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LEGAL ASPECTS OF CONTRACTS FOR THE SUCCESSFUL CONSTRUCTION, OPERATION AND MAINTENANCE OF LARGE FERTILIZER AND CHEMICAL PROCESSING PLANTS* /

by

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* This paper was prepared for the Negotiations Section of UNIDO following the recommendation of the First Consultation Meeting on the Fertiliser Industry that this subject be examined in depth by UNIDO. It will be one of the background papers that will be submitted to a Working Group on Contracts and Insurance that will be convened by UNIDO prior to the Second Consultation Meeting.

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PREFACE

The Lima Declaration and Plan of Aotion, adopted in Maroh 1975, recommended that UNIDO establish a system of consultations at the global, regional and sectoral levels. UNIDO was also requested to provide a forum for the negotiation of agreements in the field of industry between developed and developing countries and among developing countries.

The First Consultation Meeting on the Fertilizer Industry was held on 17-21 January 1977 and was attended by representatives of Governments, industry, labour etc., from more than sixty countries. Paragraphs 37-39 of the Report of the Meeting (ID/WG.242/8/Rev.1) are particularly relevant to the subject of this paper. (Underlining has been added)

> 37. On the question of transfer of technology and purohase of equipment and servioes, the Consultation Meeting recognized that there were oocasions when fertilizer plants and specific items of equipment had not functioned adequately, and buyers had suffered high consequential losses. It was further noted that the protection given by penalty clauses in international contracts was inadequate protection against consequantial losses.
>
> 38. The Consultation Meeting examined the proposal made by UNIDO to investigate the possibility of setting up a multilateral insurance scheme covering consequential losses. The Meeting supported the intentions underlying the soheme but realized that praotical difficulties might arise in its implementation. It was felt that one of the best forms of insuranoe would be to select carefully reputed and experienoed contractors, adopt proven teohnologies and equipment, and ensure that contracts contained appropriate guarantee clauses. The Meeting suggested, however, that UNIDO should examine the practical aspects of such a scheme, which could be considered further.
>
> 39. There was general agreement that the work done by UNIDO on model oontracts would be of interest to many countries, particularly those in the early stages of development. However, because of the variety of local circumstances, legal systems, and economic and managerial capabilities, no single model would be universally applicable. Nevertheless, the Meeting suggested that UNIDO should continue its investigations into alternative forms of contracts and should suggest guidelines for the developing countries' use. A variety of contracts, including turn-key and semi-turn-key contracts, and oontracts for engineering servioes only, process know-how and some capital equipment could be considered at the same time.

The Consultation Meeting found that a number of topics required further examination and, if necessary, the establishment of Working Groups for the purpose. Topic 1 is described in paragraph 64 of the Report as follows:

> "Contract procedures intended to ensure the successful construction and operation of fertilizer plants and the suggested multilateral insurance scheme intended to ensure the protection of the interests of all parties concerned by providing, in particular, adequate compensation for consequential losses."

This paper has been prepared for the Working Group on this topic which will be convened by UNIDO early in 1978. The subject will be first considered at a Technical Seminar on Contracting Methods and Insurance Schemes for Fertilizer and Chemical Plants convened by UNIDO and the Pakistan Government in Lahore from 25-29 November 1977. Both the Working Group and the Technical Seminar will use this paper as a background paper.

Parts I and II of this paper present a description of the principal legal considerations essential to contracts for the establishment of large-scale fertilizer and chemical processing plants. It places particular emphasis on contractual safeguards, including agreed arbitration procedures, that are essential for the protection of the buyer and seller of plant, equipment and technology.

Part III of the paper presents a tentative proposal for establishing a multinational insurance scheme to cover consequential damages and losses.

SUMMARY

A written contract describes the essential general and technical features of an agreement between supplier and buyer of a fertilizer or chemical plant. The legal purpose of the contract is (a) to bind the two parties to their respective obligations; (b) to minimise any misunderstandings which may arise concerning their obligations; (c) to make the obligations legally enforceable; and (d) to define ways in which disputes are to be settled.

Part I of the paper (pages 7-19) considers current practice as regards the scope of documents used in international contracts and their contents. Part II of the paper (pages 20-53) identifies ways in which the interests of buyer and seller can be better protected. Noting that developing countries often lack the experience and legal expertise to draw up contracts that adequately protect their interests as buyers of plants, the author proposes that contracts for fertilizer and chemical plants built in developing countries can be improved by the following means:

- the drafting of model contracts for use by developing countries when negotiating lump-sum, cost-plus or other types of contracts;
- the inclusion of improved legal safeguards in the contract, particularly as regards performance, the rights of the buyer and the seller and the continuation of obligations during the initial period of operating the plant;
- the use of various types of Bonds as part of the contract to secure performance, technical guarantees and maintenance (e.g. the correction of faulty workmanship or materials and rectification of errors in design);
- improved arbitration procedures included in the contract to ensure quick and equitable consideration of the interests of both parties;
- the use of insurance to cover selected risks faced by (a) the seller when implementing the contract and (b) the buyer once the plant is commissioned and operating.

Model Contracts

Most model forms of contracts that have been prepared either for contracts drawn up by two partners within a developed country or by professional bodies in which the interests of the seller were strongly represented. New model forms of contract need to be prepared by UNIDO that take into account the interest of a buyer in a developing country.

The author suggests that from a legal point of view, two forms of model contract will need to be considered:

Design-build or turn-key contracts which are basically agreements with one party, the main contractor;

Management contracts which are agreements with one party to manage or control construction of the project. Such contracts may be supplemented by a construction consulting contract relating to design, planning, scheduling of the project.

For each type of contract, alternative methods of payment will have to be considered:

Lump-sum or unit price contracts in which the seller agrees to perform the full scope of work specified regardless of the cost of him;

Cost-plus contracts in which the seller agrees to perform work with payments drawn on the basis of actual costs plus a fee for the seller which may be calculated in various ways.

For some typical fertilizer or chemical plants, the technical specifications will have to be carefully defined.

The buyer may also require a maintenance agreement (for the post-commissioning phase) or he may have a joint-venture agreement with a foreign partner. If the buyer has an agreement with consultants to advise him on construction and/or operation, their responsibilities must be clearly defined in a contract. Models could also be developed by UNIDO for these types of contracts.

Improved Legal Safeguards

The aspects of performance that need comprehensive coverage in the contract are identified on pages 34 and 35. Legal stipulations should be included requiring rectification of defective design, corrective engineering, and replacement of equipment under design warranty.

In addition, the contract may provide for the payment of liquidated damages of between 3 per cent and 22 per cent of the contract price, penalties for late supply up to 8 per cent of the contract price, other penalties and levies and a specified question of assessed damages for failure of design warranty.

The need for legal safeguards relating to training of personnel by the contractor and supply of spares are also considered (page 41)

Performance bonds and other types of bond

The paper recommends that the buyer include a performance bond as an integral part of the contract. Then if the seller defaults in his obligations, the bonding company is required to pay the buyer financial compensation under the terms of the bond and later recover reimbursement from the seller.

The use of bonds helps the buyer in a developing country to ensure that the contractual obligations to which the seller agrees are commensurate with his financial capabilities, professional competence and reputation for diligent work. The paper lists eight different types of bond that may be used to cover plant construction and technology, etc. (page 52).

For the post-commissioning phase, a maintenance guarantee bond for between 50 per cent and 100 per cent of the contract price is suggested (page 53) to protect the plant owner in cases where the contractor fails to correct faulty workmanship, material or design. The bond would cover specified period of time (minimum two years) after completion of the project.

Improved arbitration procedures

The paper recognises that improved arbitration procedures are needed to reinforce steps taken to improve the scope and content of contract documents, stronger contractual legal safeguards and the inclusion of performance and other bonds in the contract.

Based on experience in the period 1967-1977 of arbitration on contracts for projects built in developing countries, the author identifies some of the major problems that have been faced (page 44) and the points on which the treatment and methodology used in current arbitration practice needs to be changed (page 45) if it is to be equitable to both parties. The paper lists some of the bodies in which arbitration on international contracts is handled at present. The author believes that these bodies do not always cater adequately to the needs of developing countries and that, therefore, new arbitration methods and procedures need to be developed for industrial contracts with common ground of legal acceptance. UNIDO could provide the forum for developing them. They must take into account the different national cultural traditions and legal systems if they are to be equitable to all parties, including the developing countries.

The scope of a multilateral insurance scheme to cover consequential loss

Part III of the paper (pages 54 - 68) provides a preliminary description of a multilateral insurance scheme to cover consequential damages or losses arising from inadequate performance of the plant or failure of the plant to operate.

Based on experience over the last ten years, the author says such a scheme is need to cover cases where inadequate performance occurs during construction of the plant and/or its initial period of operation after commissioning. Penalties usually included in a contract cannot compensate the plant owner for the large sums involved in consequential losses; and insurance cover which the buyer and seller may have taken out to cover such losses would provide inadequate compensation under present conditions.

The multilateral insurance scheme would cover only the damage and losses which the buyer has not been able to recover through the remedial provisions in the contract and insurance policies. In other words, it would provide cover for losses, including consequential losses, which cannot be covered by contract provisions and existing forms of insurance.

The insurance would be written as a principal extension of currently available insurance schemes designed to cover the plant owner against damages sustained and loss of profits (consequential losses) arising from certain defined perils such as fire, explosion, machinery breakdown, etc. It would cover damages and consequential losses incurred as a result of the failure of the plant to operate or inadequate performance of the plant during the two-to-three year period after final acceptance of commissioning of the plant.

It is for consideration whether the insurance against consequential loss arising from inadequate performance or non-performance of the plant could be provided by (a) insurance companies in the developing country concerned, (b) insurance companies in the developed countries concerned, and (c) the export credit insurance agency of the Government of the developed country concerned.

It is also for consideration whether the insurance premium should be paid by the seller and/or his export credit insurance agency. The buyer of the plant might also contribute to the cost of the premium up to a maximum of 20 per cent of the total cost.

The author outlines some other essential features of the multilateral insurance scheme including a definition of the insurance cover, consideration of how premiums should be calculated and certain aspects of administering the scheme such as assessing risks, claims settlement and the relation of insurance cover to the buyer's and seller's contractual obligations.

He recommends that UNIDO undertake the extensive discussions and investigations needed to develop a detailed framework for its practical implementation.

INTRODUCTION

The Legal Purpose of Contracts

The legal purpose of written contracts is to ensure that the many essential, general and technical features that are intrinsic to the supply, construction, erection and maintenance of a plant are clearly enunciated and described in written form. By this means, all the parties concerned with the contract will be in possession of the same data and all future interpretations accorded to the contract would be based upon the common given information.

The legal purpose of contracts, therefore, is to bind the parties to the mutuality of obligations in written and/or graphic form so as to minimise misunderstandings and to depend as little as possible upon oral commitments and/or implied behaviour. A further critical reason is that certain types of contract must be evidenced in writing in order to render them legally enforceable in terms of determining the liabilities and obligations of one party to the other. This may also have a significant bearing in connection with the jurisdiction exercised by the local courts in which the legal rights are invoked. Finally, although each of the parties to a contract (whether in the capacity of Owner or Supplier or Engineer or Contractor) are fully cognizant of their traditional obligations and trade-disciplines, it has been proven historically and by judicial precedent that contract papers and documentation should delineate exhaustively all the crucial provisions that may possibly prove important for the protection of each one of them.

Definition of Terms Used

In order to permit ease of definition of the various parties within the scheme of contractual relationships, the nomenclature used hereafter shall assume definition as follows:

The expression the "Buyer" shall be used interchangeably with the words "Owner" and/or "Purchaser", as the meaning deems appropriate in the circumstances.

The expression "Seller" shall be used interchangeably with the words "Supplier" of Plant/Equipment" and/or "Engineer" or "Contractor", as may be self-evident by definition or implication.

PART I: Current Legal Practices in International Contracts

A. The Scope of Contract Documents

1. The scope of contract documents for competitive bidding in international contracts for both public and private sector work, requires completion of various plans and specifications prior to bidding. The contract consists of general documents which collectively form one contract. The documents are entitled:

1. Invitation to Bid or Tender
2. Instructions to Bidders or Tenderers
3. Contractor's Proposal or Bid
4. The Agreement executed by the parties covering all documents
5. The Performance Bonds, Insurance and Financial Arrangements
6. General and Special Conditions of the Contract
7. Specifications - General and Special Technical Requirements
8. Plans and Drawings

2. The first three categories of these documents are necessary to all contracts to be awarded on the basis of competitive bidding. The documents constituting categories three to eight, respectively, are essential to the contract itself.

3. The announcement by the Purchaser or Owner requesting the submission of bids (or tenders) is not usually an "offer" by the Owner which can be "accepted" by a Seller or Contractor. Rather, it is an "invitation to treat" or an "invitation to tender". The object of the invitation is to obtain firm offers to perform the work at a specific price

or on a specified basis. The Owner is under no obligation to accept any one of the offers received.

In addition to the drawings and specifications for the work, the Owner would necessarily provide in the "Instructions to Bidders" certain instructions such as: Date and manner of submission of tenders; the obligation, if any, of the tenderers to examine the job site; and such other particulars necessary for the bidder to prepare its price. In order to ensure that the "offer" or tender submitted to the Owner is in such a form that it can be "accepted" (thereby creating a binding legal contract for the work), the form of the tender is usually provided by the Owner. The form will specify that the tenderer offers to supply the plant and/or equipment, perform the work and fulfill all necessary obligations within specified times, at a fixed price, or, on a fixed basis for payment; and, that the work will be performed in accordance with the drawings, specifications and other contract documents detailed in the tender. The tender will normally be required to be under seal and would necessarily provide that the tenderer, if notified by the Owner of the acceptance of his tender within a specified time, will enter into a written contract under seal with the Owner in a form set out in the contract documents or otherwise identified.

Bid Bonds

When an Owner calls for tenders, it is accepted international practice to require all tenderers to obtain and submit with their tender a bid bond. Under the terms of the bid bond, the surety or bonding company guarantees that, if the tender is accepted by the Owner, the tenderer shall execute a contract in the form required. Also, that the tenderer shall provide the specified security to guarantee performance of the contract by way of a Performance Bond (see below). If the tenderer, for no proper reason, refuses to execute the contract or commits an anticipatory breach in that he indicates that he will not perform the work, then the Owner, if it has sustained a loss, may call upon the bonding company for payment of that loss. The penalty assessed will be the lesser of: The difference between the defaulting Contractor's bid and the price for which the Owner legally contracts with another person to perform the work, or, the penalty of the bid-bond. The bid bond is not in force until the tender is accepted.

6. Law and international trade practice may allow the Contractor to withdraw his tender prior to its acceptance. It is good practice to obtain the consents of the surety (in addition to the acceptance of Bid Bond) especially in international technology contracts .

7. The Owner would also require bonds covering performance and other matters to be included as an integral part of the contract.

Performance Bonds

8. The performance bond is issued after the contract is executed. This bond (when drafted well) would guarantee that the Contractor would faithfully complete the contract in accordance with the scope of supply, plans and specifications and at the agreed price. Upon such compliance the bond would become null and void. However, if the Contractor should fail to meet any of the specified requirements or comply with his expressed obligations, then the performance bond would come into effect and the bond is in default.

Supply Bonds

9. Supply bonds are similar to Performance Bonds, except that supply bonds cover contracts for the supply of plant/material, equipment, machinery and goods at a specified time and place. However, the supply bond would not cover contractual installation work, but is important nonetheless.

10. Labour and Material Payment Bonds (Payment Bonds)

Labour and Material Payment Bonds should be used in conjunction with Performance Bonds and are somewhat more complex than the latter. The potential legal problem here is that the labour and material payment bond is a guarantee to the Owner from the principal Supplier or Contractor, but the subcontractor(s) are not party to the bond and therefore are precluded from suing on that contract or on the bond. This is because there would be no privity of contract between

the subcontractor(s) and the Owner. In order to get around this problem certain legal jurisdictions allow all the claimants to sue in the Owner's name, who would then be placed in the position of a trustee. In certain foreign jurisdictions such direct litigation is allowed despite the lack of privity between the parties involved.

General and Special Conditions of the Contract

11. The General Conditions of the Contract set forth the principal business, legal and financial terms of the relationship between the Purchaser or Owner and the Supplier or Contractor and these together with the terms that are applicable to downstream subcontracts are discussed in detail below. General and Special Conditions may sometimes be referred to as Commercial Conditions in Supply Contracts.

12. The Special Conditions or Supplementary General Conditions relate the General Conditions to the ad hoc aspects of the particular plant or installation, and thereby establish the conditions specific to the job required to be performed; these conditions would enunciate the specific terms to meet the peculiarities that might be encountered in certain circumstances.

13. Under current international practices, Owners, Suppliers, Engineers, and Contractors utilize various forms of general and special conditions (or commercial terms), and varying tender instruction form(s) and other documents which are

capable of being incorporated into the scheme of the contractual documents. This has often resulted in confusion and costly problems for all parties concerned. Accordingly, particular care should be taken in every case to determine, first what documents have been incorporated by reference into the contract, and secondly, to determine whether or not there is any conflict in these provisions, and, if there is, whether the contract specifies which documents govern in the event of a conflict.

14. Some of the model forms of contracts in current use are listed at Annex A. They cover the General and Special Conditions of the Contract and forms for ancillary documents referred to in paragraph 1 above.

B. The Contractual Safeguards for the Protection of Both Parties (including Subcontracts)

15. In general there will be ten types of subject matter which should be covered in the contract in the following order:

1. A statement of the intent of the contract documents and the relation of the individual documents to the whole group.

2. Definitions of special words used and of any ordinary words which are used in a special sense. The complete wording is given for any words or phrases for which abbreviations are used in the documents.

3. A listing and defining of the rights reserved by or assigned to the Purchaser, Owner, Supplier, Engineer, Architect, and Contractor.

4. Enumeration of performance guarantees, liquidated damages, penalties, bonus-incentives, plant capacity, rate and quality of production.

5. A listing and defining of the responsibilities assigned to the Purchaser, Owner, Engineer, Architect, and Contractor.

6. A listing and defining of the authority assigned to the Purchaser, Owner, Supplier, Engineer, Architect, and Contractor.

7. The requirements as to bonds, insurance, and other financial securities and protection which are required by the Owner.

8. The required measures which must be taken for the protection of property and the general public (e.g. local laws, site safeguards, plant & equipment protection, public and civil obligations).

9. The setting forth of the legal arrangements and procedures which should be known by all parties (e.g. passing of title, risk, suspension, termination, cancellation, force majeure etc.).

10. The setting forth of the business arrangements and procedures which should be known by all parties (e.g. project financing, leaseback and consortia/ syndicate banking arrangements).

16. The General and Special Conditions for the Supply and Construction Section would be divided into the following ten categories; and the Article headings showing subject-matter are enumerated below:

A. Intent of the contract documents

B. Definitions

C. Bond requirements and financial protection:

1. Contract security (guarantee bond/performance bond/ indemnity bond etc.)
2. Contractor's insurance
3. Owner's insurance
4. Fire insurance
5. Unemployment compensation and social insurance
6. Patent and royalties
7. Payment for permits
8. Damages
9. Liens
10. Indemnifications.

D. Plant criteria and guarantees:

1. Plant capability
2. Production quality
3. Efficiency ratios
4. Performance warranties
5. Output and rate of production
6. Performance bonds
7. Production loss penalties
8. Guarantee securities

E. Reports and payments:

1. Construction reports
2. Partial payments
3. Application for payment
4. Certificates of payments due
5. Owner's right to withhold payments
6. Deductions for uncorrected work
7. Correction of work after final payment
8. Definition of notice
9. Extra, additional, or omitted work payments
10. Claims for furnishing labour and materials
11. Integration of all obligations into one payment
12. Final payment

F. Modifications of contractual relations:

1. Owner's right to terminate contract (or Buyer's right)
2. Contractor's right to terminate contract(or Seller's right)
3. Violation of contract provisions
4. Assignment of contract
5. Subcontracting
6. Owner's right to do work
7. Other contracts
8. Work under protest
9. Arbitration

G. Business details:

1. Drawings
2. Shop drawings
3. Ownership of drawing and models
4. Co-ordination of contract documents
5. Operating instructions
6. Samples
7. Materials and workmanship

8. "Or equal" classes
9. Surveys, lines and grades
10. Mutual responsibilities of contractors
11. Relations of contractors & subcontractors
12. Real estate and rights of way

H. Conduct of work:

1. Inspection and testing of materials
2. Inspection of the work
3. Removal of condemned material and work
4. Superintendence
5. Engineer's status
6. Architect's status
7. Company co-ordinator
8. Decisions of the engineer
9. Temporary offices
10. Job accounting
11. Mutual co-operation of contractors
12. Control of methods and procedures
13. Order of doing work
14. Accident prevention
15. Protection of work and property
16. Emergency work
17. Temporary heat
18. Use of job site
19. Use of liquor on site
20. Good housekeeping
21. Storage of construction materials
22. Sanitary conditions
23. Drinking water
24. Sewage disposal

I. Extension and Completion:

1. Delays
2. Extension of time of completion
3. Testing for operation
4. Cleaning up
5. Final inspection

J. Reliability and acceptance tests and plant commissioning:

1. Implementation of acceptance program
2. Provisional acceptance
3. Reliability tests
4. Final acceptance
5. Plant commissioning

17. Provisions may also be negotiated for the conditions of a Maintenance Agreement so as to guarantee the performance of the plant by a consolidated support and technical personnel group. Such a Maintenance arrangement should be secured by a bond to protect the Buyers' investment in the plant system/ technology, following Commissioning and Acceptance. (See C(ii) below re Maintenance Guarantee Bonds).

C. Provisions for the Settlement of Disputes; Including the Appointment of Arbitration Tribunals

18. Provisions for the settlement of disputes and/or arbitral provisions may either be incorporated by way of general clauses which would apply to any dispute arising in connection with the agreement, or by way of provisions particularly defining disputes and setting procedural ground rules. In lieu, an ad hoc supplementary agreement could also be made between the parties to resolve specific disputes that may occur, as and when circumstances require.

19. In any one of these cases, the jurisdiction of the arbitrator(s) would arise exclusively from the agreement of the parties, and is limited to matters properly comprised in the submission to arbitration. Any award outside the scope of such a submission would be made in excess of jurisdiction, and may be set aside by the courts.

20. The arbitration clause(s) may provide for a single arbitrator, or a panel of arbitrators, or require each party to the dispute to appoint its own arbitrator and provide for the appointment of an umpire by the two arbitrators so nominated. In joint venture contracts more than two arbitrators are usually necessary. The clause may also contain provisions as to what procedure will apply if either party fails to appoint its arbitrator, or if they are unable to agree on a single arbitrator.

21. There are established international bodies which purport to specialise in arbitration matters and their exercise of jurisdiction is regulated by published rules. Such international organisations are, to name a few, the International Chamber of Commerce Court of Arbitration, UNCITRAL Arbitration Rules, Commercial Arbitration of the American Arbitration Association, Industrial Centre for Investment Disputes, and several other bodies that serve regional areas rendered expedient by considerations of geography, politics and economics.

22. However, in discussing arbitration from the strict legal point of view, it should be clear that there are no specific requirements for any procedure(s) to be followed by arbitrators in determining a dispute referred to them except where specific terms of reference or rules have been determined in advance. They are required to act in accordance with the principles of natural justice and should not exceed the jurisdiction

conferred on them by the terms of submission, and must decide the dispute in accordance with the principles of Arbitration, Equity and Law. If these fundamental requirements are ignored an award may be set aside by the courts. As far as practicable, an arbitration proceeding may require written briefs and/or oral representations by or on behalf of the parties depending upon the complexity of the case. However, an arbitration panel cannot refuse to hear or consider relevant evidence, and may even receive evidence in the absence of a party or parties if circumstances justify that necessity.

23. Provisions for the settlement of disputes and appointment of arbitration tribunals in a contract need not specify qualifications for arbitrators in terms of their professional credentials. It is not unusual to appoint someone with an engineering or architectural qualification. The arbitrator need not necessarily be a lawyer, unless he is well experienced in international contracts work and/or specialised in a particular technological discipline and the laws pertaining to it.

24. Once an award has been made by the panel of arbitrators, the functions of the arbitrators are then exhausted and they cannot thereafter add to or subtract from their award.

25. Most common law jurisdictions provide that a final award of an arbitration proceeding can be enforced by the court if the

party against whom it has been made fails to comply with the terms of the award. Such enforcement may be implemented by the issue of execution which is a procedure known in law.[1)]

26. In the context of propriety and acceptance of conventional arbitration procedures in connection with disputes arising out of international technology contracts with developing countries, much needs to be discussed. Several problems stem from the fact that most of the known internationally recognized panels of arbitration are not sufficiently geared to hear and determine contractual issues between Sellers and Buyers (especially in developing countries) of technology, with the result that the decisions rendered are not completely equitable to either of the parties to the dispute.

D. Types of Insurance Coverages Used in International Projects

27. Insurance is a method of dealing with the risk of financial loss. It is used as a means of avoiding losses that the Contractor's, Seller's or Engineer's financial resources are not capable of absorbing readily.

28. In general terms, an insurance contract constitutes of an agreement whereby the insurer indemnifies the party insured (for a specified consideration) against financial loss

1) Suggested improvements to present arbitration procedures are discussed on pages 42-53 inclusive.

from the particular peril described in the policy, and to compensate the insured party or his nominee with an agreed or ascertainable sum of money or its equivalent, upon the occurrence of the unexpected event against which the insurance was taken.

29. There are two principal aspects to the application of insurance coverages in international projects. Firstly, there is the overall program that would apply year-round which is maintained as a matter of business necessity, in keeping with the entrepreneurial nature of the company or organisation engaged in the business of international technology work. Secondly, there are the specific insurance requirements arising out of the terms laid down in the contract document(s) that may necessitate changes in the overall program, or, which may involve additional coverages to be implemented on an ad hoc basis, specific to the project concerned.

30. In discussing types of insurance coverages used in international projects, the second principal aspect referred to above is the relevant one. A discussion of insurance coverages applicable to Supply/Engineering/Construction/Erection etc. of Plant and Technology is as complex as the different types of contractors and suppliers that may be involved.

31. Whenever the contract specifications require, the Supplier or Contractor is required to effect the principal coverages which are necessary and usual to conventional project-insurance.

The proper "types" of insurance would then have to be purchased in the broadest form of coverages available with adequate limits.

32. The following insurance coverages are required for international projects for the joint protection of the owner and seller and are stated on a maximum coverage basis:

1. "All Risks" Course of Construction Floater, that is, Project/Builder's Risk Insurance. This is to insure the project under construction, including all plant, equipment and materials to be used incidental thereto, while at the site, and in transit from start of the Work until final acceptance by the Owner/Purchaser.

   The insurance would normally be in the name of Purchaser or Owner, and Suppliers or Contractors and Subcontractors and all other having an insurable interest in the project, with breach of conditions and waiver of subrogation clauses.

   This would also include, either separately or under the same policy if obtainable, coverage on Boiler & Machinery, while being tested and while being operated during construction of the project.

2. Cargo Insurance on the Export of Goods; here, the Contractor would take out Marine Cargo Insurance on a worldwide basis, on a broad form of cover, including war and strikes, on all shipments to and from the project site.

3. Comprehensive General Liability, which should normally be on a "Wrap-Up" Basis, to protect all parties having an interest in the project as insureds under the policy, including the Purchaser or Owner, Supplier or Contractor, Subcontractors, the Engineers, the Architects and all others having a liability exposure.

   The Comprehensive General Liability Insurance should include coverage for:

   (a) Products or Completed Operations Liability (for an extended period if required).
   (b) Premises and Operations Liability (including Property Damage on an occurrence basis).

(c) Blanket Contractual Liability.
(d) Cross Liability.
(e) Contingent Employers Liability.
(f) Bodily Injury and Personal Injury Liability (including personal injury liability arising out of false arrest, detention, imprisonment, malicious prosecution; invasion of privacy, wrongful eviction or wrongful entry).
(g) Coverage for Unnamed Insureds (e.g. engineering consultants of the Owner etc.).
(h) Elevator and Hoist Liability.
(i) Shoring, Blasting, Excavating, Underpinning, Demolition, Pile-Driving and Caisson Work, work below ground surface, Tunnelling and Grading, as applicable.
(j) Coverages for various employees as additional insureds.

4. Other liability exposures on automobiles, aircraft, vessels, tugs and barges owned and/or operated by the Contractor would require to be insured separately.

5. Professional Liability should also be carried to protect the owner if the seller is involved in engineering and/or architectural design or supervision or project management.

6. Liability for payment of Workmen's Compensation benefits as required under appropriate local legislation.

7. Liabilities for Nuclear Energy or Atomic Installations relative to specified risks.

33. In many circumstances the Supplier and/or Contractor may be required to purchase insurance in the Buyer's country, or the Buyer may undertake to supply certain defined coverages pursuant to the specifications. It may also be that the Supplier and/or Contractor should have to be insured with companies licensed in the host country where the project is located, which companies may also be state-owned. In these circumstances, the Supplier and/or Contractor should follow certain procedures

to complement his own insurance liability coverages in the form of supplementary coverages to apply on the project. Such additional coverages would include, for example, Umbrella Liability which would not only provide excess coverage to substantial limits, over and above the primary liability coverages, but which would, at the same time, provide coverage on exposures uninsured in the primary policy.

34. The foregoing exhaustive types of coverages for liabilities should normally be maintained continuously until well after the date when a certificate of Total Performance is issued. These insurances should provide for the Buyer to take occupancy of the Work or any part thereof during the term of such insurances.

35. It is accepted practice for the Contractor/Supplier to provide the Owner with evidence of all insurance coverages (upon request) prior to commencement of the Work, and to promptly provide the Owner with certified true copes of each insurance policy.

PART II. Legal Means and Methods by which Current Contract Practices can be Improved for the Benefit of Both Parties

A. The Need for Model Forms of Contracts, their Scope and Ways to Prepare Them

36. Like many other types of contracts, those for construction and operation of fertilizer plants may be written in any one of many different forms, varying from a basic "offer and acceptance" to lengthy legal documents setting forth all of the details and technicalities of the work. However, standardization of practice is desirable in the interests of preparing sound contracts and satisfactory completion of the project. To a marginal degree this has been accomplished by professional societies, international trade organisations and even by various government agencies in the developed countries.[1] As a result of the research and studies conducted by these organizations, the general form and content of several types of contracts have often been adapted for use by technological and industrial businesses in conducting their work in developing countries.

37. However, no current model forms of contracts exist which may be readily used with any degree of satisfaction by the developing countries for the construction, operation and maintenance of fertilizer and chemical processing plants. This is because certain fundamental legal and contractual

1) Some model forms of contract that have been developed are listed in Annex A to this paper.

safeguards for the protection of the Purchaser or Buyer have not been devised in standardized form using (for example) the basis of criteria set forth in Part II B below. Accordingly, developing countries have continued to lack the specialist resources and expertise normally available to the developed nations, and during the crucial stages of negotiations of commercial, contractual and legal provisions for contracts, gaps are often created to the detriment of the Buyer or Purchaser.

38. The development of balanced and acceptable model forms of contract to be utilised for the construction and operation of fertilizer plants is therefore of urgent necessity. In due course, such form(s) will find a high level of acceptance by Supplier and Purchaser alike. By repeated use, such forms would become well understood in general by all the contractual parties, and, therefore, are likely to be less problematic. Furthermore, standardized clauses in model forms of contract prove their own worth and usefulness through being tested in courts and their legal implications become even more well-established and understood.

39. Another important reason for the development of new and improved model forms of contracts is that despite the ingenuity of lawyers and engineers and others, original composition of a contract on an ad hoc basis for each new project

increases the risk of misinterpretation. Conditions may inadvertantly be established which are capable of more than one meaning and may be subjected to an interpretation by a court or arbitration panel, which could not be anticipated when the contract was drawn.

40. The scope and manner of preparing model forms of contracts for the construction and operation of fertilizer/chemical plants would involve coming to grips with the various principal categories of contractual and construction concepts. Construction techniques and terminology advance with the times and it is important that Purchasers and Buyers planning future facilities as well as Sellers and Contractors in the business of technology transfer tread a common path to identify norms that should be followed in definitising the scope and means of model forms of contracts.

41. The model forms of contracts recommended herein would have to embrace the following three principal categories of concepts: The General, Management, and Design-Build, each with complex Variations.

42. The General or Lump-Sum form of contract constitutes an agreement to perform the full scope of the work specified for one fixed price, regardless of the final cost to the Contractor, Supplier or Engineer.

43. The Management Contract may embrace such terms as Construction Consulting, Construction, and Project Management.

A managed contract in effect implies that one of the parties involved will de facto manage or control the construction. Project Management is defined to mean the provision of comprehensive management services to cover all aspects of the total project.

45. Construction Management can best be described as the comprehensive management of all aspects of construction, throughout the construction phases. Construction Consulting normally relates to the design phase with input and information on planning, scheduling, materials, costs and marketing conditions.

46. Design-Build or Turn-Key Contracts are basically agreements with one party, generally the prime Contractor or Supplier, who provides the total design and construction of the complete installation as a unit or system. These types of contracts straddle the range from the Owner's original description to the handover or final completion of the project.

46. Cost-Plus Contracts are variations of the foregoing types of contracts, and more clearly related to management-type contracts. Cost-Plus Contracts are agreements to undertake and perform work with payments drawn on the basis of actual costs plus a percentage or fixed fee for the Contractor. Guaranteed Maximum or Upset Price Contracts are similar to Cost-Plus, but the Contractor goes further by guaranteeing that the agreed maximum price or ceiling will not be exceeded.

The costs sustained above the agreed maximum price are generally borne by the Contractor/Supplier while costs below the stated price may be shared.

17. In discussing the scope and ways of preparing model forms of contracts, it is necessary to appreciate the nomenclature utilized for various types of contracts in different types of projects, and they may be classified as follows:

1. Competitive-Bid Contracts
   - (i) Lump-Sum
   - (ii) Unit-Price

2. Negotiated-Type Contracts
   - (i) Lump-Sum & Unit-Price Contracts
   - (ii) Cost-Plus-Percentage of Cost Contracts
   - (iii) Cost-Plus-Fixed Fee Contracts
   - (iv) Cost-Plus-Fixed Fee (Contract) with a Profit-Sharing Clause
   - (v) Cost-Plus-Fixed Fee Contract with a Bonus Clause (Incentive Type)
   - (vi) Cost-Plus-Contract plus a Sliding Scale of Fees
   - (vii) Cost-Plus Contract with a Guaranteed Ceiling Price
   - (viii) Management Contracts
   - (ix) Architect/Engineer Project Management Contracts
   - (x) Combined Engineering and Construction Contracts
   - (xi) Joint Venture Contracts
   - (xii) Equipment-Rental Contracts (Construction) with or without Acceptance Clause
   - (xiii) Time and Material Contracts

3. Government-Type Contracts
   - (i) Fixed Price Contracts
   - (ii) Fixed Price Redeterminable (ASPR and R&D use) Contracts
   - (iii) Target Price Contracts
   - (iv) Cost-Plus Incentive Contracts
   - (v) Cost & Cost-Sharing Contracts
   - (vi) Time and Material Contracts

48. Competitive-Bid Contractors are of two common types, namely, the Lump-Sum form and the Unit-Price form.

49. The Lump-Sum form provides for the compensation of the Contractor/Supplier on the basis of a total amount to cover all work and services required by the plans and specifications. This form of contract should be utilised when the types of construction are largely standardised and when a variety of operations is required, making it impracticable to break down the work into units.

50. The Unit-Price Contract includes a break-down estimate of the number of units of each type of construction and a price for each unit, and provisions should be made for payment to the Contractor on the basis of actual quantities, at the unit prices specified in the contract. The Unit-Price contract is called for where the work requires large quantities of relatively few types of construction and the volume or limits of work cannot be exactly determined in advance. This form of contract is elastic in that reasonable variations may be made in the amount of work to be done without formal change orders, as long as the changes are restricted to the bid items covered by the contract. The plans and specifications must be complete in that they must exemplify the nature and details of the work, but its limits may be left more or less indefinite, as the magnitude and scope of the work would be guided by the Engineer's or

Purchaser's estimate. It should be borne in mind that the Engineer's estimate must be reasonably accurate for a unit-price contract.

51. Negotiated-Type Contracts, in contrast to the above, are contracts awarded to selected Contractors or Suppliers after an appraisal of their qualifications, previous experience and facilities. The fact that a contract is negotiated has little bearing on its form. By implication, lump-sum and unit-price contracts may also be negotiated as readily as any other type designed particularly for the purpose.

52. In general, however, negotiated-type contracts are based on the premise that the Purchaser or Client will pay the actual cost of the work plus certain compensations for the services, facilities, and technical knowledge of the Supplier or Contractor. It is only in relation to the payment of the Contractor's or Supplier's compensation, that the various types of cost-plus contracts (referred to above) differ materially.

53. The varying types of provisions which would necessarily be selected to sustain the Purchaser's or Owner's advantage in terms of utilising one or other of the forms of contract described above, are complex and require expert legal advice. Further details as to the individual scope and manner of preparation of the specialized clauses in the context and development of model forms of contracts might be developed by UNIDO.

54. Finally, the discussion on the need for model forms of contracts requires a brief reference to the types of Technical Specifications that are essentially appurtenant to such contracts, in terms of their scope and content, to enable proper preparation. The three general types of Technical Specifications are Performance, Design and Construction Specifications. Each is crucial within the scheme of the contractual format requirements. Performance Specifications comprise of the end-product without providing details of the manner in which the requirements will be achieved. Design specifications should describe exactly how the requirements must be met in accordance with appropriate criteria. Construction specifications should provide the detailed requirements for the materials and methods (including legal aspects) required for the actual manufacture, building or erection of the plant, structure/installation or other device covered by the contract. The Construction specifications for a large plant may include major subdivisions for structural, electrical, mechanical and architectural work.

55. Joint Ventures (in the context of international contracts) are formed where a number of firms or individuals undertake the fulfillment of a common objective on the basis of a clearly defined joint-venture agreement. Such an arrangement is, in essence, a partnership for a defined purpose and specified duration. The joint venture partnership is entered

into as a matter of expediency for the purpose of completing a particular project where joint resources and co-ordinated expertise are required and their legal responsibilities are both joint and several vis-a-vis the Client with whom the joint venture has contracted. Profits and liabilities are shared and the joint venture (as in the case of a partnership) is treated as one entity, and automatically comes to an end when the job is completed. Joint Venture agreements should not be confused with Joint-Expertise Agreements or Agreements for Collaboration.

56. The complex nature of technology integration through the Purchase of Plant and Equipment from two or more Suppliers, necessitates the development of a model Joint Venture Agreement form for use by developing countries. The obligations of joint venturers may cease contingent upon certain circumstances, and the Buyer's rights to the protection of his investment in the Plant and Technology should be safeguarded.

57. Joint Venture agreements are also recommended where the investment of foreign capital on an equity basis is undertaken,

58. The subject of Consultancy Agreements whereby packaged technical services are hired by developing countries from experts in developed countries require careful scrutiny.

Often Consultants under these types of agreements graduate into engineering advisors for large plant projects without assuming the real contract responsibilities owing by virtue of vague functional engineering obligations expressed in these Consultancy Agreements. Legal advice is required to determine the total responsibilities incurred by Engineering Consultants in terms of the spectrum of engineering services that are due under the contract. The form of Consultancy Agreements could be examined by UNIDO.

Likewise, the subject of Maintenance Agreements (for the post-commissioning phase) and the fulfillment of Maintenance Guarantee Requirements to apply to large fertilizer and chemical processing plants is expected to be

B. The Development of Improved Legal Safeguards to Protect the Interests of the Parties to a Contract.

60. The development of contractual safeguards that may be used in international contracts to reduce the negative impact of failures and losses (due to inadequate contractual protection) in the interests of all the parties to a contract, may be summarised only very briefly in view of the complex details and legal ramifications involved for a detailed analysis.

61. The Owner and/or Purchaser of plant equipment, machinery or technology should endeavour to guard against the inherent dangers of poorly safeguarded contracts through proper legal protection in anticipation of unforeseen and detrimental developments during the progress of a contract. Briefly, the following areas, among others, deserve attention and legal provisions should be properly incorporated specifying appropriate guarantees together with a statement of punitive sanctions that would prevail against the Supplier/Seller/ Contractor for breach.

62. <u>The following aspects of performance are recommended for comprehensive coverage</u>:

1. Failure of the Plant or Installation to fulfill Performance Guarantees, principally:
   - (i) Plant output and production rate including production loss.
   - (ii) Efficiencies ratio and rated capacity.
   - (iii) Quality control and product content.
   - (iv) Ad hoc designated specification criteria.
2. Breakdown of plant and equipment due to poor quality assurance in fabrication, including causes for breakdown related to deviation from specifications.
3. Latent design defects ascertained in the Plant or System.
4. Breach of warranties, (including design) for principal components, and/or poor performance of replaced parts, equipment or spare parts.
5. Defective specifications criteria resulting in malfunction of plant and breakdown of equipment.

6. Equipment failure or non-performance of sub-contract equipment components.

63. Legal provisions should also be developed to sustain the Buyer's or Purchaser's rights in connection with the following:

1. Failure of the plant or installation to satisfy express reliability test criteria.

2. Failure of the plant during provisional acceptance tests and thereby causing schedule extension.

3. Delay or default in preparation and submission of proper operational manuals.

4. Delay or failure in the arrival of integral replacement parts, commissioning spares etc.

5. Delay in scheduled delivery date.

6. Failure of equipment or non-performance of subcontract equipment components recommended by the Sellar or Contractor.

7. Failure in the passing of final acceptance tests.

8. Failure to complete guaranteed training program, supply qualified manpower for commissioning and takeover of plant.

9. Failure to sustain over guaranteed period of maintenance, and also the application of performance guarantees during this period subject to operator negligence (Defects Liability Period).

10. Delay in commencement of commercial operations dates.

64. The following remedies are also available to the Buyer or Purchaser and the contractual terms and legal provisions should be drafted incorporating the following as may be appropriate:

Legal Remedies

1. (i) Payment of liquidated damages based on weekly or monthly time frame from minimum of three percent to maximum of twenty-two percent of the contract price.

(ii) Imposition of penalties for failure to conform with specifications criteria e.g. output/rates, efficiency ratio/capacity etc., of between eight and twenty percent of the contract price.

(iii) Levy of charges for schedule delay, impacting on commercial operations (to a maximum of ten percent of the contract price).

(iv) Application of escalated fines for late supply to a maximum of eight percent. Non-accrual.

(v) A specified quantum of assessed damages for failure of design warranty.

2. Legal Stipulations requiring one or other of the following:

(i) Corrective engineering for defective plant, equipment or machinery.

(ii) Rectification of defective design through redesign and refabrication.

(iii) Reconstruct or rebuild to original specifications.

(iv) Redesign new configurations etc. to supplant engineering errors in specifications due to negligence.

(v) Replace and refurbish under design warranty.

65. The Owner or Purchaser is also encouraged to establish a scheme of payments commensurate with the progressive amount of work done by the Contractor or Seller, and avoid any agreement to the payment of large sums in advance of the work. The element of time is of critical importance in plant

construction contracts especially due to inflation in costs of construction. Therefore contractual "key" dates during the tenure of the work as well as contract completion dates timed in a certain manner are crucial to the exercise of control by the Owner. The Owner should also assume contractual rights to accelerate the pace of the work at the cost of the Contractor if the latter is behind schedule in performance, and further, apply strict conditions to govern the granting of extensions of time. Sometimes a bonus claim may be incorporated as an incentive to the Contractor or Seller to accomplish early completion of a plant, but the amount of the bonus should be computed in the context of the actual advantage gained by the Owner or Purchaser in such circumstances.

66. The subject of industrial relations and matters incidental to boycott laws require substantial detail and a general treatment of the subject is not recommended here.

It is also difficult to cover these necessary disciplines (in the context of project sites) through contractual terms. However, certain principal considerations which would safeguard against known problems in international contracts may be briefly stated: The Owner should be satisfied that the Contractor has ensured that a multitude of unions do not represent similar trades and that employees have correct union affiliations if a closed shop situation exists at the work site.

The Contractor should not be permitted to have labour-only subcontractors, and pay-differentials between employees of similar grades should be avoided. The Contractor should also have the discretionary power of discharging "problem individuals" from site.

67. The Owner should preserve sufficient control in the contract to prevent the prime Contractor from subcontracting too great a degree of the Work to be accomplished. The Contract should therefore contain a mandatory stipulation barring subcontracting without the Owner's consent, with the exception of nominated subcontractors. Certain flexible conditions may be developed as the circumstances warrant in terms of the level and degree of subcontracting work.

68. The Buyer or Purchaser should ensure that contractual provisions relative to escalation factors are strictly monitored, especially where material and labour costs are involved and where certain economic indices may be referred to. Contractors often offer low rates for early works and excessive rates for later works, especially in circumstances where inflation rates exceed current interest rates. The Contractor's endeavours to recover by escalation through unreasonable means should therefore be carefully scrutinized through exercising proper terminology in the contract, and administrative control during the progress of the work.

Further, the Owner should also retain powers under the contract to place a limit on the submission of claims in accordance with certain criteria related to the time-element and the impact of escalation on delayed claims.

69. The Buyer or Purchaser of Plant/Technology should ensure that adequate safeguards are incorporated in the contract in the context of "exceptional risks", in keeping with the recommendation made earlier in this Chapter (pages 34-35). The Buyer or Purchaser should also ensure that the title to the Plant and risk etc. are adequately covered in terms of vesting the ownership of the constructional plant as a security against default by the Contractor. Except in special circumstances, the Contractor should not be permitted to hire or lease constructional equipment, as this would preclude the Owner from visiting rights relative to the plant and equipment on site. The contract should provide that the risk to the plant, equipment and works remains with the Contractor until Acceptance by the Buyer or Owner.

70. It is essential that the Purchaser or Owner have the power under the contract to suspend the operation and construction of the works up to a specified period of time. Such a clause should also be complemented by a termination or cancellation clause affording the right to the Purchaser or Owner to terminate the contract. In the event of suspension, the

Contractor would be entitled to certain compensation similar to a quantum meruit.

71. In circumstances where termination of the contract for default by the Contractor has taken place, the Purchaser should also reserve the right under the contractual terms to recover damages from the Contractor and utilize all available plant and materials on site and hire other Contractor(s) to complete the Works. The Purchaser should also have the right to sell parts of the plant, equipment and materials and apply the proceeds to compensate for the liability resultant upon the Contractor's default.

72. Force Majeure is a well-recognized phenomenon in international contract law, but it often serves as a basis for unmeritorious claims by the Contractor or Supplier of Plant and Equipment. It is vital that the circumstances constituting force majeure are precisely defined together with a description of the criteria for justifiable claim(s) for additional time and money. Aside from the conventional terms normal in force majeure clauses, it is recommended that the following be disallowed except in very genuine circumstances: Shortages and/or unavailability of materials or supplies (as the Supplier/Contractor often has many avenues open to him to circumvent this problem in the conduct of his business); Strike or lockout situation (unless they are industry-wide); so-called perillous or inclement weather conditions;

failure on the part of "other" Contractors; deviation from the specification; and vaguely defined "Acts of God".

73. For the doctrine of force majeure or "frustration" to properly apply, performance must have become substantially impossible. It is not sufficient to show that, as a result of unforeseen circumstances for which neither party may be responsible, performance has become more onerous and more costly.

74. The Purchaser or Buyer should also ensure that legal safeguards are included in the contract obligating the Contractor to the training of personnel, and the provision of spares lists and the timely availability of commissioning spares prior to the acceptance program being commenced.

75. Finally, it is also highly desirable that a clause be included in the contract indicating that the issuance of Provisional and Final Acceptance Certificates respectively do not signify acceptance by the Purchaser or Buyer that the Contractor has effected contractual compliance, but that these certificates are for the convenience of payment purposes only. Through the introduction of such a clause, the Purchaser's or Buyer's rights are clearly sustained over any misunderstanding as to the significance of the receipt of these Certificates.

C. Improved Arbitration Procedures to Ensure the Equitable Consideration of the Interests of Both Parties

76. Several decades ago, the courts were presented with contractual agreements which attempted to enunciate procedures and methods for arbitration whereby Engineers, Architects and other selected individuals would act as the final arbitors of disputes over contracts. The courts then universally held that such substantive innovations were illegal and unenforceable because they attempted to oust the courts of their rightful jurisdiction. During modern times, however, the courts have begun to recognize the desirability of having decisions of engineering, technical or architectural fact made by trained professionals rather than by judges. The law in many international jurisdictions now permits the parties to a contract to agree that disputed questions of fact may be determined by arbitration which is binding upon the parties, subject to certain appellate legal proceedings provided by local statutes. It is to be noted that illegal transactions cannot be the subject of arbitration because such transactions are not enforceeable in the first place.

77. Current international contract practices show that disputes arising out of technology project agreements may be settled:

1. By the engineer or architect acting as arbitrator.

2. By arbitration proceedings conducted by recognized international bodies.

3. By ad hoc arbitration panels or boards set up by mutual agreement of the parties in neutral territory.

4. By the contracting officer in the case of certain governmental contracts.

79. However, in spite of the plurality of international bodies that offer services in international arbitration, and although new contractual techniques have a semblance of a fair method for the settlement of disputes, thus far, the existing procedures and methods do not provide a completely equitable basis for the resolution of disputes especially where developing nations are parties to the contract.

80. While developing countries already suffer major disadvantages in not possessing sufficient expertise in international contracts law, this is further compounded by the fact that very few arbitrators with developing-country backgrounds are available to ensure that a balanced position is maintained during arbitration proceedings.

81. There are also severe problems related to the efficacy of existing rules, choice of arbitral proceedings, venue etc., most of which tend to favour Sellers and Suppliers from developed countries during arbitral deliberations. In this connection, some of the known major problem areas may be summarised as follows:

1. Application of the Rules governing Arbitration.
2. Choice and venue of Arbitration, and "conflict of laws" problems.
3. Selection of International Forums for Arbitration.
4. Procedure of local law notwithstanding decision rendered by Arbitration Tribunal.
5. Choice of Law under which Arbitration panel will exercise jurisdiction.
6. Availability of one or more Arbitrators with developing-country backgrounds.
7. Delay caused by slow-moving machinery of international arbitration bodies.
8. Legal and quasi-legal considerations of evidence to be entered before Arbitration Tribunals.
9. Contractual procedures for settling disputes.
10. Conceptual difference in applications of Arbitration between "Common Law" and "Codified Law" jurisdictions.
11. Enforcement of judgements and relief.

81. The foregoing represents some of the major problems that have been recognized in terms of Arbitrations, arising under many international project contracts during the period 1967-1977. These problems require serious review and consideration as they impact seriously upon the performance and disposition of contract obligations in developing countries. The issues apply across the board through a variety of plant technology and engineering applications, and apply in equal degree to projects involving the establishment of fertiliser and chemical processing plants.

82. It is therefore necessary that new and improved arbitration procedures should be developed to enhance the equitable

settlement of the highly complex problems that arise in international contracts for delivery and construction of technology plants, including fertilizer and chemical plants.

83. Questions of fact and law in disputes are intrinsically related and the following areas require immediate changes in treatment and methodology in the context of current arbitration practices:

1. Re Performance: Causes and extent of delay in performance and the impact upon the Purchase or Buyer.
2. Re Technical Plant Technology Criteria: Reasonable contractual expectations in the criteria set for the plant (capacity, output, efficiencies ratio, production rate/loss etc.).
3. Re Specifications: Conformity, deviations, and industry practice criteria.
4. Re Quantity: Measurement and specification of materials.
5. Re Quality: Standards of quality control and assurance, fabrication and materials utilized.
6. Re Damages: Degree of damages suffered in terms of direct and indirect losses suffered by the Buyer or Purchaser.
7. Re Extras: Valuation and rules.
8. Re Plans and Specifications: Interpretation.
9. Re So-Called "Industry Standards and Accepted Practices": Considerations in the context of strict contract specifications and plant criteria versus industry standards and practice.
10. Other Principal Considerations: Meaning of contract provisions; description of material; rights to any extra compensation for unanticipated conditions (and amount of compensation); unusual occurrences.

International Arbitration Courts

1. International Chamber of Commerce Court of Arbitration

84. The ICC Court of Arbitration is a modern precursor of international commercial arbitration. Its rules regulating conciliation and arbitration procedures together with the terms of reference of the arbitral proceedings are of special relevance to disputes of a commercial nature in Western Europe. However, international trade and business disputes arising between parties in North America, Western Europe and the Developing Countries have been also referred to this organisation.

85. Developing countries have had some measure of justifiable dissatisfaction with the Court of Arbitration of the International Chamber of Commerce in a number of instances. It is not proposed to enter into the merits and demerits of the cases herein.

2. Rules of the United Nations Commission on International Trade Law (UNCITRAL)

86. The UNCITRAL Arbitration Rules were adopted by the United Nations Commission on International Trade Law on 28th April 1976 (U.N. Doc. A/31/17) and received the recommendation of the United Nations on 15th December 1976 for their use in the settlement of disputes arising in the context of international commercial transactions.

87. The suitability of these Rules for application to contracts involving international technology transfer to developing countries, is questionable. One of the many problems under the UNCITRAL Rules relates to the determination by the arbitral tribunal of the place (including the country) of arbitration, where the parties have failed to reach agreement.

3. American Arbitration Association

88. The Commercial Arbitration Rules of the American Arbitration Association are tailored to the requirements of business and technical relationships that prevail in various types of United States contracts. These Rules are an interesting study seen in comparison with counterpart arbitration rules prevalent in European jurisdictions. It is estimated that well over 14,000 arbitrations proceed under the auspices of these Rules of the American Arbitration Association.

4. The Industrial Centre for Investments Disputes (ICSID)

89. The Washington Convention for the Settlement of Investment Disputes Between States and Nations of Other States (1965) was responsible for the creation and setting up of ICSID. This body specializes in certain types of disputes related to investments and industrial matters. The Washington Convention has been affirmed and ratified by many industrialized as well as developing countries.

5. Court of Arbitration of the London Chamber of Commerce and the City of London

90. This Court has developed substantial experience in hearing and determining cases related to commercial, industrial and business problems. Although this Court is a lesser known international institution, it has built up cases and precedents which have established guidelines in certain business transactions.

6. The Arbitration Institute of Stockholm Chamber of Commerce

91. This Institute is an organ within the Stockholm Chamber of Commerce and has dealt with arbitration matters from as early as 1917. The Swedish Arbitration Law is contained in the Arbitration Act of 1929 and the foreign elements related to arbitration agreements and proceedings were a result of Sweden's accession to the Geneva Convention (1927) for the Execution of Foreign Arbitral Awards.

92. The Rules of the Arbitration Institute were revised in 1976 to adapt them to the current conditions of international arbitration. Many East-West commercial and trade disputes have been known to utilise these Swedish Arbitration facilities.

7. The Arbitration Tribunal of the Zurich Chamber of Commerce
and
8. The Court of Arbitration of the Austrian Chamber of Commerce in Vienna

93. Both these institutions are of a national character and have not been known to have much experience in international technology contracts.

94. The various institutions providing for arbitration panels to hear and determine disputes of an international business or commercial nature, are in the dozens and it is unnecessary to discuss the work of most of these insignificant organisations in the context of the discussions herein.

95. In the context of propriety and acceptance of conventional Arbitration procedures in connection with disputes arising out of technology contracts with developing countries, much needs to be discussed. It is clearly apparent that alternatives and better acceptable rules for Arbitration should be developed to suit the special needs of international contracts spanning cultural and legal chasms. It is recommended that UNIDO provide the lead as a forum of exchange for the development of equitable arbitration procedures and methods, with common grounds of legal acceptance, for industrial contracts.

C. (i) The Cost of Arbitration and Settlements Outside of Courts

96. It would be impossible to assess in general terms the cost of arbitration, and/or associated settlements outside of the courts.

97. Broadly speaking, due to the specialized nature of international arbitration proceedings and the credentials of the participants therein, a considerable amount of costs mount up. Using the criteria utilised in "Arbitration in Sweden", the following reference points may lead to a reasonable estimate of the quantum of costs:

1. In the absence of any express or implied agreement by the parties, the arbitrators may fix the compensation due them in the final award.

2. Arbitrators are entitled to reasonable remuneration for their work and to have their expenses defrayed. This would include disbursements for travel, accommodation, rent of conference room, secretarial and clerical work.

3. Costs of an expert or expert(s) called to give evidence by the Arbitration (on their own) may be added to the final bill.

4. The liability of the parties to a dispute to pay the apportioned share of the costs is probably joint and several. The parties may be required to make a deposit in an amount estimated to cover the costs of the proceedings including the Arbitrator's fees. The Arbitrators usually state in the award the amount of costs payable both to the Arbitration organisation (charges of the Institute) as well as the Arbitrators.

5. Generally speaking the quantum of costs assessed against each party to the dispute reflects the philosophy that a winning party who has not been at fault, should not suffer any loss in asserting or defending his rights.

6. UNCITRAL Rules 38-40 deal with costs and so do ICC Rules Article 20, copies of which were forwarded by the writer to UNIDO.

98. Due to the multiplicity of the types of contracts in international projects, and the magnitude of claims in disputes as well as the different national jurisdictions and location of arbitration sittings, only a generalized guide to costs has been submitted.

C. (ii) The Various Types of Bonds to Secure Performance etc. and Related Legal and Financial Aspects

99. In order to identify the true purpose of a bond, it is necessary to distinguish between bonds and insurance contracts. Insurance contracts involve the policyholder and his carrier, and the insurance company is required to make good any loss within policy limits when the exposure insured against materializes. Bonds, however, are basically tripartite contracts between the insured, the principal and the bonding or surety company. Whenever a loss materializes and the principal defaults, then the bonding company is required to pay under the terms of the bond, and the principal would be required to reimburse the bonding company.

100. In the case of Performance Bonds, the objective is that, should the principal fail to perform his obligations under the contract, the Owner is afforded protection by the surety against loss to the limit of the bond penalty.

101. The ability of the Supplier or Contractor to provide adequate bonds to secure his contractual obligations is often commensurate with its financial stability, professional competence and reputation for diligent Work. It is in the Buyer's or Purchaser's interest that the Supplier or Contractor has sufficient financial capability to sustain its obligations and that it will not go bankrupt prior to completion of the plant or project.

102. Accordingly, it is recommended that the Buyer or Purchaser exercise the legal rights to include provisos in the contract allowing for the application of irrevocable "call" privileges on any one or other of the following bonds to be secured under the contract:

1. Cash value Performance Guarantee Bonds issued by a Bank or Insurance Company (to a specified limit).
2. Cash value Technical Guarantee Bond (to sustain the guarantee and warrantee provisions).
3. Financial Guarantee Bond (if necessary to be issued by the Supplier's or Contractor's parent company).
4. Bank Guarantee (to guarantee performance of the whole work).
5. Indemnity Bond (to indemnify against unforeseen or indirect damages, costs and expenses sustained by the Buyer or Purchaser).
6. Cash value Engineer's Bond (to secure the professional services of the engineering organisation(s)).
7. Cash value Contractor's Bond (to secure the Contractor's commitment to complete the construction in an efficient and timely manner).
8. Cash value Maintenance Guarantee Bond (to secure the guaranteed performance of the plant/installation or system over the maintenance period). See Below.

103. The Buyer or Purchaser would have substantial flexibility and options in the exercise of these powers contingent upon the circumstance warranting the necessary action.

104. The Purchaser / Buyer is recommended to having the various progress payments linked to the amount of work accomplished rather than obligating itself to paying large sums in advance of the work. Further, conditions may be incorporated in the

contract providing for the withholding of adequate provisional holdbacks/retention monies (between 10-20% of contract price of each payment).

Maintenance Bonds or Maintenance Guarantee Bonds

105. Maintenance Bonds provide indemnification to the Obligee (i.e. the Purchaser or Owner) where the Supplier or Contractor fails to correct faulty workmanship or faulty material within a specified time after substantial completion of the project. Such bonds may be used for between 50-100% of the contract price.

106. This type of bond is highly recommended for international use. The method utilised is to include a maintenance clause in the contract. The Performance Bond should be made to automatically cover the maintenance guarantee clause up to a two-year limit (at least) which could be the time set in the Performance Bond for suing the surety company.

107. In all cases the proper legal terminology is crucial and the use of international legal and contract experts is necessary.

PART III: The Establishment of Multilateral Insurance Scheme to Cover Consequential Damages and Losses

A. The Need for Comprehensive Insurance Protection Including Coverage of Consequential Losses

108. It is recognized that the Buyer of a turnkey/plant operation is deeply committed to serving the urgent needs of local industry, and to meet the necessary objectives, it is essential that the undertaking contracted for be completed in a proper manner within the scheduled dates, parameters of costs and most importantly, in keeping with the production capacity and performance guarantees contemplated by the contract.

109. The Buyer expects that the ultimate commercial operation of the plant will fulfill the full-scale performance criteria established by the original contract specifications, and that the technology inherent in the plant is capable of satisfying all of the technical requirements of output/capacity, rate of production and expressed efficiencies, in keeping with all of the qualitative standards that my be reasonably expected from best industry practices.

110. A thorough appraisal of several completed international contracts during the period between 1967 and 1977 in terms of rated "performance achievement levels" shows that not too infrequently, the Buyer has been frustrated in his justifiable expectations from the plant and technology acquired

at great cost and for which a fair market value has been paid. Furthermore, in many instances, the Buyer has had to bear the brunt of all types of consequential losses and damages arising directly or indirectly from the inadequate performance or failure of plant operations and/or equipment malfunction both during the tenure of the contract as well as following Commissioning and/or Take-Over of the plant. In considering the Seller's or Supplier's position, however, it must be also remembered that the design-build nature of a turnkey contract is, from the inception, fraught with considerable financial and liability exposures, from initial planning and design, through contract expediting, engineering, construction, testing, start-up etc. until commission and complete handover.

111. It must be recognized therefore, that the risk of project responsibility remains a shared one, beginning with the bid-tender stage until final acceptance and commercial operation of the plant.

112. Many international contracts specify provisos for the payment by the Seller/Supplier of liquidated damages, penalties and other punitive sums in the event of failure in plant performance or breakdown of equipment and component systems. Notwithstanding these provisions, however, the Buyer is often left unprotected after the plant has demonstrated technical performance levels during "reliability or acceptance testing", but thereafter fails to achieve the rated capability for

full-scale conventional use (in terms of output/efficiency/plant capacity/quality of product etc.) and thereby falls short of the performance guarantees for commercial operation.

113. In such circumstances the scale of punitive payments allowed under the provisos for liquidated damages and/or penalties within the contract would hardly compensate for the immense indirect and consequential damages and losses that are suffered by the Buyer, flowing from the involuntary breach of its own obligations to local and national sectors of the economy. Also, this may be sometimes compounded by the Buyer executing the releases for the final progress payments and holdbacks under the contract due upon commissioning of the plant. This in effect would extinguish the tangible securities, if any, held by the Buyer under the contract and dilute the interest of the Seller in terms of fixing the performance problems that have surfaced. The balance of contract obligations by the Seller/Supplier usually relate to the warranty provisions only for a period specified under the contract, and these do not translate into liquid amounts to compensate for the magnitude of damages of the type(s) discussed here. Furthermore, even the comprehensive insurance coverage applicable to plant construction and technology (described in Part I D herein) are substantially inadequate to sustain the Purchaser's damages and expenses suffered in consequential loss terms.

114. A survey of international contracts (1967 to 1977) particularly in relation to the construction, operation and maintenance of fertilizer and chemical processing plants, indicates that certain types of occurrences contribute more significantly to the degree and frequency of direct and consequential damages suffered by Buyer(s). These have been singled out for improved legal protection as recommended in Part II B.

115. These factors apply with equal significance to the various types of supply, construction or engineering works to be designed, constructed and assembled for the Buyer or Purchaser: Design-Build-Turnkey Operations, or, Supply of pre-assembled Turnkey Plant & Engineering, or, Assembly of Plant and Supply of Proprietary Technology on Unit Basis etc. (For various types of contract see Part II A, page 28).

116. Based on an assessment of current contract performance and practices on a world-wide scale, and the consolidation of expert opinion, the approach herein is recommended from which to implement and establish the Multilateral Insurance Scheme.

Basis and Purpose of the Multilateral Insurance Scheme

117. The basis and purpose of the Multilateral Insurance Scheme is to indemnify the Buyer or Purchaser of Plant, Equipment, Machinery or Technology Components against certain types of liability, particularly consequential losses and damages that may be suffered, or result from the construction, operation and maintenance of fertilizer plants and chemical processing plants.

118. Briefly, the Multilateral Insurance Scheme would provide very specialized coverages. When implemented, it would provide the residual coverage for the actual damage and loss sustained after exhaustion of the contractual rights of the buyer (including insurance) described in paragraph 64 on page 36, as follows:

1. Indemnification of the Buyer/Purchaser in respect of the liability for damages including consequential damages, losses, expenses, and costs sustained, or arising out of the failure or breakdown of plant and equipment, or any component system of the plant. The foregoing indemnification to include liability for damages, losses, expenses and costs sustained due to delay in completion or commissioning of plant, due to default of the Seller/Supplier etc. including legal liability for damages.

   The indemnification shall apply to any one, and/or other combination of the occurrences identified in Part II B above - "Types of Performance Failures, Defects and Breaches in Contracts" (pages 34 & 35) resulting in the liability as aforementioned.

2. Indemnification of the Buyer/Purchaser for direct or consequential damages or losses arising out of

the removal, repair, alteration, treatment, or replacement of any product, structure, installation, or work supplied, erected or installed or done on behalf of the Buyer/Purchaser which is caused by a defect in/or hazardous condition in such product, structure, installation or work which fails to perform the function intended by the Buyer/Purchaser.

3. Indemnification of the Buyer/Purchaser and defence against claims or legal suits, and payment and satisfaction of judgements rendered against the Buyer/Purchaser in legal proceedings.

C. Administrative Considerations

119. The Multilateral Insurance Scheme would be established on a basis of reasonable business risk and a ratio of actuarial factors and capitalisation subsidy. The Multilateral Insurance Scheme would be developed as a principal extension to business contingency risk insurance/loss of profits & business interruption insurance.

120. The Multilateral Insurance Scheme would remain valid (on a project-by-project basis) to indemnify the Buyer/Purchaser up to a (2-3) year period after final acceptance or commissioning of the plant following completion of the project, in order that all claims and consequential damages/losses are adequately compensated and satisfied.

121. The Multilateral Insurance Scheme would insure the project to the full value of the "estimated works" (cost of the project) plus an assessed amount to cover evaluated consequential damages/losses risk assumptions".

The coverage by the Multilateral Insurance Scheme would be effected by way of reinsurance of the total indemnification to the maximum set of limits of risk. This reinsurance might be underwritten by (a) insurance companies in the developing country, (b) insurance companies in the developed country and (c) the export credit insurance agency of the Government of the developed country concerned. It is for consideration whether all these parties should contribute (so as to maximise their involvement in guaranteeing performance of the technology) and what share of the risks each party would absorb.

D. Premium Chargeable

122. Premium costs would be technically assessed by the Multilateral Insurance Scheme in accordance with the rating methods described below in paragraph 127, item (3). The premium costs might be paid by the seller of the plant and the export credit insurance agency of the Government of the developed country concerned; the buyer of the plant might also contribute.

123. It is for consideration whether all parties should contribute to the costs of the premium and what share each party should pay. It is suggested that the assessment against the developing country be based on a ratio between zero percent to a maximum of 20 percent of the premium. The actual assessment might be based .

on a formula determined by a series of factors such as debt-service ratio, export earnings/reserves, and the degree of existing plant capability of the desired technology.

E. Other Essential Considerations of the Multilateral Insurance Scheme

124. Several other crucial considerations relative to establishment and administration of the Multilateral Insurance Scheme require detailed presentation, and it is recommended that these be treated in a special report to be prepared for UNIDO. These other considerations relate to the fundamental legal and commercial factors which would form the basis of the Multilateral Insurance Scheme.

125. The stability of the Multilateral Insurance Scheme would depend to some degree on well-drafted contracts, so as to protect the equitable interests of both the insured Buyer (in the developing country) and the Supplier of Plant. This would impact more or less favourably on the nature of the Multilateral Insurance Scheme coverage extended to the particular project. (See 2 and 3 Below). UNIDO should be responsible for providing specialist advice from international contract/legal experts to assist in the review of contemplated

contracts. This procedure would in turn facilitate to a favourable degree, the risk coverage advanced by the Multilateral Insurance Scheme.

126. Due to extensive cause-effect impact of the terms and conditions of contracts on the successful implementation of the Multilateral Insurance Scheme, it is recommended that the administration of the program be centralised within the control of UNIDO. This would consolidate the exercise of the necessary degree of controls beneficial to the developing countries, by way of consultancy assistance funnelled through UNIDO. This would conversely benefit the Multilateral Insurance Scheme through avoidance of uncontrolled cost-overruns by way of excessive claims on the scheme caused by inadequate project administrative control.

127. The legal basis of operations to cover the full spectrum of obligations tailored to the requirements of developing countries either by group or region, should also be treated in a separate Report to UNIDO. Matters for consideration here would also cover the working operations of the Multilateral Insurance Scheme in keeping with international practices in project reinsurance and the developing of the necessary techniques to maintain the scheme as a viable and essential option to safeguard the problems arising out of the establishment of Fertilizer Plants and Chemical Processing Plants in developing countries.

1. General - Policy words would be developed to provide for the inclusion of each turnkey project by way of an endorsement to the general policy coverage held by the principal (e.g. Ministry of Agriculture or State Insurance Corporation etc.).

2. Method - To enable the endorsement to be legitimately effected on the Multilateral Insurance Scheme, full details of the project and the contractual and legal terms would be evaluated in order that the full exposure of potential and contingent liabilities may be assessed and the premium costs scaled. Also, the Seller's/Supplier's/Contractor's record of performance would be examined and the adequacy of the dollar performance guarantee bond and bank/financial/irrevocable letters of credit would be appraised. To a limited degree certain procedures parallel to project legal insurance evaluation would also be undertaken.

   There would be optional coverage sections under the Multilateral Insurance Scheme. Ad hoc options may be required for a certain project, based on a realistic estimate of the full scope of liabilities and consequential damages inherent in the program, versus the preliminary remedies available under the contract by way of penalty sums.

   The coverage would endure up to (2-3) years after commissioning and commencement of commercial operation of the plant to allow for satisfaction of all damages claims.

3. Rating - Each project will be rated on its merits, but generally within a scale of rates approved by the Multilateral Insurance Scheme. The rating ideology will vary substantially in accordance with the individual coverages and options required, together with the physical circumstances of each project. These rates will be considerably affected by the size and duration of the project, the contractual liabilities that are evident and the degree of coverage to apply. The extent to which the prior expertise of the Seller/Supplier/Engineer/Contractor was acquired in similar projects, would be one determinant as well.

4. Deductibles - Factors that would determine deductible(s) for each project, would be based on a percentage of the contract price, and the applicability of coverage section to section within the Multilateral Insurance Scheme.

A scale of deductibles would apply based on the severity of exposure, and the amounts that would be recoverable by initial application of penalty provisions under the contract. An influence would also be felt by virtue of potential Seller's/Supplier's etc. potential "all-risk" through his own conventional insurance program e.g. payments for errors and omissions, professional negligence, rectification costs incidental to corrective/design engineering etc. It is proposed that these sections also carry a co-insurance provision of (e.g.) 20% i.e. after deducting the deductible amount, the Multilateral Insurance Scheme would pay 80% of the balance, with the Buyer/Purchaser contributing 20% of such balance.

5. Claims Settlements - The Buyer/Purchaser would be required to substantiate the amount of his unrecoverable costs and the methodology would be established to settle valid claims.

Clearly consequential damages would involve claims only toward the end of the project or after completion of the contract. Remedial costs incurred would be recoverable when ascertained.

The General Contingency Section would also make provision for claims to be presented as the contract progresses with the Buyer/Purchaser having the right to expend monies to the deductible amount in order to minimise delay in completion.

6. Premium Payment and Adjustment - Policies would be established under the Multilateral Insurance Scheme relative to the payment of premiums at the inception of the coverage, under the arrangements for specific application of the Scheme. The impact of premium costs could also be possibly reduced, since the payments incurred by developing countries for regular project insurance will not be considered separately, but as part of the Multilateral Insurance Scheme package.

7. Cancellation - Appropriate provisions will apply.

128. It is recommended that further commercial and quasi-legal details relative to this category of considerations be prepared within the ambit of report(s) referred to above.

PART IV: Conclusions and Recommendations

Recommendations for:

(i) Improved contractual practices from legal point of view, and

(ii) Improved safeguards to protect both Supplier and Buyer entering contractual obligations.

129. The foregoing Report was structured to include the appropriate conclusions in terms of each of the contractual and legal areas examined in the context of current international practices relative to undertakings for the construction, operation and maintenance of fertilizer and chemical processing plants. This Report also contains conclusions on the desirability of improved legal and contractual safeguards that should be incorporated for the protection of Buyers and Sellers of plant and technology.

130. It is recommended that the fundamentals of the specific legal issues covered in Part II B of this Report be incorporated into the model form of contracts that UNIDO might develop.

These model forms should be prepared with consummate skill and a high degree of legal excellence in keeping with the known international requirements today, especially in the context of the establishment of fertilizer and chemical processing plants in developing ooumtries.

131. In due course, it is anticipated that such model forms will serve to act as a precedent for the development of further contractualformats for use in other industrial projects.

Recommendations for:

(iii) International legal aspects and methods for Arbitration via newly established Arbitration Bodies.

132. The legal background to the theory and practical aspects of arbitration has been expressed in synopsis form in Part II C of this Report. In addition to the identification of current problems commonly faced by developing countries in arbitration proceedings, a substantial description of the various existing arbitration courts on the international level was also given in Part II C of this Report.

133. The current problems faced by developing countries today in arbitral deliberations have been identified in many instances in the past, and due to the sensitive nature of the issues, it would not be expedient to enter into specific discussions on the merits of the individual cases. However, strong recognition must be given to the plight of developing countries

as they struggle to establish their legal and equitable rights under international contracts when arbitrations are invoked under the present inadequate procedures in the existing bodies.

134. It is therefore recommended that UNIDO provide terms of reference for an arbitration feasibility study to be undertaken as a starting point for the establishment of a new and innovative arbitration court. To facilitate this, a legal expert in contracts should be retained to examine the current contract procedures which have given rise to arbitration, resulting in the unsatisfactory disposition of past cases before known international arbitration courts. Thereafter, the study would refine the legal issues that would serve as guidelines for improved arbitration practices, following which arbitration experts would be consulted to determine improved methods and procedures to ensure equity and balance in the rendering of arbitral decisions.

135. It is also essential that arbitrators with developing-country backgrounds be solicited in order that proper foundations may be laid for this innovative development.

Recommendations for:

(iv) Suggested methods for establishing the Multilateral Insurance Scheme to cover damages and losses including consequential damages.

136. Part III of this Report provides, for the first time, a new proposal for the establishment of the type of

multilateral insurance scheme desired. Any previous dialogue between interested individuals, agencies and insurance companies has been limited to a discussion of the theoretical concepts relative to the phenomenon of consequential and indirect damages and losses. Due to uncoordinated and poorly supported endeavours in the past, no viable practical scheme has been devised to set up the preliminary aspects of the Multilateral Insurance Scheme.

137. It is recommended that Part III of this Report be utilized as a proper basis for the development of the Multilateral Insurance Scheme and that appropriate resources be made available to undertake extensive discussions and investigations to develop a complete framework for the practical application and availability of such a scheme as soon as possible.

ANNEX A

Some Model Forms of Contract

1. Model Form of Contract for Process Plants. Suitable for reimbursable contracts in the United Kingdom 1976 The Institution of Chemical Engineers, 15 Belgrave Square, London.

2. Model Form of Contract for Process Plants. Suitable for Lumpsum contracts in theUnited Kingdom 1968. Reprinted 1975. Institution of Chemical Engineers, London. (A revised version of this Model Form is being prepared).

3. Conditions of Contract (International) for Works of Civil Engineering Construction with forms of tender and agreement 3rd edition, March 1977, FIDIC International Federation of Consulting Engineers.

4. International Model Form of Agreement between Client and Consulting Engineer and International General Rules for Agreement between Client and Consulting Engineer for Design and Supervision of Construction of Works (FIDIC, 1976)

5. International Model Form of Agreement between Client and Consulting Engineer and International General Rules for Agreement between Client and Consulting Engineer for Pre-investment Studies (FIDIC, 1976)

6. Guide on drawing up contracts for large industrial works. United Nations Economic Commission for Europe. ECE/Trade/117(E.73.II.E.13)

7. General Conditions for the supply of plant and machinery for Export. Form 188 and 574 prepared under auspices of United Nations Economic Commission for Europe. March 1953 Document. E/ECE/169

8. General Conditions for the Supply and Erection of Plant and Machinery for Import and Export. Form 188A and 574A prepared under auspices of United Nations Economic Commission for Europe, March 1957

9. Additional clauses for supervision of erection of plant and machinery abroad. Form 188B and 574B. United Nations Economic Commission for Europe. April 1964

10. General Conditions for the erection of a plant and machinery abroad. Form 188D and 574D. United Nations Economic Commission for Europe August 1963. (UN.63 II E/Mim 22)

11. General Conditions for Public Works and Supply Contracts financed by the European Development Fund (Brussels, 1974)

12. Model form of General Conditions of Contract including form of agreement recommended for export contracts with delivery f.o.b., c.i.f., or f.o.r. Fourth edition 1973. Recommended by The Institution of Mechanical Engineers, The Institution of Electrical Engineers (70, Nightingale Road, Hitchin, Herts, England) and The Association of Consulting Engineers, London.

Some Rules of Arbitration

13. **Rules for the ICC Court of Arbitration (june 1975)**

14. UNCITRAL Arbitration Rules (United Nations, New York 1977)

15. Commercial Arbitration Rules of the American Arbitration Association (November 1973)

16. Rules of the Arbitration Institute of the Stockholm Chamber of Commerce plus Commentary on these rules (October 1976)

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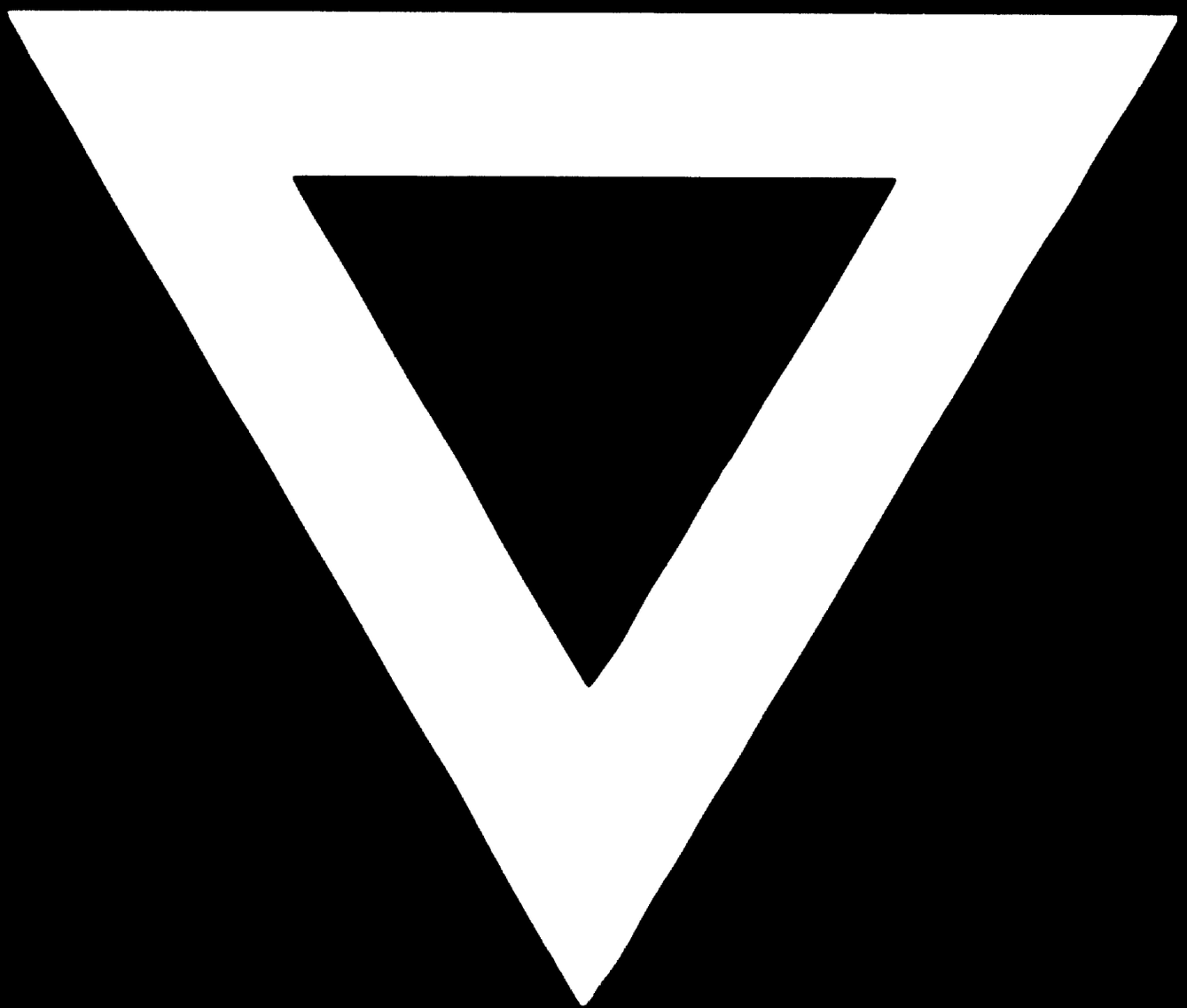

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