In this chapter we will examine only the parties' obligations for the supply, transportation and storage of the machinery and materials; the materials may be intended for incorporation into the permanent works or they may be required for purposes of construction only. (For a discussion of the supply of erection equipment and labour, see III, *Erection of Works, infra*.)

45. The type of contractual provisions relating to the supply of the machinery and the necessary materials will depend to a large extent on the type of contract and the actual content of the work to be performed under the contract. A full turn-key contract normally covers the supply by the contractor of the design for the plant, the machinery, technical documentation and the necessary materials.

B. *Parties' obligations*

1. *Obligation to supply*

46. In a works contract, the contractor's obligation to erect and complete the described work implies an undertaking on his part to do any work and supply materials which are necessary to complete the work in accordance with the contract. Under FIDIC-CEC, this special obligation of the contractor is expressly stated. Clause 8 (1) states:

"The Contractor shall, subject to the provisions of the Contract, and with due care and diligence . . . provide all labour, including the supervision thereof, materials, Constructional Plant and all other things, whether of a temporary or permanent nature, required in and for such execution and maintenance, so far as the necessity for providing the same is specified in or is reasonably to be inferred from the Contract."

47. Under FIDIC-EMW, only the contractor's obligation to supply labour and contractor's equipment is stated. The responsibility for the supply of the machinery and the necessary materials is left to the parties' agreement. Clause 7.1 provides:

"The Contractor shall, subject to the provisions of the Contract . . . provide all labour, including the supervision thereof, and Contractor's Equipment, necessary therefor and for carrying out his obligations . . . so far as the necessity for providing the same is specified in or is reasonably to be inferred from the Contract."

48. Under the UNIDO model contracts the contractor is also responsible for the supply of machinery and materials. It is always in the interests of the purchaser to have the machinery and materials described and, if necessary, approved by the purchaser; to this end under the UNIDO models the contractor is required to

* A/CN.9/WG.V/WP.4/Add.2 (reproduced below).

provide the purchaser with an itemized list of the machinery and materials to be supplied under the contract. Article 4.9 of UNIDO-TKL states:

"The CONTRACTOR shall be responsible for the supply of the complete plant and equipment . . . The list of the Plant and Equipment as well as other Materials . . . shall represent the complete Plant . . ."

49. The contractor's obligation is, however, not limited to the supply of specified items; he is required to supply also materials which are required for the work. Article 4.9 of UNIDO-TKL states:

". . . Any additional item(s) required but not specified . . . shall be supplied by the CONTRACTOR. Notwithstanding anything to the contrary expressed in the Contract, the CONTRACTOR shall supply a complete Turn-key Plant . . . together with all the specified off-sites and utilities . . ."

50. Under UNIDO-CRC the contractor procures the materials on the purchaser's account. The extent of his obligations is, however, the same. Article 4.12 provides:

"The CONTRACTOR will procure all plant and equipment, material and spare parts on behalf of the PURCHASER . . . Notwithstanding the fact that the ultimate purchase is to be made on the PURCHASER's account, the CONTRACTOR shall be obligated to ensure that all procurement is accomplished so as to enable the Plant to meet the objectives expressed in Article 2, subject to the PURCHASER carrying out his obligations. The procurement shall be carried out by the CONTRACTOR in such manner that the Plant is capable of meeting the Performance Guarantees . . . The CONTRACTOR shall also assist the PURCHASER to obtain remedial action from Vendors (where such is necessary) and the CONTRACTOR's services for any required procurement and/or inspection shall be discharged free of additional costs to the PURCHASER . . ."

51. UNIDO-STC is explicit on the contractor's responsibility to supply necessary materials that are not described in the contract. Article 4.8 states:

". . . however if any equipment not specified in this Contract is required to complete the Plant . . . these shall form part of the CONTRACTOR's supply pursuant to this Contract and shall be supplied FOB without additional cost or expense to the PURCHASER within the agreed lump sum price . . ."

52. Under the ECE General Conditions, there are provisions for shared responsibility with respect to the provision of plant, materials and other facilities connected with the work. The contractor is responsible for the supply of the plant, materials and the constructional equipment. The purchaser assumes responsibility for most of the pre-construction work including the supply of services and utilities necessary for the implementation of the contract. Clause 6.1 of both ECE 188A/574A provides:

"The price shall be on the understanding that the following conditions are fulfilled, except so far as the Purchaser has informed the Contractor to the contrary:

". . .

"(*c*) Such equipment, consumable stores, water and power as are specified in the Contract shall be available to the Contractor on the site in good time, and, unless otherwise agreed, free of charge to the Contractor;

"(*d*) The Purchaser shall provide the Contractor (free of charge, unless otherwise agreed) with closed or guarded premises on or near the site as a protection against theft and deterioration of the Plant to be erected, of the tools and equipment required therefor, and of the clothing of the Contractor's employees . . ."

2. *Obligation to transport materials*

53. In a turn-key lump-sum contract, the contractor's responsibility is not divided up in terms of the various activities. The contractor is responsible for the supply and transport of the materials and the contract price under a turn-key contract includes the cost of transporting the machinery and the materials. In other types of contract transportation costs may be separately charged. Some of the forms analysed are not explicit on the parties' responsibility for transporting the machinery and materials. Sometimes the responsibility is stated only by implication.

54. Under FIDIC-CEC and FIDIC-EMW, the contractor is obliged to make his own arrangements for the transport of the plant and materials at his own cost since under clause 70.(1) of FIDIC-CEC and clause 52.1 of FIDIC-EMW transport costs are included in the contract price.

55. Under UNIDO-TKL and UNIDO-STC, responsibility for the transportation of the equipment is expressly stipulated. Article 4.13 of UNIDO-TKL states:

"The CONTRACTOR shall be responsible for the transportation of equipment from the port of despatch FOB to the receipt CIF entry port in the PURCHASER's country and onward despatch to the Site."

56. Under UNIDO-CRC the contractor is not directly responsible for the transportation of the plant and materials. He is, however, obliged to assist the purchaser in ensuring that the manufacturers expedite the supply and transport of the necessary equipment. Article 4.14 states:

"The CONTRACTOR shall . . . be obligated to require the proper carrying out by the Vendors of all packaging and the expediting of necessary transportation FOB to the point of despatch."

57. Under the ECE General Conditions, it is contemplated that the purchaser may be responsible for the preparatory work and the transport of the materials and equipment. Clause 12.2 of both ECE 188A/574A states:

"The preparatory work shall be executed by the Purchaser in accordance with the drawings and information provided by the Contractor . . . It shall be completed in good time and the foundations shall be capable of taking the Plant at the proper time. Where the Purchaser is responsible for transporting the Plant, it shall be on the Site in good time."

3. *Obligation to take care of machinery and materials during transportation*

58. The contractor's responsibility for transporting the machinery and materials subsumes the obligation to pack and mark the materials to ensure their safety during normal transportation. As indicated in paragraph 53 under a turn-key contract the cost of packing will be included in the contract price. Article 4 of both ECE 188A/574A states:

"Unless otherwise specified:

". . .

"(*b*) Prices quoted in tenders and in the Contract shall include the cost of packing or protection required under normal transport conditions to prevent damage to or deterioration of the Plant before it reaches its destination as stated in the Contract."

59. UNIDO-TKL has very elaborate provisions stating the contractor's obligations for the marking, packing and despatch of the materials. Article 12.2.1 states:

"All goods shall be marked and the invoices prepared in accordance with the instructions of the PURCHASER . . ."

60. Transportation of the machinery may require observance of local rules in the purchaser's country. Under the UNIDO-TKL, the purchaser is required to assist the contractor in obtaining the necessary permits. Article 12.2.7 states:

"The CONTRACTOR acknowledges its familiarity with facilities at the harbours (both in the manufacturer's and PURCHASER's country) and between the harbour and Site. The CONTRACTOR shall be responsible for the packing and delivery of the equipment (packed in proper dimensions as to size) in such manner that the equipment arrives at Site for erection, within the Contractual time schedules. The CONTRACTOR shall be responsible for obtaining any road or rail permits required for the purposes, but the PURCHASER shall assist the CONTRACTOR in obtaining such permits."

4. *Obligation to provide for storage of materials at site*

61. The extent of the contractor's obligation for the safe storage of the materials will again depend on the type of contract. In a turn-key contract care and adequate storage of the machinery and materials of the contractor will be the responsibility of the contractor.

62. Under UNIDO-TKL the adequate storage of the machinery is the responsibility of the contractor. Article 12.4 states:

"The CONTRACTOR shall be obliged to arrange for and have ready adequate warehouse facilities at the Site to receive packages. In the event that permanent facilities are not ready or available, the CONTRACTOR shall provide sufficiently adequate temporary facilities at his cost in good time at the Site, to the satisfaction of the PURCHASER. Notwithstanding the requirement for the marking of packages . . . the instructions of the Engineer as regards storage shall be adhered to in the event that additional storage protection is required."

63. The ECE General Conditions anticipate that the purchaser may be responsible for the storage of the materials. Article 6.1 of both ECE 188A/574A states:

"The price shall be on the understanding that the following conditions are fulfilled, except so far as the Purchaser has informed the Contractor to the contrary:

". . .

"(*e*) The Contractor shall not be required to . . . take any . . . measures to enable the Plant to be brought from the point where it has been unloaded to the point on the site where it is to be erected, unless the Contractor has agreed to deliver the Plant to the last mentioned point.

"Any departure from the conditions mentioned in this paragraph shall attract an extra charge."

C. *Time for delivery*

64. The time for delivery will depend on the nature of each work. In some of the forms under study we find general provisions requiring the contractor to make "timely" or "expeditious" delivery.

65. Article 14 of UNIDO-TKL, for example, states:

"14.15 The CONTRACTOR shall ensure that the despatch and delivery of plant and equipment are expeditiously implemented and efficiently co-ordinated . . . in complete accordance with the terms, conditions and procedures for delivery in this Contract and/or also as may be contained in any Purchase Orders to Vendors.

"14.16 The CONTRACTOR shall take all necessary measures to ensure that all export licences (if necessary) and shipping documentation are arranged and issued in a timely manner."

III. Erection

A. *Introduction*

66. The nature and extent of the obligations and responsibilities of the parties to erect a plant, machinery or other equipment depend largely on two factors: first, on the types of works contract, e.g. whether it is a turn-key or semi-turn-key contract; secondly, on the kinds of plant to be erected. The construction of a steel rolling mill is very different from that of a fertilizer plant.

67. The nature of the various forms under study must be borne in mind when considering the question of erection (see part one, *Introduction*).* Only the main obligations and responsibilities of the contractor, the engineer and the purchaser in regard to erection are discussed here.

B. *Obligations and responsibilities of contractor, engineer and purchaser*

1. *Erection of plant*

(a) *Turn-key lump-sum contract: UNIDO-TKL*

68. To illustrate the main differences in the obligations and responsibilities of the contractor and the purchaser in regard to the erection of a plant in a turn-key lump-sum contract and in a semi-turn-key contract, the UNIDO-TKL and the UNIDO-STC model contracts will be considered.

69. In the UNIDO turn-key lump-sum contract for the construction of a fertilizer plant (UNIDO-TKL), the contractor undertakes to erect all plant and equipment within the contractual terms (article 3.2.5). This in effect includes the overall work required for the establishment of the plant until its successful operation according to the specifications laid down in the contract (article 3.1). This responsibility is contained in a number of provisions. For example, article 4.9 reads:

"The CONTRACTOR shall be responsible for the supply of the complete plant and equipment in accordance with Article 12 and as expressed elsewhere in this Contract . . . the CONTRACTOR shall supply a complete Turn-Key Plant for the production of (1,000) tons per day ammonia and (1,725) tons per day urea, . . ."

70. The responsibilities of the contractor for the erection of the plant and equipment under article 12.7 include:

"12.7.1.1: Erection of all equipment in place.

"12.7.1.2: Erection of all steel structures, walkways, gangways, stairs, platforms, etc.

"12.7.1.3: Assembly and welding of all piping, fittings, etc. both above and below the ground.

"12.7.1.4: Assembly and erection of instrumentation, panel control boards and all interconnecting wiring, piping and equipment.

"12.7.1.5: Installation of all electrical equipment, and connection of all cables, starters and all other equipment.

"12.7.1.6: Installing of all utility equipment, and connecting such equipment.

"12.7.1.7: Insulation of all equipment where required (including supply of insulation).

"12.7.1.8: Painting of all equipment (including supply of paint).

"12.7.1.9: Installation of all workshop, laboratory and office equipment, including air conditioning equipment and telephone facilities.

"12.7.1.10: Installation and erection of all waste treatment and sewerage facilities.

"12.7.1.11: Installation of all safety and warning devices.

"12.7.1.12: All or any other erection work that may be required to complete the Plant, other than the exclusions contained in . . .

"12.7.1.12.1: The erection of the plant and equipment shall conform with the details . . ."

71. The contractor must ensure that all supply, construction and erection is undertaken so as to enable the plant to meet its objectives set out in the contract (article 4.10).

(b) *Semi-turn-key contract: UNIDO-STC*

72. Being a semi-turn-key contract, the establishment of the plant may not reside in the contractor, for the purchaser is given the option to appoint another party to erect the plant. Article 3.2.18 reads:

"The Plant shall be erected (article 3.1.15) by the CONTRACTOR *or by such other party appointed by the* PURCHASER (provided that such other party is not a competitor of the CONTRACTOR), under the technical direction and supervision of the CONTRACTOR's personnel."

73. Thus the contractor's role in the erection of the plant would be only that of a supervisor, should the purchaser appoint another person to erect the plant. The

* A/CN.9/WG.V/WP.4 (reproduced above).

main supervisory responsibilities of the contractor under article 13.5.1 include:

"The CONTRACTOR shall be responsible for giving technical direction and *supervising* the erection of all the plant and equipment . . . Without limiting the generality of the foregoing, these *supervisory services* shall cover, (but shall not be limited to):

"13.5.1.1: Erection of all equipment in place.

"13.5.1.2: Erection of all steel structures, walkways, gangways, stairs, platforms, etc.

"13.5.1.3: Assembly and welding of all piping, fittings, etc. both above and below the ground.

"13.5.1.4: Assembly and erection of instrumentation, panel control boards and all interconnecting wiring, piping and equipment.

"13.5.1.5: Installation of all electrical equipment, and connection of all cables, starters and all other equipment.

"13.5.1.6: Installing of all utility equipment, and connecting such equipment.

"13.5.1.7: Insulation of all equipment where required (including supply of insulation).

"13.5.1.8: Painting of all equipment (including supply of paint)."

74. Other aspects of supervision relate to the installation of certain equipment and facilities necessary for the erection of the plant.

2. *Materials for erection of plant*

75. The materials for the erection of the plant, sometimes referred to as the "contractor's equipment", must be distinguished from the "equipment" that is to be erected. The distinction between the two is made in the UNIDO-model contracts and in the FIDIC-EMW Conditions. "CONTRACTOR's equipment" is defined, for example, in UNIDO-TKL as ". . . any equipment, sheds, materials, tools, stores or things brought on Site by or on behalf of the CONTRACTOR for the execution of the Contract, but not for permanent incorporation in the Plant" (article 1.11). On the other hand, "equipment" is defined as "all of the equipment, machinery, materials . . . required to be incorporated permanently into the Plant(s) (with the exclusion of materials for civil works) in order for the Plant to be built in accordance with the Contract" (article 1.17).

76. Under article 4.9 of the UNIDO-TKL model contract, the contractor must establish a "more complete list of equipment and materials to be procured" within four months from the effective date of the contract for the approval of the purchaser.

77. It is generally the responsibility of the contractor, at least in a turn-key contract, to provide all erection materials and contractor's equipment. Article 4.22 of the UNIDO-TKL model contract states that the contractor is to provide "all erection equipment and materials for the erection and installation of the Plant". And article 12.7.2 expressly mentions some of this equipment:

"The CONTRACTOR shall supply all materials needed for the erection and installation of the Works, all tools, tackles, cranes and other erection equipment required, and shall provide all instruments required for the proper erection and testing of the Works."

78. Under the UNIDO-STC model contract, the contractor is also required, within four months after the effective date of the contract, to provide a list of erection equipment and materials to the purchaser. The materials are to be supplied by the contractor (article 1.10).

79. Similarly, in the FIDIC-EMW Conditions the contractor must provide, at his own expense, all "contractor's equipment", haulage and power necessary to execute and complete the works (clause 14.1).

80. However, if the purchaser has certain equipment on his site, the contractor may use these but he has to pay a reasonable sum for its use. The FIDIC-EMW Conditions contemplate such a situation:

Clause 14.4: "The Employer shall at the request of the Contractor and for the execution of the Works operate any suitable lifting equipment belonging to the Employer that may be available on the Site and of which details are given in Part II of these Conditions and the Contractor shall pay a reasonable sum therefor. The Employer shall during such operation retain control of and be responsible for the safe working of the lifting equipment but shall not be responsible for any negligence of the Contractor."

3. *Preparatory work*

81. It is beyond the scope of this chapter to deal with the construction of various infrastructure such as the construction of road or rail within the battery limits of the plant. But certain preparatory work immediately connected with erection should be mentioned.

82. Thus, for example, in the FIDIC-EMW Conditions, the contractor must submit to the engineer for his approval a programme showing the order of procedure in which he proposes to carry out the works including the design, manufacture, delivery to site, erection and commissioning thereof. The programme must also indicate the times by which the contractor requires the purchaser to have obtained any import licences, consents, wayleaves and approvals necessary for the purpose of the works (clause 12.1).

83. The ECE 188A/574A General Conditions provide an example of the position in a semi-turn-key contract where the purchaser has to execute the preparatory work in accordance with the drawings and

information provided by the contractor. Clause 12.2 of both the ECE General Conditions provides that the preparatory work must be completed in good time and the foundations must be capable of taking the plant at the proper time. And, where the purchaser is responsible for transporting the plant, it must be on the site in good time.

4. *Supervision of work*

(a) *UNIDO-TKL*

84. The expression "supervision" includes "direction and responsibility for the activities or matters or work or procedures being the subject of supervision and management . . . of all the Works until Provisional Acceptance" (article 13.8).

85. The contractor is charged with the responsibility for the supervision of all work at site until provisional acceptance of the works (article 13.1). He must provide an adequate number of suitability qualified and experienced personnel. The supervisory services under Article 13 include:

"13.1.1: Supervision and management of transportation equipment.

"13.1.2: Supervision and management of construction and erection equipment.

"13.1.3: Supervision and management of the civil works.

"13.1.4: Supervision and management of erection.

"13.1.5: Supervision and management of stores and warehouse management.

"13.1.6: Supervision and management of all tests.

"13.1.7: Supervision and management of pre-commissioning and start-up operations.

"13.1.8: Supervision and management of the entire Works until Provisonal Acceptance."

86. After the plant has started-up the contractor has to supervise the operation until the guarantee tests are satisfactorily completed.

(b) *UNIDO-STC*

87. The provision on supervision in UNIDO-STC contemplates a situation where the purchaser appoints another party to erect the plant (see paragraphs 72 and 73 *supra*). The contractor's role is then confined mainly to that of a project supervisor. The purchaser himself may undertake the erection. Article 13.1.1 speaks of "supervision of the equipment manufactured by or on behalf of the PURCHASER which is to be undertaken by the contractor. Other aspects of supervision laid down in article 13 include:

"13.1.2: Supervision of erection and installation of erection equipment.

"13.1.3: Supervision of stores and warehouse.

"13.1.4: Supervision of pre-commissioning tests and start-up operations.

"13.1.5: Supervision and demonstration of performance guarantee tests."

88. It is noted that, unlike UNIDO-TKL, the supervision does not include management. (See paragraph 85 *supra*.)

89. As noted in paragraph 73 *supra*, if the purchaser appoints another to erect the plant, the supervision by the contractor will extend to all aspects of erection set out in article 13.5.1.

90. Where the contractor's role is limited to that of supervision, he is responsible for the following matters during erection:

"Article 13.6

"The CONTRACTOR shall be responsible *inter alia* during the erection for the following:

"13.6.1: For correctness and competency of the instructions given by him or his Chief Engineer.

"13.6.2: For securing that the units be erected and connected, if necessary, according to requirements of the technical documents drafted by the CONTRACTOR or further instructions regarding modifications, corrections and other kinds of alterations as the case may be.

"13.6.3: For technically checking the erection works, to reveal erection faults, if any. The CONTRACTOR shall issue suitable and workmanlike instructions to remove such defects.

"13.6.4: For checking compliance with the instructions issued by him. If any deficiencies are found, the Chief Engineer shall enter the deficiencies during the execution in the erection journal of the relevant unit and suggest remedies."

(c) *FIDIC-EMW*

91. In the FIDIC-EMW Conditions, the contractor is under an obligation to employ competent representatives to supervise or superintend the carrying out of the works. Clause 13.1 provides:

"The Contractor shall employ one or more competent representatives whose name or names shall have previously been communicated in writing to the Engineer by the Contractor, to superintend the carrying out of the Works on the Site. The said representative, or if more than one shall be employed, then one of such representatives, shall be present on the Site during all working hours, and any orders or instructions which the Engineer may give to the said representative of the Contractor shall be deemed to have been given to the Contractor."

92. Clause 13.2 reads:

"The Engineer shall be at liberty by notice in writing to the Contractor to object to any representative or person employed by the Contractor in the execution of or otherwise about the Works who shall, in the opinion of the Engineer, misconduct himself or be incompetent or negligent, and the Contractor shall remove such person from the Works."

5. *Access to works*

93. Access to the works by the contractor, the engineer and the purchaser is very important as it enables them to execute, supervise and/or manage the erection properly. Hence provisions for access are contained in all works contracts.

(a) *Contractor's obligation*

94. The contractor must permit the engineer to have access to the works at all times during the tenure of the contract. (See UNIDO-TKL article 13.6 and UNIDO-STC article 13.11.)

95. The contractor must afford every facility for access to any place where work is being undertaken and must give every assistance in obtaining the right for such access in connexion with the execution of the work under the contract (UNIDO-TKL article 13.9 and UNIDO-STC article 13.11).

96. Similarly, the contractor in FIDIC-EMW must permit reasonable access to the works to the employees of the purchaser. Clause 14.5 reads:

"The Contractor shall, in accordance with the requirements of the Engineer, afford all reasonable opportunities for carrying out their work to any other contractors employed by the Employer and their workmen and the workmen of the Employer and of any other duly constituted authorities who may be employed in the execution on or near the Site of any work not included in the Contract or of any contract which the Employer may enter into in connection with or ancillary to the Works."

(b) *Purchaser's obligation*

97. The purchaser has to afford the contractor access to the works and site. Thus, for example, article 13.10 of the UNIDO-TKL provides that "the PURCHASER shall afford every facility and assistance in . . . the right of access to . . . Site, workshops or persons within (PURCHASER's country) as is required in connexion with [the] Contract."

98. Article 13.11 of the UNIDO-TKL further provides that the contractor and his authorized personnel shall have free access to the site of the works, storage yards, fabrication sheds, utilities and laboratories set up or intended for use for setting up the works under the contract. The contractor shall have exclusive access to the areas of the site where he is working.

99. In the UNIDO model contracts (e.g. TKL and STC), the purchaser must provide the necessary assistance in obtaining permission from his Government for visits/stay and travel of the contractor or his authorized personnel (UNIDO-TKL article 13.11; UNIDO-STC article 13.13).

100. After provisional acceptance the purchaser must allow the contractor to visit the works in operation for a period of three (3) years for the purpose of examining its operation, etc. However, the purchaser may exclude the nationals of certain countries from visiting the plant and/or the site (UNIDO-TKL article 13.12; UNIDO-STC article 13.14).

101. In FIDIC-EMW, where the contractor is employed to execute the works for the purchaser, the following obligations are imposed on the purchaser regarding access:

Access to and possession of the site

Clause 20.1: "Subject to Sub-Clause 4 of this Clause access to and possession of the Site shall be afforded to the Contractor by the Employer in reasonable time and, except in so far as the Contract may provide to the contrary, the Employer shall provide a road or railway suitable for the transport of all Plant and Contractor's Equipment necessary for the execution of the Works from an adequate public thoroughfare or railway available to the Contractor to the point on the Site where it is to be delivered or used."

Foundations

Clause 20.2: "If a building structure foundation or approach is by the Contract to be provided by the Employer such building structure foundation or approach shall be in a condition suitable for the efficient transport, reception, installation and maintenance of the Works."

Authority for access

Clause 20.3: "In the execution of the Works no persons other than the Contractor, sub-Contractors and his and their employees shall be allowed on the Site except by the written permission of the Engineer but facilities to inspect the Works at all times shall be afforded to the Engineer and his representatives and other authorities, officials, or representatives of the Employer."

Access not exclusive

Clause 20.4: "The access to and possession of the Site referred to in Sub-Clause 1 hereof shall not be exclusive to the Contractor but only such as shall enable him to execute the Works."

102. Clause 18 of both ECE 188A/574A provides that until the works are taken over and during any works resulting from the operation of the guaranty, the contractor has the right at any time during the hours of work on the site to inspect the works at his own expense. In proceeding to the site, the inspectors must observe the regulations as to movement in force at the purchaser's premises.

(c) *Access by third parties*

103. Where in the opinion of the engineer (acting on behalf of the purchaser) it is necessary that third parties, e.g. additional contractors, have access to the work the contractor must allow such access. However, such third parties must not be direct competitors of the contractor (UNIDO-TKL article 13.[14].1).

104. Where the contractor has incurred expenses in complying with the above article 13.14.1 in respect of such third parties, the purchaser must pay to the contractor the cost of any services provided by the contractor (UNIDO-TKL article 13.14.2).

6. *Labour and working conditions*

105. The question of labour and "working conditions" depends on the types of works contract, the kinds of plant to be erected and the price. For example, in a turn-key lump-sum contract the contractor is responsible for erection of a plant up to the point when the key is ready to be turned. The contract price for the plant includes the execution of the contract, the performance of the contractor's services and the completion of works. Hence, the contractor himself is generally responsible for the labour and all aspects in connexion with it, and there is no necessity of having detailed provisions pertaining to labour.

106. Bearing in mind that the ECE 188A/574A General Conditions are geared to semi-turn-key contracts, it is to be noted that in clause 14.1 of both the General Conditions "if the Contractor so requires in good time the Purchaser shall make available to the Contractor free of charge such skilled and unskilled labour as is provided for in the contract and such further reasonable amount of unskilled labour as may be found to be necessary even if not provided for in the Contract."

107. Working conditions bear upon the question of price. For example, clause 6.1 of both ECE 188A/574A provides:

"The price shall be on the undertanding that the following conditions are fulfilled, except so far as the Purchaser has informed the Contractor to the contrary:

"(*a*) The works shall not be carried out in unhealthy or dangerous surroundings;

"(*b*) The Contractor's employees shall be able to obtain suitable and convenient board and lodging in the neighbourhood of the site and shall have access to adequate medical services;

"(*c*) Such equipment, consumable stores, water and power as are specified in the Contract shall be available to the Contractor on the site in good time, and, unless otherwise agreed, free of charge to the Contractor;

"(*d*) The Purchaser shall provide the Contractor (free of charge, unless otherwise agreed) with closed or guarded premises on or near the site as a protection against theft and deterioration of the Plant to be erected, of the tools and equipment required therefor, and of the clothing of the Contractor's employees;

"(*e*) The Contractor shall not be required to undertake any works of construction or demolition or to take any other unusual measures to enable the Plant to be brought from the point where it has been unloaded to the point on the site where it is to be erected, unless the Contractor has agreed to deliver the Plant to the last mentioned point.

"Any departure from the conditions mentioned in this paragraph shall attract an extra charge."

And, clause 6.2 provides that:

"If the circumstances resulting from such departure are such that it would be unreasonable to require the Contractor to proceed with the Works, the Contractor may, without prejudice to his rights under the Contract, refuse to do so."

108. Other aspects of labour dealt with in both the ECE General Conditions are:

Overtime

Clause 16.1: "Any overtime and the conditions thereof shall, within the limits of the laws and regulations of the Contractor's country and of the country where erection is carried out, be as agreed between the parties."

Work outside the contract

Clause 17.1: "The Purchaser shall not be entitled to use the Contractor's employees on any work unconnected with the subject-matter of the Contract without the previous consent of the Contractor. Where the Contractor so consents, he shall not be under any liability in respect of such work, and the Purchaser shall be responsible for the safety of the Contractor's employees while employed on such work."

Safety regulations

Clause 15.1: "The Purchaser shall notify the Contractor in full of the safety regulations which the Purchaser imposes on his own employees and the Contractor shall secure the observance by his employees of such safety regulations.

"15.2: If breaches of these regulations come to the notice of the Purchaser, he must inform the Contractor in writing forthwith, and may forbid persons guilty of such breaches entry to the site.

"15.3: The Contractor shall inform the Purchaser in full of any special dangers which the execution of the Works may entail."

109. In the FIDIC-EMW Conditions it is expressly provided that the contractor has to make his own arrangements for the engagement of all labour, local or otherwise, and to pay for their expenses such as transport and housing. Provision is also made in regard to the supply of utilities to the contractor's employees. Other provisions deal with the responsibility of the contractor for his sub-contractors, agents and employees in respect of certain matters such as the sale or importation of alcoholic liquor or drugs, sale of arms and ammunition, and disorderly conduct (see clause 22). Even in the absence of express provisions in a contract, most of these matters would be governed by the law of the place where the works are carried out.

7. *Miscellaneous*

110. The ECE 188A/574A General Conditions attempt to list certain items which are to be separately charged when erection is either on a "time basis" or when it is a "lump-sum erection".

Clause 7. "Erection on a Time Basis and Lump-sum Erection

"7.1 When erection is carried out on a time basis the following items shall be separately charged:

"(*a*) All travelling expenses incurred by the Contractor in respect of his employees and the transport of their equipment and personal effects (within reasonable limits) in accordance with the specified method and class of travel where these are specified in the Contract;

"(*b*) The living expenses, including any appropriate allowances, of the Contractor's employees for each day's absence from their homes, including non-working days and holidays;

"(*c*) The time worked, which shall be calculated by reference to the number of hours certified as worked in the time sheets signed by the Purchaser. Overtime and work on Sundays, holidays and at night will be charged at the special rates mentioned in the Contract. Save as otherwise provided, the hourly rates cover the wear and tear and depreciation of the Contractor's tools and light equipment;

"(*d*) Time necessarily spent on:

(i) Preparation and formalities incidental to the outward and homeward journeys;

(ii) The outward and homeward journeys;

(iii) Daily travel morning and evening between lodgings and the site if it exceeds half an hour and there are no suitable lodgings closer to the site;

(iv) Waiting when work is prevented by circumstances for which the Contractor is not responsible under the Contract . . ."

111. The question of the removal of the contractor's equipment and loss or damage to the equipment can be dealt with on a general basis. For example, the FIDIC-EMW Conditions deal with these two matters.

112. Clause 36.1 of FIDIC-EMW deals with the former question:

"All Contractor's Equipment provided by the Contractor shall, when brought on to the Site, be deemed to be exclusively intended for the execution of the Works and the Contractor shall not remove the same or any part thereof, except for the purpose of moving it from one part of the Site to another, without the consent in writing of the Engineer, which shall not be unreasonably withheld."

113. Clause 36.2 deals with the latter question:

"The Contractor shall be liable for loss of or damage to any of the Contractor's Equipment which may happen otherwise than through the default of the Employer."

IV. Passing of risk

A. *Preliminary remarks*

114. The main focus of this chapter is to examine the various forms to determine the time when the risk passes to the purchaser. Usually a distinction is made between the passing of risk in the machinery and materials on the one hand, and the passing of risk in the completed works on the other.

115. The assumption of risk by the contractor means that in the event of accidental loss, damage or destruction of the works the contractor is bound to repair or replace them at his cost. The assumption of risk by the purchaser means that in the event of accidental loss or damage the purchaser must nevertheless perform his obligations under the contract. There are, however, exceptions. Risks which are unforeseen and unexpected are considered to be outside the contemplation of both parties and are, therefore, treated differently. The consequences of these risks on the parties' obligations are discussed in part two, XIII, *Exoneration.**

* A/CN.9/WG.V/WP.4/Add.5 (reproduced below).

116. The forms under study do not contain any specific provision on the consequences of the passing of risk. The Sales Convention has a provision on this question, which is applicable to a works contract as well. Article 66 states:

"Loss of or damage to the goods after the risk has passed to the buyer does not discharge him from his obligation to pay the price, unless the loss or damage is due to an act or omission of the seller."

B. *Time of the passing of risk*

1. *Machinery and materials*

117. The ECE 188A/574A General Conditions deal only with the passing of risk in the machinery and materials. Under both ECE 188A/574A the time of passing of risk will depend on the types of sale.

118. ECE 574A provides for three situations:

(*a*) Where the contract gives no indication of the form of sale. Clause 9.1 states:

"Where no indication is given in the Contract of the form of sale, the Plant shall be deemed to be sold 'ex works'."

In this situation under clause 9.2 (*a*):

". . . the risk shall pass from the Contractor to the Purchaser when the Plant has been placed at the disposal of the Purchaser . . ."

(*b*) On certain specified forms of sale, clause 9.2 provides:

"(*b*) On a sale FOB or CIF, the risk shall pass from the Contractor to the Purchaser when the Plant has effectively passed the ship's rail at the agreed port of shipment.

"(*c*) On a sale 'free at frontier', the risk shall pass from the Contractor to the Purchaser when the Customs formalities have been concluded at the frontier of the country from which the Plant is exported."

(*c*) On other forms of sale clause 9.3 provides:

"On any other form of sale, the time when the risk passes shall be determined in accordance with the agreement of the parties."

119. ECE 188A, clause 9 makes reference to the International Rules for the Interpretation of Trade Terms (Incoterms) of the International Chamber of Commerce in force at the date of the formation of the Contract.

2. *Completed works*

120. Most of the forms under study do not deal with the passing of risk in the completed works. Only clause 32.1 of FIDIC-EMW contains the following provision:

"As soon as the Works have been completed . . . and have passed the Tests on Completion, the Engineer shall issue a . . . 'Taking-Over Certificate' . . . whereupon . . . risk of loss or damage to the Works . . . shall . . . pass to the Employer . . ."

121. Some forms do not contain provisions on passing of risk but provide for the care of the works. Clause 20 (1) of FIDIC-CEC states:

"From the commencement of the Works until the date stated in the Certificate of Completion for the whole of the Works . . . the Contractor shall take full responsibility for the care thereof . . ."

122. Certificates of completion may be issued in stages as each section of the works is completed. FIDIC-CEC provides that care of the contractor ceases in respect of that part for which a completion certificate is issued. Clause 20 of FIDIC-CEC provides:

". . . Provided that if the Engineer shall issue a Certificate of Completion in respect of any part of the Permanent Works the Contractor shall cease to be liable for the care of that part of the Permanent Works from the date stated in the Certificate of Completion in respect of that part and the responsibility for the care of that part shall pass to the Employer . . ."

123. Similar provisions are contained in clause 15.1 of FIDIC-EMW.

124. The Sales Convention contains several provisions concerning the time of the passing of risk. In general, according to article 67, "the risk passes to the buyer when the goods are handed over to the first carrier for transmission to the buyer . . ."

125. For cases not within the general provisions, article 69 of the Sales Convention provides:

". . . the risk passes to the buyer when he takes over the goods or, if he does not do so in due time, from the time when the goods are placed at his disposal and he commits a breach of contract by failing to take delivery."

C. *Obligations of the contractor*

126. Until the risk passes to the purchaser the contractor is obliged to repair or replace the works at his own cost in the event of accidental loss or damage to the works.

127. Some of the forms under study expressly state this obligation of the contractor. Clause 20 of FIDIC-CEC provides:

". . . In case any damage, loss or injury shall happen to the Works, or to any part thereof, from any cause whatsoever, save and except the excepted risks as

defined in sub-clause (2) of this Clause, while the Contractor shall be responsible for the care thereof the Contractor shall, at his own cost, repair and make good the same, so that at completion the Permanent Works shall be in good order and condition and in conformity in every respect with the requirements of the Contract and the Engineer's instructions . . ."

128. The wording of the relevant provisions under FIDIC-EMW is slightly different but the practical effect is the same. Clause 15.1 states:

". . . in case any damage or loss shall happen to any Portion of the Works not taken over as aforesaid, from any cause whatsoever (save and except the excepted risks as defined in paragraph (*b*) of this Sub-Clause) the same shall be made good by and at the sole cost of the Contractor and to the satisfaction of the Engineer . . ."

129. The passing of risk will not affect the contractor's obligation for any damage caused by him after taking over. Clause 15.1 of FIDIC-EMW states:

". . . The Contractor shall also be liable . . . for any loss of or damage to the Works occasioned by him or by any Sub-Contractor in the course of any operations carried out by him or by his Sub-Contractors for the purpose of completing any outstanding work or complying with his obligations . . ."

The FIDIC-CEC Conditions contain a similar provision.

V. Transfer of property

A. *Preliminary remarks*

130. This chapter describes approaches undertaken by the forms under study as regards the transfer of property in the plant or in the completed works.

131. According to the provisions of some of the forms under study property is transferred to the purchaser on one of the following occasions: when the plant is appropriated to the contract; when the plant is delivered pursuant to the contract; when the contractor becomes entitled to require that the contract price of the plant be included in an interim certificate.

B. *Various approaches to the transfer of property*

132. According to the FIDIC-EMW Conditions, transfer of property in the plant will take place when one of the stipulated events first occurs. Clause 35.1 provides:

"Plant supplied or to be supplied pursuant to the Contract shall become the property of the Employer at whichever is the earlier of the following times:

"(*a*) When Plant is appropriated to the Contract;

"(*b*) When by virtue of Clause 26 (Delivery) or Clause 27 (Suspension of Works) the Contractor becomes entitled to require that the Contract Price of Plant be included in an interim certificate; or

"(*c*) When Plant is delivered pursuant to the Contract."

133. It may be noted that under clause 1.1 (1) of FIDIC-EMW "Plant" means "machinery, apparatus, materials, articles and things of all kinds to be provided under the Contract other than Contractor's Equipment".

134. FIDIC-EMW further provides for the transfer of property in the works in connexion with the taking over. Clause 32.1 states:

"As soon as the Works have been completed . . . and have passed the Tests on Completion, the Engineer shall issue a . . . 'Taking-Over Certificate' . . . and the Employer shall be deemed to have taken over the Works . . . whereupon title to . . . the Works . . . shall . . . pass to the Employer . . ."

135. The FIDIC-CEC Conditions do not contain provisions for the transfer of property in the plant. These Conditions, however, recognize that the purchaser has an interest in ensuring the availability to the purchaser of the plant and materials needed for the works. Accordingly article 53.(1) prohibits the contractor from removing the materials once they are brought on to the construction site. It provides:

"All . . . materials provided by the Contractor shall, when brought on to the Site, be deemed to be exclusively intended for the execution of the Works and the Contractor shall not remove the same or any part thereof, except for the purpose of moving it from one part of the Site to another, without the consent, in writing, of the Engineer . . ."

136. There is a similar provision in clause 36.1 of FIDIC-EMW restricting the removal of the contractor's equipment.

137. The UNIDO model contracts do not contain provisions for the transfer of property.

138. The ECE General Conditions do not deal with the transfer of property as such, but contain a provision on retention of title in case of non-payment by the purchaser. Clause 11.3 of both ECE 188A/574A states:

"If delivery has been made before payment of the whole sum payable under Contract, Plant delivered shall, to the extent permitted by the law of the country where the Plant is situated after delivery, remain the property of the Contractor until such payment has been effected. If such law does not permit the Contractor to retain the property in the Plant, the Contractor shall be entitled to the benefit of such other rights in respect thereof as such law permits him to

retain. The Purchaser shall give the Contractor every assistance in taking any measures required to protect the Contractor's right of property or such other rights as aforesaid."

C. *Consequences of the transfer*

139. Where the property in the plant is transferred to the purchaser while the contractor is still in possession of the plant the contractor has some responsibilities to protect the purchaser's property. Clause 35.2 of FIDIC-EMW provides:

"Where the property in Plant passes to the Employer prior to the delivery of such Plant the Contractor shall so far as is practicable and to the reasonable satisfaction of the Engineer set the Plant aside and mark the Plant as the property of the Employer . . . Such Plant shall be in the care and possession of the Contractor solely for the purposes of the Contract and shall not be within the ownership or disposition of the Contractor . . ."

140. Transfer of property does not imply approval of the materials by the purchaser. Under the FIDIC-EMW the purchaser retains the right under the contract to reject the materials. Clause 35.2 states:

". . . any interim certificate issued by the Engineer shall be without prejudice on the exercise of any power of the Engineer contained in the Contract to reject Plant which is not in accordance with the Contract and upon any such rejection the property in the rejected Plant shall immediately revert to the Contractor."

[A/CN.9/WG.V/WP.4/Add.2*]

VI. Transfer of technology

A. *Preliminary remarks*

1. The phrase "transfer of technology" is used more and more frequently in international commercial contracts whether the parties be from developed or developing countries. It encompasses a great number of things from the right to use the goods sold to the training and assistance of the purchaser's personnel so that they can operate the works. The present chapter will limit itself to the study of the situation most commonly found in contracts for the construction of large industrial works where the contractor will transfer technology, not only in providing the plant, the equipment and the machinery but also in transferring the know-how and methods of using them.

B. *Object of the transfer of technology*

1. *Object of the obligation*

2. Of the forms studied, only the UNIDO model contracts describe substantially the object of the contract in this respect. For instance, in article 2 of UNIDO-TKL the general object of the contract includes, *inter alia,* "the grant of licence and know-how and the provision of basic and detailed engineering". UNIDO-TKL gives some indication as to what is meant by these words:

Article 3.1.2: "Supply of know-how and basic engineering, including but not limited to:

"Process flow diagrams

"Material and energy balances

"Equipment data and specifications

"Piping and instrument diagrams and specifications

"Plant layout

"Electric, steam and other distribution systems

"Effluent and emission specifications

"Operational manuals

"Maintenance manuals"

Article 3.1.3: "The detailed engineering for the Plant."

3. Article 4.5 of UNIDO-TKL also deals with this question:

"The CONTRACTOR shall provide or obtain (as the case may be) the know-how for various processes from the Process Licensors as follows:

Ammonia Plant	(name of Licensor(s))
Urea Plant	(name of Licensor(s))

(Specify any other, e.g. water treatment)

and shall design the Plant in conformity with the basic engineering criteria of the Process Licensors. Documentation relative to all know-how and basic engineering provided by the CONTRACTOR or obtained from the Licensors shall be provided to the PURCHASER by the CONTRACTOR."

4. Since such know-how is invariably affected by new developments there is always a possibility that such developments might occur between the time of the negotiation and signing of the contract on the one hand and the time when the documents are to be made available to the purchaser on the other. Article 4.5 of UNIDO-TKL imposes on the contractor the obligation to provide the purchaser with:

* 21 April 1981.

". . . the latest commercially proven know-how available to the Process Licensors at the time of making such documents available (such documentation to cover the state-of-the-art of the know-how at the time of the signing of the Contract, or if mutually agreed to, at a later date) and that the detailed engineering will be undertaken by the CONTRACTOR according to the latest design standards available and/or known to the CONTRACTOR at the time of design."

5. There would seem to be a slight discrepancy between article 4.5 and the last sentence of article 7.2 of the same contract which reads as follows:

"The CONTRACTOR also hereby undertakes to make available to the PURCHASER the latest know-how and techniques available to the Process Licensors at the signing of the Contract and to the CONTRACTOR at the time of design."

6. In their comments on article 4.5 of UNIDO-TKL an international group of contractors suggested that the contractor should be bound to supply only the technology he can have access to at the date of the signature of the contract.

2. *The price*

7. The price stated for the contract includes the cost of the technology the purchaser is acquiring. Neither the Sales Convention nor the ECE General Conditions nor the FIDIC Conditions make any specific reference to the price of the technology transferred. However, the UNIDO model contracts deal with this question in some detail.

8. The text of the provisions of the various UNIDO model contracts dealing with price differs depending on whether the contract is a turn-key lump-sum one, a cost reimbursable one or a semi-turn-key one. However, whatever may be the type of contract, it apportions the price and states that a certain amount of the total price relates to the granting of the licenses, know-how and supply of basic engineering. Article 20.2 of UNIDO-CRC also states which amounts apply to the Ammonia Plant, the Urea Plant, and to utilities.

9. Article 20.11 of UNIDO-CRC indicates in which manner this amount has to be paid:

"(25%) (amount) as an advance payment.

"(50%) (amount) on receipt by the PURCHASER of a copy of the know-how and basic engineering documents . . .

"(25%) (amount) on completion of the guarantee tests of the plant and issuance of the Provisional Acceptance certificate of the PURCHASER."

10. The UNIDO-CRC counter-proposal modifies greatly this apportionment. Article 20.12 provides for the price to be payable 50%, 45%, and 5% upon the occurrence of the same events.

3. *Further transfer of technology*

11. Technological developments can intervene not only between the time of the signature of the contract and the time of the furnishing of the documents but also after the works are completed. It is in the interest of the purchaser that these developments be made available to him. Article 7.3.1 of UNIDO-TKL provides for "technological developments and improvements in operative techniques, preventive maintenance and safety measures applicable to the plant constructed pursuant to this contract and other relevant data and proprietary information to be made available to him, whether or not they become licensable by the process licensors". The purchaser will have nothing to pay for obtaining this additional information.

12. However, under article 7.3.2 of UNIDO-TKL, the purchaser will have to pay the reasonable costs involved if he wants the:

"rights to use proprietary processes developed or acquired by the CONTRACTOR including patented processes which could result in significant improvement(s) in the capacity, reliability and efficiency of the Plant, and quality of the products."

13. Depending on which UNIDO model contract is being examined, the period of time during which the obligations are imposed on the process licensors or the contractor varies: 10 years in UNIDO-TKL, 8 to 10 years in UNIDO-CRC, 5 years in the UNIDO-CRC counter-proposal. The length of this period of time should be negotiated by the parties in each specific case.

4. *Retransfer of technology*

14. Once the purchaser has taken over the plant and has started operating it, he may very well discover himself new methods or new techniques. What is his obligation towards the contractor or the process licensor in this respect? UNIDO-TKL does not impose on the purchaser any obligation towards the contractor as such; his obligation is only towards the process licensor whether he be the contractor or a third party to the contract. Under article 7.3.1:

". . . The PURCHASER will also make available to the Process Licensor, free of charge, any improvements in operating techniques which the PURCHASER shall have made in the same period." (i.e. the 10 years mentioned in paragraph 13 above).

C. *Ownership of the technology to be transferred*

15. The contractor may not himself be the owner of all of the technology to be transferred. He will therefore

have to obtain it from a process licensor who may not be a party to the contract; article 7.1 of UNIDO-TKL contemplates such a situation:

"The CONTRACTOR hereby affirms that it has or has obtained the unqualified right(s) to grant, and hereby does grant to the PURCHASER irrevocable, non-exclusive, non-transferable, fully paid-up licence(s) for use in the operation of all the processes . . ."

16. Article 7.2 goes on further:

"The CONTRACTOR shall ensure (through specific arrangements, with proof provided to the PURCHASER) that the Process Licensors shall make available to the PURCHASER through the CONTRACTOR all basic process data (received by the CONTRACTOR from Process Licensors) relating to the Contract, and that all basic process documentation and all drawings prepared by the CONTRACTOR shall also be made available to the PURCHASER together with copies of all documents mentioned in Article 3."[1]

17. And article 7.4 of UNIDO-TKL provides:

"The CONTRACTOR shall undertake to enter into specific arrangements with the Process Licensor(s) (with satisfactory proof provided to the PURCHASER) to ensure the continued availability to the PURCHASER of confidential information similar in scope and content to that provided pursuant to Article 7.3."

18. Nevertheless, however closely the process licensor may be involved in the contract he is not a party to it. Thus, there is no contractual relationship between him and the purchaser and therefore the purchaser has no contractual reason to communicate with him directly unless he is expressly authorized to do so by the contract. Such authorization is granted to the purchaser by the UNIDO-TKL in two cases:

Article 7.2.1: "In circumstances where the CONTRACTOR is unable or unwilling to make available to the PURCHASER the necessary process know-how and related information, the PURCHASER shall be free to approach the Process Licensor(s) directly."

Article 7.2.2: "The PURCHASER shall also have the right to establish direct contractual arrangements with the said Process Licensor in the event that the circumstances envisaged in Article 33 apply."[2]

D. *Confidentiality*

19. On account of the very nature of the technology and of the trade and industrial secrets which may be involved and all the other information which should not be disclosed to third persons UNIDO-TKL imposes on the purchaser an obligation of confidentiality:

Article 7.8: "The PURCHASER agrees that he shall treat as confidential all process and technical information, proprietary know-how, patented processes, documents, data and drawings supplied by the CONTRACTOR (whether owned by the CONTRACTOR or otherwise) in accordance with this Contract, all of which is hereinafter referred to as 'confidential information'. The PURCHASER shall not without the prior approval of the CONTRACTOR divulge such confidential information available to a third party, other than required by law, and provided that when so required by law, the PURCHASER shall duly advise the CONTRACTOR."

20. The purchaser is entitled, under article 7.10 of UNIDO-TKL, to use the confidential information thus obtained for no other "purpose than for completing, operating, using, repairing, maintaining or modifying the plant(s)".

21. On the other hand, the purchaser may have given some similar information to the contractor. Article 7.10 of UNIDO-TKL imposes on the contractor a similar obligation:

". . . Similarly, the CONTRACTOR will not use or divulge any technical data or confidential information and drawings or technical documents given by the PURCHASER, his representative or Technical Advisor, to the CONTRACTOR except for the purposes strictly connected with the Contract."

22. There are exceptions to this obligation to confidentiality. One type of exemption is provided for by article 7.9.1 and 7.9.2 of UNIDO-TKL which states that the obligation does not apply to confidential information:

"Which is or becomes a part of the public domain, through no fault of the PURCHASER.

"Which is already known to the PURCHASER, his representatives or Technical Advisor, before the agreement as to confidentiality was given . . ."

23. The other type of cases where the purchaser may be released from his obligation of confidentiality occurs when he has to give access to the plant to third parties for certain specific reasons, i.e. modifications of the plant(s) which in the purchaser's opinion would result in improved or better plant operation or when the plant requires to be expanded or modernized with the incorporation of contemporary technology. In such cases, the purchaser must first ask the contractor to do the required modification, expansion or modernization. It is only in the event the contractor is unable or unwilling to do so that (under article 7.5 of UNIDO-TKL):

[1] Article 3 deals with the over-all scope of work and division of responsibility.

[2] Article 33 deals with termination or cancellation of the contract.

". . . the PURCHASER shall have the right to employ or retain any other person, firm or agency to undertake and complete such work above referred to, and in such an eventuality, the PURCHASER shall not be held to be in breach of the secrecy provisions of this Article."

24. The obligation of confidentiality is limited in time by the contract. Article 7.13 of UNIDO-TKL states as follows:

"Except when otherwise agreed, the PURCHASER's obligations . . . shall be valid for a period of eight (8) years from the Effective Date of the Contract."

25. In other contracts, it is for a different period. As for the UNIDO-CRC counter-proposal, no specific period is stated. This period can also be negotiated by the parties in each specific case. The parties can also take into account other criteria as for example, the remaining time of the patent.

26. The obligation of confidentiality survives the contract in the event it is cancelled or terminated during the period provided for. (See article 7.12 of UNIDO-TKL.) This would seem to be on account of the nature of this obligation and of the type of privileged information which has been acquired by the parties under the contract.

E. *Infringement*

27. In the same fashion the seller in a contract of sale is responsible towards the purchaser in the event a third party claims rights in the goods sold, the contractor has certain obligations in the event a third party brings a suit against the purchaser alleging a right or claim based on industrial or other intellectual property in the technology transferred.

28. The Sales Convention contemplates that the goods sold may be subject to intellectual property rights and in article 42 imposes on the seller the obligation to:

". . . deliver goods which are free from any right or claim of a third party based on industrial property or other intellectual property, of which at the time of the conclusion of the contract the seller knew or could not have been unaware . . ."

29. However, this obligation exists only when the right or claim arises under the law of the State where the goods are to be resold or otherwise used and only if the parties had this in mind when they contracted, or under the law of the State where the buyer has his place of business.

30. Furthermore, under paragraph 2 of the same article:

"The obligation of the seller . . . does not extend to cases where:

"(*a*) At the time of the conclusion of the contract the buyer knew or could not have been unaware of the right or claim; or

"(*b*) The right or claim results from the seller's compliance with technical drawings, designs, formulae or other such specifications furnished by the buyer."

31. In the event a claim is made against the buyer of the goods, he can, after giving notice to the seller, avail himself of the remedies provided for under articles 44 and 45 of the Sales Convention.

32. Of the FIDIC Conditions, only the FIDIC-EMW contains provisions pertaining to this eventuality. Clause 19.1 provides as follows:

"The Contractor shall fully indemnify the Employer against all claims and proceedings for or on account of infringement of any letters patent, registered design, copyright, trade mark or trade name or industrial property right protected at the date of the Contract in the Contractor's country or in the country in which the Plant is to be erected, arising by reason of the construction of the Works or by the use of any Plant supplied by the Contractor, but such indemnity shall cover any use of the Works otherwise than for the purpose indicated by or reasonably to be inferred from the Specification or any infringement which is due to the use of any Plant in association or combination with any other plant not supplied by the Contractor."

33. The ECE General Conditions contain no such provision.

34. In UNIDO-TKL the contractor undertakes to provide guaranties as to the purchaser's being able to go on using the know-how and the process transferred under the contract. In the event a claim is made against the purchaser, article 7.17 provides:

"The CONTRACTOR shall indemnify and hold harmless the PURCHASER in connection with any liabilities arising out of patent infringement and/or matters arising out of secrecy and/or proprietary information . . ."

35. In the event a claim is made against him or a suit instituted, article 7.14 of UNIDO-TKL requires the purchaser to give prompt notice of it to the contractor, in order that the contractor can defend such a suit or claim at his own expense. The purchaser will provide all reasonable assistance but will not be responsible for any expenses except in the event he wishes to be represented by a legal counsel of his own choice.

36. The settlement of such suit or claim may be of some consequence to either the purchaser or the con-

tractor. Article 7.16 of UNIDO-TKL contemplates such a situation:

"Neither the CONTRACTOR nor the PURCHASER shall settle or compromise any suit or action without the written consent of the other if such settlement or compromise would oblige the other to make any payment or part with any property, to assume any obligation or grant any licences or other rights, or to be subjected to any injunction by reason of such settlement or compromise."

37. In order to remedy the alleged infringement, and perhaps also to avoid further litigation, the contractor has the right, under article 7.15 of UNIDO-TKL:

". . . to acquire immunity from suit and to make or cause to be made alterations at its own cost to the Plant(s) to eliminate the alleged infringement provided such alteration does not prevent the Plant(s) from meeting its Performance Guarantees . . ."

VII. Quality

A. *Quality in works contracts*

38. Quality in works contracts means the capability of the works to perform a particular function in conformity with the terms of the contract. In large industrial works the obligation to produce work of good quality is a complex issue encompassing not only the structure, dimensions, shape and location of the works but also specific details of the technical processes and products.

39. Parties to a works contract are understandably keen to ensure that their contractual obligations are as certain and as predictable as possible. The tendency in works contracts is to describe precisely the extent and quality of the work to be performed either in the main contract or in the annexed technical documents, and to use this description as a basis and measure of the contractor's work. Express provisions are likely to be made with respect to the important matters of design, the selection of materials and workmanship. Aspects of quality which parties may stipulate in the contract include the following: the dimensions, structural measurements and calculations, shape of the work, location and lay-out of the work, the choice of certain materials in relation to the intended purpose, safety requirements, performance ratings, productive capacity, quality of products, consumption of raw materials and energy. In addition to the provisions of the contract under certain forms the engineer may give additional instructions relating to the quality of the work.

40. In the forms analysed, the liabilities of the contractor in relation to design, workmanship and materials are interlinked. There can be no good workmanship if the materials are defective. Since these aspects of quality are very specific, the precise stipulations will have to be determined by the parties' agreement. Model contracts and General Conditions cannot be expected to provide for specific details in respect of construction work. There are, nevertheless, some issues that can be dealt with in forms.

B. *Stipulation of quality*

41. In most of the forms under study we find provisions stating only generally the manner of execution of the work. The clauses require that materials and workmanship are to be in conformity with the parties' agreement in so far as the agreement can be gathered from the contract. Clause 36.(1) of FIDIC-CEC provides:

"All materials and workmanship shall be of the respective kinds described in the Contract and in accordance with the Engineer's instructions . . ."

42. "Contract" is defined in clause 1.(1) of FIDIC-CEC to include, *inter alia,* conditions of contract, specification, drawings and priced bills of quantity.

43. Under FIDIC-EMW, the engineer's instructions and directions are in lieu of specifications in the contract. Clause 23 provides:

"All Plant to be supplied and all work to be done under the Contract shall be manufactured and executed in the manner set out in the Specification or, where not so set out, to the satisfaction of the Engineer, and all the Works on Site shall be carried out in accordance with such reasonable directions as the Engineer may give."

44. The UNIDO model contracts deal separately with the contractor's obligations with respect to workmanship and material on the one hand, and performance of the plant on the other. Important aspects of quality relating to design, workmanship, materials and performance of the plant are guarantied (for further details see part two, XV, *Guaranties*).*

45. The ECE General Conditions do not contain specific provisions on the requirements relating to the quality of workmanship, design or materials. The policy of these conditions is that matters respecting the quality of the work will have to be left to the parties' agreement.

1. *Workmanship and material*

46. Under UNIDO-CRC, the contractor has the responsibility to ensure that the plant and materials are new and in conformity with the specifications. Article 25.1 states:

"The CONTRACTOR shall be responsible for ensuring through the Purchase Orders issued to

* A/CN.9/WG.V/WP.4/Add.6 (reproduced below).

Vendors and by inspection that the quality of the materials and workmanship of the Plant and Equipment for the Works and . . . all plant, equipment, materials, apparatus, articles, instruments, and all other goods required to be procured by the CONTRACTOR under this Contract shall be new and of the most suitable grade for the purposes intended, to the Contract and design specifications, the standards and regulations . . . and (whenever applicable) the domestic standards and regulations of the PURCHASER's country."

47. Under the ECE General Conditions the contractor also guarantees the quality of the plant during a stipulated period of time. The specific obligations of the contractor during this period are, however, not stated; it is envisaged that these will be set out in the contract. Clause 23.1 of both ECE 188A/574A states:

"Subject as hereinafter set out, the Contractor undertakes to remedy any defect resulting from faulty design, materials or workmanship."

2. *Performance of the plant*

48. Under the UNIDO model contracts, whether the plant has been purchased in accordance with the contractor's recommendations or supplied by the contractor, it must be capable of meeting the performance standards. Article 26.2 of UNIDO-TKL, for example, states:

"The plant supplied by the CONTRACTOR shall be capable of meeting the full requirements of normal operation, capacity, quality of Products, consumption of raw materials and utilities . . ."

49. The UNIDO model contracts contain very detailed description of requirements relating to quality. Such requirements, however, are too specific to be dealt with in General Conditions or model contracts and should be left to be determined by the parties in the contract.

50. The Sales Convention also emphasises the duty of the seller to deliver goods that are suitable for the intended or described purpose. Article 35 states:

"(1) The seller must deliver goods which are of the quantity, quality and description required by the contract . . .

"(2) Except where the parties have agreed otherwise, the goods do not conform with the contract unless they:

"(*a*) Are fit for the purposes for which goods of the same description would ordinarily be used;

"(*b*) Are fit for any particular purpose expressly or impliedly made known to the seller at the time of the conclusion of the contract, except where the circumstances show that the buyer did not rely, or that it was unreasonable for him to rely, on the seller's skill and judgment . . ."

C. *Execution of the project*

1. *Inadequacy of specifications*

51. As it has been pointed out earlier, in large industrial works, it would be in the interest of both parties to describe clearly either in the main contract or supplementary documents all the aspects of quality which the plant has to meet. Nevertheless, however detailed the description may be, it is often impossible in a works contract to foresee and make provision for all details.

52. When a dispute arises concerning the contractor's obligations, there are two questions that have to be faced: whether the contractor's obligation to complete the works free of defects should over-ride the specifications contained in the contract, and whether necessary and ancillary work omitted from the contract fall within the contractor's general obligations to complete the works.

53. The contractor is deemed to have satisfied himself as to the adequacy of his tender to perform the described work. Under the FIDIC-CEC and FIDIC-EMW Conditions the contractor is obliged to fill the gaps in the specifications so that the works will be in accordance with the contract. Clause 11 of FIDIC-CEC states:

"The Contractor shall . . . be deemed . . . to have satisfied himself, so far as is practicable, before submitting his Tender, as to the . . . extent and nature of work and materials necessary for the completion of the Works . . . and, in general shall be deemed to have obtained all necessary information . . . which may influence or affect his Tender."

2. *Errors in the specifications*

54. Insufficient or wrong description of the work in the specification can lead to errors in the project which may affect the quality of the work. Among the questions that arise here is whether the contractor will be obliged to modify the work, and if he does so, whether he will be entitled to extra payment.

55. The various forms analysed take different positions. In some forms the position will turn to a considerable extent on which party prepared the design or furnished the information that formed the work plan. Clause 17 of FIDIC-CEC provides:

"The Contractor shall be responsible for the true and proper setting-out of the Works in relation to original points, lines and levels of reference given by the Engineer in writing and for the correctness, subject as above mentioned, of the position, levels, dimen-

sions and alignment of all parts of the Works and for the provision of all necessary instruments, appliances and labour in connection therewith. If, at any time during the progress of the Works, any error shall appear or arise in the position, levels, dimensions or alignment of any part of the Works, the Contractor, on being required so to do by the Engineer or the Engineer's Representative, shall, at his own cost, rectify such error to the satisfaction of the Engineer or the Engineer's Representative, unless such error is based on incorrect data supplied in writing by the Engineer or Engineer's Representative, in which case the expense of rectifying the same shall be borne by the Employer . . ."

56. The relevant provision of FIDIC-EMW (clause 7.2) is similar except that it gives the contractor additional protection. The contractor is also exempt from liability if the error is based on incorrect data supplied by another contractor.

3. *Standards*

57. Parties may stipulate standards that shall be utilized in the construction, or they may have this matter to be determined by the current professional standards. In some cases standards may be determined by the mandatory national law.

58. Under both UNIDO-CRC and UNIDO-TKL, the contractor is not restricted to the standards or codes specified in the contract. He is obliged to utilize standards superior to those contained in the specifications. Article 25.4 of UNIDO-CRC provides:

"The standards and codes to be used for the Plant(s) are given in Annexure II. The CONTRACTOR shall utilize these standards (or where applicable mandatory national standards) and/or superior standards if known to CONTRACTOR . . . for the design and procurement of all plant and equipment. Wherever standards or codes are not explicitly stated in the Contract, internationally recognized standards or codes or those which have been previously used by the CONTRACTOR in a working Ammonia/Urea Plant may be used, subject to the PURCHASER being given prior notice."

59. In the event of dispute concerning the quality of standards, article 25.5 of UNIDO-CRC provides:

"In the case of a dispute arising on any matter concerning the acceptability or qualitative level of standards or Code(s) the onus shall be on the CONTRACTOR to prove to the PURCHASER the superiority or better competence of those standard(s) or code(s) recommended (or adopted) by the CONTRACTOR pursuant to this Contract."

60. As indicated above (see paragraphs 41 and 43, *supra*) under the FIDIC-CEC and FIDIC-EMW Conditions the engineer may give additional instructions concerning the standards to be utilized in the work.

61. Under the ECE General Conditions requirements relating to standards are left to be determined by the parties in the contract.

D. *Finality of contract terms*

1. *Need for variation*

62. Sometimes, during erection the contractor may find that adherence to the contract specifications will not produce a plant capable of performing the intended purpose. The question is whether the contractor's obligation to comply with the plans and specifications should over-ride his obligation to construct a plant that is capable of performing the intended purposes.

63. In general the answer will depend to a considerable extent on the type of construction contract. In a turn-key contract the contractor undertakes to construct a plant with specified qualitative standards and capable of performing a particular function. The contractor will be responsible for the modification of the works at his own cost to meet performance guaranties.

64. Clause 24 of FIDIC-EMW contains express provisions for ancillary work necessitated by unforeseen technical conditions:

"If during the execution of the Works the Contractor shall encounter physical conditions, other than climatic conditions, on the Site, or artificial obstructions, which conditions or obstructions could, in his opinion, not have been reasonably foreseen by an experienced contractor, the Contractor shall forthwith give written notice thereof to the Engineer's Representative and if, in the opinion of the Engineer, such conditions or artificial obstructions could not have been reasonably foreseen by an experienced contractor, then the Engineer shall certify and the Employer shall pay the additional cost to which the Contractor shall have been put by reason of such conditions, including the proper and reasonable cost:

"(*a*) Of complying with any instruction which the Engineer may issue to the Contractor in connection therewith, and

"(*b*) Of any proper and reasonable measures approved by the Engineer which the Contractor may take in the absence of specific instructions from the Engineer

"as a result of such conditions or obstructions being encountered."

65. UNIDO-CRC makes provision for the purchaser and contractor to agree on any necessary modification

and its implication prior to the modification and re-execution of the work. Article 15.4 provides:

"The CONTRACTOR may at any time during his performance of the Contract submit to the PURCHASER for his approval written proposal(s) for a variation of the Works."

66. The UNIDO-CRC counter-proposal suggests that the clause should only stipulate a variety of circumstances in which the contractor should be entitled to claim for additional cost. According to article 15.7 the circumstances include:

"Any encounter of physical condition or artificial obstruction which has not been stipulated in the Annexures."

67. In addition the counter-proposal enumerates circumstances which can be considered to be cases of *force majeure*.

68. Under the ECE General Conditions only the consequences of changes necessitated by local administrative regulations are provided (for further details, see part two, XVIII, *Applicable law**).

2. *Right to variations*

69. Under FIDIC-CEC and FIDIC-EMW, the engineer has a right to issue written orders to vary the quality and quantity of the works. Clause 34.1 of FIDIC-EMW provides:

". . . The Engineer shall have full power, subject to the proviso hereinafter contained, from time to time during the execution of the Contract by notice in writing to direct the Contractor to alter, amend, omit, add to or otherwise vary any of the Works. The Contractor shall carry out such variations and be bound by the same conditions, so far as applicable, as though the said variations were stated in the Specification. Provided that no such variation shall, except with the consent in writing of the Contractor and the Employer, be such as will, with any variations already directed to be made, involve a net addition to or deduction from the Contract Sum (less Provisional Sums) of more than 15 per cent thereof. In any case in which the Contractor has received any direction from the Engineer which either then or later will, in the opinion of the Contractor, involve an addition to or deduction from the Contract Sum the Contractor shall as soon as reasonably possible and where practicable, before proceeding therewith, advise the Engineer in writing to that effect. The amount to be added to or deducted from the Contract Sum shall be ascertained and determined in accordance with the rates specified in the schedules of prices, so far as the same may be applicable, and where rates are not contained in the said schedules or are not applicable such amount shall be such sum as is reasonable in the circumstances. Due account shall be taken of any partial execution of the Works which is rendered useless by any such variation."

70. Similarly, Clause 51 of FIDIC-CEC provides:

"(1) The Engineer shall make any variation of the form, quality or quantity of the Works or any part thereof that may, in his opinion, be necessary and for that purpose, or if for any other reason it shall, in his opinion be desirable, he shall have power to order the Contractor to do and the Contractor shall do any of the following:

"(*a*) Increase or decrease the quantity of any work included in the Contract,

"(*b*) Omit any such work,

"(*c*) Change the character or quality or kind of any such work,

"(*d*) Change the levels, lines, position and dimensions of any part of the Works, and

"(*e*) Execute additional work of any kind necessary for the completion of the Works

"and no such variation shall in any way vitiate or invalidate the Contract, but the value, if any, of all such variations shall be taken into account in ascertaining the amount of the Contract Price."

71. A special problem arises if the variation is so extensive as to alter the scope of the original work above a certain percentage. Under the FIDIC-EMW the contractor's written consent to the variation is required if the additional work should exceed 15% of the contract price. (Clause 34.5.)

72. All UNIDO model contracts provide a procedure for determining whether a particular work falls within the contractor's obligations. Article 15 of UNIDO-CRC provides:

"15.1 Whenever the PURCHASER shall make a request to the CONTRACTOR for change in design, or where services are required to be performed by the CONTRACTOR which in the opinion of the CONTRACTOR are in addition to the services which the CONTRACTOR is obligated to perform under this Contract, or which in the CONTRACTOR's opinion require additional payment by the PURCHASER, the CONTRACTOR shall promptly advise the PURCHASER of the cost of such further services.

"15.2 If the PURCHASER agrees that the services required of the CONTRACTOR are in addition to the

* A/CN.9/WG.V/WP.4/Add.7 (reproduced below).

CONTRACTOR's obligation under this Contract, the PURCHASER shall, (subject to negotiations as to the cost and extent of such services and effect on the time schedule, if any) agree to pay for such services in accordance with payment terms and time schedules to be mutually agreed.

"15.3 In the event that the PURCHASER and the CONTRACTOR are unable to agree on whether such required services are within the contractual obligations of the CONTRACTOR, or if the PURCHASER considers that the payment demanded for such required services by the CONTRACTOR is exorbitant, the Technical Advisor shall have the right to decide on the quantum of payment, if any, which may be payable by the PURCHASER to the CONTRACTOR. In such an eventuality the CONTRACTOR shall proceed without delay to carry out the design changes, and/or provide the services which are the subject of the dispute, pending the decision of the Technical Advisor. The decision of the Technical Advisor shall be without prejudice to the rights of the CONTRACTOR to submit the dispute to Arbitration."

73. The procedure under UNIDO-TKL and UNIDO-STC is similar.

74. The counter-proposal has a different approach. It stipulates the circumstances in which the contractor will be entitled to extra payment for the additional work. Article 15 provides *inter alia:*

"The CONTRACTOR shall be entitled to claim for additional cost and/or time delays and/or guarantees when a modification, change or variation occurs in the event of any of the following:

"15.1 Any modification, addition or deletion to the contract documents . . . unless the PURCHASER specifically demonstrates that it does not affect the CONTRACTOR's services.

"15.2 Any written request by the PURCHASER which causes a modification to any drawing, specification and document, purchase order or to the CONTRACTOR services or to the work, unless the elements already accomplished were not originally accomplished in accordance with the contract.

"15.3 Any additional engineering studies requested in writing by the PURCHASER, including those which are not followed by execution.

". . .

"15.8 Any modification in the CONTRACTOR's services and/or the work proposed by one of the Parties accepted by the other Party, and ratified by both Parties."

[A/CN.9/WG.V/WP.4/Add.3*]

VIII. Inspection and tests

A. *General remarks*

1. The conformity of the plant with the requirements of the contract is of utmost importance for the purchaser and also in the interest of the contractor. To ensure this conformity works contracts usually contain provisions concerning inspection and examination in the course of production as well as tests before and after completion of the works.

2. The relevant part of article 38 of the Sales Convention stipulates:

"(1) The buyer must examine the goods, or cause them to be examined, within as short a period as is practicable in the circumstances.

"(2) If the contract involves carriage of the goods, examination may be deferred until after the goods have arrived at their destination."

3. In works contracts, especially one for large industrial works, the position is not as simple as that under the Sales Convention. Here it is in the interest of both parties to examine the works in the course of their production. For the contractor early examination means the possibility of curing the defects, if any, in the factory itself rather than on site. The defects would be easier to remedy and less expenses would be incurred. For the purchaser early rectification of defects means avoidance of subsequent delays and difficulties.

4. Works contracts, therefore, often contain provisions concerning the extent of inspection during production of machines and equipment, place and time of inspection, procedure for inspection, obligations and rights of purchaser, duties of contractor, costs of inspection, certification, and legal effect of inspection.

5. Regarding performance tests works contracts usually contain provisions concerning pre-conditions for performance tests, date of performance tests, procedure to be followed, participants, obligations of purchaser in preparation of tests, effects of tests, procedure in case of non-performed or non-successful tests, and protocol.

B. *Inspection during production*

1. *Rights and obligations*

6. The general conditions and model forms under study adopt different approaches to the question of

* 17 March 1981.

"inspection", "checking", "examination" and "test". The ECE General Conditions provide for inspection by the purchaser or his representative but an express agreement by the parties is required in the contract. Furthermore, the ECE General Conditions grant to the contractor a *right* of inspection, whereas the FIDIC Conditions give the right of inspection to the purchaser. The UNIDO model contracts on the other hand speak of the *duty* of the contractor to inspect and grant to the purchaser the right of participation.

7. Clause 8.1 of both ECE 188A/574A states:

> *"If expressly agreed* in the Contract, the Purchaser shall be entitled to have the quality of the materials used and the parts of the Plant, . . . inspected and checked by his authorized representatives . . ."

Here the inspection is related to the quality of the materials used and the parts of the plant. Whether the words "inspection" and "checking" denote different activities is not clear.

8. Other provisions of ECE 188A/574A relate to tests. These tests are obviously carried out by the contractor, in contrast to the aforementioned inspection which is carried out by the purchaser or on his behalf. The tests according to clause 8.3 also require an express agreement by the parties.

9. Another provision of ECE 188A/574A relates to inspection on the site. Article 18.1 provides:

> "Until the Works are taken over and during any work resulting from the operation of the guarantee the Contractor shall have the right at any time during the hours of work on the site to inspect the Works at his own expense. In proceeding to the site, the inspectors shall observe the regulations as to movement in force at the Purchaser's premises."

10. Clause 36 (1) of FIDIC-CEC states:

> "All materials and workmanship . . . shall be subjected from time to time to such tests as the Engineer may direct . . ."

And clause 25.1 of FIDIC-EMW contains the provision:

> "Unless otherwise agreed in the Contract the Engineer shall be entitled during manufacture to inspect, examine and test . . . the materials and workmanship and check the progress of manufacture of all Plant to be supplied under the Contract . . ."

11. Whereas the ECE General Conditions speak only of the materials the FIDIC Conditions include the workmanship and even the progress of manufacture of the plant.

12. In the UNIDO models it is the contractor who is responsible for the inspection. Article 14 of UNIDO-TKL shall serve as an example; UNIDO-STC is almost identical, whereas UNIDO-CRC is substantially shorter. Article 14.1 of UNIDO-TKL reads:

> "The CONTRACTOR shall assume full responsibility for the inspection, testing and certification of all equipment, materials, spare parts and other items . . . for incorporation into the Works. . . . [T]he CONTRACTOR shall be liable for the proper, adequate and sufficient conduct of the functions envisaged in this Article . . ."

13. Apart from the responsibility of the contractor for the inspection of his own equipment, he has to examine the materials supplied by the purchaser. According to article 14.9 of UNIDO-TKL:

> "The CONTRACTOR shall . . . review the quality of the items being supplied by the PURCHASER as listed in Annexure VIII and elsewhere in the present Contract, . . . and shall fully satisfy himself as to whether the specifications of the technical documents supplied by the CONTRACTOR have been met . . ."

14. The purchaser's right of inspection may extend to buildings. For example article 14.11 of UNIDO-TKL states:

> "The PURCHASER shall have the right to inspect all buildings and Civil Works during and after construction, (except for minor items such as painting etc. which may be inspected subsequently) . . ."

15. And article 14.12 of UNIDO-TKL adds:

> "The PURCHASER shall have the right to inspect all the erection of plant and machinery, and all piping, instrumentation, electrical installation and wiring, insulation, painting and all other work connected with erection as detailed in Annexure XXIX."

2. *Place and time of inspection*

16. Place and time are interrelated. If the place of inspection is in the factory, it must be conducted before shipment. Of course the time of inspection must be fixed according to the place where the equipment is situated for inspection. All the general conditions and contract forms under study contain provisions in regard to the place and time of inspection.

17. According to clause 8.1 of both ECE 188A/574A, the inspection and checking during manufacture and on completion,

> "shall be carried out at the place of manufacture during normal working hours after agreement with the Contractor as to date and time."

18. As regards tests, the same General Conditions state:

> *Clause 8.3:* "Tests provided for in the Contract other than taking-over tests will be carried out, unless otherwise agreed, at the Contractor's works and during normal working hours."

19. Clause 25.1 of FIDIC-EMW provides that inspection during manufacture must take place "on the Contractor's premises during working hours". The clause further provides:

"and if part of the said Plant is being manufactured on other premises the Contractor shall obtain for the Engineer permission to inspect, examine and test as if the said Plant were being manufactured on the Contractor's premises."

20. Clause 36(1) of FIDIC-CEC provides for tests "at the place of manufacture or fabrication, or on the Site or at such other place or places as may be specified in the Contract, or at all or any of such places."

21. Usually, the time of inspection will be agreed between the parties. Clause 25.2 of FIDIC-EMW provides:

"The Contractor shall agree with the Engineer the date on and the place at which any Plant will be ready for testing as provided in the Contract . . . The Engineer shall give the Contractor 24 hours' notice in writing of his intention to attend the tests."

22. ECE General Conditions provide:

Clause 8.4: "The Contractor shall give to the Purchaser sufficient notice of the tests to permit the Purchaser's representatives to attend."

23. Clause 38(1) of FIDIC-CEC provides for the situation involving covering up of works:

"No work shall be covered up or put out of view without the approval of the Engineer or the Engineer's Representative and the Contractor shall afford full opportunity for the Engineer or the Engineer's Representative to examine and measure any work which is about to be covered up or put out of view and to examine foundations before permanent work is placed thereon. The Contractor shall give due notice to the Engineer's Representative whenever any such work or foundations is or are ready or about to be ready for examination and the Engineer's Representative shall, without unreasonable delay, unless he considers it unnecessary and advises the Contractor accordingly, attend for the purpose of examining and measuring such work or of examining such foundations."

24. The FIDIC-CEC Conditions contain a provision on the time and place of inspection which might not find general approval in the context of the construction of big plants:

Clause 37: "The Engineer and any person authorized by him shall *at all times* have access to the Works and *to all workshops and places* where work is being prepared or from where materials, manufactured articles or machinery are being obtained for the Works and the Contractor shall afford every facility for and every assistance in or in obtaining the right to such access."

25. Such an unlimited right of access would certainly be opposed in some industries. In the course of preparation of the ECE General Conditions 188 an *unlimited* right was given to the purchaser for inspection at the contractor's premises. This was opposed for reasons of commercial secrecy and considerations of national defence.[1]

26. Article 14.1 of UNIDO-TKL deals with inspection and testing "during manufacture and prior to despatch, prior to and during inspection and upon arrival at the plant site".

27. According to article 14.3.1 of UNIDO-TKL the contractor "shall issue such confirmation to the PURCHASER's inspectors prior to their inspection, when the equipment, machinery or material is ready for final inspection."

Article 14.5 provides:

"When any equipment is ready for inspection, the CONTRACTOR shall give at least forty-five (45) days notice to the PURCHASER's representative of the time, place and goods to be inspected. Should the PURCHASER's representative desire to be present the CONTRACTOR shall be advised within thirty (30) days thereafter."

28. In their comments the group of contractors felt it a waste of time that notice be given for "any" equipment and suggested the restriction of the notice to "equipment designated to be inspected".

29. UNIDO-TKL further distinguishes inspections and tests in regard to their various places and times:

Article 14.5.1: "Inspection and Tests at Factory. All work shall be subject to inspection and testing at CONTRACTOR's factory and shall conform to the requirements of the Contract."

Article 14.5.2: "Inspection and Tests at Site. All work shall be subject to inspection and testing on Site and shall conform to the requirements of the Contract. After installation of the Work on Site, the CONTRACTOR shall carry out such required tests to prove compliance with the Contract, notwithstanding any tests which may have been carried out earlier at CONTRACTOR's factory."

Article 14.5.3: "Inspection and Tests on Mechanical Completion. Pursuant to the provisions of Article 18, the CONTRACTOR shall, upon due notice to the PURCHASER of his readiness to undertake the tests to demonstrate and prove completion of the Works, proceed forthwith to commence the procedures in accordance with the requirements of Article 18, but subject to the provisions referred to therein."

[1] See E/ECE/169, Commentary on the General Conditions for the Supply of Plant and Machinery for Export, para. 7.

30. The UNIDO models also contain the right of unlimited access to the premises of the contractor and any sub-contractors. For example in article 14.6 of UNIDO-TKL:

"All equipment, machinery, material and work performed in connexion with this Contract shall be available for inspection by the PURCHASER (through his duly authorized representative, including his underwriters as the case may be). The CONTRACTOR, its sub-contractors, and/or suppliers shall provide safe and necessary access for the inspection envisaged by this Article. The PURCHASER shall be afforded full and free access to the shops, factories, site or places of business of the CONTRACTOR, the sub-contractors and/or suppliers for such inspection to determine the condition and progress of work under the Contract."

31. The above-mentioned inspection of the items supplied by the purchaser according to article 14.9 of UNIDO-TKL must be carried out "after notice from the purchaser . . . as soon as they shall have been manufactured (but prior to beginning of the erection of each item) . . ."

3. *Procedure for inspection*

32. It may prove essential to agree on the procedure to be employed for inspections and tests and perhaps even the instruments to be used. However, "[i]f the technical requirements of the test are not specified in the Contract", clause 8.3 of both ECE 188A/574A provides, "the tests will be carried out in accordance with the general practice obtaining in the appropriate branch of the industry in the country where the Plant is manufactured".

33. The FIDIC Conditions contain no provision on procedure, but in the FIDIC Notes it is stated: "It is, of course, most important that details of inspection and testing requirements should be laid down in the specification in order that there is an agreed procedure . . ."[2]

34. The UNIDO model contracts leave the procedure for the contractor to decide. Article 14.5 of UNIDO-TKL merely provides:

"Wherever required by the PURCHASER, the CONTRACTOR shall associate the PURCHASER or his representative with such inspection, and shall undertake the necessary co-ordination for joint inspections."

But the purchaser may choose additional methods. Article 14.13 of UNIDO-TKL reads:

"During all inspection, the PURCHASER or his representatives may have recourse to such tests as they may consider necessary in order to establish whether the materials, objects, supplies or methods of construction and erection are of the requisite quantity and quality . . ."

4. *Objections and rights of purchaser*

35. If in the course of inspection of the equipment it turns out that certain parts are defective, it would be in the interest of the contractor to replace them. But there might be differences of opinion between the contractor and the purchaser on the extent of defects or indeed, whether there are in fact any defects.

36. Some forms request the purchaser to give his objections with reasons in writing. Clause 8.2 of both ECE 188A/574A provides:

"If as a result of such inspection and checking the Purchaser shall be of the opinion that any materials or parts are defective or not in accordance with the Contract, he shall state in writing his objections and the reason therefor."

Similarly article 25.5 of FIDIC-EMW provides:

"If as a result of such inspection, examination or test of the Plant (other than a Test on Completion under Clause 29) the Engineer shall decide that such Plant is defective or not in accordance with the Contract he shall notify the Contractor accordingly stating in writing his objection and reasons therefor."

37. In the UNIDO-TKL it appears that the purchaser can reject the work by giving notice in writing but without a statement of reasons therefor. Article 14.6 of UNIDO-TKL reads:

"If any services or workmanship supplied by the CONTRACTOR, the sub-contractors and/or suppliers are determined by the PURCHASER, either during the performance of the work, on inspection, or during any applicable warranty period(s), to be defective and not complying with requirements of this Contract and arising out of the fault or negligence of the CONTRACTOR, the sub-contractors and/or suppliers, the PURCHASER shall notify the CONTRACTOR in writing that such work is being rejected."

38. This article is criticized by the "international group of contractors" as the purchaser is made the sole judge as to whether any service or workmanship is defective and he is also given the unilateral right of rejection without giving reasons. Moreover, it is doubtful whether the purchaser may "reject" any part during the warranty period, i.e. after taking-over and acceptance.

39. Article 14.13 of UNIDO-TKL further states:

"The PURCHASER or his representatives may require the replacement or repair, as the case may be, of items which do not conform with the Contract, even after they have been incorporated into the Works, and

[2] Notes on Documents for Electrical and Mechanical Works Contracts, 1980, p. 28.

the provisions of the Contract referred to in Article 14.8 shall apply mutatis mutandis."

According to this provision the purchaser may request replacement or repair although the contractor is not obliged to meet the purchaser's requirements. Article 14.8 of UNIDO-TKL states:

"In case of a difference of opinion, the CONTRACTOR may proceed to act on his own responsibility as regards the despatch of such goods and equipment, but subject however, to the relevant provisions of Article 25 and Articles 27 to 30 inclusive."[3]

5. *Duties of the contractor*

40. The contractor usually will replace items which have been found defective during inspections. The general conditions and model forms contain not only obligations to that effect but also deal with the time required. Clause 8.5 of both ECE 188A/574A provides:

"If on any test (other than a taking-over test as provided for in Clause 21) the Plant shall be found to be defective or not in accordance with the Contract, the Contractor shall with all speed and at his own expense (including any transport expenses) make good the defect or ensure that the Plant complies with the Contract. Thereafter, if the Purchaser so requires, the test shall be repeated."

Similarly, clause 25.2 of FIDIC-EMW states:

"The Contractor shall with all speed make good the defect or ensure that the Plant complies with the Contract. Thereafter, if required by the Engineer, the tests shall be repeated under the same terms and conditions."

41. If under article 14.6 of UNIDO-TKL the purchaser has rejected "any services or workmanship . . . the CONTRACTOR shall, at his own expense, promptly remove and replace or correct such defective work by making the same comply strictly with all requirements."

And article 14.8 of UNIDO-TKL states:

"Should the PURCHASER's representative establish during inspection any deficiency in the inspected items, the CONTRACTOR shall take immediate steps to eliminate them. The CONTRACTOR shall maintain records of deficiencies noted and corrected."

6. *Costs of inspection*

42. The inspection will involve various kinds of expenses: costs of the contractor and of the purchaser; costs of materials; personal costs; costs at the contractor's premises or at site; costs for the first inspection, costs for a re-inspection after the removal of the defects. Not all these are dealt with in the various general conditions and forms.

43. According to clause 8.6 of both ECE 188A/574A the contractor shall

"Unless otherwise agreed . . . bear all the expenses of tests carried out in his works, except the personal expenses of the Purchaser's representatives."

44. Clause 25.3 of FIDIC-EMW deals not only with the financial but also the technical side of the matter:

"Where the Contract provides for tests on the premises of the Contractor or of any Sub-Contractor the Contractor shall provide such assistance, labour, materials, electricity, fuel, stores, apparatus and instruments as may be requisite and as may be reasonably demanded to carry out such tests efficiently."

45. The FIDIC Conditions seem to place personal expenses on each party like the ECE General Conditions. However, if a test has to be repeated after the removal of defects "all reasonable expenses to which the Employer may be put by the repetition of the tests shall be deducted from the Contract Sum." (Clause 25.5 of FIDIC-EMW).

46. The other FIDIC Conditions deal extensively with this matter. Article 36 of FIDIC-CEC provides:

"(1) . . . The Contractor shall provide such assistance, instruments, machines, labour and materials as are normally required for examining, measuring and testing any work and the quality, weight or quantity of any material used and shall supply samples of materials before incorporation in the Works for testing as may be selected and required by the Engineer.

"(2) All samples shall be supplied by the Contractor at his own cost if the supply thereof is clearly intended by or provided for in the Contract, but if not, then at the cost of the Employer.

"(3) The cost of making any test shall be borne by the Contractor if such test is clearly intended by or provided for in the Contract and, in the cases only of a test under load or of a test to ascertain whether the design of any finished or partially finished work is appropriate for the purposes which it was intended to fulfil, is particularised in the Contract in sufficient detail to enable the Contractor to price or allow for the same in his Tender.

"(4) If any test is ordered by the Engineer which is either

"(*a*) Not so intended by or provided for, or

"(*b*) (In the cases above-mentioned) is not so particularised, or

"(*c*) Though so intended or provided for is ordered by the Engineer to be carried out by an independent person at any place other than the Site or the place of manufacture or fabrication of the materials tested,

[3] Those articles concern guarantees, warranties, liquidated damages etc.

"then the cost of such test shall be borne by the Contractor, if the test shows the workmanship or materials not to be in accordance with the provisions of the Contract or the Engineer's instructions, but otherwise by the Employer."

47. A special situation could arise in connexion with the covering up of civil engineering work. If this has to be uncovered at the request of the purchaser the costs will be borne by the purchaser if no defect is found and by the contractor if a fault is detected.

Clause 38.2 of FIDIC-CEC provides:

"The Contractor shall uncover any part or parts of the Works or make openings in or through the same as the Engineer may from time to time direct and shall reinstate and make good such part or parts to the satisfaction of the Engineer. If any such part or parts have been covered up or put out of view after compliance with the requirement of sub-clause (1) of this Clause and are found to be executed in accordance with the Contract, the expenses of uncovering, making openings in or through, reinstating and making good the same shall be borne by the Employer, but in any other case all costs shall be borne by the Contractor."

48. UNIDO-TKL contains very special requirements:

Article 14.14: "The CONTRACTOR shall place at the disposal of the PURCHASER, free of charge, such instruments, and in particular equipment for the radioactive check of welds, along with specialized operating staff, if requested by the PURCHASER, to enable the PURCHASER to carry out his inspection of the CONTRACTOR's work or supplies, efficiently."

The comment of the "international group of contractors" relates to the costs of such equipment which in their view should be borne by the purchaser if such instruments are not already in the possession of the contractor.

7. *Certification*

49. Both ECE 188A and 574A speak of a test report which has to be prepared by the contractor and which, in practice, would usually be signed by both parties, but which "shall be accepted as accurate by the Purchaser" in case he fails to be represented at the tests (clause 8.4).

50. Under clause 25.4 of FIDIC-EMW it is not the contractor, but the purchaser who issues the certificate:

"As and when Plant shall have passed the tests referred to in this Clause the Engineer shall furnish to the Contractor a certificate in writing to that effect."

51. In the UNIDO-TKL the contractor who is responsible for the inspection would also be responsible for the certification. According to article 14.3.2 the contractor,

"shall issue proper *Certificates of Inspection* in respect of all items of Plant and Equipment respectively, before despatch, and shall send copies of such Certificates to the PURCHASER, and *certificates of tests* carried out in connection with the issue of such Certificates of Inspection."

It is not clear whether there is a difference between certificates of inspection and certificates of tests, and what tests are necessary in *connexion with the issue* of certificates.

52. The ECE General Conditions are silent on the need to obtain certification from suppliers but provision is made in the UNIDO model forms. Article 14.2.3 of UNIDO-TKL provides that the contractor

"shall require its suppliers to provide the necessary test certificates in proper form together with all other documents required by the Inspecting Authorities in the country of manufacture or as may be required by the PURCHASER in consideration of the regulations in force in (*country*) and/or as provided for in the specifications."

8. *Legal effect of inspection*

53. As mentioned earlier, the requirement of inspection is in the interest of both parties. The contractor's liability for breach of obligations usually remains despite inspection by the purchaser. Indeed, some model forms provide that failure by the purchaser to inspect does not prejudice his rights against the contractor under the contract.

54. Clause 25.1 of FIDIC-EMW provides:

"Such inspection, examination or testing if made shall not release the Contractor from any obligation under the Contract."

55. Article 14.5 of UNIDO-TKL puts it thus:

"The presence of the PURCHASER's representatives shall not in any manner qualify the CONTRACTOR's obligation under this Contract. The presence of the PURCHASER's representatives also shall not in any way imply contractual acceptance of goods or transfer of ownership."

And again in article 14.17 of UNIDO-TKL:

"The inspection by the PURCHASER and/or repair or replacement of equipment or construction works at the request of the PURCHASER shall not excuse the CONTRACTOR from the liabilities, warranties or guarantees as expressed in this Contract."

56. Different provisions are contained in the various forms in relation to the non-participation of the

purchaser. According to article 8.4 of both ECE 188A/574A:

"If the Purchaser is not represented at the tests, the test report shall be communicated by the Contractor to the Purchaser and shall be accepted as accurate by the Purchaser."

57. The FIDIC-EMW Conditions provide in clause 25.2:

". . . and unless the Engineer shall attend at the place so named on the date agreed the Contractor may proceed with the tests, which shall be deemed to have been made in the Engineer's presence, and shall forthwith forward to the Engineer duly certified copies of the test readings."

58. The UNIDO models follow a different approach. Article 14.6 of UNIDO-TKL provides:

"Neither the failure to make such inspection nor failure to discover defective workmanship, materials or equipment, nor approval of, or payment to the CONTRACTOR for such work, materials or equipment (pursuant to this Contract) shall prejudice the rights of the PURCHASER thereafter to require correction, replacement or reject the same as herein provided."

And again in article 14.7:

"If the PURCHASER waives his right of inspecting or testing as herein provided, it shall in no way relieve the CONTRACTOR of full liability for the quality, proper operation and performance of the completed work, and/or sections or parts thereof, nor shall it prejudice or affect the rights of the PURCHASER set forth under the Contract."

C. *Taking-over or performance tests*

1. *General remarks*

59. After completion of the works, taking-over or performance tests are usually carried out. The nature and duration of the tests depend to a large extent on the kind of performance expected of the plant.

60. ECE 188A/574A provide for taking-over tests. These tests are required to be carried out "unless otherwise agreed" (clause 21.1 respectively). On the other hand, during manufacture a special agreement in the contract is necessary.

61. FIDIC-EMW provides for tests on completion (clauses 29.1 to 29.6) whereas FIDIC-CEC leaves the question to the parties (clause 48.1).

62. Besides the above-mentioned inspections and tests the UNIDO models distinguish between mechanical completion tests (article 18) and performance guarantee tests (article 26). According to article 18.7 of UNIDO-TKL:

"the pre-commissioning of the Plants . . . and the carrying out of the Mechanical Completion Tests shall consist of the carrying out of such operations and making of such tests as are detailed in Annexure XX to establish the correct mechanical functioning of the Plants."

And article 26.2 of UNIDO-TKL provides:

"The plant supplied by the CONTRACTOR shall be capable of meeting the full requirements of normal operation, capacity, quality of Products, consumption of raw materials and utilities, all of which . . . shall be proven and demonstrated by test runs as specified in this Article and in the Annexures and Specifications (provided that the Plant is operated in accordance with the contractor's technical directions and instructions), and that such test runs are conducted in accordance with the conditions set forth herein."

2. *Time for performance tests*

63. Usually it is the contractor who decides on the time for performance tests (in the absence of stipulations in the contract). According to clause 21.1 of both ECE 188A/574A,

"the Contractor shall notify the Purchaser in writing when the Works will be ready, and such notification shall be in sufficient time to enable the Purchaser to make any necessary arrangements."

64. Clause 29.1 of FIDIC-EMW is more specific as to what constitutes sufficient time:

"The Contractor shall give to the Engineer, with a copy to the Employer, 21 days' notice in writing of the date after which he will be ready to make the Tests on Completion. Unless otherwise agreed the tests shall take place within 10 days after the said date on such day or days as the Engineer shall notify the Contractor in writing."

65. UNIDO-TKL does not mention any period in regard to mechanical completion tests, but requires 45 days' notice for performance tests:

Article 18.3: "As soon as any parts of the Works or Plant or any part thereof, is in the opinion of the CONTRACTOR substantially complete and ready for inspection the CONTRACTOR shall notify the PURCHASER (by means of a Construction Completion Report) that the Plant or a section thereof is ready for Mechanical Completion Tests." And,

Article 14.10: "Where the CONTRACTOR or any of his sub-contractors are undertaking any performance tests of any equipment to be supplied under this Contract, or any tests required under statutory law, the CONTRACTOR shall give at least forty-five (45)

days notice of such tests to the PURCHASER, or his representatives if such have been designated, and if desired the said representatives shall be present at such tests."

Furthermore the commencement of the performance test is connected with the start-up of the plant. Article 26.10.1 provides:

"The first twenty (20) day test of Ammonia and/or Urea Plant shall commence within ninety (90) days from the Start-up of the Plant(s), . . ."

3. *Procedure for performance tests*

66. The procedure to be followed for performance tests depends on the performance guarantee, if any, and is therefore usually agreed upon between the parties. Clause 21.2 of both ECE 188A/574A refers, in the absence of contractual provisions, to general practice:

"The tests shall take place in the presence of both parties. The technical requirements shall be as specified in the Contract or, if not so specified, in accordance with the general practice existing in the appropriate branch of the industry in the country where the Plant is manufactured."

67. Clause 29.2 of FIDIC-EMW implies that the tests shall be carried out in the presence of both parties (i.e. contractor and engineer acting on behalf of the purchaser) but is silent in regard to the technical requirements.

68. As mentioned already, the UNIDO model forms distinguish between mechanical completion tests and performance tests. According to article 18.3 of UNIDO-TKL the construction completion report

"shall indicate which parts of the Works or the Plant the CONTRACTOR proposes to demonstrate, have been completed in accordance with the specifications and have passed initial inspection tests as may have been specified in the Contract. The CONTRACTOR shall prepare and submit a programme of tests to prove the individual equipment and/or section, of a Plant."

69. The procedure for the tests has to be agreed between the parties and article 18.6 of UNIDO-TKL contemplates a subsequent review:

"When all the items of equipment in a Plant or any of the sections of the Off-sites and Utilities are ready and have been completed pursuant to this Contract (viz. erected, installed and tested), the CONTRACTOR and PURCHASER shall review the procedures for the pre-agreed tests for the demonstration of the Mechanical Completion of the Plant to be undertaken in accordance with Annexure XX (or otherwise) and the detailed procedures therewith."

70. Article 18.8 of UNIDO-TKL also makes provision for the question of who is responsible for the tests:

"The operations and tests referred to in 18.6 and 18.7 above shall be carried out in a competent manner by the CONTRACTOR's personnel under its direction and responsibility and in the presence of the PURCHASER's personnel."

71. In regard to performance tests UNIDO-TKL is more specific. Article 26.9 provides:

"The procedures to be followed for the execution of the Guarantee Tests shall be agreed upon between the parties three (3) months before the commencement of the above tests. Instruments tolerances shall be warranted by the CONTRACTOR. The PURCHASER shall have the right to specify instruments with low margin of tolerance for measurement of the Plant capacity and consumptions."

72. UNIDO-TKL does not specify whose personnel is to carry out the performance tests but article 26.10 provides that "the Performance Guarantee Tests of the Plants shall be run under the direction and supervision of the CONTRACTOR's personnel." Also,

"all measurements will be taken jointly by the PURCHASER and the CONTRACTOR and in the event of any dispute relating only to the correctness, sufficiency and/or adequacy of the tests and/or in the manner in which the tests were conducted, the provisions of article 37 shall apply."[4]

73. Since the performance test is to be carried out over a certain period UNIDO-TKL provides for adjustments to be made to the plant during that period:

Article 26.10.3: "The CONTRACTOR shall have the right to have the Plant(s) operated in accordance with its requirements at its own risk during the period to the CONTRACTOR to perform the test(s) and the PURCHASER's personnel shall work under the directions and technical instructions of the CONTRACTOR."

The purchaser on the other hand "shall have the right to operate the Plants as and when such operation shall not interfere with the CONTRACTOR's work."

74. UNIDO-TKL stipulates the aim of the performance test—the demonstration of a sustained steady operation of the plant over a specified continuous period (article 26.3.3). The capacity of the plant, its capability of producing specified products as well as the consumption of raw materials and utilities must be demonstrated (article 26.8).

4. *Obligations of purchaser concerning performance tests*

75. It is usually the responsibility of the purchaser to provide the personnel, materials, power etc., for the

[4] Article 37 deals with settlement of disputes and arbitration.

purpose of carrying out the performance test. Clause 21.3 of both ECE 188A/574A provides:

"Subject to the provisions of paragraph 2 hereof the Purchaser shall free of charge provide any power, lubricants, water, fuel and materials of all kinds reasonably required for final adjustments and for taking over tests. He shall also install free of charge any apparatus necessary for the above-mentioned operations."

76. Similarly, clause 29.4 of the FIDIC-EMW provides:

"The Employer, except where otherwise specified, shall provide free of charge subject to the provisions of Sub-Clause 5 of this Clause such labour, materials, electricity, fuel, water, stores and apparatus as may be requisite and as may be reasonably demanded to carry out such tests efficiently."

77. The UNIDO-TKL model contract regulates the obligation of the purchaser in great detail:

Article 5.7: "The PURCHASER shall provide free of charge all the raw materials, fuel, consumable items and make-up items necessary for the testing, commissioning, operation and maintenance of the Plant unless otherwise specifically mentioned in the specification or elsewhere in the Contract as to be supplied by the CONTRACTOR."

Article 5.8: "The PURCHASER shall provide all feedstocks, outside utilities, chemicals and other materials required for the operation of the Plant except the first charge of catalysts and chemicals to be supplied by the CONTRACTOR within his scope of supply. The feedstocks shall be in accordance with the specifications contained in this Contract or as otherwise agreed. The maximum quantity per hour and conditions of outside utilities (power, water, etc.) will be intimated by the CONTRACTOR to the PURCHASER within six (6) months of the Effective Date of the Contract. The requirement of all chemicals and other material inputs required for the start-up of the Plant and regularly thereafter, shall be intimated by the CONTRACTOR to the PURCHASER at least nine (9) months before the Mechanical Completion of the Plant."

Article 5.9: "The PURCHASER shall provide free of charge operation and maintenance personnel for the CONTRACTOR throughout the period from the beginning of the mechanical testing of equipment till the date of Acceptance of the Plant in numbers and of competence corresponding to the manning requirements which are to be developed by the CONTRACTOR in the form of a Manpower and Qualification Chart and approved by the PURCHASER."

5. *Unperformed performance test*

78. If no performance test is carried out within the period stipulated in the contract this can be due to reasons for which either one or none of the parties would be responsible.

79. If the contractor does not carry out the agreed tests the FIDIC-EMW Conditions provide that the engineer on behalf of the purchaser may proceed to make the tests:

"If in the opinion of the Engineer the tests are being unduly delayed he may, by notice in writing, call upon the Contractor to make such tests within 21 days from the receipt of the said notice, and the Contractor shall make the said tests on such days within the said 21 days as the Contractor may fix and of which he shall give notice to the Engineer. If the Contractor fails to make such tests within the time aforesaid the Engineer may himself proceed to make the tests. All tests so made by the Engineer shall be at the risk and expense of the Contractor unless the Contractor shall establish that the tests were not being unduly delayed in which case tests so made shall be at the risk and expense of the Employer." (Clause 29.3.)

80. UNIDO-TKL contains several provisions concerning tests not performed by the contractor, for instance,

Article 18.17: "If for reason attributable to the CONTRACTOR (whether directly or indirectly), the CONTRACTOR is unable to demonstrate any or all of the Guarantee Tests and/or Performance Requirements referred to in Article . . . the provisions of Articles 27.2 to 27.5 (inclusive) (as the case may be) shall apply . . ." This means the contractor has to pay liquidated damages. Or:

Article 26.10.2: "If, for reasons ascribable to mistake(s) and/or error(s) in process and/or detailed engineering or for any other reasons related to the work and services provided or performed by the CONTRACTOR, and/or mistake(s) and error(s) in the Contractual Specifications and instructions, the CONTRACTOR is not able to perform the test(s) within the period(s) stated in Article 26.10.1 above, the provisions of Article 26.11 shall apply."

81. In any event, according to article 18.1 of UNIDO-TKL,

"If Guarantees and/or Performance Guarantee Tests and/or any of the tests or pre-commissioning tests required are not capable of being commenced, undertaken, met or completed for reasons attributable to the CONTRACTOR's work and/or services, . . ." then

"The CONTRACTOR shall be responsible . . . for undertaking repairs and modification(s) of the Plant(s) and/or of any of the sections and/or parts thereof, in relation to any part of the Work(s) supplied by him or for which he is responsible under this Contract . . ."

82. UNIDO-TKL also foresees the possibility that the tests have to be made subsequently for reasons not attributable to the contractor. Under these circumstances the contractor is still obliged to demonstrate the tests, but article 26.16 of UNIDO-TKL makes provision for the costs:

"In the event the Performance and Guarantee Tests cannot be made within the period stipulated in Article 26.14 above, the CONTRACTOR shall be obligated to send personnel to Site to start up the Plant and to undertake tests on the Plant provided however that the PURCHASER shall pay additional fees and travel expenses for this service as may be agreed between PURCHASER and CONTRACTOR."

83. Where the tests cannot be performed due to reasons solely attributable to the purchaser the contractor is not obliged to undertake all future tests. Article 26.14 of UNIDO-TKL provides:

"The obligations of the CONTRACTOR (subject to Articles 18, 28, 29 and 32) shall be deemed to have been fulfilled if for reasons attributable solely to the PURCHASER, the first Guarantee Test cannot be carried out within eighteen (18) months from the Mechanical Completion of the Plant."

6. *Unsuccessful performance test*

84. If a performance test proves unsuccessful for reasons attributable to the work of the contractor then he has to remedy the defects and he is usually entitled to another test. The parties have to agree on the number of tests and on the question of costs.

85. Clause 21.2 of both ECE 188A/574A provides:

"If as a result of such tests the Works are found to be defective or not in accordance with the Contract, the Contractor shall with all speed and at his own expense make good the defect or ensure that the Works comply with the Contract, and thereafter, if the Purchaser so requires, the test shall be repeated at the expense of the Contractor."

Similarly, clause 29.5 of FIDIC-EMW reads:

"If any Portion of the Works fails to pass the tests, tests of the said Portion shall, if required by the Engineer or by the Contractor, be repeated within a reasonable time upon the same terms and conditions, save that all reasonable expenses to which the Employer may be put by the repetition of the tests shall be deducted from the Contract Sum."

And article 18.9 of UNIDO-TKL reads:

"If during the course of the tests mentioned above, any *defect(s)* or malfunction(s) become apparent in the plant and/or equipment supplied, or in any part of the Works, the CONTRACTOR shall *immediately* take steps to *replace* the defective equipment and/or rectify the defective part of the Works in the minimum time . . ."

86. The FIDIC-EMW Conditions also provide for the situation where a second test proves not successful:

Clause 29.6: "If the Works or any Section thereof shall fail to pass the tests on the repetition thereof under Sub-Clause 5 of this Clause the Engineer shall be entitled:

"(*a*) To order a further repetition of the tests under the conditions of Sub-Clause 5, or

"(*b*) To reject the Works or Section thereof in accordance with Clause 28 (Defects before taking-over) if the results of the tests show that the Works or the Section fail to meet the performance guarantees or the agreed tolerances specified in the Contract, or if there are no such guarantees or tolerances, the results show that the Works or the Section are not in accordance with the Contract, or

"(*c*) To issue a Taking-Over Certificate, if the Employer so wishes, subject to such reduction of the Contract Sum as may be provided in the Contract or, failing such provision, as may be agreed by the Employer and the Contractor or, failing agreement, as may be determined by arbitration."

87. Sometimes the parties limit the number of tests and also the period within which the tests have to be repeated. An example is article 26.10.1 of UNIDO-TKL:

"Subject to the provisions of Article 26.10.2 this ninety (90) day period shall be extended if the Plant(s) is unable to operate normally and in the event of failure of this test the CONTRACTOR shall be permitted not more than two (2) other tests to be run within six (6) months immediately thereafter . . ."

88. So far we were concerned with unsuccessful tests where the contractor is responsible. Article 26.12 of UNIDO-TKL deals with interruption of performance tests:

"If the ten (10) days capacity Performance Test(s) is interrupted due to reasons for which the CONTRACTOR is not responsible, the Plant(s) shall be started again as soon as possible and when the Plant(s) has reached normal operating conditions, the Test(s) shall continue immediately thereafter. The duration of the Test(s) shall be extended by the duration of such interruptions and the Test(s) shall then be deemed to have been performed continuously . . ."

7. *Protocol on performance test*

89. Generally for each test a protocol is signed by both parties. The FIDIC-EMW Conditions make pro-

vision where the purchaser's engineer is not represented at the tests:

Clause 29.2: "If the Engineer fails to appoint a time after having been asked so to do or to attend at any time or place duly appointed for making the said tests the Contractor shall be entitled to proceed in his absence and the said tests shall be deemed to have been made in the presence of the Engineer and the results of the tests shall be accepted as accurate."

90. In contrast to ECE and FIDIC, the UNIDO models are very specific in regard to protocols of any tests. For example, in UNIDO-TKL we find a construction completion report, a mechanical completion report and a performance test report.

The relevant provisions read as follows:

Article 18.4: "Upon satisfactory inspection of the plant and/or equipment and/or section of a Plant, the CONTRACTOR and the PURCHASER shall sign the Construction Completion Report stating that the Plant or part thereof has been inspected and is substantially complete and that any procedures required to prove the mechanical fitness and demonstration of Mechanical Guarantees prior to the Plant being put into operation may safely be carried out. (Such Construction Completion Report may include a note of any minor items which can be completed after start-up.)"

Article 18.7: ". . . When all such operations and tests have been fully and satisfactorily completed individually and/or together . . . and the Mechanical Completion of the Works has been achieved, the CONTRACTOR shall thereupon prepare a Mechanical Completion Report which shall be signed by both parties following a joint examination of the Plant(s) or those sections of Utilities and Off-sites concerned, and upon such signature of such Report by both parties, the Mechanical Completion of the Plants or sections of Utilities and Off-sites concerned shall be deemed to be achieved."

Article 26.13: "After the successful completion of any Performance Test, in accordance with the Contract (which the PURCHASER and CONTRACTOR accept as being a successful test) the CONTRACTOR shall prepare a Performance Test Report which shall be signed by the CONTRACTOR and submitted to the PURCHASER for approval."

IX. Completion

A. *Definition of completion*

91. It is not always clear what is meant by "completion". This notion is sometimes used to describe the end of the contractor's obligations to supply and construct a plant, including the performance tests and the handing over of the plant. Actually it is *this time* of completion which has effect for the purchaser. This notion seems to be adopted in the ECE and FIDIC General Conditions.

92. On the other hand, completion in the UNIDO model contracts occurs before commissioning, start-up, performance tests and take-over. Article 18.2 of UNIDO-TKL provides:

"The Work(s) and/or sections and/or parts thereof shall be considered to have been completed when the requirements of Articles 18.4 to 18.7 have been satisfied . . ."

Those articles relate to the construction completion (articles 18.4 and 18.5) and to the mechanical completion (articles 18.6 and 18.7).

93. Thus for the UNIDO-TKL the operation of the plant *follows* the completion:

Article 18.10: "Upon Mechanical Completion of any Plant and testing of each Plant in accordance with Article 18.7 and Annexure XX, as soon as possible thereafter, the relevant Plant shall be brought into operation."

94. The UNIDO-TKL also uses the notion "commercial production" describing a stage *after* completion but *before* performance tests and take-over:

Article 18.11: "Thereafter the Plant shall be started up and when all sections of the Plants are in a satisfactory operating state, and specification grade Ammonia and Urea are in continuous and uninterrupted production for ( ) days at ( )% capacity in accordance with the terms of the Contract, then, the Plant shall be deemed to be in Commercial Production."

B. *Time for completion*

1. *Agreed time*

95. One of the essential elements in a works contract is the time when the plant is completed and ready for operation by the purchaser. The parties therefore usually fix a date or a period for completion. If the parties choose a period they should agree on its starting point.

96. ECE 188A/574A provide for three different situations, a fixed completion period, an estimated period, and no specific period mentioned:

Clause 20.1: "Unless otherwise agreed the completion period shall run from the latest of the following dates:

"(*a*) The date of the formation of the Contract as defined in Clause 2;

"(*b*) The date on which the Contractor receives notice of the issue of a valid import licence where such is necessary for the execution of the Contract;

"(*c*) The date of the receipt by the Contractor of such payment in advance of manufacture as is stipulated in the Contract."

Clause 20.4: "If the time for completion mentioned in the Contract is an estimate only, either party may after the expiration of two thirds of such estimated time require the other party in writing to agree a fixed time.

"Where no time for completion is mentioned in the Contract, this course shall be open to either party after the expiration of nine months from the formation of the Contract.

"If in either case the parties fail to agree, either party may have recourse to arbitration, in accordance with the provisions of Clause 28, to determine a reasonable time for completion and the time so determined shall be deemed to be the fixed time for completion provided for in the Contract and paragraph 3 hereof shall apply accordingly."

97. In most cases it will be in the interest of the purchaser that the plant should be completed as early as possible. To encourage early completion the parties may agree on a premium.

Clause 13.3 of the FIDIC-EMW for instance contains the following provision:

"If the Contract provides for the payment of a bonus in relation to the Completion of the Works or any Section thereof this shall be set out in Part II."

98. UNIDO-TKL urges expeditious completion:

Article 18.1: "The CONTRACTOR shall execute the work diligently and shall adhere strictly to the requirements for expeditious completion of the Works, notwithstanding the contractual time schedules provided herein."

99. Furthermore, the above model employs a concept which is strongly opposed by contractors:

Article 11.1: "Time shall be deemed to be of the essence of the Contract."

Article 11.2: "The CONTRACTOR acknowledges and agrees that it is capable of completing its contractual obligations within the time schedules set forth in this Contract, and that it possesses the necessary skills and means to discharge its responsibilities in a proper, efficient and expeditious manner."

Article 11.3: "The CONTRACTOR agrees that the timely completion of the Works herein (by virtue of this Turn-Key Contract) is an integral part of the responsibilities assumed by the parties to this Contract, and accordingly, the CONTRACTOR agrees to adhere strictly to the contractual requirements of time and promises to fulfil its contractual obligations speedily, competently and reliably."

2. *Extension of time*

100. As every construction of a plant is an individual work it is not always possible to take into account all subsequent events and meet all the time schedules. Contracts therefore usually contain provisions on extension of time.

101. Clause 20.2 of both ECE 188A/574A provides:

"Should delay in completion be caused by any of the circumstances mentioned in Clause 25 or by an act or omission of the Purchaser and whether such cause occur before or after the time or extended time for completion, there shall be granted subject to the provisions of paragraph 5 hereof such extension of the completion period as is reasonable having regard to all the circumstances of the case."

102. The FIDIC-EMW Conditions contain similar provisions, listing eight different reasons for extending the time all of which, as in the case of ECE, do not include the fault of the contractor:

Clause 30: "If by reason of:

"(*a*) Extra or additional work, or

"(*b*) Exceptional adverse weather conditions unforeseen at the time the Contract was signed, or

"(*c*) Employer's instructions beyond those specified in this Contract, or

"(*d*) The failure of the Employer to obtain any required import licence or permit, or the failure of the Employer to fulfil any of his obligations under the Contract, or

"(*e*) Delay by any other contractor engaged by the Employer, or

"(*f*) Any suspension of the Works under Clause 27, or

"(*g*) Any industrial dispute, or

"(*h*) Any cause, except as may otherwise be provided in the Contract, beyond the reasonable control of the Contractor,

"the Contractor shall have been delayed or impeded in the completion of the Works, whether such delay or impediment occur before or after the time or extended time fixed for completion, provided that the Contractor shall without delay have given to the Employer or the Engineer notice in writing of his claim for an extension of time, the Engineer shall on receipt of such notice and supporting detailed particulars of the claim grant the Contractor from time to time in writing either prospectively or retrospectively such extension of the time fixed by the Contract for the completion of

the Works as may be justified. Any delay on the part of a Sub-Contractor which prevents the Contractor from completing the Works within the time fixed by the Contract for the completion of the Works shall entitle the Contractor to an extension thereof if such delay was due to any cause for which the Contractor himself would have been entitled to an extension of time under this Clause."

103. The UNIDO-TKL does not deal with any possible extension but states in article 11.4:

"The CONTRACTOR acknowledges and agrees that the supply of the plant, equipment, materials and spare parts (together with the services related thereto) is crucial to the schedules for completion of the Works, and the CONTRACTOR hereby obligates itself and ensures that its scope of supply and services provided under this Contract are in conformity with the requirements of the contractual time-schedule(s) (expressly or impliedly), and, shall furthermore, in anticipation of any delay or shortfall in the scope of its supply and/or services undertake steps forthwith to remedy the delay and/or (in consultation with the PURCHASER) utilize alternate resources immediately available without compromising any of the contractual criteria as to quality and/or quantity with respect to such goods and services."

C. *Delayed completion*

104. The effects of and remedies for delay are dealt with, in part two, XI, *Delays and Remedies, infra*. Here it suffices to note that there cannot be an indefinite delay and therefore, in some contracts, the purchaser is entitled to fix a final date for completion. Clause 20.5 of both ECE 188A and 574A provides:

"If any portion of the Works . . . remains uncompleted, the Purchaser may by notice in writing to the Contractor require him to complete and by such last mentioned notice fix a final time for completion which shall be reasonable taking into account such delay as has already occurred . . ."

X. Take-over and acceptance

A. *General remarks*

105. Take-over generally involves the taking of possession. Acceptance signifies approval. One of the main obligations of the purchaser under the Sales Convention is to "take delivery" of the goods (article 53). This obligation involves doing all acts which could reasonably be expected of him in order to enable the seller to make delivery and taking over the goods (article 60).

106. In a works contract the obligation of the purchaser to take over the works is not always defined. In some cases take-over is regarded as identical with acceptance. In other cases the actual take-over is *preceded* by an acceptance (which in turn is preceded by acceptance or taking-over tests (see VIII, *Inspection and Tests, supra*). Sometimes the acceptance *follows* the take-over.

107. The obligation of the purchaser to take over or accept is not always spelt out but may be implied from the provisions in the contract.

B. *Pre-conditions for take-over and acceptance*

108. Provision is made in ECE 188A and 574A for the taking-over of the works:

Clause 22. "Taking-Over

"22.1 As soon as the Works have been completed in accordance with the Contract and have passed all the taking-over tests to be made on completion of erection, the Purchaser shall be deemed to have taken over the Works and the Guarantee Period shall start to run . . ."

109. In this context taking-over is identical with acceptance in the sense of approval (see also part two, XV, *Guarantees and Warranties, infra*). It is not even necessary for the purchaser to take-over actually, but he is *deemed* as having taken over if two pre-conditions are satisfied:

(*a*) The works have been completed (see IX, *Completion, supra*); and

(*b*) The works have passed all the taking-over tests (see VIII, *Inspection and Tests, supra*).

110. These pre-conditions are generally found in all contracts. The provision in FIDIC-EMW is as follows:

"Taking-Over"

Clause 32.1: "As soon as the Works have been completed in accordance with the Contract (except in minor respects that do not affect their use for the purpose for which they are intended and save for the obligations of the Contractor under Clause 33 (Defects) and have passed the Tests on Completion, the Engineer shall issue a certificate to the Contractor, with a copy to the Employer, (herein called a "Taking-Over Certificate") in which he shall certify the date on which the Works have been so completed and have passed the said tests, and *the Employer shall be deemed to have taken over the Works* on the date so certified whereupon title to and risk of loss or damage to the Works or any Section or Portion thereof shall,

subject to the provisions of Clause 15 (Liability for Accidents and Damage) and Clause 33 (Defects), pass to the Employer, but the issue of a Taking-Over Certificate shall not operate as an admission that the Works have been completed in every respect."

111. In the draft UNIDO model forms there are two types of acceptance, i.e. provisional and final. The pre-conditions for the provisional acceptance in the various models are:

	TKL 18.14	*STC 18.26*	*CRC 18.14*
(*a*) All certificates of inspection and all certificates of materials have been provided;	X	X	X
(*b*) Statement for mechanical guarantee period has been given and approved by engineer;	X	X	
(*c*) All documentation including drawings listed in an annex has been provided;	X	X	X
(*d*) Civil construction completion report has been obtained;	X		
(*e*) Tests have been successfully completed;	X	X	
(*f*) Mechanical completion report has been signed;	X		X
(*g*) Performance test's certificate has been submitted and accepted;	X	X	X
(*h*) Management services have been discharged.	X		

112. The UNIDO-CRC counter-proposal also draws the distinction between provisional and final acceptance. It proposes, however, only three pre-conditions for the issuance of the provisional acceptance certificate (article 18.11):

(*a*) All certificates of inspection and of materials have been provided;

(*b*) All documentation according to the annex have been provided;

(*c*) The performance test certificate has been submitted by the contractor and signed by the purchaser.

113. In the UNIDO models the purchaser must issue a final acceptance certificate when all the contractual requirements have been satisfactorily complied with within twelve months of the provisional acceptance of the plant (article 18.20 of UNIDO-TKL and UNIDO-CRC, and article 18.32 of UNIDO-STC).

114. The UNIDO-CRC counter-proposal has a different conception. Here the provisional acceptance becomes the final acceptance if there are no reservations stated by the purchaser in the provisional acceptance certificate. If reservations are stated in the provisional acceptance certificate the plant will be deemed to be finally accepted when all the reservations have been satisfactorily complied with. The purchaser will then issue, without delay, the corresponding final acceptance certificate (article 18.13 of the counter-proposal). In addition there is a time limit for the latest date of final acceptance which will start to run from the effective date of the contract.

115. The above provisions show that the completion of the plant in accordance with the contract and the successful demonstration of the tests are the minimal requirements for acceptance. In the ECE and the FIDIC Conditions there is no distinction between provisional and final acceptance.

C. *Act of acceptance*

116. In many contracts take-over and acceptance are formal acts. Sometimes representatives of both parties watch the tests or jointly examine the plant. They may also agree on the necessary modifications or rectifications. Both parties sign an acceptance protocol or record stating that the plant has been delivered and accepted. If the plant comprises many single machines and equipment that have been tested individually there will be a collection of protocols of tests. The date of the signing of the last one will be the acceptance date.

117. In other cases no distinction is made between the successful performance test and the acceptance. The signing of the record of the last successful performance test is perhaps deemed to be the acceptance of the plant.

118. The ECE Guide does not deal with acceptance as a formal act. It deals with successful acceptance tests as indicating the overall completion of the plant only in relation to delay and possible calculation of penalties (paragraph 40 (ii)).

119. The FIDIC-CEC Conditions do not deal with acceptance as such. No formal act of acceptance is provided for but after completion of the work (or any substantial part thereof) the contractor may request the certificate of completion and after a certain period, which in these Conditions is called the period of maintenance, a maintenance certificate has to be issued. That will constitute approval of the works (clause 61 of FIDIC-CEC).

120. As stated earlier one of the main pre-conditions for the provisional acceptance in the UNIDO-TKL draft is the submitting and accepting of the performance test report (see also VIII, *Inspection and Tests, supra*). For the acceptance of the plant itself a special certificate will be issued according to article 26.13.1 of UNIDO-TKL:

"If the said Report (the performance test report) is satisfactory, the PURCHASER shall issue within thirty (30) days from the receipt of the CONTRACTOR's Report an *Acceptance Certificate* or shall inform the CONTRACTOR's Site representative

within the same period the reasons for non-acceptance."

D. *Acceptance of part of works*

121. Acceptance of part of the works is possible if different parts of the plant are ready at different times and if it is possible to use them independently. FIDIC-EMW contains two provisions concerning taking-over portions:

Clause 32.1: "In the event of the Works being divided by the Contract into two or more Sections the Employer shall be entitled to take over any Section or Sections before the other or others, and thereupon the Engineer shall issue a Taking-Over Certificate in respect thereof."

Clause 32.2: "If by agreement between the Employer, the Engineer and the Contractor any Portion of the Works (other than a Section or Sections) shall be taken over before the remainder of the Works the Engineer shall issue a Taking-Over Certificate in respect of that Portion."

E. *Presumed acceptance*

122. There are cases where the purchaser is deemed to have accepted the works or the plant. The following provide some examples:

(a) *Purchaser's failure to perform certain acts*

The purchaser is under an obligation to take delivery. This involves doing all necessary acts to enable the contractor to deliver. If, for instance, the performance tests cannot be carried out because the purchaser did not fulfil his obligations relating to material, water, energy, workers, etc., the purchaser usually is deemed as having accepted the plant.

(b) *Unwillingness of purchaser to have taking-over tests performed*

Clause 22.2 of both ECE 188A/574A provides as follows:

"If the Purchaser is unwilling to have the taking-over tests carried out the Works shall be deemed to have been taken over and the Guarantee Period shall start to run on a written notice to that effect being given by the Contractor."

FIDIC-EMW deals with a similar situation:

Clause 32.4: "If, by reason of any act or omission of the Employer or the Engineer, or of some other contractor employed by the Employer, the Contractor shall be prevented from carrying out the Tests on Completion then unless in the meantime the Works shall have been proved not to be substantially in accordance with the Contract, the Employer shall be deemed to have taken over the Works and the Engineer shall issue a Taking-Over Certificate accordingly; . . ."

(c) *Postponement of take-over tests*

Clause 22.3 of both ECE 188A/574A provides that:

"If by reason of difficulties encountered by the Purchaser (whether or not covered by Clause 25), it becomes impossible to proceed to the taking-over tests, these shall be postponed for a period not exceeding six months, or such other period as the parties agree, and the following provisions shall apply:

"(*a*) The Purchaser shall make payments as if the taking-over had taken place, . . .

"(*f*) If at the end of six months or such other period as the Parties may have agreed the tests have not taken place, the provisions of paragraph 22.2 shall apply unless the provisions of Clause 25 are applicable."

(d) *Purchaser's conduct*

Apart from the performance tests there are other cases where the purchaser is deemed to have accepted the plant. Clause 32.1 of FIDIC-EMW provides:

"Save as provided in Sub-Clause 3 of this Clause the Employer shall not use the Works or any Section or Portion thereof until a Taking-Over Certificate has been issued in respect thereof. If nevertheless, the Employer does so use the Works or any Section or Portion thereof the Works or Section or Portion shall be deemed to have been taken over."

(e) *Delay in acceptance*

The UNIDO-TKL draft also contains a provision concerning a presumed acceptance. According to article 26.13.2 the non-issuance of the acceptance certificate mentioned earlier does not in all cases prevent the acceptance:

". . . in the event of the PURCHASER failing to issue the Acceptance Certificate or to inform the CONTRACTOR as provided in Article 26.13.1, the CONTRACTOR shall request the PURCHASER for an explanation for the delay and if the PURCHASER fails to respond within another thirty (30) days the *Acceptance* of the Plant for which the Performance Test was conducted *shall be deemed to have taken place,* on the date that the test was successfully completed."

F. *Refusal of acceptance*

123. It follows from the foregoing that the purchaser may refuse to accept the works if the plant has not been

constructed in accordance with the contract or if the plant is not complete or if the tests have not been successfully carried out. However, the purchaser has to accept if there are only minor or immaterial defects (see clause 32.1 FIDIC-EMW, *supra,* paragraph 121).

124. In the UNIDO models minor defects do not permit the purchaser to refuse acceptance. This is not stated in the drafts but it follows from other provisions. It seems that the provisional acceptance certificate will be issued even if:

(*a*) The tests are not successful and the purchaser claims liquidated damages (article 18.17 of UNIDO-TKL);

(*b*) Repairs are necessary which the contractor has to carry out (article 18.18 of UNIDO-TKL).

G. *Legal effects of take-over and acceptance*

125. By accepting the plant the purchaser acknowledges that the contract has been duly performed. However, the parties may state in the acceptance protocol the defects, if any, and agree on the period for their rectification.

126. According to clause 32.1 of FIDIC-EMW "the issue of a Taking-Over Certificate shall not operate as an admission that the Works have been completed in every respect."

127. A similar provision is contained in both UNIDO-TKL and UNIDO-CRC:

Article 18.16: "The *Provisional Acceptance* of the Plant or the Take-Over of any specified part or section of the Plant(s) by the PURCHASER . . . *shall not be* construed as *evidence that any portions* of the Work(s), part(s), section(s) and/or material(s) thereof *are complete.*"

Similarly in UNIDO-STC:

Article 18.28: "The Provisional Acceptance of the Plant(s) or the Take-Over of any specified part or section of the Plant(s) by the PURCHASER shall not in any way release the CONTRACTOR from his obligations under the terms of this Contract, and shall not be construed as evidence that the Plant(s) are free of defects."

128. An international group of contractors has criticized those provisions, stating that a signed report must mean what it says and any reservations thereon should be written into the report (see ID/WG.318/4, page 23).

129. According to clause 32.1 of FIDIC-EMW the legal effect of the acceptance and take-over is that title to and risk of loss or damage to the works pass to the purchaser.

130. According to clause 22.1 of both ECE 188A/574A the guarantee period commences on the date of acceptance.

131. According to article 18.19 of UNIDO-TKL the purchaser, upon take-over, "shall be responsible for the management, operation and maintenance of the Work(s), and shall take out and carry such insurances as may be deemed necessary."

132. Sometimes the credit period, payment of installments or payment of interests commences on the date of acceptance. However, this effect is sometimes expressly excluded. For instance, according to clause 62 (1) of FIDIC-CEC, the maintenance certificate which marks the approval or acceptance of the works is not a condition precedent to payment to the contractor.

133. On the other hand according to article 26.15 of UNIDO-TKL the acceptance certificate entitles the contractor to receive payment:

"The issue of these Provisional Acceptance Certificates shall . . . entitle the CONTRACTOR to receive due payments on completion of the Performance Guarantees and Acceptance of the Plant in accordance with Article 20."

[A/CN.9/WG.V/WP.4/Add.4*]

XI. Delays and remedies

A. *Preliminary remarks*

1. As a general rule, the parties to a contract must perform the contract according to its terms. This obligation relates not only to the performance itself but also to the time within which the performance must be completed. If the party does not perform within the time fixed by the contract, there exists a "delay" under the terms of the contract.

2. Delays in the execution of a contract may occur at different stages of the contract and can be caused by a breach of the contract by the parties or may be attributable to causes beyond the control of the parties.

3. If a delay occurs the aggrieved party may ask that this situation be remedied. The remedy will depend on the gravity and the seriousness of the delay. In view of the nature of contracts for the supply and construction of large industrial works, it is to be expected that they will be essentially performance oriented and that it will be only as a measure of last resort that the aggrieved party will be entitled to put an end to the contract.

* 27 May 1981.

B. *Kinds of delays and their remedies*

1. *Delay in performing the main obligations*

(a) *Completion*

4. In the event of a delay in the completion of the works, clause 47 of FIDIC-CEC provides that:

". . . the Contractor shall pay to the Employer the sum stated in the Contract as liquidated damages for such default and not as a penalty for every day or part of a day which shall elapse between the time prescribed by Clause 43 hereof and the date of certified completion of the Works . . ."

5. However, the same clause of FIDIC-CEC goes on further:

"The payment or deduction of such damages shall not relieve the Contractor from his obligation to complete the Works, or from any other of his obligations and liabilities under the Contract."

6. Under clause 31.1 of FIDIC-EMW, the purchaser is also entitled "to a reduction of the Contract Sum unless it can be reasonably concluded from the circumstances of the particular case that the Employer has suffered no loss." The exact amount of such reduction will be determined in accordance with the figures provided for in an appendix to the tender.

7. If the works remain uncompleted for a long period of time, clause 31.2 of FIDIC-EMW provides that:

"If any Portion of the Works in respect of which the Employer has become entitled to the maximum reduction under Sub-Clause 1 of this Clause remains uncompleted the Employer may by notice in writing to the Contractor require him to complete and by such notice fix a final time for completion which shall be reasonable having regard to such delay as has already occured. If for any reason, other than one for which the Employer or some other contractor employed by him is responsible, the Contractor fails to complete within such time, the Employer may by further written notice to the Contractor elect either

"(*a*) To require the Contractor to complete, or

"(*b*) To terminate the Contract in respect of such Portion of the Works

"and recover from the Contractor any loss suffered by the Employer by reason of the said failure up to an amount not exceeding the sum named in the Appendix to the Tender or, if no sum is named, that part of the Contract Sum that is properly apportionable to such Portion of the Works as cannot by reason of the Contractor's failure be put to the use intended."

8. The solution envisaged by FIDIC-EMW is similar to that in the ECE General Conditions in case the delay in the completion of the works is not remedied immediately. Clause 20.5 of both ECE 188A/574A provides that:

"If any portion of the Works in respect of which the Purchaser has become entitled to the maximum reduction provided for by paragraph 3 hereof, or in respect of which he would have been so entitled had he given the notice referred to therein, remains uncompleted, the Purchaser may by notice in writing to the Contractor require him to complete and by such last mentioned notice fix a final time for completion which shall be reasonable taking into account such delay as has already occurred. If for any cause other than one for which the Purchaser or some other Contractor employed by him is responsible, the Contractor fails to complete within such time, the Purchaser shall be entitled by notice in writing to the Contractor, and without requiring the consent of any Court, to terminate the Contract in respect of such portion of the Works and thereupon to recover from the Contractor any loss suffered by the Purchaser by reason of the failure of the Contractor as aforesaid up to an amount not exceeding the sum named in . . . the Appendix, or, if no sum be named, that part of the price payable under the Contract which is properly attributable to such portion of the Works as could not in consequence of the Contractor's failure be put to the use intended."

9. The remedies for delay in completion or for non-completion are usually damages (see XII, *Damages and limitation of liability, infra*) or liquidated damages and termination (see part two, XVII, *Termination*).*

(b) *Payment*

10. If the purchaser delays in making payment, clause 11.5 of both ECE 188A/574A provides that:

"the Contractor may postpone the fulfilment of his own obligations until such payment is made, unless the failure of the Purchaser is due to an act or omission of the Contractor".

11. When the delay in paying continues, clause 11.7 of both ECE 188A/574A provides that:

". . . the Contractor shall on giving to the Purchaser within a reasonable time notice in writing be entitled to the payment of interest on the sum due at the rate fixed in . . . the Appendix from the date on which such sum became due. If at the end of the period fixed in . . . the Appendix, the Purchaser shall still have failed to pay the sum due, the Contractor shall be entitled by notice in writing to the Purchaser, and without requiring the consent of any Court, to terminate the Contract and thereupon to recover from the Purchaser the amount of his loss up to the sum mentioned in . . . the Appendix."

* A/CN.9/WG.V/WP.4/Add.7 (reproduced below).

12. Under clause 69 (1) of FIDIC-CEC, the contractor may terminate the contract:

"In the event of the Employer:

"(*a*) Failing to pay to the Contractor the amount due under any certificate of the Engineer within thirty days after the same shall have become due under the terms of the Contract, subject to any deduction that the Employer is entitled to make under the Contract . . ."

13. The UNIDO-TKL model does not contain any provision granting the contractor remedies in the event the purchaser delays in making payment under the terms of the contract. The remedies available to the contractor in such a case would, therefore, be those existing under the applicable law.

(c) *Taking delivery*

14. If the purchaser delays in taking delivery, clause 10.1 of both ECE 188A/574A provides that "he shall nevertheless make any payment conditional on delivery as if the Plant had been delivered. The Contractor shall arrange for the storage of the Plant at the risk and cost of the Purchaser. If required by the Purchaser, the Contractor shall insure the Plant at the cost of the Purchaser . . ."

15. The FIDIC-EMW Conditions also contain similar provisions on the consequences of the purchaser's delay in taking delivery, i.e. payment, storage and insurance (clauses 26.2, 26.4, 26.5, 26.7).

2. *Delay in performing other obligations*

16. Some of the possible cases of delay and their consequences have been dealt with in other chapters and will, therefore, not be repeated here. As regards delayed tests, see part two, VIII, *Inspection and Tests,** for delays in curing defects, see part two, XV, *Guaranties*** and XVI, *Rectification of Defects.****

3. *Delays due to exonerating events*

17. Certain aspects of the question are discussed in chapter XIII, *Exoneration,***** which deals with events of *force majeure* or frustration and with other types of events which prevent the parties from performing the contract.

18. Some of the forms under study deal with events other than *force majeure,* frustration or exoneration that may result in delays in the performance of the contract. Such other causes for delay to which for instance clause 44 of FIDIC-CEC refers are "extra or additional work of any kind" and to "exceptional adverse climatic conditions".

19. In the event that the contractor's performance is delayed for a reason beyond the control of the parties, article 44 of FIDIC-CEC provides that the contractor is entitled "to an extension of time for the completion of the Works". The period of extension is to be determined by the engineer who "shall notify the Employer and the Contractor accordingly".

20. In order for the engineer to take account of the additional or extra work or of other special circumstances, the contractor must notify him in writing. This notice must be sent "within twenty-eight days after such work has been commenced, or such circumstances have arisen, or as soon thereafter as is practicable" and it must contain "full and detailed particulars of any extension of time to which [the Contractor] may consider himself entitled in order that such submission may be investigated at the time".

21. Article 19 of UNIDO-TKL deals with the extension of time for completion if delay is caused by circumstances beyond the control of the parties. Article 19.1 of UNIDO-TKL refers to "Vandalism, Malicious Damage and Death or Injury to essential personnel" but excludes occurrences or events covered by articles 18.18 (repairs and modifications of the plant), 29.10 (inability to prove and demonstrate the guaranty tests) and 34 (*force majeure*) which may also delay the completion of the works.

22. Under article 19.1 of UNIDO-TKL, the contractor must also make a written request to the purchaser "for a reasonable extension of time for completion of work or any portion of it to the extent that the factors affecting delay prevailed in the circumstances." This written request must be made within ten days of the occurrence specified above which resulted in the delay.

XII. Damages and limitation of liability

A. *Introduction*

23. The liability to pay damages for breach of contract is one of the most important consequences of the failure to perform. The importance appears to be particularly significant in international contracts for the supply and construction of large industrial plants because of the extent of damages that may result from the breach of such contracts. Moreover, there may be problems relating to damages presented by a guaranty. Therefore, clauses providing for damages which are to be

* A/CN.9/WG.V/WP.4/Add.3 (reproduced above).
** A/CN.9/WG.V/WP.4/Add.6 (reproduced below).
*** *Ibid.*
**** A/CN.9/WG.V/WP.4/Add.5 (reproduced below).

paid in case of failure to perform are often found in such contracts.

24. The limitation of liability in case of exonerating events is dealt with in chapter XIII. This chapter covers only limitations of liability in respect of the extent of damages to be paid. Such limitations may be summed up as follows:

Exclusion of unforeseeable damage,

Exclusion of indirect and consequential loss and anticipated profits,

Reduction in damages in case of failure to mitigate the loss,

Stipulation of limited amount of damages,

Exclusion of damages caused by defects of materials provided or design stipulated by the purchaser,

Exclusion of personal injury and damage to property not being the subject matter of the contract.

B. *Exclusion of unforeseeable damage*

25. Rules excluding from liability for loss which could not have been foreseen by a party in breach can be found in many international conventions, legal systems, as well as general conditions. In all these rules, the only relevant time is that of the conclusion of the contract. Knowledge which is subsequently acquired is not relevant to the measure of damages.

26. Article 74 of the Sales Convention reads:

"Damages for breach of contract by one party consist of a sum equal to the loss, including loss of profit, suffered by the other party as a consequence of the breach. Such damages may not exceed the loss which the party in breach foresaw or ought to have foreseen at the time of the conclusion of the contract, in the light of the facts and matters of which he then knew or ought to have known, as a possible consequence of the breach of contract."

27. Such a principle of excluding recovery of damages for unforeseeable loss is contained in clause 26.1 of both ECE 188A/574A which reads:

"Where either party is liable in damages to the other, these shall not exceed the damage which the party in default could reasonably have foreseen at the time of the formation of the contract."

28. A similar provision is contained in the FIDIC-EMW Conditions clause 16.2:

"Where either the Employer or the Contractor is liable in damages to the other these shall not exceed the damage which the party in default could reasonably have foreseen at the date of the Contract."

C. *Exclusion of indirect or consequential loss and anticipated profits*

29. In clause 16.1 of FIDIC-EMW indirect or consequential damage is excluded to some extent:

"Except as provided in Clause 31.1 (Delay in Completion) for a reduction of the Contract Sum for delay and except as provided in Clause 33.11 (Gross Misconduct), the Contractor shall not be liable to the Employer by way of indemnity or by reason of any breach of the Contract for loss of use (whether complete or partial) of the Works or of profit or of any contract or for any indirect or consequential damage that may be suffered by the Employer."

30. Article 30.6 of the UNIDO-TKL model contract and article 30.6 of UNIDO-CRC model contract exclude anticipated profits and consequential loss in the following manner:

"The CONTRACTOR shall not be liable under the Contract for loss of anticipated profits or for any consequential loss or damage arising from any cause, except to the extent of repaying to the PURCHASER any amount receivable under Article 24 and/or pursuant to other insurance policies held by the CONTRACTOR solely in connection with the types of losses referred to in this Article 30.6."

31. On the other hand, article 30.3 of UNIDO-CRC counter-proposal contains a broader limitation of anticipated profits and consequential loss:

"The CONTRACTOR shall not be liable, in any event, whether under the Contract, negligence, or otherwise for loss of anticipated profits, or for any consequential loss or damage arising from any cause."

D. *Reduction in damages in case of failure to mitigate the loss*

32. The party who relies on breach of contract is usually required by applicable legal rules or the contract to mitigate the loss resulting from the breach of contract. The purpose of such provisions is to prevent the damages from swelling.

33. Article 77 of the Sales Convention reads:

"A party who relies on a breach of contract must take such measures as are reasonable in the circumstances to mitigate the loss, including loss of profit, resulting from the breach. If he fails to take such measures, the party in breach may claim a reduction in the damages in the amount by which the loss should have been mitigated."

34. Similar provisions are contained in clause 26.2 of both ECE 188A/574A which reads:

"The party who sets up a breach of Contract shall be under a duty to take all necessary measures to mitigate the loss which has occurred provided that he can do so without unreasonable inconvenience or cost. Should he fail to do so, the party guilty of the breach may claim a reduction in the damages."

35. A similar provision is also found in clause 16.3 of FIDIC-EMW:

"In all cases the party establishing a breach of contract shall be under a duty to take all necessary measures to mitigate the loss which has occurred provided that he can do so without unreasonable inconvenience or cost. Should he fail to do so, the party in breach of the Contract may claim a reduction in the damages."

E. *Stipulation of limited amount of damages*

36. The extent of damages to be paid in case of breach of contract is often limited by the parties in the contract, either by a percentage of the price of the works or by a certain amount stipulated directly in the contract. In such a case the right to claim damages is governed by rules otherwise applicable but the right to damages cannot exceed the amount agreed upon by the parties.

37. Clause 30.5 of the UNIDO-TKL model contract provides as follows:

"The total liability of the CONTRACTOR under the Contract shall not exceed . . . % of the total Project Cost, or, (state amount) whichever is the greater, with the exception of the CONTRACTOR's unlimited liability for the fulfillment of warranties, Absolute Guarantees, modifications, rectifications and completion of the Work(s) as well as the reimbursement to the PURCHASER of any amount(s) received by the CONTRACTOR under any Insurance Policies held by the CONTRACTOR as well as through those other specifically taken out for the purposes of this Contract."

An identical provision is contained in clause 30.5 of UNIDO-CRC.

38. A similar provision is contained in clause 30.5 of UNIDO-STC. However, the limitation of liability is determined only by a percentage of the total contract price.

39. Clause 30.1 of UNIDO-CRC counter-proposal is of a more general nature:

"The overall financial liability, whether founded on Contract, negligence or otherwise, of the CONTRACTOR arising out of or in connection with the realisation of the Contract shall not exceed (. . .)% of the firm price stated in Article 20.1.1."

40. Such a limitation of damages is included in clause 16.4 of FIDIC-EMW in this way:

"The liability of the Contractor to the Employer under Clause 15 for any one act or default shall not exceed the sum stated in Part II of these Conditions, and the Contractor shall have no liability to the Employer in respect of any loss of or damage to property which shall occur after the expiration of the period stated in Part II of these Conditions."

41. International contracts for supply and construction often provide for the payment of a sum of money (penalty, liquidated damages) upon a breach of a contractual obligation. Such clauses are inserted by parties to determine, at the time of the conclusion of the contract, the damages to be paid in case of its breach, without the need of proving the extent of loss actually brought about by such a breach. At the same time, however, the agreed amount very often serves as a limitation of liability of the debtor.

42. The UNCITRAL Working Group on International Contract Practices was requested to deal with the question of liquidated damages and penalty clauses.[1] The Secretariat submitted two studies.[2] At its second session (New York, 13-17 April 1981) the Working Group adopted a draft rule on the relationship between the right to obtain the agreed sum (liquidated damages, penalty) and to claim damages for breach of the contractual obligation to which it is accessory. The rule reads:

"Unless the parties have agreed otherwise, if a failure of performance in respect of which the parties have agreed that a sum of money is to be recoverable or forfeited occurs, the creditor is entitled, in respect of the failure, to recover or forfeit the sum, and is entitled to damages to the extent of the loss not covered by the agreed sum, but only if he can prove that this loss grossly exceeds the agreed sum."[3]

F. *Exclusion of damages caused by defects of materials provided or design stipulated by the purchaser*

43. Contracts for the supply and construction of large industrial works sometimes stipulate that the purchaser is to provide some materials and/or design

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[1] Report of the United Nations Commission on International Trade Law on the work of its twelfth session (1979), *Official Records of the General Assembly, Thirty-fourth Session, Supplement No. 17* (A/34/17), para. 31 (Yearbook . . . 1979, part one, II, A).

[2] Report of the Secretary-General entitled "Liquidated damages and penalty clauses" (A/CN.9/196) (reproduced in this volume, part two, II, A) and Report of the Secretary-General entitled "Liquidated damages and penalty clauses (II)" (A/CN.9/WG.2/WP.33 and Add.1) (reproduced in this volume, part two, I, B).

[3] Report of the Working Group on International Contract Practices on the work of its second session (A/CN.9/197), para. 52 (reproduced in this volume, part two, I, A).

needed for the production of the plant or construction of the works. In such cases the contracts usually exclude responsibility of the contractor for defects caused by such materials or designs. The exclusion of liability covers the curing of defects as well as damages concerning loss brought about by such defects.

44. Clause 23.12 of both ECE 188A/574A reads:

"The Contractor's liability does not apply to defects arising out of materials provided, or out of a design stipulated, by the Purchaser."

45. A similar principle follows from clause 33.2 of the FIDIC-EMW Conditions:

"The Contractor shall be responsible for making good with all possible speed at his expense any defect in or damage to any portion of the Works which may appear or occur during the Defects Liability Period and which arises either:

"(*a*) From any defective materials, workmanship or design (other than a design made, furnished or specified by the Employer and for which the Contractor has disclaimed responsibility in writing within a reasonable time after receipt of the Employer's instructions), or . . ."

G. *Exclusion of personal injury and damage to property not being the subject-matter of the contract*

46. In many contracts for the supply and construction of large industrial plants there is express provision excluding personal injury and damage to property not being the subject matter of the contract. Such injury or damages may be governed, however, by applicable legal rules of a mandatory nature.

47. The sphere of application of the Sales Convention is limited in this respect in article 5 which reads:

"This Convention does not apply to the liability of the seller for death or personal injury caused by the goods to any person."

48. Contracts for the supply and construction of large industrial plants cannot, of course, disentitle third persons not being parties to such a contract. Some general conditions, however, deal with the responsibility of the contractor in relationship to the purchaser in case of such damage. Clause 23.14 of both ECE 188A/574A provides:

"After taking over and save as in this Clause expressed, the Contractor shall be under no liability even in respect of defects due to causes existing before taking over. It is expressly agreed that the Purchaser shall have no claim in respect of personal injury or of damage to property not the subject-matter of the Contract arising after taking over nor for loss of profit unless it is shown from the circumstances of the case that the Contractor has been guilty of gross misconduct."

49. According to clause 23.15 of both ECE 188A/574A:

"'Gross misconduct' does not comprise any and every lack of proper care or skill, but means an act or omission on the part of the Contractor implying either a failure to pay due regard to serious consequences which a conscientious Contractor would normally foresee as likely to ensue, or a deliberate disregard of any consequences of such act or omission."

50. Liability for personal injury or damage to property occurring before all the works have been taken over is dealt with in clause 24.1 of both ECE 188A/574A.

51. Clause 15.5 of FIDIC-EMW reads:

"If there shall occur, after the commencement of the Defects Liability Period in respect of any Section or Portion of the Works, any loss of or damage or injury to any property (other than property forming part of the Works not yet taken over) or person as a result of a cause occurring prior to the commencement of the Defects Liability Period the Contractor's liability, subject to Clause 16.4 (Limitation of Liability), shall be as follows:

". . .

"(*b*) In respect of damage or injury to any property or to any person and of any actions, claims, demands, costs, charges and expenses arising in connection therewith, the Contractor shall be liable to the extent that such damage or injury was caused by the negligence of the Contractor or a Sub-Contractor or by defective design (other than a design made, furnished or specified by the Employer and for which the Contractor has disclaimed responsibility in writing within a reasonable time after receipt of the Employer's instructions) materials or workmanship but not otherwise."

52. A more general rule is contained in clause 22 of FIDIC-CEC:

"(1) The Contractor shall, except if and so far as the Contract provides otherwise, indemnify the Employer against all losses and claims in respect of injuries or damage to any person or material or physical damage to any property whatsoever which may arise out of or in consequence of the execution and maintenance of the Works and against all claims, proceedings, damages, costs, charges and expenses whatsoever in respect of or in relation thereto except any compensation or damages for or with respect to:

"(*a*) The permanent use or occupation of land by the Works or any part thereof.

"(*b*) The right of the Employer to execute the Works or any part thereof on, over, under, in or through any land.

"(*c*) Injuries or damage to persons or property which are the unavoidable result of the execution or maintenance of the Works in accordance with the Contract.

"(*d*) Injuries or damage to persons or property resulting from any act or neglect of the Employer, his agents, servants or other contractors, not being employed by the Contractor, or for or in respect of any claims, proceedings, damages, costs, charges and expenses in respect thereof or in relation thereto or where the injury or damage was contributed to by the Contractor, his servants or agents such part of the compensation as may be just and equitable having regard to the extent of the responsibility of the Employer, his servants or agents or other contractors for the damage or injury.

[A/CN.9/WG.V/WP.4/Add.5*]

XIII. Exoneration

A. *Introduction*

1. Most, if not all, legal systems make provision for unforeseen or unavoidable circumstances which prevent, impede or delay the performance of a contract. The nature and scope of such circumstances affecting a contract differ in varying degrees among different legal systems. The two main doctrines that have been evolved to deal with such circumstances are *force majeure* and frustration, though the former doctrine may mean different things in different legal systems.

2. Parties often insert "*force majeure*" or "frustration" clauses either to expand or narrow the scope of the two doctrines. In such clauses, parties may also allocate their risks in a more precise manner taking into consideration the nature of the performance of the particular contract.

3. In this study, the term "exoneration" is used to cover circumstances relieving parties from liability. Although the circumstances under discussion may straddle the doctrines of *force majeure* or frustration the term "exoneration" is used to avoid confusion, as there may be events under consideration which do not fall within the scope of either one or the other of the two doctrines as understood in the various legal systems. However, the terms "*force majeure*", "frustration" and other epithets will be used where clauses under discussion are taken from contexts which employ these terms.

4. An exoneration clause constitutes one of the most important clauses in a works contract; it deals essentially with the allocation of risks in the event of changed circumstances. Such a clause could save the contract from automatic termination which may be too drastic and may not be to the mutual interests of both parties. At a regional level, attempts at drafting "relief" clauses for use in contracts for the supply and erection of plant and machinery have been made, for example, by ECE. The ECE General Conditions are designed for application in different legal systems. At a global level, the "Exemptions" provision in the Sales Convention provides an example of success in the harmonization of this area of law in the context of sale of goods. Parties to works contracts have also attempted to modify the doctrines of *force majeure* and frustration in order to determine the kinds of contingency that would suspend or terminate their obligations and also the consequences of such suspension or termination.

B. *Exonerating circumstances*

1. Force majeure *clauses in contractual stipulations*

5. An examination of some works contracts indicates a number of approaches:

(*a*) Reference is made to the applicable law of the contract with no attempt to extend or narrow its scope. For example, in one clause reference was made to "Articles 513 and 514 of the Civil Code".

(*b*) *Force majeure* clauses are defined generally by the parties but no attempt is made in spelling out the exonerating events. For example, one such clause reads: "Neither party hereto shall be liable for any failure or delay in performing any obligation hereunder (except the payment of any amount due hereunder) due to *causes which are reasonably beyond its control.*" This clause is from one of the contracts to be performed in Trinidad and Tobago. The clause is to be read with the applicable law of the contract.

(*c*) Some *force majeure* clauses attempt to list, in varying details, the exonerating circumstances. But most are only illustrative of the scope and leave the question to be determined by the judge or arbitrator. Other clauses attempt a more comprehensive, though not exhaustive, list and end with a general clause, as for example, that it is ". . . without prejudice to the generality, any other circumstance or occurrence beyond the reasonable control of the sellers."

6. The following criteria were found in the definition of "*force majeure*" or other such-like clauses but with varying combinations:

* 17 March 1981.

Unexpected circumstances

Foreseen but unavoidable event

Unforeseen event

Cause beyond the control of the parties

Prevented from fulfilling obligations

Unable to prevent despite exercise of reasonable care and due diligence

Event occurring after conclusion of contract

Event not due to fault of party.

7. Subject to variations as to scope and precision, the following are some exonerating circumstances found in *force majeure* clauses:

Natural disasters (e.g. lightning, earthquakes, storms, floods)

Political obstacles (e.g. acts of enemy, revolutions, riots, sabotage, embargoes, withdrawal of licences)

Economic obstacles (e.g. withdrawal of licences, embargoes, industrial disputes, strikes, lock-outs, industrial disturbances, shortage of labour, concerted acts of workmen)

Legal obstacles (e.g. acts of government)

Transport obstacles (e.g. delay of vessel, shipwreck)

Other obstacles (e.g. explosions, breakdown of machinery, accidents, theft).

2. *ECE 188A and ECE 574A*

8. Clause 25.1 of ECE 188A reads:

"The following shall be considered as cases of relief if they intervene after the formation of the Contract and impede its performance: industrial disputes and any other circumstances (e.g. fire, mobilization, requisition, embargo, currency restrictions, insurrection, shortage of transport, general shortage of materials and restrictions in the use of power) when such other circumstances are beyond the control of the parties."

9. Clause 25.1 of ECE 574A reads:

"Any circumstances beyond the control of the parties intervening after the formation of the Contract and impeding its reasonable performance shall be considered as cases of relief. For the purposes of this Clause circumstances not due to the fault of the party invoking them shall be deemed to be beyond the control of the parties."

10. The difference between ECE 188A and ECE 574A is that the former contains some specific references to the kinds of relief which fall within its scope. The enumeration under 188A is not exhaustive but only illustrative of some of the "reliefs" contemplated.

11. Under both clauses the circumstances must occur after the formation of the contract and must be beyond the control of the parties. There must be a nexus between the supervening circumstances and the performance of the contract. ECE 188A speaks of circumstances which "impede its performance" while ECE 574A, "impeding its *reasonable* performance". The epithet "reasonable" qualifying "performance" was thought sufficient to exclude strikes and industrial disputes which may impede performance, but may not be "reasonable", depending of course on the nature of the strike and industrial dispute.

3. *FIDIC-CEC*

12. A works contract would invariably involve some civil engineering works. The provision on "frustration" in FIDIC-CEC reads:

Clause 66: "If a war, or other circumstances outside the control of both parties, arises after the Contract is made so that either party is prevented from fulfilling his contractual obligations, or under the law governing the Contract, the parties are released from further performance, then the sum payable by the Employer to the Contractor in respect of the work executed shall be the same as that which would have been payable under Clause 65 hereof if the Contract had been terminated under the provisions of Clause 65 hereof."

13. Two categories of "frustration" are provided in the above clause: first, "circumstances outside the control of both parties" ("war" being an example) which prevent the fulfilling of contractual obligations; secondly, where the governing law releases the parties from further performance.

14. In addition, the FIDIC-CEC Conditions contain an enumeration of "special risks" in clause 65 (5). These risks may subsequently lead to the "frustration" of the contract within the meaning of clause 66:

"The special risks of war, hostilities (whether war be declared or not), invasion, act of foreign enemies, the nuclear and pressure waves risk described in Clause 20 (2) hereof, or insofar as it relates to the country in which the Works are being or are to be executed or maintained, rebellion, revolution, insurrection, military or usurped power, civil war, or unless solely restricted to the employees of the Contractor or of his Sub-Contractors and arising from the conduct of the Works, riot, commotion or disorder."

4. *FIDIC-EMW*

15. All works contracts would invariably involve some electrical and mechanical works. A clause on "frustration" is contained in FIDIC-EMW:

Clause 48: "If a war or other circumstance outside the control of both parties arises after the

Contract is made so that under the law governing the Contract the parties are released from further performance then the sum payable by the Employer to the Contractor in respect of the work executed shall be the same as that which would have been payable under Clause 46 if the Contract had been terminated under the provisions of Clause 46."

16. This clause is similar to the FIDIC-CEC clause (see *supra,* paragraph 12). However, it leaves the question of "frustration" to be determined by reference only to the law governing the contract.

17. The "special risks" defined in FIDIC-EMW are similar though not identical to FIDIC-CEC (see *supra,* paragraph 14). Clause 47.5 of the former reads:

"The special risks are the nuclear and pressure wave risks described in Clause 15.1 (*b*) iii and IV or insofar as it relates to the country in which the Works are to be erected, war, hostilities (whether war be declared or not), invasion, act of foreign enemies, rebellion, revolution, insurrection, military or usurped power, civil war or, unless solely restricted to the employees of the Contractor or of his Sub-Contractor and arising from the conduct of the Works, riot, commotion or disorder."

In FIDIC-EMW, except for nuclear and pressure wave risks, all other risks so enumerated in the above clause must relate to the country in which the works are carried out. These include war, hostilities (whether declared or not) and invasion. However, in FIDIC-CEC, risks of war, hostilities and invasion need not relate to the country in which the works are carried out.

5. *UNIDO model contracts (CRC, TKL and STC)*

18. All the three UNIDO model contracts adopt the same approach to the definition of *force majeure.* For convenience, reference is made to clause 34.1 of the UNIDO-CRC model contract:

"In this Contract, *Force Majeure* shall be deemed to be any cause beyond the reasonable control of the CONTRACTOR or the PURCHASER (as the case may be) which prevents, impedes or delays the due performance of the Contract by the obligated party and which, by due diligence, the affected party is unable to control, despite the making of all reasonable efforts to overcome the delay, impediment or cause."

Force Majeure is defined in article 34.1 to include the following:

"Any war or hostilities;

"Any riot or civil commotion;

"Any earthquake, flood, tempest, lightning, unusual weather or other natural physical disaster. Impossibility in the use of any railway, port, airport, shipping-service or other means of transportation (occurring concurrently . . .);

"Any accident, fire or explosion;

"Any strike, lock-out or concerted acts of workmen (except where it is within the power of the party involving the Force Majeure to prevent);

"Shortages or unavailability of materials (compounded by the same shortage or unavailability from alternate sources) if beyond the CONTRACTOR's control."

6. *Sales Convention*

19. Most contracts for the supply and construction of large industrial works would probably fall outside the scope of the Sales Convention. Be that as it may, the approach adopted in the "Exemptions" provision in the Convention may be relevant in examining an exoneration clause in a works contract. Article 79 (1) reads:

"A party is not liable for a failure to perform any of his obligations if he proves that the failure was due to an impediment beyond his control and that he could not reasonably be expected to have taken the impediment into account at the time of the conclusion of the contract or to have avoided or overcome it or its consequences."

20. The conditions under which a party is not liable for a failure to perform his obligations under article 79 (1) are similar to some *force majeure* clauses in works contracts.

21. The Convention also makes provision for exemption in the case of a failure by a third party whom the seller had engaged to perform the whole or a part of the contract. Article 79 (2) is intended *to be limited to the exemption of a sub-contractor and not a supplier.* It reads:

"If the party's failure is due to the failure by a third person whom he has engaged to perform the whole or a part of the contract, that party is exempt from liability only if:

"(*a*) He is exempt under the preceding paragraph; and

"(*b*) The person whom he has so engaged would be so exempt if the provisions of that paragraph were applied to him."

7. *ICC* force majeure *clause*

22. ICC has drafted a *force majeure* clause for insertion in "contracts to be performed by stages or with deferred performance especially in international practice". In its report on "*Force majeure* and hardship clauses in international contracts" it was stated that "it is necessary to adapt the clauses to the basic economic situation which they are to govern" (Documents Nos. 460/233, 460/247 and 460/262).

23. Among the types of contract which were examined in the preparation of the ICC *force majeure* clause were "contracts aimed at the construction of large industrial, mining, agricultural or building complexes, and particularly so-called 'turn-key contracts'".

24. The following *force majeure* clause was suggested (revised 1980):

"Clause of release from liability

"I. *Definition of circumstances releasing from liability*

"(1) *Event of force majeure*

"A circumstance releasing a party from liability may be defined as any event of force majeure, or any unforeseen event occurring outside the control of that party, in so far as he was unable to prevent its occurrence or anticipate its effects, which temporarily or permanently prevents him from fulfilling his contractual obligations in whole or in part, account being taken of the diligence which may reasonably be required of him.

"(2) *Other circumstances*

"A circumstance releasing a party from liability may be defined as any one of the following events, when they are of a nature to prevent one of the parties temporarily or permanently from fulfilling his obligations in whole or in part:

"(*a*) War and civil war, whether declared or not, riots and revolutions, acts of piratry, boycott;

"(*b*) Acts of sabotage, requisition, confiscation, nationalisation, embargoes and expropriation;

"(*c*) Violent storms, cyclones, earthquakes, tidal waves, destruction by lightning and other natural disasters;

"(*d*) Explosions, fires, destruction of machines, of factories, and of any kind of installations inasmuch as these occurrences are not imputable to the fault of the party relying on them;

"(*e*) Strikes and lock-outs of all kinds, including 'go-slows', occupation of factories and premises, strikes which do not involve any interruption of work, and work stoppages arising in the enterprises of one of the parties, whether or not any preliminary conciliation procedure laid down by law has been followed, and without having to examine the causes of these occurrences;

"(*f*) Acts of authority, whether or not they are legally justifiable, and whether or not arbitrary, apart from these for which one party assumes the risk by virtue of other provisions of this contract;

"(*g*) Discontinuance or interruption, for reasons not imputable to the fault of a Party, of normal supplies either of primary products, of materials, of energy or other items necessary for the performance of the obligations, or significant reduction of such supplies provided that in this latter case, the Party has carried out a reasonable allocation of his supplies between his different co-contracting Parties and provided that in all cases, the Party has shown that he has taken the measures reasonably required of him in these circumstances to provide substitutes;

"(*h*) Default of suppliers or sub-contractors by reason of events affecting them and constituting circumstances releasing from liability, so far as they are concerned, within the meaning of the present contract, provided that the Party has shown that he has taken all measures reasonably required of him to provide substitutes in respect of the defalcation;

"(*i*) Impossibility for the Party to resell the products manufactured—transported—supplied—by virtue of the contract, as a result of any circumstances for which he is not responsible;

"(*j*) Impossibility of securing adequate means of transport by reason of market conditions, any event constituting circumstances releasing from liability within the meaning of the present contract affecting the transport, port, maritime or air installations, or transport by land as well as transport enterprises whose assistance is required for the performance of the contract, provided that the Party has demonstrated that he has taken all measures reasonably required of him to provide substitute in respect of these defalcations;

"(*k*) (Other circumstances may, if desired, be included here in the light of the particular circumstances of the individual contract).

"The parties specify that the following events shall not, in any case, be considered as circumstances releasing from liability:

"(*a*) Refusal of authorisation of licences, of entry and residence permits, or of necessary approvals, to be issued by a public authority of any kind whatsoever so as to permit performance of this contract;

"(*b*) . . . (if desired, insert here other events of which the risk is to be assumed by one of the parties)."

25. The ICC clause is not integrated as part of a set of general conditions applicable to a specific type of contract. It was drafted on the understanding that "it would be necessary to adapt it according to the contract and the requirements of the applicable national law."

C. *Notification*

1. *Duty to notify*

26. The party who relies on an exonerating event is generally required to notify the other party of the event

which prevented the performance of any of his obligations under the contract. The method of notification does not seem to differ much between one type of contract and another, i.e. whether it is one relating to a works contract or a sales contract. The following main types of notification found in contractual stipulations, general conditions, the UNIDO model contracts and the Sales Convention are given below:

By notice in writing

By any means

By notice in writing to be sent by air mail

By cable or telex when such means of communication are available and to be confirmed by registered air mail

By giving notice.

27. In the notification the *force majeure* event may be verified by the following:

By a public authority in the country where the circumstances occurred and operated, e.g. notary public, local or federal government, as the case may be

By consulate

By chamber of commerce

Where *force majeure* occurs outside the supplier's country, the event to be endorsed by local chamber of commerce confirmed by the embassy of the supplier's country residing there.

28. The time within which the notification must be given varies. The following were found:

Immediately

Without delay

Within a time limit agreed.

29. Even in the absence of a specific provision on notification, a party should, nevertheless, inform or advise the other party of an exonerating event in case he may subsequently rely on it.

30. Clause 25.2 of both ECE 188A/574A provides:

"The party wishing to claim relief by reason of any of the said circumstances shall notify the other party in writing without delay on the intervention and on the cessation thereof."

31. The various draft UNIDO model contracts, viz. CRC, TKL and STC require the affected party to give written notice to the other party within ten (10) days of the occurrence of the *force majeure*. The notice must specify the details constituting *force majeure,* with necessary evidence that a contractual obligation is thereby prevented or delayed, and that anticipated period (estimated) during which such prevention, interruption or delay may continue (article 34.2 of each of the models).

32. Under the ICC *force majeure* clause:

"Any Party invoking an event releasing from liability is obliged to inform the other Party of it within a time limit of ( ) days from the moment when it learned of the event and to give a precise description of the event and to communicate all relevant information relating to it, as soon as available so as to permit an appraisal of this event and its effects on performance of the contractual obligations. Termination of the effect of the event releasing from liability will also be communicated within the same time-limit by the Party relying on it."

2. *Failure to notify*

33. In some legal systems, failure to give notification would disentitle the person affected from relying on *force majeure.* However, in other legal systems like many of the common law systems, the doctrine of frustration is not dependent on notice.

34. Where parties expressly make provision for notification in a *force majeure* clause, the consequences to be drawn from failure to give such notification are often spelt out.

35. Under ECE 188A/574A it is expressly stated that the party wishing to claim relief shall notify the other party.

36. Under all the UNIDO models, viz. CRC, TKL and STC reliance on *force majeure* is conditional upon notification being given to the other party (article 34.2 of each of the models).

37. Under article 79 (4) of Sales Convention, if notice of the impediment is not given to the other party within a reasonable time, the non-performing party is liable for the damages resulting from such non-receipt, together with other remedies under the Convention which the party may have against him.

38. Under the ICC clause:

"If the Party concerned fails to carry out the communications referred to above, he will automatically lose all right to rely on the event as a circumstance releasing from liability."

D. *Consequences of exoneration*

1. *Effects contemplated by parties in contractual stipulations*

39. Depending on variations and precise scope, the following consequences have been incorporated into *force majeure* clauses:

Obligations of defaulting party suspended for duration of event

Delay occasioned by *force majeure* shall automatically lead to an extension of the time for performance—commensurate with such delay

Defaulting party to take reasonable steps to correct the situation as soon as circumstances permit with a view to resuming full performance

Parties will renegotiate the contract

Parties are *entitled to repudiate* the contract after giving notice

After certain period, either party may terminate the contract with applicable law as to consequences upon termination.

2. *ECE 188A and ECE 574A*

40. Under ECE 188A/574A if by reason of the circumstances the performance of the contract within a reasonable time becomes impossible, either party shall be entitled to terminate the contract by notice in writing to the other party without requiring the consent of any court (clause 25.3 of both ECE 188A/574A. For details regarding the consequences of termination, see part two, XVII, *Termination*).*

3. *FIDIC-CEC*

41. The consequences of "special risks" are set out in detail in clause 65:

"Notwithstanding anything in the Contract contained:

"(1) The Contractor shall be under no liability whatsoever whether by way of indemnity or otherwise for or in respect of destruction of or damage to the Works, save to work condemned under the provisions of Clause 39 hereof prior to the occurrence of any special risk hereinafter mentioned, or to property whether of the Employer or third parties, or for or in respect of injury or loss of life which is the consequence of any special risk as hereinafter defined. The Employer shall indemnify and save harmless the Contractor against and from the same and against and from all claims, proceedings, damages, costs, charges and expenses whatsoever arising thereout or in connection therewith.

"(2) If the Works or any materials on or near or in transit to the Site, or any other property of the Contractor used or intended to be used for the purposes of the Works, shall sustain destruction or damage by reason of any of the said special risks the Contractor shall be entitled to payment for:

"(*a*) Any permanent work and for any materials so destroyed or damaged, and, so far as may be required by the Engineer, or as may be necessary for the completion of the Works, on the basis of cost plus such profit as the Engineer may certify to be reasonable;

"(*b*) Replacing or making good any such destruction or damage to the Works;

"(*c*) Replacing or making good such materials or other property of the Contractor used or intended to be used for the purposes of the Works.

". . .

"(4) The Employer shall repay to the Contractor any increased cost of or incidental to the execution of the Works, other than such as may be attributable to the cost of reconstructing work condemned under the provisions of Clause 39 hereof, prior to the occurrence of any special risk, which is howsoever attributable to or consequent on or the result of or in any way whatsoever connected with the said special risks, subject however to the provisions in this Clause hereinafter contained in regard to outbreak of war, but the Contractor shall as soon as any such increase of cost shall come to his knowledge forthwith notify the Engineer thereof in writing.

". . .

"(6) If, during the currency of the Contract, there shall be an outbreak of war, whether war is declared or not, in any part of the world which, whether financially or otherwise, materially affects the execution of the Works, the Contractor shall, unless and until the Contract is terminated under the provisions of this Clause, continue to use his best endeavours to complete the execution of the Works. Provided always that the Employer *shall be entitled at any time* after such outbreak of war *to terminate the Contract . . .*"

42. The consequences of "frustration" are described in clause 66:

"If a war, or other circumstances outside the control of both parties, arises after the Contract is made so that either party is prevented from fulfilling his contractual obligations, or under the law governing the Contract, *the parties are released from further performance,* then the sum payable by the Employer to the Contractor in respect of the work executed shall be the same as that which would have been payable under Clause 65 hereof if the Contract had been terminated under the provisions of Clause 65 hereof."

4. *FIDIC-EMW*

43. In clause 47 of FIDIC-EMW the consequences of "special risks" are similar to those in FIDIC-CEC:

"47.1: Notwithstanding anything in the Contract contained, the Contractor shall be under no liability whatsoever whether by way of indemnity or otherwise for or in respect of destruction of or damage to the

* A/CN.9/WG.V/WP.4/Add.7 (reproduced below).

Works, save to work rejected under the provisions of Clause 28 hereof prior to the occurrence of any special risk hereinafter mentioned, or to property whether of the Employer or third parties, or for or in respect of injury or loss of life which is the consequence of any special risk as hereinafter defined.

"47.2: If the Works or any Plant on or near or in transit to the Site, or any other property of the Contractor used or intended to be used for the purposes of the Works, shall sustain destruction or damage by reason of any of the said special risks the Contractor shall be entitled to payment for:

"(*a*) Any Portion of the Works or of Plant so destroyed or damaged,

"and so far as may be required by the Engineer, or as may be necessary for the completion of the Works, on the basis of cost plus such profit as the Engineer may certify to be reasonable for

"(*b*) Replacing or making good any such destruction or damage to the Works;

"(*c*) Replacing or making good such materials or other property of the Contractor used or intended to be used for the purposes of the Works.

"47.3: Destruction, damage, injury or loss of life caused by explosion or impact whenever and wherever occurring of any mine, bomb, shell, grenade, or other projectile, missile, munition or explosive or war, shall be deemed to be a consequence of the said special risks.

"47.4: The Employer shall repay to the Contractor any increased cost of or incidental to the execution of the Works, other than such as may be attributable to the cost of reconstructing work rejected under the provisions of Clause 28 hereof, prior to the occurrence of any special risk, which is howsoever attributable to or consequent on or the result of or in any way whatsoever connected with the said special risks, subject however to the provisions in these Conditions in regard to outbreak of war, but the Contractor shall as soon as any such increase of cost shall come to his knowledge forthwith notify the Engineer thereof in writing."

44. The following consequences of "frustration" are set out in detail in the FIDIC-EMW Conditions:

Clause 46: "If during the currency of the Contract there shall be an outbreak of war (whether war is declared or not) in any part of the world which, whether financially or otherwise, materially affects the execution of the Works the Contractor shall, unless and until the Contract is terminated under the provisions in this Clause contained, use his best endeavours to complete the execution of the Works, provided always that either the Employer or the contractor shall be entitled, at any time after such outbreak of war, *to terminate* this Contract . . ." (See also clause 46.2 in part two, XVII, *Termination.*)*

45. These Conditions also contemplate the possibility of the parties being released from further performance under the law governing the contract:

Clause 48: "If a war or other circumstance outside the control of both parties arises after the Contract is made so that under the law governing the Contract the parties are released from further performance then the sum payable by the Employer to the Contractor in respect of the work executed shall be the same as that which would have been payable under Clause 46 if the Contract had been terminated under the provisions of Clause 46."

5. *UNIDO model contracts (CRC, TKL and STC)*

46. The consequences of *force majeure* adopted by the three models are identical in some respects. The non-performing party is excused from "the performance or punctual performance (as the case may be) as from the date of notification of the 'force majeure' for so long as may be justified" (article 34.2 of the respective models). All three models contain a renegotiation clause (see XIV, *Renegotiation, infra,* paragraph 60. For consequences of termination, see part two, XVII, *Termination*).*

6. *Sales Convention*

47. Paragraph (1) of article 79 provides exemption from liability for a failure to perform obligations due to *force majeure*. Paragraph (5) provides that exemption from liability under the article prevents the other party from exercising only his right to claim damages, but not in respect of other rights under the Convention.

7. *ICC* force majeure *clause*

48. The consequences of *force majeure* are spelt out in detail with provision for renegotiation:

"The effect of the event releasing from liability is to suspend performance of the obligations which has become impossible as well as of the corresponding obligations (without prejudice to the application of the clauses for adaptation contained in the present contract). No Party will be liable to pay an indemnity on this account. The contractual time limits are extended for a period corresponding to that of the effects of the event releasing from liability.

"During the period of suspension, the parties shall bear permanently half the burden of the costs required for continuation, under the best conditions, of the

* A/CN.9/WG.V/WP.4/Add.7 (reproduced below).

* A/CN.9/WG.V/WP.4/Add.7 (reproduced below).

performance of the contractual obligations temporarily suspended.

"Clearance of the said costs shall be carried out either on cessation of the circumstances releasing from liability or on settlement of the accounts in the event of termination of the contract on expiry of the period of suspension."

[Renegotiation provision—see XIV, *Renegotiation, infra,* paragraph 64.]

"The parties will retain the fruits of their reciprocal performances carried out previously. They will account to one another. Each party must account to the other for advantages received and kept under the partially performed contract subject to the reservation that the sums due under this provision may not exceed the cost of services tendered, of deliveries carried out, and of goods or other items supplied by the other party. Account will be taken of payments already made by the parties in execution of the terminated contract."

XIV. Renegotiation

A. *General remarks*

49. The nature of a works contract necessitates performance over a period of time. Because of a number of factors—for example, economic, fiscal, commercial, legal, political and technological—it is not always possible to proceed with the contract as originally contemplated. Indeed, parties at the outset may not be aware of all factors that may subsequently bear upon the performance of the contract and upon their contractual equilibrium. Even though parties may not be able to carry on with the contract in strict adherence to its terms, it may still be to their mutual advantage not to terminate the contract but to adapt it to the new environment.

50. The mechanism of renegotiation is designed to serve a practical and functional purpose of enabling all parties concerned to review and adapt the contract to changed circumstances when even the more flexible doctrines of *rebus sic stantibus, imprévision* and *Wegfall der Geschäftsgrundlage* may not suffice as a conceptual framework for the revision of contracts.

51. Renegotiation of contracts, at least in certain types of contract including a works contract, is a recent phenomenon. But there appears to be a growing awareness that while renegotiation may not provide the panacea to all problems posed by changed circumstances, nevertheless, it enables parties to agree on finding a means of re-establishing their contractual equilibrium. Of course, even in the absence of such a clause, parties can still review their contract but the insertion of such a clause provides the assurance that parties would resort to some process in order to rescue the contract.

52. There is no renegotiation clause in ECE 188A and ECE 574A, FIDIC-CEC and FIDIC-EMW. In the UNIDO model contracts (CRC, TKL and STC), renegotiation is confined only to *force majeure* situations.

53. The wording of the clauses under study is varied, particularly in the hardship clauses. One reason is that the full implications of changed circumstances, short of rendering the contract incapable of performance under an exoneration clause (see XIII, *Exoneration, supra*), have not been fully worked out in most legal systems.

B. *Renegotiation in event of* force majeure

54. In the UNIDO model contracts (CRC, TKL and STC), it was noted that renegotiation was provided for in some *force majeure* clauses (see XIII, *Exoneration, supra,* paragraph 46).

1. *Contractual stipulations*

55. Very few *force majeure* clauses in the Secretariat's collection were found to make provision for renegotiation or adjustment. This is not to say that the renegotiation mechanism is seldom employed.

56. In a works contract between a West European and Middle East entity a renegotiation clause was inserted in a *force majeure* clause to enable parties to "consult with each other" regarding the "future implementation of the agreement." This is an example of a very general clause.

57. Another renegotiation clause found in a recent contract entered into between a West European and African entity reads:

"If 'force majeure' last continuously for ( ) months, then both parties shall without delay meet to consult each other and try to find an appropriate remedy to the situation and to reach agreement thereon. When considering the measure to be taken, the Owner and the Contractor shall give due and serious attention to the difficulties caused by the above-mentioned circumstances, and make serious attempts at finding a fair solution."

58. In contrast to the above clauses, an example may be given of a more specific clause—a time limit is given to the parties to agree to a solution, failure of which entitles either party to cancel the contract. The clause states:

"If any such delay . . . lasts for more than 90 days, the parties shall immediately consult with one another for the purpose of agreeing upon the basis on which

seller resumes production at the end of delay. If they do not agree upon a solution of the problem involved, including adjustment of the price, within 150 days from the beginning of such delay, then either party may, by written notice cancel the portion of the order which is delayed and in such event the Purchaser shall pay to seller reasonable and proper cancellation charges.

59. In some renegotiation clauses express provision is made for the consequences of a breakdown of renegotiation. In others, it is silent. In such a situation the original provisions of the contract will be applicable.

2. *UNIDO model contracts (CRC, TKL and STC)*

60. The wording of the renegotiation provision in the *force majeure* clause in the UNIDO-CRC model differs slightly from that in the UNIDO-TKL. The wording of the latter is identical with that of the UNIDO-STC. The UNIDO-CRC reads:

"Article 34: Force Majeure

"34.3: The PURCHASER or the CONTRACTOR (as the case may be) shall be diligent in endeavouring to prevent or remove the cause of Force Majeure. Either party upon receipt of the Notice of Force Majeure under Article 34.2 shall confer promtly with the other and agree upon a course of action to remove or alleviate such cause(s), or shall seek alternative methods of achieving the performance objectives under the Contract.

"34.4: If by virtue of Article 34.2, either of the parties is excused from the performance or punctual performance of any obligation for a continuous period of six (6) months then the parties shall consult together to seek agreement as to the required action that should be taken in the circumstances and as to the necessary amendments that should be made to the terms of the Contract.

"34.5: If by virtue of Article 34.2, either of the parties is excused from the performance or punctual performance of any obligation for a continuous period of nine (9) months for one or more causes and if the consultations referred to in the preceding Subarticle 34.4 have not resulted in mutual agreement (or have not taken place because the parties have been unable to communicate with one another), the parties shall thereupon agree to amend the terms of this Contract by virtue of the prevailing Force Majeure circumstances and shall determine the course of further action. If the parties are unable to reach an agreement to amend the terms of this Contract by virtue of the prevailing Force Majeure then the Contract *shall be deemed to be terminated* pursuant to Article 33 above . . ." (see part two, XVII, *Termination*).*

* A/CN.9/WG.V/WP.4/Add.7 (reproduced below).

61. The UNIDO-CRC counter-proposal seeks to amend the UNIDO-CRC by shortening the period to six months within which the parties must examine the possibility of continuing with the contract in the context of the *force majeure*. Otherwise the parties will have the right to terminate the contract:

"Article 34: Force Majeure

"34.3: Either party upon receipt of the Notice of Force Majeure under Article 34.2 shall confer as soon as possible with the other and agree upon a course of action to remove or alleviate such cause(s), or shall seek alternative methods of achieving the performance objectives under the Contract, and on the other party upon the relevant consequences on the Contract Price and on the Contract execution time.

"34.4: If the duration of the circumstance of Force Majeure exceeds six (6) months, the Parties shall meet together again to examine the possibility of continuing to carry out the contract. If an agreement cannot be reached upon, the Parties shall have the right to terminate all or part of the contract; in that case the CONTRACTOR shall be indemnified for the consequences of such termination as set forth in Article 33.3."

62. As stated earlier, there is a slight difference in the wording of the UNIDO-CRC model on the one hand and the UNIDO-TKL and UNIDO-STC models on the other. However, the real difference seems to be that while article 33 of the UNIDO-CRC model (dealing with ordinary termination of contract) applies to the termination of a contract in the context of *force majeure* upon failure of an agreement in renegotiation, the counterparts of article 33 in the other models do not apply to the latter models in a similar situation (see part two, XVII, *Termination*).

63. Although the renegotiation provisions in the *force majeure* clauses under study do not expressly state what the position of the contract is during renegotiation, there are other provisions in the *force majeure* clauses which excuse the party affected by *force majeure* from punctual performance or performance.

3. *ICC* force majeure *clause*

64. The ICC *force majeure* clause makes provision for renegotiation of the contract:

"If the circumstances releasing from liability continues to produce its effects for more than ( ) months, the contract shall be automatically abrogated at the expiry of this period, *unless before such expiry the parties, after consulting one another, agree to modify the contract so as to adapt it to the circumstances arising from the occurrence of the event resulting in a release from liability.*"

In the ICC clause, unlike those in the UNIDO model contracts, renegotiation is not mandatory. No provision is made for third party intervention—only the parties to the contract are involved in the readaptation.

C. *Renegotiation in hardship situations*

1. *Contractual stipulations*

65. Renegotiation of contracts to meet fundamental changes particularly in economic or financial events is commonly found in hardship clauses. The scope of such clauses under study varies from a very specific (e.g. limiting the clause to only price-revision) to a general situation.

66. A number of studies on hardship clauses demonstrate that while each type of contract may require certain characteristics not found in other types of hardship clause, the combined totality of the characteristics could well be employed, *mutatis mutandis,* in other types of contract, including, of course, a works contract.

67. In a study of such clauses undertaken by the "International Contracts" study group (under Marcel Fontaine, Director, Centre de Droit des Obligations, Catholic University of Louvain)[1] it was noted that among the types of contract in which hardship clauses were inserted are "large works projects" and "mechanical engineering." It was also noted that "long-term contracts are clearly those where hardship clauses are most frequently stipulated . . ."

68. It should be emphasized that this section of the study is based mainly on the hardship clauses made available to the above-mentioned "International Contracts" study group. Although some of these hardship clauses were taken from "large works projects" and "mechanical engineering" contracts, there was no attempt at isolating them for the purpose of that study.[2] Be that as it may, these hardship clauses examined may well apply to a works contract.

69. An analysis of a number of hardship clauses reveals the following criteria. Some of these criteria are conceived in wider scope while others in narrower scope.

(a) *Criteria*

(i) Change in circumstances

This factor has been expressed in the following ways:

(*a*) ". . . If at any time during the term hereof either party shall by notice in writing to the other claim upon reasonable grounds . . . that owing to changed circumstances including, but not limited to changes in monetary values or discriminatory Governmental action or regulations . . ."

(*b*) "In the event of a fundamental change in the conditions which were material to the making of this Agreement, and if from such fact, in order to respect certain provisions, either of the Parties is required to bear unfair hardship, they will meet with a view to modifying the terms and conditions of the present Agreement."

(*c*) "If either party considers, that owing to changed circumstances, the above price should be revised . . ."

(*d*) ". . . if there is the occurrence of an intervening event or change of circumstances . . ."

(*e*) ". . . should there be very important changes in circumstances or very significant changes in economic conditions . . ."

Although in some of the above clauses there is the requirement that the change must be "fundamental" and "important" while no such epithets are used in others, nevertheless, it would appear from the consequences that the change of circumstances would have no effect unless it seriously affects the obligations in the contract.

(ii) Unforeseeability

The following clauses emphasize the element of unforeseeability:

(*a*) ". . . it is impracticable to make provision for every contingency which may arise . . ."

(*b*) ". . . circumstances . . . beyond the normal expectations of the parties . . ."

(*c*) ". . . in the event of the occurrence of unforeseeable economic developments . . ."

(*d*) ". . . extraordinary or unforeseen circumstances . . ."

(iii) Event beyond control

The above criterion was contained in the following clauses:

(*a*) ". . . an intervening event or change of circumstances beyond said party's control when acting as a reasonable and prudent operator . . ."

(*b*) ". . . any circumstances beyond the control of the parties . . ."

The criteria of "unforeseeability" and "event beyond control" of the parties are separate. Failure to appreciate the difference, as seen in some clauses, and a substitute of one for the other would circumscribe the scope of such

[1] See (1976) 2 *Droit et pratique du commerce international,* p. 51.

[2] It is hoped that the Commission would provide the Secretariat with works contracts containing renegotiation provisions. There is a dearth of such documentation at the disposal of the Secretariat. It is also important to examine these clauses in the context of other provisions in the contract itself. In some instances, the Secretariat managed to obtain only specific clauses taken out of their context.

a clause. Other clauses do not mention the two criteria, which of course widens the scope considerably.

(iv) Substantial economic hardship

(*a*) ". . . substantial economic hardship . . ."

(*b*) ". . . which place said party in the situation that . . . all annual costs . . . associated with or related to (. . .) which is the subject of this Agreement exceed the annual proceeds derived from the sale of said (. . .) . . ."

(*c*) ". . . it, owing to circumstances . . ., the economy of the contractual relationships should become modified to the extent of rendering prejudicial, for one of the parties, the discharge of his obligations . . ."

(v) Seriousness of events

(*a*) ". . . substantial and disproportionate prejudice to either party . . ."

(*b*) ". . . undue hardship to either party . . ."

(*c*) ". . . unfairness or substantial and disproportionate prejudice to the interests of either . . ."

(b) *Procedure of renegotiation*

70. As noted, hardship clauses invariably provide for renegotiation of the contract. However, problems can arise if the conditions for renegotiation are not precise. A number of clauses under study contain procedures to determine the basis for renegotiation:

(*a*) ". . . the (prejudiced) party . . . may by notice request the other for a meeting to determine if said occurrence has happened . . . If the seller and the buyer have not agreed . . . within sixty days . . . either party may require the matter to be submitted for arbitration . . . The arbitrators shall determine whether the aforesaid occurrence has happened . . ."

(*b*) "In the absence of consensus, it is agreed that each of the parties shall designate an economic expert, assisted if appropriate by a financial expert, and that they shall meet together to determine whether the advantages of the present agreement have been fundamentally disrupted as a result of an unforeseeable event."

71. ICC has also made provision for third party intervention (see *infra,* paragraph 77). Such a procedure may obviate the practical problem which may arise, when the clause is not efficacious due to imprecise drafting and when the party who is not disadvantaged by the "hardship" seeks to prevent the renegotiation.

(c) *Time limit*

72. In some hardship clauses the time between the conclusion of the contract and the point of time when the clause can be invoked is given. For example, the renegotiation clause in the On-Shore (Voltaian Basin) Petroleum Production Agreement of 1974 between the Government of Ghana and Shell Exploration and Production Company of Ghana Ltd., a subsidiary of Shell International Ltd., reads:

"It is hereby agreed that if during the term of this Agreement there should occur such changes in the financial and economic circumstances relating to the petroleum industry, operating conditions in Ghana and marketing conditions generally as to materially affect the fundamental, economic and financial basis of this Agreement, then the provisions of this Agreement may be reviewed or renegotiated with a view to making such adjustments and modifications as may be reasonable having regard to the operator's capital employed and the risks incurred by him, always provided that *no such adjustments or modifications shall be made within 5 years after the commencement of production area and that shall have no retroactive effect.*"[3]

In a sales contract, a further restriction on the frequency of reliance of the hardship clause was found:

"This section may not be invoked by seller or buyer prior to the first day of October 19. . ., and no more often than once every two years."

(d) *Approach to renegotiation*

73. The hardship clauses under study demonstrate three approaches to renegotiation:

(i) Objective approach

". . . in order to restore the parties to a balanced situation comparable to that which obtained at the time that the present contract was concluded."

(ii) Subjective approach

a. ". . . in fairness to parties . . ."

b. ". . . appropriate and equitable in the circumstances."

c. ". . . such action as may be appropriate to abate such unfairness or undue hardship . . ."

(iii) Hybrid approach

". . . with fairness and without substantial and disproportionate prejudice to the interest of the other . . ."

(e) *Contract during renegotiation*

74. In the hardship clauses under study, there does not appear to be any express provisions as to the position of the contract during renegotiation. In the context of an

[3] Cited in Asante, "Stability of contractual relations in the transnational investment process" (1979) 28 *International and Comparative Law Quarterly,* pp. 401, 417.

exoneration clause the contract is suspended and may be suspended even if negotiations fail. Whether in events other than exonerating events, the contract will be suspended would depend on express stipulations.

(f) *Decrease or termination of hardship*

75. One such clause which made provision for the situation when the hardship has decreased or terminated reads:

". . . To the extent that any occurrence of hardship as determined under this Section 13.9 shall have decreased or ended then any revision of price or other conditions pursuant to an arbitration award shall likewise be changed or ended and the terms and conditions of the Agreement (if not already determined pursuant to paragraph *b* hereof) shall be restored to take account of the said decrease or ending of the occurrence of hardship."

2. *UNIDO model contracts (CRC, TKL and STC)*

76. Article 33.1 of each of the UNIDO-models appears to deal with a situation which could result in hardship. The article provides that "in the event that the PURCHASER is subject to any circumstances which are wholly unavoidable and/or beyond his control but not including occurrences which are covered by Article 34 . . .",[4] the purchaser is entitled to terminate the contract. It is noted that the clause is couched in very wide language and could cover a situation where no substantial hardship is involved. It may also be noted that no renegotiation is provided unlike in the *force majeure* clause (see *supra,* paragraph 60).

3. *ICC "suggested hardship clause"*

77. The ICC "suggested hardship clause" (Document No. 460/233) is aimed at bringing about renegotiation, on new bases, of a contract which is in the process of being performed when the envisaged change in circumstance occurs. The clause reads:

"Suggested hardship clause

"(a) *Conditions for application*

"Should there occur after conclusion of the contract circumstances of the following nature: economic, political (including modifications of legislation or administrative measures) or technical, which were unforeseeable for the Parties at the moment the contract was concluded and are outside any control on their part and which destroy the equilibrium of the relations between the Parties making performance of the contract so onerous (though not impossible) for one of them that the burden would exceed all the anticipatory provisions made by the Parties at the time the agreement was concluded, such Party may request the revision of the present contract.

"This Party must inform the other Party within a time limit of (. . .) from the moment when it became aware of the event at the same time precisely describing the event relied on and explaining in what way it falls under the provisions of the present article; it will communicate to the other Party without delay every element required for an assessment in the matter in its possession. Unless it carries out this communication, the Party concerned will be automatically excluded from relying on the present article.

"The happening of the event justifying the request for adaptation of the contract does not in any case relieve the Party relying on it from his duty to continue performance of his obligations, nor does it involve a suspension of them.

"(If desired: The Parties agree that the following events in particular fall within the scope of this provision: . . .)."

"(b) *Effects*

"If continuation of the contract by means of a contractual adaptation does not appear economically possible for all the Parties, the Party invoking the benefit of the present clause may terminate the contract without prejudice to the right of the other party to bring any proceedings before the Courts (or: the arbitrator designated in accordance with Article . . .) if the conditions for application of the present clause are not fulfilled.

"If continuation of the contract appears economically possible for all the Parties by means of an adaptation, the Parties will immediately consult together with a view to incorporating in the present contract, in good faith and in equity, the adaptations which are necessary, account being taken of the new circumstances and of the risks and burdens that the Parties ought, in any case, to assume. Subject to contrary agreement of the Parties, these negotiations will be carried out during a maximum time limit of (. . .) months, running from the request to undertake them addressed by one Party to the other.

"The performance of the contract will be continued during these negotiations.

"Alternative 1

"If the negotiations do not succeed within this time limit, the Party invoking the benefit of the present clause may terminate the other contract without prejudice for the right of the other Party to bring any proceedings before the Courts (or: the arbitrator designated in accordance with Article . . .) if the conditions for application of the present clause are not fulfilled.

[4] Article 34 deals with *force majeure*. See XIII, *Exoneration, supra,* paras. 18 and 60.

"Alternative 2

"If the negotiations do not succeed within this time limit the contract will be readapted by a third Party, designated in accordance with the Rules on Adaptation of Contracts of the International Chamber of Commerce. This third Party will carry out his task on the conditions and in accordance with the procedure provided by the said Rules."

78. In regard to Alternative 2, ICC has drafted Rules for the regulation of contractual relations and related Standard Clauses (1978) which are designed to make third party intervention possible.

79. Although the ICC "suggested hardship clause" is not specifically drafted for use in a specific type of contract, nevertheless, it is designed for general application in international contracts, particularly in contracts involving a series of closely interrelated operations which, in the normal course of events, take place over a number of years.

[A/CN.9/WG.V/WP.4/Add.6*]

XV. GUARANTIES

A. *General remarks*

1. This study deals with two types of guaranties (*a*) a guaranty[1] for material, design and workmanship (mechanical guaranty); and (*b*) a guaranty for the proper performance of the works (performance guaranty).

2. In some contexts "warranty"[2] is used synonymously with "guaranty".

3. There are also various types of "bank" guaranty found in a works contract which are, however, outside the scope of this study.

B. *Mechanical guaranty*

4. The mechanical guaranty is called differently in the various forms under study. The ECE General Conditions speak of "guarantee" (clause 23). UNIDO-TKL speaks of "guarantee of workmanship and materials" (article 25) as well as of "warranties" (article 28). UNIDO-CRC uses "mechanical guarantees and warranties" (article 28.3). The FIDIC-EMW Conditions do not use the expression "guaranty" but speak of "defects liability" (clause 33).

5. The function of a mechanical guaranty is generally to limit the extent of the contractor's liability on the one hand and to give assurances and safeguards to the purchaser in regard to quality on the other hand. Clause 33.13 of FIDIC-EMW for instance provides:

"the Contractor shall be under no liability in respect of defects in or damage to the Works or any Section thereof developing or arising after the Works or any Section thereof has been taken over"

save as provided in the Conditions themselves, especially in clause 33.

1. *Extent of guaranty*

6. Under clause 23.1 of both ECE 188A/574A:

"the Contractor undertakes to remedy any defect resulting from faulty design, materials or workmanship."

7. Under clause 33.2 of FIDIC-EMW the contractor is responsible for any defect in or damage to any portion of the works which arises either (*a*) from any defective materials, workmanship or design, or (*b*) from any act or omission of the contractor done or omitted during the guaranty period.

8. The UNIDO model contracts, as criticized by an international group of contractors, deal with many questions repetitiously. Thus, for instance, the extent of the mechanical guaranty is covered in articles 25.1, 25.2, 28.1, 28.2, 28.3, 28.4, 28.8 and 28.9 of UNIDO-TKL.

9. Article 28.1 of UNIDO-TKL provides:

"The CONTRACTOR warrants that the Plant, equipment, materials, tools and supplies incorporated in the Works pursuant to this Contract conform with the specifications, plans and all of the contractual criteria, and that the work in every particular is free from defects in design, engineering, processes, materials, workmanship and construction."

10. Article 28.2 of UNIDO-TKL add further elements:

"The CONTRACTOR also warrants as to the correctness and completeness of the plans, all technical data and documents supplied by him as well as to the technical criteria of the equipment fabricated in accordance with his plans and instructions under the present Contract."

11. Article 28.4 of UNIDO-TKL refers to:

"faulty or improper design, workmanship, material, manufacture, fabrication, shipment or delivery."

12. Article 28.8 of UNIDO-TKL includes the warranty of all civil engineering structures,

"and in particular for the foundations for all buildings, plant and equipment."

* 21 April 1981.
[1] Also spelt as "guarantee".
[2] Also spelt as "warrantee".

13. Under article 28.9 of UNIDO-TKL:

"The CONTRACTOR warrants that the erection of all Plant and equipment has been accomplished by him in accordance with standard erection codes or as specified in the Annexure . . ."

2. *Exceptions*

14. Contractors do not usually give guaranties without certain exceptions (e.g. normal wear and tear). Furthermore guaranties are given subject to the scrupulous observation and performance by the purchaser of instructions given by the contractor as regards the operation of the plant (e.g. as to the raw materials to be used, a suitable work force and adequate services). In addition, the purchaser is not permitted to carry out any alterations to the plant without the contractor's approval. To sum up, the contractors do not guaranty any defects caused by the purchaser, by third parties or by circumstances beyond their control.

15. Thus clause 23 of both ECE 188A/574A formulates the exceptions from the guaranty as follows:

"23.12: The Contractor's liability does not apply to defects arising out of materials provided, or out of a design stipulated, by the Purchaser.

"23.13: The Contractor's liability shall apply only to defects that appear under the conditions of operation provided for by the Contract and under proper use. It does not cover defects due to causes arising after taking over. In particular it does not cover defects arising from the Purchaser's faulty maintenance or from alterations carried out without the Contractor's consent in writing or from repairs carried out improperly by the Purchaser, nor does it cover normal deterioration."

16. Clause 33.2 of FIDIC-EMW excludes defects which arise from

"a design made, furnished or specified by the Employer and for which the Contractor has disclaimed responsibility in writing within a reasonable time after receipt of the Employer's instructions."

17. According to article 28.7 of UNIDO-TKL:

"the CONTRACTOR's warranty shall not be deemed to cover:

"28.7.1: Damage arising through disregard of the CONTRACTOR's written instructions after Provisional Acceptance by the PURCHASER.

"28.7.2: Normal wear and tear."

18. In their comments to UNIDO-TKL the international group of contractors suggested that "any remaining warranties would be voided" in case the purchaser should "proceed with any remedial measures without the Contractor's approval".

3. *Period of guaranty*

(a) *Length of period*

19. The liability of the contractor is limited to defects which arise during a certain period. In the ECE General Conditions it is called "the Guarantee Period"; in the FIDIC-EMW Conditions "the Defects Liability Period"; and in the UNIDO model contracts "the warranty period".

20. The ECE General Conditions do not specify the guaranty period but leave its determination to the parties. The period may be dependent on the frequency of usage. For example, clause 23.4 of both ECE 188A/574A stipulates that the parties may take into account the intended use of the plant, e.g. one, two or three shifts daily.

Clause 23.4 of ECE 188A provides:

"The daily use of the works and the amount by which the Guarantee Period shall be reduced if the Works are used more intensively are stated in paragraph J of the Appendix."

In contrast, clause 23.4 of ECE 574A provides (a rare instance where it differs from ECE 188A):

"The parties, having taken into account the nature of the Works, may provide in the Contract for a reduction of the Guarantee Period if use of the Works is abnormally intensive."

21. Clause 33.1 of FIDIC-EMW also leaves it to the parties to state the length of the guaranty period in the contract but provides for a period of 12 months if no period is stated. And this clause also takes into account the intensity of the use:

"If the use of the Works by the Employer exceeds that given in the Appendix to the Tender the Defects Liability Period shall be reduced by the amount stated therein."

22. The guaranty period in articles 28.3 and 28.9 of UNIDO-TKL is 12 months.

(b) *Commencement of period*

23. Usually the guaranty period commences on taking-over of the plant (clauses 22.1 and 23.2 of both ECE 188A/574A, clause 33.1 of FIDIC-EMW, and article 28.9 of UNIDO-TKL). Article 28.3 of UNIDO-TKL also refers to the date of provisional acceptance (see part two, X, *Take-over and Acceptance*).

24. If the taking-over is postponed by reason of difficulties encountered by the purchaser, clause 22.3 (*d*) of both ECE 188A/574A provides:

"the Guarantee Period shall run from the date when the postponed tests have been successfully carried out."

If, however, the purchaser is unwilling to have the taking over tests carried out, the guaranty period "shall start to run on a written notice to that effect being given by the Contractor" (clause 22.2 of both ECE 188A/574A).

(c) *Extension of period*

25. If the plant becomes inoperative because of defects which are covered by the guaranty, the original guaranty period shall be extended to the extent of such non-operation.

26. Thus under clause 23.5 of both ECE 188A/574A, the guaranty period of the works shall be extended:

"by a period equal to the period during which the works are out of action as a result of a defect covered by this Clause."

27. In this regard, clause 33.4 of FIDIC-EMW refers not only to the works but also to portions thereof:

"The Defects Liability Period shall be extended by a period equal to the period during which the Works (or that Portion thereof in which the defect or damage to which the Clause applies has appeared or occurred) cannot be used by reason of that defect or damage . . ."

28. Similarly, article 28.6 of UNIDO-TKL provides:

". . . In relation to such other equipment which could not be operated due to the necessity of repair or replacement of the defective part(s) of the Work(s) referred to herein, the warranty period shall be extended by a time equivalent to their periods of non-operation."

(d) *Maximum period of guaranty*

29. Sometimes contracts provide that a maximum period of guaranty is to commence on a date earlier than that of taking-over, e.g. at the first or last delivery of equipment or at the time when a certain percentage of equipment is delivered.

30. Article 28.3 of UNIDO-TKL provides for a maximum period of

"thirty (30) months from the Mechanical Completion of Plant and Equipment under this Contract, if for reasons only attributable to the PURCHASER the plants cannot be started up or brought into commercial production (within the said thirty (30) months period) . . ."

31. In their comments the international group of contractors suggests a reduction of the above period to 18 months and also the substitution of the phrase "reasons only attributable to the Purchaser" by "reasons not attributable to the Contractor."

32. Article 28.3 of UNIDO-CRC provides for a maximum period of 30 months "from the date of shipment".

33. Clause 33.3 and 33.4 of FIDIC-EMW sets a maximum for any extension of the original guaranty period, i.e. two years from the date of taking-over in case of extension where the plant is inoperative by reason of replacements or renewals of parts.

(e) *Special periods for parts*

34. There may well be different guaranty periods in respect of various parts of the plant. Sometimes, special periods are provided for spare parts.

35. Clause 23.3 of both ECE 188A/574A provides:

"In respect of such parts (whether of the Contractor's own manufacture or not) of the Works as are expressly mentioned in the Contract, the Guarantee Period shall be such other period (if any) as is specified in respect of each of such parts."

36. Article 25.10 of UNIDO-TKL contains a special provision in respect of spare parts procured by the contractor on behalf of the purchaser from vendors and/or suppliers. For those parts a special period of guaranty of 12 months "after commencement of use" not exceeding 36 months "after the date of shipment" is provided.

37. For repaired or replaced items the same guaranty period as given originally for the whole plant is usually provided. Thus clause 23.5 of both ECE 188A/574A reads:

"A fresh Guarantee Period equal to that stated in paragraph H of the Appendix shall apply, under the same terms and conditions as those applicable to the original Works, to parts supplied in replacement of the defective parts or to parts renewed in pursuance of this Clause . . ."

38. Similar provisions are contained in clause 33.3 of FIDIC-EMW and article 28.6 of UNIDO-TKL.

4. *Content of guaranty*

(a) *Obligation of contractor*

39. The obligation of the contractor is to remedy (or to make good) the defect (article 23.7 of both ECE 188A/574A, clause 33.2 of FIDIC-EMW, article 28.4 of UNIDO-TKL).

40. The above-mentioned provisions require the contractor to act *forthwith* (ECE and UNIDO) or *with all possible speed* (FIDIC).

41. The same provisions as well as article 25.4 of UNIDO-TKL require the contractor to remedy the defects at his own expense.

42. Clause 23.7 of both ECE 188A/574A deals with the question as to the place *where* the defect is to be cured:

". . . Save where the nature of the defect is such that it is appropriate to effect repairs on site, the Purchaser shall return to the Contractor any part in which a defect covered by this Clause has appeared, for repair or replacement by the Contractor, and in such case the delivery to the Purchaser of such part properly repaired or a part in replacement thereof shall be deemed to be a fulfillment by the Contractor of his obligations under this paragraph in respect of such defective part."

43. Clause 33.6 of FIDIC-EMW foresees the possibility of removal of defective work:

"The Contractor may with the consent of the Engineer remove from the Site any Portion of the Works which is defective or damaged if the nature of the defect or damage is such that repairs cannot be expeditiously carried out on the Site."

44. Article 28.5 of UNIDO-TKL lays down the time to be spent in case of replacement:

". . . should the removal of the defect require replacement of the equipment, the replacement shall be accomplished in minimal time, plus the shortest possible erection time for this equipment in the CONTRACTOR's country . . ."

45. If transport is involved, clause 23.8 of both ECE 188A/574A provides:

"Unless otherwise agreed, the Purchaser shall bear the cost and risk of transport of defective parts and of repaired parts or parts supplied in replacement of such defective parts between the place where the Works are situated and one of the following points:

(i) The Contractor's works if the Contract is "ex works" or FOR;

(ii) The port from which the Contractor dispatched the Plant if the Contract is FOB, FAS, CIF, or C and F;

(iii) In all other cases the frontier of the country from which the Contractor dispatched the Plant."

46. In contrast, article 28.4 of UNIDO-TKL includes transportation cost in the cost to be borne by the contractor.

47. Clause 23.9 of both ECE 188A/574A leaves the apportionment of any additional expenses to the parties or the arbitrator:

"Where in pursuance of paragraph 7 hereof, repairs are required to be effected on site, the incidence of any travelling or living expenses of the Contractor's employees and the cost and risk of transporting any necessary material or equipment shall be settled, in default of agreement between the parties, in such manner as the arbitrator shall determine to be fair and reasonable."

48. Clause 23.10 of both ECE 188A/574A deals with replaced parts:

"Defective parts replaced in accordance with this Clause shall be placed at the disposal of the Contractor."

49. Clause 33.10 of FIDIC-EMW relates to the apportionment of cost in search for the cause of any defect:

"The Contractor shall, if required by the Engineer in writing, search for the cause of any defect, imperfection or fault under the directions of the Engineer. Unless such defect, imperfection or fault shall be one for which the Contractor is liable under the Contract the cost of the work carried out by the Contractor in searching as aforesaid shall be borne by the Employer. But if such defect, imperfection or fault shall be one for which the Contractor is liable as aforesaid the cost of the work carried out in searching as aforesaid shall be borne by the Contractor."

(b) *Breach of obligation*

50. Clause 23.11 of both ECE 188A/574A provides:

"If the Contractor refuses to fulfil his obligations under this Clause or fails to proceed with due diligence after being required so to do, the Purchaser may proceed to do the necessary work at the Contractor's risk and expense, provided that he does so in a reasonable manner."

51. Clause 33.5 of FIDIC-EMW grants the same right to the purchaser "if any such defect or damage be not remedied *within a reasonable time*".

52. Article 28.4 of UNIDO-TKL deals with the same issue in more detail:

". . . If . . . the CONTRACTOR shall make default or delay in diligently commencing, continuing and completing the making good of such defect, breakage or failure . . . the PURCHASER may proceed to do so independently and to place the work in good operating condition in accordance with the Contract, and the CONTRACTOR shall be liable for all costs, charges and expenses incurred by the PURCHASER in connection therewith and shall forthwith pay the PURCHASER an amount equal to such costs, charges and expenses, upon receipt of invoices certified correct by the PURCHASER."

(c) *Minor defects*

53. Sometimes the purchaser is given the right to rectify minor faults and charge the cost to the contractor. The parties should define in their contract what constitutes a minor fault.

54. Article 28.5 of UNIDO-TKL deals with repair by the purchaser on a case-by-case basis:

". . . Subject to prior approval by the CONTRACTOR (which shall not be unreasonably withheld) the PURCHASER shall have the right to repair minor defects at the CONTRACTOR's cost."

5. *Procedure for claims*

55. Clause 23.6 of both ECE 188A/574A provides:

"In order to be able to avail himself of his rights under this Clause the Purchaser shall notify the Contractor in writing without delay of any defects that have appeared shall give him every opportunity of inspecting and remedying them."

56. Clause 33.3 of FIDIC-EMW also requires the purchaser (or the engineer) to inform the contractor forthwith stating in writing the nature of the defect or damage.

57. Article 28.4 of UNIDO-TKL provides for notification in writing from the purchaser whereas article 28.10 of UNIDO-TKL requires immediate information by telegram/telex.

6. *Limitation of or exemption from liability*

58. Often the guaranty of the contractor is limited to the rectification of defects and expressly excludes claims for loss of profit or in respect of personal injury. Thus clause 23.14 of both ECE 188A/574A reads:

". . . It is expressly agreed that the Purchaser shall have no claim in respect of personal injury or of damage to property not the subject matter of the Contract arising after taking over nor for loss of profit unless it is shown from the circumstances of the case that the Contractor has been guilty of gross misconduct."

59. According to clause 33.11 of FIDIC-EMW, the contractor is not liable in respect of damage to or loss of property not forming part of the works arising after the expiration of the guaranty period. He is also not responsible for loss of profit "unless it is shown from the circumstances of the case that the Contractor has been guilty of gross misconduct and the circumstances giving rise to the claim occur within the [guaranty] period" as agreed by the parties (if no period is stated, then four years after the date of taking-over). The liability of the contractor is further subject to notice being given by the purchaser within 60 days after the event giving rise to the claim.

60. Clause 23.15 of both ECE 188A/574A and clause 33.12 of FIDIC-EMW contain a nearly identical definition of "gross misconduct". The former reads:

"'Gross misconduct' does not comprise any and every lack of proper care or skill, but means an act or omission on the part of the Contractor implying either a failure to pay due regard to serious consequences which a conscientious Contractor would normally foresee as likely to ensue, or a deliberate disregard of any consequences of such act or omission."

C. *Performance guaranty*

1. *Extent of guaranty*

61. Neither the ECE General Conditions nor the FIDIC Conditions contain any provisions on performance guaranty.

62. The ECE Guide speaks of a guaranty for attainment of the parameters specified in the contract at the time of the acceptance tests (paragraph 41).

63. The UNIDO model contracts contain very detailed provisions on performance guaranty as well as on performance guaranty tests (see part two, X, *Inspection and Tests*).

64. According to article 26.2 of UNIDO-TKL the contractor guaranties that the plant "shall be capable of meeting the full requirements of normal operation, capacity, quality of Products, consumption of raw materials and utilities . . ."

65. The international group of contractors, in commenting on this provision, suggests that the requirements which are guarantied should be precisely stated in the contract.

66. The performance guaranty is given provided that the plant is operated in accordance with the contractor's technical directions and instructions (article 26.2 of UNIDO-TKL).

2. *Demonstration*

67. The performance guaranty is fulfilled if (or when) it has been proven and demonstrated by test runs that the plant meets all the specified requirements.

3. *Content of guaranty*

68. If the performance tests are not successful the performance guaranty is not fulfilled. For the breach of guaranty the parties may agree on various consequences.

69. UNIDO-TKL distinguishes between "absolute" and "penaltiable" guaranties. According to article 1.2 absolute guaranties means the performance guaranties of the plants relating to their capacity and quality of the products. Article 1.27 defines penaltiable guaranties as the performance guaranties relating to consumption of raw materials and utilities.

70. All the UNIDO models contain very detailed provisions in regard to the various items which fall under the "absolute" or "penaltiable" type of performance guaranty. In their comments the international group of contractors observes "that they should not appear in this

amount of detail in model conditions and [that they are] in any event . . . subject to individual negotiation case by case."

71. The contractor is liable to the payment of liquidated damages for non-fulfilment of absolute guaranties at 100% capacity. However, the minimum capacity which is permitted for the purpose of liquidated damages is a 95% capacity. Where the capacity falls short of a 95% capacity other remedies are available (article 27.1.4 of UNIDO-TKL).

72. For the non-fulfilment of penaltiable guaranties, the contractor is liable to the payment of specified amounts of money if he does not rectify the defects (article 27.2 of UNIDO-TKL).

XVI. Rectification of defects

A. *Meaning of "defect" in works contract*

73. "Defect" in a works contract covers any condition which adversely affects the quality of the work. The defect may be due to faulty design, defective workmanship or materials. The plant and material will be regarded as defective if it is not in accordance with the description of the work to be found in the contract as a whole. Strict adherence to the contract terms is particularly important in a works contract. Indeed, one of the basic obligations of the contractor is to deliver the works free of defects; even in the absence of an express provision to this effect, this obligation will be implied.

74. Defects may appear at any one of the following stages: during production, at taking-over, during the guaranty period and after the expiration of the guaranty period.

B. *Defects during production*

1. *Removal of defects*

75. Once a defect has been discovered a purchaser has an interest in ensuring that it is cured as early as possible. The purchaser should not have to wait until completion of the work before intervening. Most of the forms under study therefore empower the engineer to issue instructions when defects appear at any time during production. Clause 39.(1) of FIDIC-CEC provides:

> "The Engineer shall during the progress of the Works have power to order in writing from time to time
>
> "(*a*) The removal from the Site, within such time or times as may be specified in the order, of any materials which, in the opinion of the Engineer, are not in accordance with the Contract
>
> "(*b*) The substitution of proper and suitable materials and
>
> "(*c*) The removal and proper re-execution, notwithstanding any previous test thereof or interim payment therefor, of any work which in respect of materials or workmanship is not, in the opinion of the Engineer, in accordance with the Contract."

76. The above provision emphasizes the duty of the contractor to comply strictly with the requirement of the contract. Previous approval of or payment for the materials by the purchaser will not relieve the contractor of this responsibility.

77. The FIDIC-EMW Conditions also give the engineer the right to intervene during production, and to order the re-execution of the works. Clause 28 provides:

> "If, in respect of any Section or Portion of the Works not yet taken over, the Engineer shall at any time:
>
> "(*a*) Decide that any work done or Plant supplied or materials used by the Contractor or any Sub-Contractor is or are defective or not in accordance with the Contract, or that such Section or Portion of the Works is defective or does not fulfil the requirements of the Contract . . . and
>
> "(*b*) As soon as reasonably practicable give to the Contractor notice in writing of the said decision specifying particulars of the defects alleged and of where the same are alleged to exist or to have occurred, and
>
> "(*c*) So far as may be necessary place the Plant at the Contractor's disposal,
>
> "then the Contractor shall with all speed . . . at his own expense, make good the defects so specified."

78. Under the UNIDO model contracts, the activities in relation to the rectification and modification of the plant prior to provisional acceptance are the responsibility of the contractor to be performed at his own cost within a stipulated time. Article 29.6 of UNIDO-CRC provides:

> "Should the CONTRACTOR discover any discrepancy or mistake in his process, engineering, instructions, specifications, inspections or procurement, or errors or omissions as the case may be which require rectification(s) to be undertaken to correct the defects . . . the CONTRACTOR and the PURCHASER shall meet and agree to such extension in time to be allowed the CONTRACTOR for the rectification of defects and corrective engineering."

79. Under the UNIDO-TKL and UNIDO-STC model contracts, the contractor is given the power to modify or

re-execute the work at his own discretion. UNIDO-TKL states:

"*Article 29.12:* The CONTRACTOR's obligations to execute the modifications, corrections, rectifications and replacement of equipment . . . shall not be restricted."

80. The ECE 188A/574A General Conditions give the purchaser a right to inspect the materials before they are delivered to the construction site (for further details regarding the parties' obligations, see part two, VIII, *Inspection and Tests*).* If defects are detected during the inspection the ECE General Conditions do not expressly state the contractor's obligation to remedy the defects: clause 8.2 of both ECE 188A/574A states:

"If as a result of such inspection and checking the Purchaser shall be of the opinion that any materials or parts are defective or not in accordance with the Contract, he shall state in writing his objections and the reason therefor."

81. It would, however, be in the interest of the contractor to remedy the defects which have been detected.

2. *Suspension of the work*

82. To avoid delay and additional costs it is always in the interests of the contractor and purchaser to carry out an investigation as soon as symptoms of a defect appear. A suspension of the works may be necessary in order to discover the cause of the defect and to prevent further damage to the works.

83. The FIDIC-CEC and FIDIC-EMW Conditions define the situation in which the contractor shall suspend the work either at his own expense or at the expense of the purchaser. Clause 40.(1) of FIDIC-CEC states:

"The Contractor shall, on the written order of the Engineer, suspend the progress of the Works or any part thereof . . . The extra cost incurred by the Contractor in giving effect to the Engineer's instructions under this Clause shall be borne and paid by the Employer unless such suspension is

"(*a*) Otherwise provided for in the Contract, or

"(*b*) Necessary by reason of some default on the part of the Contractor . . ."

84. The UNIDO model contracts also have provisions requiring the contractor to suspend the work during construction, at the instruction of the purchaser. Article 32.1 of UNIDO-CRC states:

"The PURCHASER may, when in the PURCHASER's opinion it is deemed necessary, require the CONTRACTOR to suspend execution of the work or part of the work, either for a specified or unspecified period by communicating notice to that effect to the CONTRACTOR . . ."

85. The ECE General Conditions do not contain express provisions requiring the suspension of the works.

C. *Defects at taking-over*

86. All the forms under study contain provisions for inspection and tests upon completion to ensure that the plant meets the contract requirements (for further details, see part two, VIII, *Inspection and Tests*). Under most of these forms the issuance of a completion certificate is conditional upon the removal of defects which are discovered during the inspection. Clause 48. (1) of FIDIC-CEC states:

". . . The Engineer shall, within twenty-one days of the date of delivery of such notice . . . give instructions in writing to the Contractor specifying all the work which, in the Engineer's opinion, requires to be done by the Contractor before the issue of such Certificate. The Engineer shall also notify the Contractor of any defects in the Works affecting substantial completion that may appear after such instructions and before completion of the works specified therein. The Contractor shall be entitled to receive such Certificate of Completion within twenty-one days of completion to the satisfaction of the Engineer of the works so specified and making good any defects so notified."

87. Under the FIDIC-EMW there is also a provision requiring that the plant shall pass the completion tests before a taking-over certificate can be issued. Should the plant fail to pass the tests or repetition thereof, then, according to clause 29.6,

". . . the Engineer shall be entitled:

". . .

"(*b*) To reject the Works or Section thereof in accordance with Clause 28 (Defects before taking-over)[3] if the results of the tests show that the Works or the Section fail to meet the performance guarantees or the agreed tolerances specified in the Contract, or if there are no such guarantees or tolerances, the results show that the Works or the Section are not in accordance with the Contract . . ."

88. Under the UNIDO model contracts, the contractor has, upon completion, the obligation to demonstrate that the plant meets the performance guaranties contained in the contract.

89. According to the UNIDO-CRC model, if the plant fails the performance tests the obligation of the contractor to rectify the plant at his own cost would depend upon whether or not the defect is due to the

* A/CN.9/WG.V/WP.4/Add.3 (reproduced above).

[3] See paragraph 77, *supra*.

contractor's own fault or to matters falling within his responsibility. Article 29.1 states:

"In the event that due to mistakes, negligence or errors in the processes and/or in the detailed engineering performed by the CONTRACTOR and/or in the CONTRACTOR's procurement, or specifications, instructions and inspections, or for whatever reason falling within the CONTRACTOR's obligations, the CONTRACTOR is unable to demonstrate the Absolute Guarantees . . . the CONTRACTOR shall proceed to effect the rectifications, modifications, additions and/or changes which in the CONTRACTOR's professional judgment are necessary to eliminate the defects and/or faults and thereby to achieve the specified guarantees . . ."

90. Under the UNIDO-CRC model the plant will not be taken-over until the plant's capability to meet performance guaranties has been demonstrated. Article 29.7 provides:

"The CONTRACTOR's obligation to rectify defects and to take corrective steps shall continue unabated even if the period of extension . . . is exhausted, and the CONTRACTOR shall continue his endeavours at his own cost to rectify the defects and take corrective measures . . . The obligation of the CONTRACTOR herein shall not end until the Absolute Guarantees of the Plants are successfully demonstrated."

91. The UNIDO-TKL model has similar provisions requiring the contractor to demonstrate the plant's capability to meet performance guaranties and to perform the intended function.

92. Under the UNIDO-TKL and UNIDO-STC models, the contractor, before proceeding to execute the work, shall consult with the purchaser on the nature of the defect. The extent of the contractor's responsibility will depend upon the seriousness of the defect. Article 29.8 of UNIDO-TKL provides:

"Whenever any of the defects . . . appear, the CONTRACTOR shall immediately thereafter advise the PURCHASER, and the procedure specified hereunder shall apply in connection with any repair and/or replacement . . . The defective material, machinery and/or equipment shall be examined by the CONTRACTOR and PURCHASER (or their duly authorized representatives).

"29.8.1: In the event that the defect and/or damage is agreed to be minor the CONTRACTOR shall satisfactorily rectify the same through the most expeditious means.

"29.8.2: In the case of a serious or extensive defect or damage the CONTRACTOR shall state the method of making good the defect or damage in any event at his own cost, and one of the following methods shall be adopted, subject however to the considerations of efficiency, speed and the contractual time schedules:

"29.8.2.1: The undertaking of repair/rectification work or alteration at Site.

"29.8.2.2: Removal of the defective material or equipment from the Site and the undertaking of repair or rectification away from the Site.

"29.8.2.3: The removal of defective material, machinery or equipment and replacement by new and unused materials, machines or equipment."

93. Under the ECE General Conditions there are also provisions for taking-over tests to ensure that the plant is in conformity with the contract requirements. If defects are detected during the tests, clause 21.2 of both ECE 188A/574A states:

"If as a result of such tests the Works are found to be defective or not in accordance with the Contract, the Contractor shall with all speed and at his own expense make good the defect or ensure that the Works comply with the Contract . . ."

94. Where the taking-over tests are delayed by the purchaser and defects appear in the interim, the purchaser must bear the cost of rectifying such defects. Article 22.3 of both ECE 188A/574A provides:

"If by reason of difficulties encountered by the Purchaser . . . it becomes impossible to proceed to the taking-over tests . . .

". . .

"(*c*) The Contractor may, at the cost of the Purchaser . . . make good any defect or deterioration therein that may have developed, or loss thereof that may have occurred, after the date when the Works were first ready for testing in accordance with the Contract."

95. Under the FIDIC-CEC, defective work at taking-over covers: work outstanding at the date of completion, work which does not comply with the contract requirements and which under the contract is explicitly or impliedly within the responsibility of the contractor. Under FIDIC-CEC the contractor is obliged to rectify these defects at his own cost; defects due to any other cause shall also be rectified by the contractor but at the expense of the purchaser. Clause 49 states:

"(2) To the intent that the Works shall at or as soon as practicable after the expiration of the Period of Maintenance be delivered to the Employer in the condition required by the Contract, fair wear and tear excepted, to the satisfaction of the Engineer, the Contractor shall finish the work, if any, outstanding at the date of completion . . . as soon as practicable after such date and shall execute all such work of repair, amendment, reconstruction, rectification and making good defects, imperfections, shrinkages or other faults as may be required of the Contractor in writing by the Engineer during the Period of Maintenance, or within fourteen days after its expiration, as a result of an

inspection made by or on behalf of the Engineer prior to its expiration.

"(3) All such work shall be carried out by the Contractor at his own expense if the necessity thereof shall, in the opinion of the Engineer, be due to the use of materials or workmanship not in accordance with the Contract, or to neglect or failure on the part of the Contractor to comply with any obligation, expressed or implied, on the Contractor's part under the Contract."

D. *Defects during the guaranty period*

96. Most of the forms examined expressly require the contractor to rectify defects which appear during the guaranty period.

97. A dispute can arise whether a defect is due to a matter within the contractor's obligation. Under the FIDIC-CEC Conditions, the engineer determines whether the contractor is liable in this situation. Clause 49.(3) provides:

". . . If, in the opinion of the Engineer, such necessity shall be due to any other cause, the value of such work shall be ascertained and paid for as if it were additional work."

98. Under the FIDIC-EMW Conditions, the contractor's obligation to re-execute the work will depend upon whether the defects are due to matters within his responsibility. Clause 33.2 states:

"The Contractor shall be responsible for making good with all possible speed at his expense any defect in or damage to any portion of the Works which may appear or occur during the Defects Liability Period and which arises either:

"(*a*) From any defective materials, workmanship or design . . . or

"(*b*) From any act or omission of the Contractor done or omitted during the said period."

99. The UNIDO model contracts state a period within which the contractor shall cure the defects. Under the UNIDO-TKL and UNIDO-STC, the purchaser has the authority to specify the time within which the contractor has to re-execute the work. Article 29.10 of UNIDO-TKL provides:

". . . The PURCHASER . . . shall provide the CONTRACTOR with an allotted time upon specified conditions . . . for the undertaking of such modifications, rectification(s), replacement(s), corrective engineering . . . and (if applicable) the making good of faulty workmanship and defective materials . . ."

100. The specified time may be extended at the purchaser's discretion. Article 29.10 of UNIDO-TKL states:

". . . The CONTRACTOR shall complete the work in conformity with the requirements of the Contract and shall (at the discretion of the PURCHASER) be granted such further extensions as may be necessary without prejudice to any of the PURCHASER's rights . . ."

101. Under the UNIDO-CRC the time within which the contractor shall rectify the defects is stated in advance, subject to a right to have the time extended under specified conditions. Article 29.8 of UNIDO-CRC provides:

"The CONTRACTOR's obligations to execute the rectifications . . . shall be limited to twelve (12) months from the date of start-up of the Plant(s), however the period during which the Plant(s) cannot be operated normally due to any default on the part of the PURCHASER or the period in excess of ten (10) months spent in the replacement of equipment (if any such replacement is required from Vendors) shall not be counted in computing the said twelve (12) months period."

102. The ECE General Conditions require the contractor to rectify defects during the guaranty period forthwith and at his own expense (clause 23.7 of both ECE 188A/574A). (For a discussion of the parties' obligations during the guaranty period, see XV, *Guaranties, supra.*)

E. *Requirement of notice*

1. *Obligation to notify and form of notice*

103. After taking-over only the purchaser has the practical means of detecting defects. Most of the forms analysed therefore require the purchaser to give notice of defects which appear after taking-over.

104. Most of the forms under study state that the contractor should be given written notice of a defect. The form and content of the notice will depend upon the nature of the defect and upon whether the defect is discovered before or after taking-over. If the defect occurs before taking-over and is due to the contractor's default, a general notice will normally suffice.

105. The FIDIC-CEC Conditions state only that the notice of defect during production and maintenance periods should be given in writing (see paragraph 75, *supra*).

106. Under clause 28 of FIDIC-EMW Conditions (see paragraph 77, *supra*) written notice has to contain particulars of the defect stating the extent of the work to be done.

107. Under the UNIDO model contracts, the contractor is obliged to give the purchaser notice of any defects which may appear before taking-over. The form

and content of the notice is not stated. Article 29.5 of UNIDO-STC provides:

"Should any defects . . . occur, the CONTRACTOR shall immediately thereafter advise the PURCHASER, and the procedure specified hereunder shall apply in connection with any rectification and/or modification work . . ."

2. *Failure to notify*

108. Under the forms analysed, the purchaser's failure to give notice of defects which appear during production does not absolve the contractor from his liability for defective work. Most of the forms under study, however, do not state the consequences of the purchaser's failure to give notice of defects which may appear after taking-over.

109. Under the ECE General Conditions, written notice of defects is a precondition to the purchaser's exercise of his rights under the guaranty provisions. Clause 23.6 of both ECE 188A/574A states:

"In order to be able to avail himself of his rights under this Clause the Purchaser shall notify the Contractor in writing without delay of any defects that have appeared and shall give him every opportunity of inspecting and remedying them."

F. *Failure to remedy defects*

110. The FIDIC-CEC and FIDIC-EMW Conditions contain express provisions entitling the purchaser to bring another contractor on the site to do the required work on the failure of the original contractor to re-execute the work. In certain defined circumstances the purchaser has a right of forfeiture and termination of the contract.

111. On the contractor's failure to do the required work during construction, clause 39.(2) of FIDIC-CEC provides:

"In case of default on the part of the Contractor in carrying out such order, the Employer shall be entitled to employ and pay other persons to carry out the same and all expenses consequent thereon or incidental thereto shall be recoverable from the Contractor by the Employer, or may be deducted by the Employer from any monies due or which may become due to the Contractor."

112. There is a similar provision under the FIDIC-CEC Conditions. In the event of failure by the contractor to remedy defects which appear during the "maintenance" period, clause 49.(4) of FIDIC-CEC states:

"If the Contractor shall fail to do any such work . . . the Employer shall be entitled to employ and pay other persons to carry out the same and if such work is work which, in the opinion of the Engineer, the Contractor was liable to do at his own expense under the Contract, then all expenses consequent thereon or incidental thereto shall be recoverable from the Contractor by the Employer . . ."

113. The FIDIC-EMW Conditions require the contractor to act expeditiously in remedying the defects; if he does not do so the purchaser may do the required work at the cost of the contractor. Clause 28 provides:

". . . In case the Contractor shall fail so to do the Employer may, provided he does so without undue delay, take at the cost of the Contractor such steps as may in all the circumstances be reasonable to make good such defects . . ."

114. Under the UNIDO model contracts the purchaser is entitled to take any measures to carry out the remedial work. Article 29.3 of UNIDO-CRC provides:

"If the CONTRACTOR shall neglect or refuse to take the necessary measures to ensure the elimination of the defects and/or faults within a reasonable time, then the PURCHASER may take such remedial steps to carry out the engineering, procurement, inspection and supervision of erection of new equipment or undertake repair and/or replacement of used equipment to rectify the defects and correct all associated problems, and the cost of such remedial steps taken by the PURCHASER shall be to the CONTRACTOR's account, and/or may be recovered in any manner at the discretion of the PURCHASER."

115. Under the UNIDO-CRC, where a contractor fails to perform the required work within the stipulated time, and the purchaser does not consent to the extension of time, the purchaser is given the right to terminate the contract. Article 29.4 provides:

"In the event that . . . the PURCHASER does not agree to further extend any periods requested by the CONTRACTOR for such modifications, additions, and/or changes, the PURCHASER shall have the right to terminate the Contract . . ."

116. The UNIDO-TKL and UNIDO-STC model contracts make reference to the purchaser's right of recourse to his other remedies under the contract if the defects are not cured within the stipulated time. Article 29.13 of UNIDO-TKL states:

"Any extension of time granted to the CONTRACTOR shall be without prejudice to any rights or remedies of the PURCHASER whatsoever under this Contract, should the CONTRACTOR fail to accomplish work within the extended time so allowed."

117. The ECE General Conditions limit the contractor's liability to the obligations defined under the guaranty (for further details, see XV, *Guaranties, supra*).

G. *Defects after the guaranty period*

118. The liability for defects ceases at the expiration of the guaranty period. The contractor has no contractual obligation to rectify defects which appear outside this period. As a matter of good practice, contractors would, at the purchaser's request, repair any defects which may appear outside the guaranty period at the expense of the purchaser.

[A/CN.9/WG.V/WP.4/Add.7*]

XVII. TERMINATION

A. *General remarks*

1. In this study the term "termination" denotes the dissolution of a contract brought about by breaches of obligation, exonerating circumstances or other grounds. It may be noted that a contract can be put to an end only for the future or retrospectively. The term "termination" in this study also covers "rescission", "cancellation" and "avoidance" of a contract.

2. In a works contract a termination clause usually makes provision for only serious breaches of obligation (see part two, VII, *Quality*** and XI, *Delays and Remedies*)*** or for non-performance due to exonerating circumstances (see part two, XIII, *Exoneration*).****

B. *Grounds for termination*

1. *Breach of contract*

3. To put an end to a works contract is never a decision to be taken lightly nor is it one of slight consequence. The costs involved in a particular works contract coupled with the nature of its performance may render the question of termination one in which the parties would only have recourse to after all other remedies prove ineffective.

(a) *Breach of contract by the contractor*

4. Not every breach of contract is serious enough to enable the aggrieved party to terminate the contract. The Sales Convention recognizes this fact and grants the buyer and the seller the right to avoid the contract only in specific cases. Article 49 of the Sales Convention provides:

"(1) The buyer may declare the contract avoided:

"(*a*) If the failure by the seller to perform any of his obligations under the contract or this Convention amounts to a fundamental breach of contract; or

"(*b*) In case of non-delivery, if the seller does not deliver the goods within the additional period of time fixed by the buyer in accordance with paragraph (1) of article 47 or declares that he will not deliver within the period so fixed."

5. Article 25 of the Sales Convention contains a definition of what is to be considered as a fundamental breach: one which results in such detriment to the other party as substantially to deprive him of what he is entitled to expect under the contract, unless the party in breach did not foresee and a reasonable person of the same kind in the same circumstances would not have foreseen such a result.

6. In a works contract the parties usually specify in detail the grounds for termination.

(i) Delay in completion

7. It is not uncommon to find certain delays in the completion of a large industrial plant. Before the purchaser is given the right to terminate the contract he must usually give the contractor an additional period of time to complete the works. For instance clause 20.5 of both ECE 188A/574A provides:

"If any portion of the Works . . . remains uncompleted, the Purchaser may by notice in writing to the Contractor require him to complete and . . . fix a final time for completion . . . If . . . the Contractor fails to complete within such time, the Purchaser shall be entitled . . . to terminate the Contract in respect of such portion of the Works."

8. A similar provision is contained in clause 31.2 of FIDIC-EMW. The relevant portion of the clause reads:

"If for any reason, other than one for which the Employer or some other contractor employed by him is responsible, the Contractor fails to complete within such time, the Employer may by further written notice to the Contractor elect

"either (*a*) To require the Contractor to complete,

"or (*b*) To terminate the Contract in respect of such Portion of the Works . . ."

In contrast to the position in some other forms under study, the above clause does not require the employer to terminate the contract even after failure of the contractor to complete within the additional period of time which had been given to him. The purchaser is still given the option to require the contractor to complete the works.

9. The UNIDO model contracts also treat the question of delay as a ground for termination of the

* 3 April 1981.
** A/CN.9/WG.V/WP.4/Add.2 (reproduced above).
*** A/CN.9/WG.V/WP.4/Add.4 (reproduced above).
**** A/CN.9/WG.V/WP.4/Add.5 (reproduced above).

Contract. For example article 33.7.1 of UNIDO-TKL provides:

"Where the CONTRACTOR has made default or delayed in commencing or in executing, completing or delivering the work or any portion thereof to the reasonable satisfaction of the PURCHASER, and the PURCHASER has given notice thereof to the CONTRACTOR and has by such notice required the CONTRACTOR to put an end to such default or delay, and such default or delay continues for a period of (. . .) after such notice was given; . . . the PURCHASER may, without any other authorization, cancel the Contract . . .

10. Article 33.7.4 of UNIDO-TKL further provides that the purchaser has the right to cancel the contract when the contractor has "abandoned" the work.

11. Before dealing with the FIDIC Conditions further it must be noted that they give the purchaser the right to terminate not in all cases of breach of contract by the contractor. According to these Conditions in some situations the purchaser has the right to "enter upon the Site and expel the Contractor therefrom *without thereby voiding* the Contract, or releasing the Contractor from any of his obligations or liabilities under the Contract, or affecting the rights and powers conferred by the Contract on the Employer or the Engineer . . ." (Clause 44.1 of FIDIC-EMW) This right is dealt with here under termination since its effects are quite similar to those of an ordinary termination clause. It would appear that this approach is to give as much protection as possible to the purchaser.[1]

12. Clause 44.1 of FIDIC-EMW provides, *inter alia,* the following contingencies as grounds for expelling the contractor:

". . . if the Engineer shall certify in writing to the Employer that in his opinion the Contractor:

"(*a*) Has abandoned the Contract, or

"(*b*) Without reasonable excuse has failed to commence the Works or has suspended the progress of the Works for twenty eight days after receiving from the Engineer written notice to proceed . . ."

13. Clause 63.(1) of FIDIC-CEC is identical to the above clause but goes further by adding that if the contractor:

"(*c*) Has failed to remove materials from the Site or to pull down and replace work for twenty-eight days after receiving from the Engineer written notice that the said materials or work had been condemned and rejected by the Engineer under these conditions . . ."

(ii) Non-conformity of work

14. Not only does the delay in completion cause serious difficulties to the purchaser but also breach of contractual stipulations regarding quality (see part two, VII, *Quality*). Clause 44.1 of FIDIC-EMW, therefore, provides that the purchaser may expel the contractor with the legal effect as described in paragraph 11 *supra,*

". . . if the Engineer shall certify in writing to the Employer that in his opinion the Contractor:

". . .

"(*c*) Despite previous warnings by the Engineer, in writing, is not executing the Works in accordance with the Contract, or is neglecting to carry out his obligations under the Contract so as seriously to affect the carrying out of the Works . . ."

15. Clause 63.(1) of FIDIC-CEC is worded slightly differently although the effect is similar. Here the purchaser has the right to expel the contractor, if the contractor,

"(*d*) Despite previous warnings by the Engineer, in writing, is not executing the Works in accordance with the Contract, or is persistently or flagrantly neglecting to carry out his obligations under the Contract . . ."

(iii) Unauthorized assignment and sub-contracting

16. The construction of large industrial works requires skill and experience by the contractor. The assignment of a works contract to a third party is therefore usually possible only with the consent of the purchaser.

17. Some conditions treat unauthorized assignment by the contractor as serious enough to give the purchaser the right to terminate the contract. According to clause 44.1 of FIDIC-EMW and clause 63.(1) of FIDIC-CEC the employer may enter upon the site and expel the contractor therefrom "[i]f the Contractor shall assign the Contract, without the consent in writing of the Employer first obtained . . ."

18. Article 33.7 of UNIDO-TKL grants the purchaser the right to cancel the contract "where the CONTRACTOR has . . . made an assignment of the Contract without the approval of the PURCHASER."

19. On the other hand, sub-contracting is very common in the construction of large industrial works. Unless it is not prohibited by the contract sub-contracting *per se* does not give rise to objections. The contractor must make sure, however, that any sub-contracting does not affect the proper execution of the work. Clause 63.(1) of FIDIC-CEC gives the purchaser the right to expel the contractor "if the Engineer shall certify in writing to the Employer that in his opinion the

[1] On the other hand, in case of breach of contract by the purchaser the contractor has the right to terminate the contract under the FIDIC Conditions. (Clause 41.3 of FIDIC-EMW speaks of "to terminate the Contract" while clause 51.1 of FIDIC-EMW, "to terminate his employment under the Contract.") It may also be noted that in case of bankruptcy of the contractor the purchaser may terminate the contract under clause 45 of FIDIC-EMW while under clause 63.(1) of FIDIC-CEC, he may only expel the contractor. These are further discussed below. The reasons for such distinction in treatment are not clear.

Contractor: . . . (*e*) has, to the detriment of good workmanship, or in defiance of the Engineer's instructions to the contrary, sub-let any part of the Contract . . ."

(b) *Breach of contract by the purchaser*

20. Under article 64 of the Sales Convention:

"(1) The seller may declare the contract avoided:

"(*a*) If the failure by the buyer to perform any of his obligations under the contract or this Convention amounts to a fundamental breach of contract; or

"(*b*) If the buyer does not, within the additional period of time fixed by the seller in accordance with paragraph (1) of article 63, perform his obligation to pay the price or to take delivery of the goods, or if he declares that he will not do so within the period so fixed."

21. Similar grounds for termination are found in works contracts.

(i) Non-taking of delivery

22. The failure to take delivery of the plant by the purchaser on the due date constitutes a breach of contract (see part two, X, *Acceptance and Take-over*).* In such a case, according to clause 10.2 of both ECE 188A/574A "the Contractor may require the Purchaser by notice in writing to accept delivery within a reasonable time. If the Purchaser fails for any reason whatever to do so within such time, the Contractor shall be entitled . . . to terminate the Contract in respect of such portion of the Plant as is by reason of the failure of the Purchaser aforesaid not delivered . . ."

23. The FIDIC Conditions grant the contractor the right to terminate the contract "in the case of the Engineer's failure to issue an interim certificate . . ." (clause 41.3 of FIDIC-EMW), or "in the event of the Employer: . . . (*b*) interfering with or obstructing the issue of any certificate of the Engineer . . ." (clause 51.1 of FIDIC-EMW).

24. For the last-mentioned case, above, FIDIC-CEC clause 69.(1) uses the wording: "(*b*) interfering with or obstructing or refusing any required approval to the issue of any such certificate . . ."

25. The UNIDO model contracts do not contain similar provisions.

(ii) Non-payment

26. Clause 11.7 of both ECE 188A/574A gives the contractor the right to terminate the contract if the purchaser has not made payment within a period of delay stipulated by the parties.

27. Under the FIDIC Conditions the contractor is entitled "to terminate his employment under the Contract" according to clause 69.(1) of FIDIC-CEC (see also clause 51.1 of FIDIC-EMW):

"In the event of the Employer:

"(*a*) Failing to pay to the Contractor the amount due under any certificate of the Engineer within thirty days after the same shall have become due under the terms of the Contract . . ."

2. *Exonerating circumstances*

28. Apart from termination on the ground of breach, exonerating circumstances constitute one of the most common grounds for the termination of a works contract. Two cases may be distinguished: first, where certain circumstances make any further performance impossible and secondly, where circumstances prevent performance for a period of time (see part two, XIII, *Exoneration*).*

29. Under clause 25.3 of both ECE 188A/574A, if circumstances beyond the control of the parties affect the timely performance of the obligations by the parties, and "if, by reason of any of the said circumstances, the performance of the Contract within a reasonable time becomes impossible, either party shall be entitled to terminate the Contract . . ."

30. The FIDIC Conditions also provide for the termination of the contract when one of the parties is prevented from performing because of the outbreak of war. (Clause 46.1 of FIDIC-EMW; clause 65.(6) of FIDIC-CEC).

31. Apart from war as above-mentioned, the FIDIC Conditions do not make provision for termination in other exonerating circumstances.

32. Under the UNIDO model contracts, the purchaser is allowed to terminate the contract in the event that the purchaser is subject to any circumstances which are wholly unavoidable and/or beyond his control (article 33.1 of UNIDO-TKL).

33. In the case of a prevailing and continuous *force majeure* the UNIDO model contracts make provision for the possibility of termination of the contract by both parties (article 34.5 of UNIDO-TKL).

3. *Other grounds for termination*

34. In some forms under study other grounds are also included for termination. They relate to the financial situation of the other party.

35. The FIDIC Conditions deal with the case of bankruptcy of the contractor and of the purchaser separately. Clause 63.(1) of FIDIC-CEC provides that the purchaser may expel the contractor

* A/CN.9/WG.V/WP.4/Add.3 (reproduced above)

* A/CN.9/WG.V/WP.4/Add.5 (reproduced above).

"[i]f the Contractor shall become bankrupt, or have a receiving order made against him, or shall present his petition in bankruptcy, or shall make an arrangement with or assignment in favour of his creditors, or shall agree to carry out the Contract under a committee of inspection of his creditors or, being a corporation, shall go into liquidation (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), or if the Contractor shall . . . have an execution levied on his goods . . ."

36. Clause 45 of FIDIC-EMW uses a slightly different wording, and does not grant the purchaser the right to expel the contractor but states that

"[t]he Employer shall be at liberty

"(*a*) To terminate the Contract . . . if the Contractor shall become bankrupt or insolvent, or have a receiving order made against him, or compound with his creditors, or being a corporation commence to be wound up, not being a members' voluntary winding up for the purpose of amalgamation or reconstruction, or carry on its business under a receiver for the benefit of its creditors or any of them . . ."

37. On the other hand, the contractor may terminate the contract, according to Clause 69.(1) of FIDIC-CEC,

"[i]n the event of the Employer

". . .

"(*c*) Becoming bankrupt or, being a company, going into liquidation, other than for the purpose of a scheme of reconstruction or amalgamation . . ."

38. In the same situation clause 51.1 of FIDIC-EMW provides that the contractor is entitled to "terminate his employment under the contract".

39. Under the UNIDO-TKL only the insolvency or bankruptcy of the contractor is covered. Article 33.7 permits the purchaser to cancel the contract where the contractor has become insolvent or where he has committed an act of bankruptcy.

40. The FIDIC Conditions contain another ground for termination by the contractor in a situation which amounts in fact to a termination by the purchaser. Clause 69.(1) of FIDIC-CEC entitles the contractor to terminate his employment under the contract

"[i]n the event of the Employer:

". . .

"(*d*) Giving formal notice to the Contractor that for unforeseen reasons, due to economic dislocation, it is impossible for him to continue to meet his contractual obligations . . ."

41. Clause 51.1 of FIDIC-EMW contains a similar provision without the requirement of a formal notice to the contractor.

C. *Time for termination and procedure to be followed*

42. It has been mentioned that in works contracts for the construction of large industrial works the termination is considered as a last recourse in cases of breach of contract. The various clauses dealing with the obligations of the parties contain provisions requesting the creditor to grant to the debtor additional periods of time within which to perform his obligations. It is only at the end of this additional period of grace that the creditor can terminate the contract.

43. Within what period of time after the lapse of such additional period of grace, is the aggrieved party entitled to terminate?

44. Some provisions call for immediate termination after the grounds have been established. On the other hand, in two cases of breach of contract by the contractor or by the purchaser the ECE General Conditions entitle the aggrieved party to terminate the contract without mentioning a time limit (clauses 10.2, 20.5 of both ECE 188A/574A).

45. In the case of non-payment by the purchaser, the contractor is entitled to terminate the contract "within a reasonable time" after the lapse of time mentioned in paragraph 26, *supra* (clause 11.7 of both ECE 188A/574A).

46. Termination "within a reasonable time" is also contained in articles 49 and 64 of the Sales Convention. Such a provision may imply that the creditor loses the right to terminate the contract after the lapse of a "reasonable time".

47. In cases of exonerating circumstances the contract may be terminated "at any time" according to clauses 46.1 of FIDIC-EMW and 65.(6) of FIDIC-CEC. (A similar situation is provided for in article 33.1 of UNIDO-TKL.)

48. The FIDIC-EMW Conditions contain different provisions in case of bankruptcy. If the contractor becomes bankrupt or insolvent the purchaser shall be at liberty "to terminate the Contract *forthwith*" (clause 45), but if the purchaser becomes bankrupt, the contractor is entitled "to terminate . . . by giving *14 days'* prior notice" (clause 51.1).[2]

49. In FIDIC-CEC no distinction is made, and for both parties, 14 days' notice is required for termination in case of bankruptcy (clauses 63.(1) and 69.(1)).[3]

50. The requirement of 14 days' notice is also contained in both the FIDIC Conditions in regard to termination (or expelling, see paragraph 11, *supra*) in

[2] The reasons for these different provisions are not clear.

[3] The periods mentioned in paras. 48 and 49 are not periods of grace.

most cases of breach of contract (clauses 44.1 and 51.1 of FIDIC-EMW, clauses 63.(1) and 69.(1) of FIDIC-CEC).[4]

51. The requirement of *one month*'s notice is contained in clause 41.3 of FIDIC-EMW in the case of the engineer's failure to issue an interim certificate.

52. Nearly all conditions require the termination to be exercised by giving a *notice in writing* to the other party (for instance clauses 10.2, 11.7, 20.5 of both ECE 188A/574A, all relevant clauses of the FIDIC Conditions).

53. UNIDO-TKL requires a notice in writing in the case of termination (article 33.1 dealing with exonerating circumstances), but no notice need be given in the case of cancellation (article 33.7 dealing with breach of contract by the contractor).

54. All the various clauses of the ECE General Conditions providing for termination include the mention *"without requiring the consent of any court"*. This phrase has been added to satisfy the law of some countries (for instance France) where otherwise a termination can be exercised only by resort to a court order.

55. Similarly, article 33.7 of UNIDO-TKL provides that the purchaser can cancel the contract "without any other authorization", a wording which might also be aimed at satisfying certain legal systems.

56. The FIDIC Conditions make no reference whatsoever to a court authorization. Attention must be drawn however to the fact that in case of default of the contractor the Conditions provide for the purchaser to enter upon the Site and expel the contractor without voiding the contract. This difference, slight in fact but clear in law, would most likely be interpreted by tribunals as not necessitating a court authorization.

D. *Consequences of termination*

57. Generally, once a contract is terminated the parties must be put in the same stead as at the time of the conclusion of the contract. Sometimes, when the parties cannot be put back in the same position, the contract is terminated for the future only. This last eventuality is the one most often encountered in works contracts in view of their very nature.

58. As termination puts an end to the contract, both parties, as a general consequence, are no longer expected to perform their obligations under the contract. Article 81 of the Sales Convention provides as follows:

> "(1) Avoidance of the contract releases both parties from their obligations under it . . ."

59. However, in every contract there are some provisions which should not be nullified by the termination. Termination does not mean the end of all obligations under the contract. Article 81 of the Sales Convention therefore continues:

> "Avoidance does not affect any provision of the contract for the settlement of disputes or any other provision of the contract governing the rights and obligations of the parties consequent upon the avoidance of the contract."

60. The parties in particular would not be released from any obligations to pay damages which may be due. Clause 27.1 of both ECE 188A/574A reads as follows:

> "Termination of the Contract, from whatever cause arising, shall be without prejudice to the rights of the parties accrued under the Contract up to the time of termination."

61. As far as the other consequences of termination are concerned, the various forms under study distinguish whether termination was caused by breach of contract or exonerating circumstances.

1. *Breach of contract*

62. Article 20.5 of both ECE 188A/574A provides as follows in case of non-completion:

> ". . . the Purchaser shall be entitled . . . to terminate the Contract . . . and thereupon to recover from the Contractor any loss suffered by the Purchaser by reason of the failure of the Contractor . . . up to an amount . . . or . . . that part of the price payable under the Contract which is properly attributable to such portion of the Works as could not in consequence of the Contractor's failure be put to the use intended."

63. Clause 31.2 of FIDIC-EMW uses similar language in the case of prolonged delay by the contractor.

64. As mentioned above, under the FIDIC Conditions, when the contractor is in default, the employer may enter the site and complete the work. The wording used in both sets of conditions varies slightly but the outcome is quite similar. Clause 63.(1) of FIDIC-CEC provides in case of default by the contractor:

> "the Employer may . . . enter upon the Site and the Works and expel the Contractor therefrom without thereby voiding the Contract, or releasing the Contractor from any of his obligations or liabilities under the Contract, or affecting the rights and powers conferred on the Employer or the Engineer by the Contract, and may himself complete the Works or may employ any other contractor to complete the Works. The Employer or such other contractor may use for such completion so much of the Constructional Plant, Temporary Works and materials, which have

[4] The periods mentioned in paras. 50 and 51 have the effect of a period of grace.

been deemed to be reserved exclusively for the execution of the Works, under the provisions of the Contract, as he or they may think proper, and the Employer may, at any time, sell any of the said Constructional Plant, Temporary Works and unused materials and apply the proceeds of sale in or towards the satisfaction of any sums due or which may become due to him from the Contractor under the Contract."

65. FIDIC-CEC Conditions then go on to explain how various questions are dealt with in the event the employer enters on the site and expels the contractor. They read as follows:

Clause 63.(2) "The Engineer shall, as soon as may be practical after any such entry and expulsion by the Employer, fix and determine *ex parte,* or by or after reference to the parties, or after such investigation or enquiries as he may think fit to make or institute, and shall certify what amount, if any, had at the time of such entry and expulsion be reasonably earned by or would reasonably accrue to the Contractor in respect of work then actually done by him under the Contract and the value of any of the said unused or partially used materials, any Constructional Plant and any Temporary Works."

Clause 63.(3) "If the Employer shall enter and expel the Contractor under this Clause, he shall not be liable to pay to the Contractor any money on account of the Contract until the expiration of the Period of Maintenance and thereafter until the costs of execution and maintenance, damages for delay in completion, if any, and all other expenses incurred by the Employer have been ascertained and the amount thereof certified by the Engineer. The Contractor shall then be entitled to receive only such sum or sums, if any, as the Engineer may certify would have been payable to him upon due completion by him after deducting the said amount. If such amount shall exceed the sum which would have been payable to the Contractor on due completion by him, then the Contractor shall, upon demand, pay to the Employer the amount of such excess and it shall be deemed a debt due by the Contractor to the Employer and shall be recoverable accordingly."

66. According to article 33.7 of UNIDO-TKL, in case of default of the contractor, "the PURCHASER may . . . cancel the Contract and take all or any part of the Contract and/or of the work to be undertaken by the CONTRACTOR out of the CONTRACTOR's hands and may employ such means as the PURCHASER sees fit to complete this Contract and/or the works . . ."

67. In the event the contract is cancelled and the work taken out of the hands of the contractor, article 33 of UNIDO-TKL provides as follows:

"33.8: Where this Contract or any portion or portions thereof has or have been taken out of the CONTRACTOR's hands . . . the CONTRACTOR shall not . . . be entitled to any further payment including payments then due and payable but not paid and the obligation of the PURCHASER to make payments as provided for in the Terms of Payment shall be at an end, and the CONTRACTOR shall be liable to settle costs and/or damages under the Contract . . .

"33.9: Where this Contract, or any portion or portions thereof has or have been taken out of the CONTRACTOR's hands . . . and is subsequently completed by the PURCHASER . . . the PURCHASER may at its option determine the amount, if any, of retention monies and progress claims of the CONTRACTOR unpaid at the time of taking the work out of the CONTRACTOR's hands that, in the PURCHASER's opinion, are not required by the PURCHASER for the purposes of the Contract and . . . the PURCHASER shall, if of the opinion that no financial prejudice to the PURCHASER will result, authorise payment of that amount to the CONTRACTOR.

"33.10: The taking of this Contract, or of any portion thereof, out of the CONTRACTOR's hands pursuant to this Article does not operate so as to relieve or discharge the CONTRACTOR from the obligations imposed upon the CONTRACTOR by this Contract and by law.

"33.11: If this Contract, the Works, or any part thereof is taken out of the CONTRACTOR's hands pursuant to this Article, all material, plant and interest of the CONTRACTOR in all real property, licences, power and privileges acquired, used or provided by the CONTRACTOR for purposes of this Contract shall be the property of the PURCHASER and in particular, but without affecting any liability or obligation of the CONTRACTOR and/or any PURCHASER right imposed, conferred, or contemplated by any other provision of this Contract, the PURCHASER may, at his option, utilize the equipment or sell or otherwise dispose of, at public auction or at private sale or otherwise, the whole or any portion of such material, and/or plant at such price or prices as he may consider reasonable and retain the proceeds of any such sale or disposition as well as all other amounts then or thereafter due by the PURCHASER to the CONTRACTOR, all in satisfaction or partial satisfaction (as the case may be) of any loss or damage which the PURCHASER has sustained or may sustain by reason aforesaid.

"33.12: Subject to Article 33.11 above, if the PURCHASER considers that any PURCHASER property-interest possessed by virtue of the application of Article 33.11 above, is no longer required for the purposes of the Contract, and that it is not in the interests of the PURCHASER to retain such property-

interest then, upon written notice to such effect from the PURCHASER to the CONTRACTOR, such property-interest shall become the property of the CONTRACTOR."

68. On the other hand, in the event that the contractor terminates the contract the consequences envisaged in the various conditions are different.

69. In such a case the contractor, according to clause 51.2 of FIDIC-EMW, "upon the giving of such notice . . . shall with all reasonable despatch remove from the Site all Contractor's Equipment brought by him thereon." A similar provision is contained in clause 69.(2) of FIDIC-CEC.

70. Clause 51.3 of FIDIC-EMW provides that "[i]n the event of such termination the Employer shall be under the same obligations to the Contractor in regard to payment as if the Contract had been terminated under the provisions of Clause 46 (Outbreak of War) hereof, but in addition to the payments specified in Clause 46.3 the Employer shall pay to the Contractor the amount of any reasonable loss or damage to the Contractor arising out of or in connection with or by consequence of such termination." (The position in clause 69.(3) of FIDIC-CEC is identical.)

71. Termination of the contract by the contractor for breach of contract by the purchaser does not deprive the contractor of any rights already acquired. Thus clause 51.4 of FIDIC-EMW provides:

"Nothing in this Clause contained shall prejudice the right of the Contractor to exercise, either in lieu of or in addition to the rights and remedies in this Clause specified, any other rights or remedies to which the Contractor may be entitled."

72. Under the ECE General Conditions if the contractor terminates the contract for reasons of breach of contract by the purchaser, the contractor is entitled to damages. The General Conditions, however, appear to assume that the parties have agreed to limit the amount of such damages.

73. Clause 10.2 of both ECE 188A/574A in case of not accepting delivery by the purchaser, grants the right to the contractor "to terminate the Contract . . . and thereupon to recover from the Purchaser any loss suffered by reason of such failure . . . or . . . that part of the price payable under the Contract which is properly attributable to such portion of the Plant."

74. In case of non-payment, according to clause 11.7 of both ECE 188A/574A "the Contractor shall be entitled . . . to terminate the Contract and thereupon to recover from the Purchaser the amount of his loss . . ."

75. As long as no assembly or erection on site is involved but only supply of equipment the following provisions of the Sales Convention could well be taken into consideration in regard to works contracts:

Article 81: "(2) A party who has performed the contract either wholly or in part may claim restitution from the other party of whatever the first party has supplied or paid under the contract. If both parties are bound to make restitution, they must do so concurrently."

Article 84: "(1) If the seller is bound to refund the price, he must also pay interest on it, from the date on which the price was paid.

"(2) The buyer must account to the seller for all benefits which he has derived from the goods or part of them:

"(*a*) If he must make restitution of the goods or part of them; or

"(*b*) If it is impossible for him to make restitution of all or part of the goods or to make restitution of all or part of the goods substantially in the condition in which he received them, but he has nevertheless declared the contract avoided or required the seller to deliver substitute goods."

2. *Exonerating circumstances*

76. In the event the contract is terminated because of circumstances beyond the control of the parties, clause 25.4 of both ECE 188A/574A provides that "the division of the expenses incurred in respect of the Contract shall be determined by agreement between the parties."

77. And, in the event the parties do not come to an agreement, clause 25.5 provides: "it shall be determined by the arbitrator which party has been prevented from performing his obligations and that party shall refund to the other the amount of the said expenses incurred by the other . . . If the arbitrator determines that both parties have been prevented from performing their obligations, he shall apportion the said expenses between the parties in such manner as to him seems fair and reasonable, having regard to all the circumstances of the case."

78. A formula is provided in clause 25.7 of both ECE 188A/574A to assist the arbitrator in determining the apportionment of liability:

"There shall be credited to the Purchaser against the Contractor's expenses all sums paid or payable under the Contract by the Purchaser to the Contractor. There shall be credited to the Contractor against the Purchaser's expenses that part of the price payable under the Contract which is properly attributable to Plant delivered to the Purchaser or, in the case of an incomplete unit, the value of such Plant having regard to its incomplete state. In either case due account shall be taken of any work done in the erection of such Plant."

79. Where the amount to be credited exceeds the amount of such expenses the party shall be entitled to

recover the excess. "'Expenses' means actual out-of-pocket expenses reasonably incurred after both parties shall have mitigated their losses as far as possible. Provided that as respects Plant delivered to the Purchaser the Contractor's expenses shall be deemed to be that part of the price payable under the Contract which is properly attributable thereto, due account being taken of any work done in the erection of such Plant" (clause 25.6 of both ECE 188A/574A).

80. The FIDIC Conditions deal with the consequence of a termination in case of war in the following manner. Clause 46 of FIDIC-EMW provides:

"46.2. . . . the Contractor shall with all reasonable despatch remove from the Site all Contractor's equipment and shall give similar facilities to enable his Sub-Contractors to do so.

"46.3. If the Contract shall be terminated as aforesaid the Contractor shall be paid by the Employer (in so far as such amounts or items shall not have already been covered by payments on account made to the Contractor) for all work executed prior to the date of termination at the rates and prices provided in the Contract and in addition:

"(*a*) The amounts payable in respect of any preliminary items, so far as the work or service comprised therein has been carried out or performed, and a proper proportion as certified by the Engineer of any such items the work or service comprised in which has been partially carried out or performed.

"(*b*) The cost of materials or goods reasonably ordered for the Works or for use in connection with the Works which shall have been delivered to the Contractor or of which the Contractor is legally liable to accept delivery (such materials or goods becoming the property of the Employer upon such payment being made by him).

"(*c*) A sum, to be certified by the engineer, being the amount of any expenditure which in the circumstances was reasonably incurred by the Contractor in the expectation of completing the whole of the Works, in so far as such expenditure shall not have been covered by the payments in this Sub-Clause before mentioned.

"(*d*) The reasonable cost of removal under Sub-Clause 2 of this Clause and (if required by the Contractor) return thereof to the Contractor's works in his country or to any other destination at no greater cost.

"(*e*) The reasonable cost of repatriation of all the Contractor's staff and workmen employed on or in connection with the Works at the time of such termination.

"Provided always that, against any payments due from the Employer under this Sub-Clause, the Employer shall be entitled to be credited with any outstanding balances due from the Contractor for advances in respect of Plant and materials, and any sum previously paid by the Employer to the Contractor in respect of the execution of the Works."

81. Clause 65.(8) of FIDIC-CEC is worded similarly, there is, however, a slight difference in the last paragraph:

"Provided always that against any payments due from the Employer under this sub-clause, the Employer shall be entitled to be credited with any outstanding balances due from the Contractor for advances in respect of Constructional Plant and materials and any other sums which at the date of termination were recoverable by the Employer from the Contractor under the terms of the Contract."

82. The UNIDO model contracts provide, for the event when the contract is terminated by the purchaser because he is subject to any circumstances which are wholly unavoidable and/or beyond his control, as follows (for instance in article 33 of UNIDO-TKL): The contractor shall cease all operations and the purchaser will pay to the contractor an amount equal to the greater of:

Article 33.3.1: "The cost of the Works properly supplied or done by the CONTRACTOR as at the date of the termination less all amounts already paid to the CONTRACTOR by the PURCHASER, and less all amounts which the CONTRACTOR is liable under the Contract to pay to the PURCHASER or owing to the PURCHASER, or which the PURCHASER claims is due as damages pursuant to other Articles herein, and

Article 33.3.2: "The amount calculated in accordance with the Terms of Payment which would have been legitimately payable to the CONTRACTOR up to the date of Termination provided the CONTRACTOR had in fact fulfilled his contractual obligations to such date, without prejudice to PURCHASER-rights as expressly provided for in this Contract."

83. If the purchaser terminates the contract for reasons of the said circumstances, he has not only obligations vis-à-vis the contractor, but will, according to article 33.5 of UNIDO-TKL, also acquire certain rights:

". . . to obtain from the CONTRACTOR where he is also the Process Licensor the documentation for know-how and basic engineering . . . to receive all detailed engineering documents, calculations, computer printouts and other materials related thereto as completed up to the date of the Termination . . . to receive lists of all equipment for which orders have been placed, together with all copies of Purchase Orders for plant supplied and not supplied . . . to take delivery and receive the shipping papers for all equipment . . . to receive all completed or incomplete

documentation pertaining to work and services . . . to take over the Works including all work done to date on the Site . . . to receive copies of all detailed Civil Engineering, Piping, Instrumentation, lay-out and erection drawings."

3. *Other grounds for termination*

84. Termination by one of the parties as a consequence of a deterioration of the financial situation of the other party is usually treated in the same manner as termination after a breach of contract. For instance clause 45 of FIDIC-EMW provides that if the contractor shall become bankrupt or insolvent the purchaser shall be at liberty to terminate the Contract and to act in the same manner as provided in case of contractor's default.

85. Clause 63.(1) of FIDIC-CEC, where the consequence of the contractor's bankruptcy is not termination but that of expelling the contractor, treats this case in the same manner as a breach of contract by the contractor.

86. Under both FIDIC Conditions when the purchaser becomes bankrupt the contractor may terminate and the consequences would be the same as in case of non-payment (clause 51 of FIDIC-EMW, clause 69 of FIDIC-CEC). Similarly, the UNIDO model contracts deal with the question of bankruptcy of the contractor as if it were a breach of contract (article 33.7 of UNIDO-TKL).

XVIII. Applicable law

A. *General remarks*

87. In works contracts, parties have an abiding interest in making sure that their rights and obligations are as certain and as predictable as possible. With a view to promoting certainty and predictability and thereby minimizing the possibility of disputes, contract documents usually contain detailed description of the extent of the work to be performed. Disputes, however, do occur and the disputes will have to be resolved in the framework of a legal system or systems. A stipulation of applicable law in the contract by the parties has a great potential for avoiding difficult choice of law problems by the courts.

88. Since the construction of large industrial works is performed over a relatively long period of time subsequent changes in applicable law can produce results which were not contemplated by the parties. Because of these difficulties, parties should try to minimize the chances of recourse to the applicable law by spelling out as fully and as clearly as possible their rights and obligations. Paragraph 45 of the ECE Guide suggests:

". . . It may . . . be recommended to the parties . . . to draw up contracts in a sufficiently specific and detailed manner so that, if a dispute should arise, recourse to a national law would be necessary only in exceptional cases."

B. *Choice of applicable law*

89. A variety of considerations such as the parties' familiarity with and confidence in the law of a given country may influence the parties' choice of applicable law. The parties are likely to choose one of the following laws: the law of the country where the plant is to be built, the law of the contractor's country, or the law of a third country.

90. Article 36.1 of UNIDO-CRC states some possibilities:

"The laws applicable to the Contract shall be the laws of (*neutral country*) or the law of (*the land where the Plant Site is located*) or as otherwise agreed between the parties in conformity with laws of the country where the Plant is located."

UNIDO-STC and UNIDO-TKL have identical provisions.

91. The counter-proposal does not suggest any applicable law and leaves the matter to the parties:

Article 36.1: "The laws applicable to the Contract shall be . . ."

92. The FIDIC-CEC and FIDIC-EMW make provisions for parties to state the applicable law. Clause 5.1 of FIDIC-CEC provides that there shall be stated in Part II of the Conditions:

"the country or state, the law of which is to apply to the Contract and according to which the Contract is to be construed."

93. Under the ECE General Conditions, the law of the contractor's country is stipulated, subject to a qualification. Clause 28.2 of both ECE 188A/574A provides:

"Unless otherwise agreed, the Contract shall, so far as is permissible under the law of the country where the Works are carried out, be governed by the law of the Contractor's country."

94. The fact that applicable law is stipulated by the parties does not mean it will always be applied by the Courts in which an action is brought. The *lex fori* may restrict the parties' freedom to choose the applicable law.

C. *Additional legal regulations*

1. *Administrative and other municipal laws*

95. The performance of a works contract is a complex undertaking involving, *inter alia,* the supply of

plant and machinery, the construction of the works, the transfer of technology and licensing arrangements. These operations often entail compliance with various laws and regulations in the contractor's and purchaser's countries that are particularly susceptible to governmental economic and social policy. The mandatory requirements of applicable national law in the areas of property rights, patent laws, safety regulations, labour law and currency laws and regulations may affect the performance of the contract.

96. Parties often anticipate and make provision for the effects of municipal law on their contractual obligations. In the forms under study there are express provisions making the contractor responsible for complying with the laws which may apply. Clause 26 of FIDIC-CEC states:

"(1) The Contractor shall give all notices and pay all fees required to be given or paid by any National or State Statute, Ordinance, or other Law, or any regulation, or bye-law of any local or other duly constituted authority in relation to the execution of the Works and by the rules and regulations of all public bodies and companies whose property or rights are affected or may be affected in any way by the Works.

"(2) The Contractor shall conform in all respects with the provisions of any such Statute, Ordinance or Law as aforesaid and the regulations or bye-laws of any local or other duly constituted authority which may be applicable to the Works and with such rules and regulations of public bodies and companies as aforesaid and shall keep the Employer indemnified against all penalties and liability of every kind for breach of any such Statute, Ordinance or Law, regulation or bye-law."

97. If compliance with the law requires payment of fees by the contractor, the contractor is entitled to be reimbursed. Clause 26.3 of FIDIC-CEC provides:

"The Employer will repay or allow to the Contractor all such sums as the Engineer shall certify to have been properly payable and paid by the Contractor in respect of such fees."

98. The wording under FIDIC-EMW is slightly different but the practical effect is the same. Clause 18.1 of FIDIC-EMW states:

"The Contractor shall, in all matters arising in the performance of the Contract, conform in all respects with the provisions of any National or State Statute, Ordinance or other Law or any Regulation or By-law of any local or other duly constituted authority that shall affect the Contractor in the performance of his obligations under the Contract, and shall keep the Employer indemnified against all penalties and liability of every kind for breach of any such Statute, Ordinance, Law, Regulation or By-law."

99. Under the ECE General Conditions, the contractor's responsibility to observe the law applicable to the works is stated by implication. Clause 5.1 of both ECE 188A/574A states:

"The Purchaser shall, at the request of the Contractor and to the best of his ability, assist the Contractor to obtain the necessary information concerning the local laws and regulations applicable to the Works and to taxes and dues connected therewith."

100. The UNIDO model contracts expressly require the contractor to observe all laws that may apply not only to the works but in general. Article 36.2 of UNIDO-CRC states:

"The CONTRACTOR, his staff, and representatives shall observe all codes, laws and regulations in force in the country of the PURCHASER and in the region where the Plant is located."

2. *Notification of law applicable to the works*

101. Construction work is often subject to a wide array of local administrative regulations in connection with performance. The approval of the work plan by the local authority may be hedged around with restrictions relating to health, labour and safety requirements. There may even be requirements relating to equipment, materials and the qualitative level of performance the plant has to meet. The problem here is that in ordinary circumstances, local law is not well known to the contractor.

102. Under some forms under study the party who is more familiar with local laws has an obligation to inform the other of the provisions of local laws and regulations. Frequently the obligation to inform is placed on the purchaser. Clause 18.2 of FIDIC-EMW states:

"The Employer shall give the Contractor assistance to enable the Contractor to ascertain the nature and extent of and to comply with any Laws, Regulations, Orders or By-Laws having the force of law in the country where the Plant is to be erected, which may affect the Contractor in the performance of his obligations under the Contract, and will if so requested procure for the Contractor copies thereof at the Contractor's expense."

103. Under the FIDIC-CEC, the purchaser has no obligation to assist the contractor.

104. The UNIDO model contracts also do not place an obligation on the purchaser to inform the contractor of applicable local laws; the purchaser is however required to provide the contractor with the necessary approvals, permits and licences required by the local authority. Article 5.15 of UNIDO-CRC provides:

"The PURCHASER shall obtain and make available to the CONTRACTOR all necessary permits/approvals and/or licences from local authorities

and/or Government as may be necessary for the timely execution of the Contract inclusive of import licences, visas for CONTRACTOR's personnel, entry permits, work permits, etc."

105. Under clause 5.1 of both ECE 188A/574A, the contractor may request the purchaser for the necessary information on the local laws and regulations that may be applicable to the works.

D. *Subsequent changes in the laws*

106. Even where the parties have taken into account the implications of existing law, their expectations may not be realized because of subsequent changes in the applicable laws. Subsequent changes in the laws may in fact make the performance of the contract unusually burdensome. (For the effects of this situation on the parties' obligations, see part two, XIV, *Renegotiation.*)*

107. The FIDIC Conditions provide for a revision of the contract price to reflect changes in the law which may affect the performance of the contract. Clause 70.(2) of FIDIC-CEC provides:

"(2) If, after the date thirty days prior to the latest date for submission of tenders for the Works there occur in the country in which the Works are being or are to be executed changes to any National or State Statute, Ordinance, Decree or other Law or any regulation or bye-law of any local or other duly constituted authority, or the introduction of any such State Statute, Ordinance, Decree, Law, regulation or bye-law, which causes additional or reduced cost to the Contractor . . . in the execution of the Works, such additional or reduced cost shall be certified by the Engineer and shall be paid by or credited to the Employer and the Contract Price adjusted accordingly."

108. All UNIDO model contracts have also provided for subsequent changes in the laws which may affect the performance of the work. Article 36.2 of UNIDO-CRC provides:

". . . In the event that any code, law or regulations are enacted after the Effective Date of the Contract . . . to have adverse effect on the CONTRACTOR's obligations, scope of work, prices and/or time schedule under this Contract, the PURCHASER shall either:

"36.2.1 Obtain appropriate exemption(s) from the relevant authorities on the CONTRACTOR's behalf, or

"36.2.2 Negotiate with the CONTRACTOR for commensurate change(s) in the scope of the work to be performed under the Contract, together with such changes in price as properly reflect the actual increased costs that are anticipated . . ."

109. Under the counter-proposal the reference point of subsequent changes in the law in force is the date of issue of the invitation to bid.

110. Under the ECE General Conditions, there is also provision for a commensurate adjustment of the contract price. Clause 5.2 of both ECE 188A/574A provides:

"If, by reason of any change in such laws and regulations occurring after the date of the tender, the cost of erection is increased or reduced, the amount of such increase or reduction shall be added to or deducted from the price, as the case may be."

Part three

[A/CN.9/WG.V/WP.4/Add.8*]

List of questions for possible consideration by the Working Group

A. *Introduction*

1. General questions concerning the future work of the Working Group have already been described in part one. This part of the study, which identifies specific questions, is not intended to be exhaustive. The questions have to be considered in the context of each of the specific topics under study.

2. It may, however, be emphasized that general questions regarding the methodology for any future work (see part one, paragraphs 39-46) would have to be kept in mind throughout because an adequate formula may be found only after consideration of the specific questions related to each topic.

3. In addition it would be important to point out that the following questions would also be relevant to the entirety of specific questions:

(*a*) Bearing in mind the various types of contract for the supply and construction of large industrial works (see part one, paragraphs 22-26), can a common approach be adopted for each topic under consideration irrespective of the type of contract, or should different approaches be adopted? Or is there another approach—that a common approach be taken to certain topics, while others have to be tailored to certain types of contract?

* A/CN.9/WG.V/WP.4/Add.5 (reproduced above).

* 12 May 1981.

(*b*) Bearing in mind that there are different types of industrial plant (see part one, paragraph 27), can a common approach be adopted, irrespective of the type of plant involved?

B. *Specific questions*

I. *Drawings and descriptive documents*

4. What types of drawings and/or documents should the contractor provide?

5. What should be the legal consequences of failure to provide the drawings and/or documents?

6. Would it be advisable to allow the contractor and/or the purchaser to modify or vary the drawings and/or descriptive documents after the conclusion of the contract?

7. What should be the legal effects of subsequent amendments to drawings and descriptive documents?

8. Should the question of ownership concerning drawings and descriptive documents be dealt with and, if so, which party should be the owner of such documents?

II. *Supply*

9. Should there be a distinction between the legal position of the contractor and that of the seller in connexion with supply?

10. If the previous question is answered in the affirmative, is the contractor responsible for defects of equipment in individual shipment or for supply of the plant as a whole only?

11. What should be the responsibility of the contractor if he engages a third person to supply the whole or a part of the plant or equipment?

12. Should a provision deal with costs of transportation?

13. If the previous question is answered in the affirmative, what transport is to be arranged by the contractor and what transport costs are to be borne by him?

14. Should the contractor be obliged to supply equipment and/or materials not mentioned in the contract which are, however, necessary for completion of the work, including auxiliary materials and equipment?

15. Should there by a provision in respect of notification of lack of conformity in connexion with supply of plant and legal consequences of failure to notify defects in time?

16. In case of any defects of the materials or the plant supplied by the contractor, is the purchaser to have any remedy in this respect before the date stipulated for the completion of the work and, if so, what kind of remedies?

17. Should the contractor be responsible for supplies of materials and parts of plant before the date agreed upon for the completion of work and, if so, what should be the legal consequences of failure to supply them?

III. *Erection*

18. Should the contractor be responsible for the erection of individual parts of the plant or only for completion of the work as a whole within an agreed period of time?

19. If the contractor fails to erect the plant in the agreed time is the purchaser entitled to engage another contractor to do so?

20. What should be the responsibility of the contractor if the personnel of the purchaser or other persons engaged by him participate in the erection of the plant?

21. What should be the extent of the responsibility of the contractor if his undertaking is only in respect of the supervision of the erection of the plant?

22. Should the contractor be obliged to supply all materials and equipment needed for the purpose of erection?

23. Who bears the loss of or damage to materials and equipment mentioned in the previous question?

24. Should the question of co-operation and/or co-ordination between the contractor and the purchaser be regulated and, if so, in what way?

IV. *Passing of risk*

25. Would it be advisable to determine the legal effects of the passing of risk?

26. If the parties do not agree otherwise, should risk pass at the time of the transfer of ownership to plant or equipment?

27. If the previous question is answered in the negative, would it be preferable to stipulate passing of risk in connexion with supply of individual parts (on "ex works", FOB, CIF, or other bases) or should passing of risk be provided for the works as a whole at a later stage (e.g. completion of the works, take-over or acceptance)?

28. In case the risk is to pass at a later stage (after delivery of individual parts of plant) should certain kinds of risks (e.g. war) pass at an earlier stage?

29. If the plant or equipment or a part of it is lost, destroyed, damaged or deteriorated after the passing of risk, should the contractor, nevertheless, be obliged to cure the defects at the costs of the purchaser?

30. Should there be a provision on risk in respect of materials and equipment used only for construction and not for permanent incorporation into the plant?

31. Should the defects of the plant or of parts of the plant have an effect on the passing of risk and, if so, in what way?

32. Who should bear the risk of transport of defective parts returned to the contractor and of the repaired parts or parts supplied in replacement of the defective parts?

33. Would it be advisable to have a provision on insurance against risk and, if so, to what extent?

34. Should delay in taking delivery have effect on passing of risk?

V. *Transfer of property*

35. Is the purchaser to acquire title to the plant:

(*a*) Upon its delivery in accordance with the contract;

(*b*) Upon delivery to the erection site;

(*c*) Upon completion of the works;

(*d*) Upon take-over or acceptance;

(*e*) Upon payment of the price;

(*f*) At some other time?

36. Should an agreement on transfer of property be recognized only if it is in accordance with the law in force in the country where the plant is to be erected?

37. Should the purchaser have a right of detention of the contractor's assets to enforce his rights, if any, in case of breach of contract?

VI. *Transfer of technology*

38. Should the contractor be liable to provide the purchaser with know-how relating to the plant to be delivered?

39. If the previous question is to be answered in the affirmative should the obligation of the contractor cover know-how agreed in the contract or the latest know-how available to the contractor at the time of the conclusion of the contract, or at the time when the purchaser is provided with documents relating to know-how?

40. Would the contractor be obliged to supply only technology which is available to him or should the purchaser be provided with technology available to other persons (licensors) as well?

41. Would it be advisible to deal with terms of payment concerning the transfer of technology?

42. Should a provision deal with transfer of technology in connexion with technological developments and improvements in operative techniques after the completion (or take-over or acceptance) of the works?

43. If the previous question is to be answered in the affirmative, should the contractor be obliged to make technological developments and improvements available to the purchaser free of charge or is the purchaser to pay reasonable costs?

44. Should the purchaser be obliged to supply the contractor with technological developments and improvements in operative technique which the purchaser may discover in connexion with using the work?

45. If so, should the conditions of such transfer of technology be the same as those under which the contractor is obliged to make available the mentioned technological developments and improvements to the purchaser?

46. Should the right of the purchaser to use the transferred technology be limited only to using it in connexion with supplied plant?

47. Would it be useful to have a provision dealing with confidentiality in connexion with transferred technology?

48. In case of such a provision, should there be any exceptions from the principle that the purchaser (contractor) is obliged to treat as confidential the information given to him in connexion with transfer of technology?

49. Should there be a provision on responsibility of the contractor (purchaser) towards the purchaser (contractor) if a third party claims rights based on industrial or other intellectual property in the technology?

VII. *Quality*

50. Should there be a provision that all material and workmanship are to conform to the contract or is it advisable to have a specific provision on quality of the plant?

51. In case of such a provision would it be useful to provide for performance standards in a general way (e.g. meeting the full requirements of normal operation, capacity, quality of products and consumption of raw-materials) or should it be preferable to refer to standards and regulations regarding the quality standards of a particular country (e.g. purchaser's country, country in which plant is to be erected)?

52. Is the contractor obliged to conform to a superior standard if required by law of the country in which plant is to be erected and, if so, under what conditions?

53. Should the contractor be obliged to supply other quality if it becomes clear that the quality of plant specified in the contract will not produce a plant capable of performing the intended purpose?

54. If the previous question is answered in the affirmative, who should bear the higher costs caused by a variation of the works?

55. In connexion with the answer to the previous question, should a modification of the works be necessary due to exonerating circumstances?

VIII. *Inspection and tests*

56. Is the purchaser entitled to examine the plant or equipment and/or materials before their dispatch?

57. If the previous question is answered in the affirmative, what should be the extent of examination? Should provision be made for the place and date of examination?

58. What should the procedure be in respect of examination effected before dispatch of the plant or the equipment?

59. What should be the legal effects of such examination?

60. Who should bear costs concerning examination before dispatch of plant or equipment?

61. What should be the rights and the duties of parties in case of defects in the materials, plant or equipment before their dispatch?

62. Should performance tests be dealt with?

63. If the previous question is answered in the affirmative what provisions should be made regarding:

(*a*) Pre-conditions for performance tests;

(*b*) Time of such tests;

(*c*) Rights and duties of parties in connexion with preparation and execution of such tests;

(*d*) Procedure to be followed in this respect (including protocol of performance test).

64. Which party is to bear the costs concerning performance tests?

65. What should be the legal effects of succesful performance tests?

66. What should be the legal effects if performance tests are not carried out in time?

67. What should be the legal effects if performance tests are not successful?

IX. *Completion*

68. Is a definition of completion of work needed?

69. If the previous question is answered in the affirmative, what should be the main elements of such a definition?

70. When should the completion period begin to run in case of doubt?

71. Would it be advisible to provide for an estimated period and, if so, how is a fixed period to be determined if parties fail to agree upon it?

72. What should be the legal consequences if no such time is agreed upon in the contract?

73. What should be the legal consequences of completion?

74. Is it advisable to have a provision on prolongation of completion time and if so, under what conditions should such a prolongation be permitted?

X. *Take-over and acceptance*

75. Should a distinction be made between "take-over" and "acceptance"?

76. What should be the legal consequences of take-over and/or acceptance?

77. Should the purchaser be entitled or obliged to take-over only a part of the works?

78. What should be the legal consequences of such a partial take-over and/or acceptance?

79. What should be the legal consequences of refusal to take-over and/or accept the works?

80. What should be the legal consequences of the purchaser's failure to take-over and/or to accept the works?

XI. *Delays and remedies*

81. Should delay cover cases where the contractor has not supplied the plant (equipment) and/or has not constructed the works at all or should delay cover partial failure of performance as well?

82. Should delay be considered separately for each part of the installation or is it preferable to take into consideration, in this connexion, only the date of completion of the works as a whole?

83. Should the purchaser have a right to claim performance in case of delay in supply and/or in construction of the works?

84. If the previous question is answered in the affirmative, should such a right be limited as in article 28 of the Sales Convention?

85. As regards questions relating to penalty or liquidated damages, see the Report of the Working Group on International Contract Practices on the work of its second session (A/CN.9/197)* and the background documents mentioned in paragraph 10 of that Report.

XII. *Damages and limitation of liability*

86. Are damages to be limited only to direct damage?

87. Should damages include loss of profit?

88. Should the loss which could not reasonably be foreseen by the debtor be excluded from damages?

89. Should any other limitation of damages apply and, if so, to what extent?

90. Should personal injury and/or damage to property not being ordinarily the subject matter of the

* Reproduced in this volume, part two, I, A.

contract be excluded from the scope of the application of a possible rule?

91. Should the rules on limitation of damages be of an exhaustive nature or should other limitations of damages be admitted on the basis of applicable law?

92. If damages are to be limited by an amount should this amount be stipulated (e.g. by a percentage of price) or is it to be left to the parties to agree upon?

93. Should limitation of damages apply generally or only in certain cases (e.g. termination of contract)?

94. Should the party who relies on a breach of contract be obliged to take measures to mitigate the loss?

95. Should the party in breach of contract claim a reduction in the damages if the party who relies on the breach fails to mitigate the loss?

96. Should there be a distinction between damages in respect of loss caused by delay in performance and loss caused by defective performance?

97. Should damages be excluded in respect of loss caused by defects of materials provided or by a design stipulated by the purchaser?

XIII. *Exoneration*

98. Should a possible rule on exoneration be of an exhaustive nature or should other exonerating circumstances be admitted on the basis of applicable law?

99. Should a definition of exoneration be in accordance with the definition of "Exemptions" under article 79 of the Sales Convention or would a different definition be preferable?

100. If a different definition of exoneration is desirable, what elements of the definition of "Exemptions" in the Sales Convention are to be excluded and/or what elements, if any, are to be included?

101. Should exoneration be defined only generally or in terms of a list of exonerating events?

102. If a definition should spell out specific exonerating events, should it be exhaustive?

103. Should the definition cover obstacles of:

(*a*) A factual nature (e.g. earthquakes) which make performance impossible under all circumstances;

(*b*) A legal nature (i.e. performance is legally prohibited);

(*c*) An economic nature (i.e. performance is possible and allowed but at a higher cost, e.g. rising prices of raw-materials)?

104. Should the exonerating events be notified?

105. If a notification is to be required, should there be any legal consequences in case of a failure to notify the exonerating event?

106. If so, what are to be legal consequences of such a failure (e.g. loss of right to rely on exonerating events or liability to damages)?

107. Should the legal consequences of exonerating circumstances be limited to the exclusion of damages (as under article 79 of the Sales Convention) or would it be desirable to make further provision for legal effects in connexion with the time for performance or the termination of contract?

108. In case of dealing with the legal effects in connexion with performance time should exonerating events entail an extension of the time for performance or suspension of obligation?

109. If the answer to the previous question is positive, should a time-limit be given for such an extension or suspension?

110. If the termination of contract is to be provided for in connexion with exonerating events, should the person entitled have a right to terminate the contract after a lapse of a certain period of time or should the parties be released from further performance *ipso iure*?

111. Should the right to terminate the contract be limited only to the creditor or should the debtor also be entitled to do so? If so, under what conditions?

112. Should an extension of time for the performance of the contract or the suspension of an obligation to perform or the termination of contract be limited to certain cases only?

113. Should other consequences not mentioned above be included in case of exonerating events?

XIV. *Renegotiation*

114. Should a renegotiation clause be limited to exonerating circumstances only or should it cover other cases as well?

115. If so, in what circumstances should there be renegotiation?

116. Should a time-limit be set down for the commencement and the completion of the renegotiation?

117. What factors should be taken into consideration in renegotiation?

118. Should the scope of the provision on renegotiation be limited to certain obligations of the parties (e.g. price revision, extension of time for performance)?

119. Should there be a provision for legal consequences of failure to agree on an adaptation of the contract?

120. If the previous question is answered in the affirmative should either party have the right to terminate the contract or ask a court or an arbitrator to revise the contract?

121. Should the insertion of a hardship clause be encouraged?

122. If such a clause is useful, what changes in circumstances should be covered (e.g. fundamental change, circumstances beyond party's control, substantial economic hardship, etc.); is a period of time to be set down when the clause can be invoked by parties?

123. Should a court, an arbitrator or a third person (chosen by the parties) be entitled to readapt or terminate a contract in the event of hardship?

XV. *Guaranties*

124. Should there be a provision on guaranty of workmanship and materials?

125. In case of such a guaranty, is it advisable to limit it or to exclude it in certain cases (e.g. improper use of the plant by the purchaser, defects arising out of materials provided by the purchaser etc.)?

126. What should be the commencement and length of the period of guaranty for workmanship and materials?

127. Should there be a maximum period commencing at the date of delivery?

128. Should the period of guaranty for workmanship and materials be extended by a period during which the works cannot be used by reason of defects covered by the guaranty?

129. What should be the obligations of the contractor if defects appear? Should damages be excluded?

130. What should be the legal consequences if the contractor does not cure the defects in time?

131. Is the purchaser to be given the right to rectify minor defects at the cost of the contractor?

132. Is it advisable to have a provision on performance guaranty?

133. If the previous question is to be answered in the affirmative what should be the content of such guaranty and consequences of its breach?

XVI. *Rectification of defects*

134. Should there be different consequences in respect of defects found:

(*a*) Before dispatch of the plant (equipment);

(*b*) After arrival of the plant or of its parts to the place where the plant is to be erected;

(*c*) During construction of the work;

(*d*) At the time of completion of the work;

(*e*) At the time of take-over or acceptance;

(*f*) During the guaranty period;

(*g*) After lapse of the guaranty period?

135. Is the purchaser to be obliged to notify defects? If so, what is the procedure to be followed?

136. What should be the legal consequences of failure to notify defects by the purchaser (e.g. the right is lost or cannot be exercised)?

137. Should the contractor be obliged to cure the defects of the plant by:

(*a*) Replacing the defective plant or parts of it or supplementing missing parts;

(*b*) Repairing the defects;

(*c*) Granting a price reduction or in another way?

138. Should the purchaser be entitled to choose a form of rectification of defects or should it be the contractor to determine in what way the defects are to be rectified?

139. Should the purchaser be entitled to suspend the work due to its defects and if so, under what circumstances?

140. Should a time-limit be determined for such a suspension?

XVII. *Termination*

141. Should the purchaser be entitled to terminate the contract under certain conditions in case of failure of the contractor to complete the works in accordance with the contract?

142. If the previous question is answered in the affirmative, would it be advisable to distinguish between cases where the failure is due to *force majeure* and cases where the contractor is responsible for the failure?

143. Should a distinction be made between cases where the failure of performance by the contractor lies in the fact that he did not supply the plant (equipment) or did not erect the plant and cases where the contractor supplied the plant (equipment) and erected it but with defects?

144. Would it be useful to distinguish between failure to perform in respect of a part of the plant and failure to perform as to the whole of the works?

145. If the contractor fails to perform his obligation to supply and construct the plant should the purchaser be obliged to fix an additional period of a reasonable time for performance in all cases before being entitled to terminate the contract or would it be advisable to grant him a right to terminate the contract under certain conditions (e.g. in case of a fundamental breach of contract) immediately after breach of contract?

146. If the purchaser has the right to declare the contract avoided even in case of a failure of performance regarding a part of the work, should he be entitled to

declare the contract avoided only in respect of the part not performed or the contract as a whole under certain conditions?

147. Would it be advisable to give the purchaser the right to terminate the contract under certain conditions even before the time when the works are to be completed (e.g. if the contractor intimates he will not supply and erect the plant)?

148. Should the right of the purchaser to terminate the contract be limited to certain cases (e.g. fundamental breach of contract)?

149. Should the contractor be entitled to terminate the contract under certain conditions in case of the purchaser's failure to perform his obligation?

150. If the previous question is answered in the affirmative, should such a right of the contractor be limited to:

(*a*) Fundamental breach of contract;

(*b*) Failure to take over the works;

(*c*) Failure to make payment to the contractor in accordance with the contract?

151. If the contractor is entitled to declare the contract avoided, should the principles applicable in respect of right of the purchaser to terminate the contract apply *mutatis mutandis* to such a right of the contractor?

152. What procedure is to be followed as to declaring the contract avoided?

153. Should the contract be terminated in some cases *ipso iure* and if so, under what conditions?

154. Would it be advisable to deal with consequences of termination of the contract?

155. If the previous question is answered in the affirmative, should such consequences be dealt with generally (e.g. to release parties from their obligations to return what has been performed) or in detail?

156. Would it be preferable to maintain the principle that termination of the contract does not affect any contractual provision for the settlement of disputes or any other provision of the contract governing the right and obligations of the parties consequent upon termination of the contract?

157. Should avoidance of the contract exclude the right to claim damages or should it affect the extent to which damages may be claimed?

XVIII. *Applicable law*

158. Should there be a provision concerning the applicable law?

159. If the previous question is answered in the affirmative and the applicable law is not chosen by the parties, should the applicable law be that:

(*a*) Of the country in which plant is to be erected;

(*b*) Of the country in which the contractor has his place of business (or his habitual residence);

(*c*) Of the country in which the purchaser has his place of business (or his habitual residence);

(*d*) Of the country where the contract was concluded; or

(*e*) Of another country?

160. If the local administrative regulations of the country in which the plant is to be erected or in which the purchaser has his place of business (or his habitual residence), are applicable, should the purchaser be obliged to inform the contractor of such rules?

161. If the previous question is answered in the affirmative, what are to be the legal consequences if the purchaser fails to perform his obligation?

162. If the contractor is obliged to comply with the applicable local administrative regulations amended after conclusion of the contract, who is to bear the higher costs?

2. Note by the Secretariat: clauses related to industrial co-operation (A/CN.9/WG.V/WP.5)*

1. The Commission, at its thirteenth session, agreed to accord priority to work related to contracts in the field of industrial development and requested the Secretary-General to carry out preparatory work in respect of contracts on the supply and construction of large industrial works and on industrial co-operation.[1]

2. The Secretariat was not in a position to deal with both subjects at the same time. All the resources available were concentrated on the study related to contracts for the supply and construction of large industrial works.[2]

3. This was, however, not the only reason for not complying with the request of the Commission. The main difficulty for the Secretariat was the fact that it has not a single contract on industrial co-operation in its

* 7 May 1981. Referred to in Report, para. 75 (part one, A, above).

[1] Report of the United Nations Commission on International Trade Law on the work of its thirteenth session, *Official Records of the General Assembly, Thirty-fifth session, Supplement No. 17* (A/35/17), para. 143 (Yearbook . . . 1980, part one, II, A).

[2] A/CN.9/WG.V/WP.4.