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Technical Seminar on Contracting Methods and Insurance Schemes for Fertilizer and Chemical Processing Industries

Lahore, Pakistan, 25 - 29 November 1977

SUMMARY OF FOUR PAPERS PREPARED FOR UNIDO ON CONTRACTS AND INSURANCE FOR FERTILIZER PLANTS*

by

UNIDO Secretariat

* The four papers summarized were prepared for the Negotiations Section of UNIDO as background papers for the Working Group on this topic that will be convened in Vienna in February 1978 in response to the recommendation of the First UNIDO Consultation Meeting on the Fertilizer Industry convened in Vienna 17-21 January 1977, that UNIDO examine "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".

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INTRODUCTION

The Lima Declaration and Plan of Action, adopted in March 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.

> 37. On the question of transfer of technology and purchase of equipment and services, the Consultation Meeting recognized that there were occasions 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 consequential 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 scheme but realized that practical difficulties might arise in its implementation. It was felt that one of the best forms of insurance would be to select carefully reputed and experienced contractors, adopt proven technologies 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 contracts 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 contracts for engineering services 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."

A Working Group on this topic will be convened by UNIDO in February 1978.

The terms of reference for the Working Group as approved by the Industrial Development Board at its Eleventh Session in May/June 1977 are as follows:

> (a) Suggest contracts which would better protect the interests of all parties in the successful construction and operation of fertilizer plants in developing countries;
>
> (b) Examine the extent to which contracts presently in use provide compensation to the client for all losses, including consequential losses, that he may suffer as a result of bad performance of the process and equipment;
>
> (c) Outline proposals for establishing a multilateral insurance scheme that would cover such consequential losses.

This document summarises four papers prepared for this Working Group. The authors are respectively, a lawyer, a firm of insurance brokers, a former Director of a company supplying plants and a consultant who has experience of advising clients who are buying fertilizer plants. Thus four different points of view are expressed.

The Seminar is invited to consider these papers and react to the ideas suggested. The authors will be informed of the Seminar's conclusion; they will then be given the opportunity to amend or expand this first version of their papers prior to the meeting of the Working Group in February 1978.

PART I. SUMMARY OF FOUR PAPERS PREPARED FOR UNIDO

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

Summary of the paper by D. Subramaniam, Barrister-at-Law
(prepared by the UNIDO Secretariat)

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 a 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 needed 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.

INSURANCE COVER AVAILABLE FROM COMMERCIAL SOURCES RELATING TO THE CONSTRUCTION AND INITIAL OPERATION OF FERTILIZER PLANTS

Summary of paper prepared by Hogg Robinson and
Gardner Mountain Reinsurance Ltd.
(Prepared by the UNIDO Secretariat)

The authors use as an example the construction and operation of a nitrogen fertilizer complex producing 1000 tons/day ammonia and 1,500 tons/day urea. The cost of the plant is put at $200 million. Annual sales turnover at full capacity is estimated at $ 79 million per annum.

The loss of profits resulting from a plant closure is calculated at $46.6 million per annum, that is turnover less variable costs, such as fuel, raw materials, etc. that are incurred only when the plant is in production. Thus the insured could claim consequential losses (loss of profits) of almost $ 4 million per month for each month of plant shut-down.

Insurance cover against consequential losses can be arranged at present only as an extension of a policy that covers physical losses or damage to the plant either during construction or in the initial period of operation.

Insurance cover during construction of the plant up to completion of commissioning tests

During construction, insurance is normally arranged by the contractor as a Contractors All Risks Policy; both parties are covered and the time period may extend to 36 months for construction and 3 months for start-up; the cost is estimated at $1.4 million. A sample policy is provided in Annex A.

As an extension of this policy, a Loss of Advanced Profits policy can be taken out that will cover consequential losses incurred by the purchaser of the plant caused by delays in plant start-up. The premium for such a policy is an additional $0.53 million for twelve months and $0.85 million for 24 months. A sample policy is provided in Annex B.

Both policies are subject to a number of broad exclusions. In particular, consequential losses resulting from defective design or the need to repair or replace property which is defective in material workmanship or design are excluded.

Extension of cover provided at present

The possibility of commercial insurance companies covering consequential losses arising from defective design and equipment detected prior to the plant passing its commissioning test is considered in Part II of the report (paras 55 to 73). The authors, who are insurance brokers, are not optimistic about obtaining such coverage.

They see difficulties in assessing the risks involved and feel it might be necessary in this case to place the onus of proof on the insured. They might also want to check first that the supplier has fulfilled his contractual obligations (if necessary through litigation or arbitration) before establishing an insurance claim.

Insurers also feel that they would be asked to cover only the worst risks. Only if all fertilizer plants under construction in developing countries were covered by an overall insurance scheme would there be a sufficient volume of business and an adequate spread of risk to make underwriting such a policy attractive.

Insurance cover during initial operation of the plant following commissioning tests

Following completion of the commissioning test, the plant owner may cover himself against two broad types of risk:

Fire, explosion and other insured perils
Machinery breakdown

If insurance cover is arranged for loss or damage due to these causes, an extension to cover consequential losses caused by such loss or damage can be arranged; the cost of such policies has been estimated as follows in US$ millions; as the plant costs US$ 200 million, the premium can be calculated as a percentage by dividing the cost by two.

Insurance policies covering initial operation of the plant

	Insurance cover for Loss or Damage		Insurance cover for Consequential Losses	
	Low Estimate	High Estimate	for 12 months	for 24 months
	Premium cost in US$ millions			
Fire, explosion and other insured perils	1.50	1.87		
Loss of profits due to fire, explosion, etc.	-	-	0.45	0.70
Machinery breakdown	0.88	0.88	-	-
Loss of profits due to machinery breakdown	-	-	0.37	0.51
TOTAL COST OF PREMIUMS	2.38	2.75	0.82	1.21

An example is given of a Fire, Explosion and other insured Perils policy and of a Loss of Profits policy covering consequential losses from these occurrences. These are not the main subject of this report.

Similar examples are given for Machinery Breakdown policies covering (a) Loss or Damage and (b) Loss of Profits resulting therefrom.

The Machinery Breakdown policy extended to cover loss of profits covers the owner of the plant for consequential losses arising from such causes as:

defective materials, design, construction or erection;
vibration, maladjustment, misalignment, loosening of parts;
defective or inadequate lubrication; etc.
errors, lack of skill, negligence, or wilful acts of employees or third parties.

It therefore appears that insurance available from commercial sources could provide adequate cover for consequential losses that arise from defective design or equipment following completion of the plant's commissioning test. However, the authors do state that some insurers may only offer cover for periods starting 6 months after the commissioning test is completed and that special exclusions might be introduced for fertilizer and other chemical process plants. Certainly any prototype or untried design aspects of the plant are likely to be the subject of a specified exclusion.

The estimated cost of the six insurance policies, and the machinery breakdown policy in particular, assume favourable features throughout - that is: the selection of proven designs and equipment, the use of experienced contractors to build the plant and adequate provision for training of plant management and operating personnel, etc. For any specific plant, the cost of insurance could be above or below the estimate given.

THE SUCCESSFUL CONSTRUCTION AND OPERATION OF FERTILIZER PLANTS: CURRENT PRACTICE AS REGARDS CONTRACTS; WAYS TO IMPROVE CONTRACT PROCEDURES; AND THE POSSIBILITY OF PROVIDING INSURANCE COVER FOR CONSEQUENTIAL LOSSES

Summary of paper prepared by D. Raistrick, Technical Consultant
(Prepared by UNIDO Secretariat)

This paper was prepared by a consultant who has experience of advising the buyer of a fertilizer plant during all stages of the planning, construction, commissioning and initial operation phases of the project. The first of the four papers prepared for UNIDO, the paper describes some essential features of contract procedures; it also considers in a preliminary way the possibility of establishing a multilateral insurance scheme to cover consequential losses.

Contract procedures used at present

Whilst recognising that a contract for the construction of a fertilizer plant can be drawn up in any form acceptable to both the buyer and seller, the author recommends the two Model Forms of Contract for Fertilizer Plants suitable for (a) lump-sum and (b) reimbursable types of contracts prepared by the Institution of Chemical Engineers, London.

These model forms were designed for chemical process plants built in the United Kingdom; for a fertilizer plant built in a developing country, it would be necessary to make additions and changes in the clauses relating to: (a) sending equipment from one country to another; (b) labour conditions for local and foreign manpower; and (c) the governing law of the contract and arbitration procedures, etc.

Bidding procedures

The paper describes the events leading up to the signing of a contract. It places special emphasis on careful preparation of invitations to bid including (a) clear instructions to tenderers, (b) technical specifications for the plant, and (c) general conditions of the contract. In particular, technical specifications of the plant should be clearly described at this stage. Subsequently they will be the subject of guarantees offered by the seller relating to the plant's performance.

Guarantees relating to the performance of the plant

The author lists guarantees typically required for a dihydrate phosphoric acid plant; they relate to daily rated capacity of the plant, product quality, efficiencies and the replacement of faulty equipment during the first twelve months' operation.

A trial run of the plant for 48-100 consecutive hours is used to determine the achievement of the guaranteed specifications; sometimes the contract requires that such acceptance tests must be delayed until the plant has run for 28 days at a high proportion of rated capacity; in this case, the period which the buyer is allowed to delay performance trials may need to be limited.

Penalties

If the plant fails to meet any of the performance specifications, the seller is liable to pay compensation in the form of liquidated damages to the buyer. Penalties are also payable for delays in completion. The compensation payable on both counts is usually limited to a maximum of 10 per cent of the value of the contract. Most contracts also contain a clause which limits the liability of the seller in respect of (a) designs specifically requested by the buyer and (b) consequential losses.

Performance Bonds

To ensure that the seller undertakes his contractual obligations, a Performance Bond can be required of the seller for between 10 per cent and 100 per cent of the value of the contract. The Bank or Surety Company providing this bond will only become liable if the contractor is unable to perform his obligations, for example because he is bankrupt or is in danger of being so.

The author believes that a well drawn up contract, together with a Performance Bond for at least 20 per cent of the value of the contract will provide adequate protection for the buyer during (a) construction of the plant and (b) the first twelve months of operation when the seller is contractually obliged to replace defective equipment.

Losses not covered by contract procedures used at present

The one area in which the buyer is not protected at present is the financial loss arising from loss of production - consequential losses for the buyer - for which the seller usually either limits his liability or avoids it altogether.

How to cover consequential losses in the future

The main difficulties in considering ways to cover consequential losses are (a) quantifying the loss (b) establishing responsibility for it.

The author instances the corrosion of a key item of a plant which may show up only after 12 or 24 months. The corrosion may be due to (a) faulty design, (b) poor materials used in construction, (c) operation of the plant by inexperienced operators, or (d) other causes. Each party would know where to place the blame and arbitration would probably be required.

Commercial insurance and surety companies have given considerable thought to offering this type of insurance; the central problem in their view is how to judge the risk in individual cases. Some feel that commercial insurance should be able to handle this risk. Others feel that help from governments in the form of reinsuring part of the risks will be required.

A Multilateral Insurance Scheme

The author suggests two possible ways of establishing a multilateral insurance scheme.

(a) A Multilateral Agency involving governments which would provide performance bonds and insurance cover for consequential losses. The Agency would employ technical and insurance staff to assess the risks. The insurance would be sold at a fair rate and the Agency would pay out compensation when it deemed appropriate. Part or all of the insurance provided might be reinsured with commercial underwriters.

(b) A Multilateral Agency similar to the above which would not itself provide insurance but only specialise in assessing risks on behalf of commercial insurance companies who would provide the insurance themselves.

The first possibility is viewed favourably by those who believe that risks are so varied and projects so large that co-operation between governments and commercial organizations is now becoming essential. Other opinion recognizes that such an Agency would take a long time to establish and suggest the second alternative as a more practical step, particularly if the construction of other industrial plants as well as fertilizer plants are to be covered by the same insurance scheme.

Other ways to minimise risks of consequential losses

The author believes that such an insurance scheme would force buyers of fertilizer plants to take all possible precaution in order to minimise the cost of the insurance premium required to cover consequential losses.

Such positive steps for inexperienced operators of fertilizer plants might include:

(a) adequate training for national personnel in the operation and maintenance of the plant;

(b) a management contract to run for the first years of operation until local management personnel are trained to take over;

(c) a maintenance contract to service the more important items of equipment of the plant;

(d) the use of consultants to advise the buyer when calling for tenders, negotiating the contract and during construction of the plant.

The way forward

The above proposals for improved contract procedures and broader insurance coverage would help the world fertilizer industry to move forward and contribute to the important goal of raising world food production:

(a) by allowing the buyer and experienced sellers of fertilizer plants to get on with the job of construction them;

(b) by helping to ensure that the many new fertilizer plants that need to be built in developing countries will give satisfactory performance;

(c) by providing compensation for those buyers (hopefully few in number) whose plants nevertheless give an inadequate performance.

THE USE OF PENALTIES AND BONUS TO PROMOTE THE ACHIEVEMENT OF A HIGH LEVEL OF PRODUCTION IN THE FIRST YEAR OF OPERATION OF A FERTILIZER PLANT

A short paper prepared for ~~UNIDO~~ by Dr. M.A. Kotter
formerly Commercial Director,
Engineering and Equipment Division, Voest, Linz, Austria

Some less-experienced buyers of plants fear that the plant they purchase will not reach the contractual production figures with regard to quality or quantity despite the fact that a successful testrun has taken place in accordance with the contract stipulation. These buyers are looking for some kind of additional commitment from the seller that the plant will achieve adequate levels of production for, e.g., the first year of operation after start-up.

Out of a number of ways in which this commitment might be made, two main approaches should by considered:

(a) to impose a financial penalty (malus) on the seller if a guaranteed level of production is not achieved in the first year of operation;

(b) offer a financial reward (bonus) to the seller to motivate him to succeed in helping the buyer achieve a high level of production during the first year of operation through their joint endeavours.

The disadvantages of the penalty approach

Although at the first sight, the penalty seems to be the better one for the buyer, further analysis shows it is rather worse in several respects than offering a bonus because:

(a) failures may be caused by three different parties (seller, buyer, third parties including force majeure). The seller will therefore, either refuse to undertake such risk which he cannot influence or he will accept such obligation under a great number of conditions and exceptions which have the effect of minimising the real effect of such a contract clause;

(b) it is probable that many companies would refuse to bid for plants under conditions which forced the seller to accept risks beyond his control. As a result, only a few companies would bid and higher prices would probably be charged for building the plant.

(c) it is possible that in times of a downturn in the market a buyer would prefer to accept money as a penalty from the seller instead of producing goods and selling them at a loss.

Insurance to cover risks accepted by the seller under penalty clauses

Another possibility would be for the seller to take out insurance to cover himself against the risk of paying a penalty as a result of factors beyond his control. However, such insurance is likely to be high in costs and low value. Any insurance might be good as long as the event against which the seller is insured does not occur. But in case such an event does occur and the damage is large, there will be many possible reasons which may act as a basis for the insurance company declaring itself not obliged to pay for the loss. Insurance companies escape payment in seemingly simple insurance cases; they are even more likely to find reasons to avoid payment in cases of a highly sophisticated matter, such as a complete plant with manifold actions, obligations and responsibilities.

One must remember that whilst the buyer can only gain money by producing, the insurance company earns money not only by receiving the insurance premium, but also by withholding payments in case of an insurance event. There may, therefore, be a tendency for the insurance company to prolong an eventual law-suit, unless the damage and/or loss is a minor one.

The advantages of the bonus approach

Considering these severe doubts about the effectiveness of a consequential loss clause with high penalty and in respect of the effectiveness of insurance, the incentive or bonus approach is of much higher value for the buyer.

The philosophy of this alternative approach consists of compelling both, the buyer and the seller, into the same boat in respect of reaching the planned production levels within the first year.

If the buyer is to be protected against losses by non-performance or inadequate production level to a greater extent than it has been usual up to now, certain other conditions must also be considered.

If the buyer has contracts with several different sellers rather than a single contract with the main contractor, responsibility for failure can be pushed from one contractor to another. The seller should be obliged, therefore, by the buyer not only to build the plant but also to carry out the training of buyer's personnel and to conclude management-contracts with the buyer, not separated from but linked with the main contract. Only an experienced client is in a position to integrate contracts with divided responsibilities and succeed in getting the new plant running well. The advantage of an all-inclusive contract (i.e. including contracts for training and technical management and in some cases commercial management) is that the responsibility for success rests with only two parties - the buyer and the seller.

Extending performance guarantees to the first year of operation

To extend the duration of performance guarantees, the time after starting operation of the plant should be divided into separate periods, within which the production should be increased step-by-step under the common work and responsibility of buyer and seller. Within these individual periods, the seller should be obliged to improve the installation, if necessary even after a successful test-run, but within an overall period of one year.

The work carried out within that one-year period should be done in the presence and under the responsibility of both the buyer and the seller. Provision for this should be made in the general contract between buyer and seller; a special provision will need to be made for the presence and collaboration of the seller with the buyer during a certain period after the test-run.

If the levels of production in the above-mentioned different period which the seller has promised cannot be reached, the seller should, in addition to the contractual guarantees, also pay a certain penalty. The amount (up to about 10 per cent of the contract price) has to be agreed between the parties; it would be intended to cover some of the consequential losses of the buyer.

On the other hand, if the plant achieves high levels of production, the seller should participate by getting a bonus in case of success.

CONCLUSION

Of all the different ways to protect buyer and seller against risks and losses which could be prevented, the best approach is to place both of them in the same boat and motivate them to achieve a high level of production in the first year of the plant's operation. The threat of loss of production is adequate motivation for the buyer. Bonuses for success rather than penalties are the best way to motivate the seller. If this is agreed, then many different ways can be found to implement the approach suggested above.

Finally, it is in the buyer's interest that he concludes an all-inclusive contract (including training and management assistance) with a company or group of companies which are both reliable by reputation and financially strong enough to bear all guarantees without going bankrupt.

II. WAYS IN WHICH PARTICIPANTS AT THE SEMINAR CAN CONTRIBUTE TO UNIDO'S EVALUATION OF THIS TOPIC PRIOR TO THE SECOND CONSULTATION [illegible] THE FERTILIZER INDUSTRY

UNIDO expects the Technical Seminar in Lahore to consider in detail how improved contract procedures can ensure the successful construction and operation of the many new fertilizer plants that will need to be built in developing countries in the future.

The conclusions and recommendations of the seminar will be considered by the forming Group of Countries and Land-Use for Fertilizer Plants when it meets in Vienna in February 1978. The terms of reference of this Working Group are as follows:

(a) Suggest contracts which would better protect the interests of all parties in the international construction and operation of fertilizer plants in developing countries;

(b) Examine the extent to which contractual provisions provide compensation to the client for all losses, including consequential losses, that he may suffer as a result of bad performance of the process and equipment;

(c) Outline procedures for establishing a multinational insurance scheme that would cover such consequential losses.

Specific examples of losses resulting from bad performance of the process and equipment in fertilizer plant.

To consider these three items [illegible] factual evidence is needed. Participants at the Seminar can contribute to UNIDO's preparations for the Working Group by putting very clearly factual evidence relating to specific cases where they have suffered losses as a result of (a) failure to complete construction of a fertilizer plant and/or (b) inadequate performance of the plant as a result of defects in design, equipment and workmanship. In each case UNIDO would like information on:

(a) the extent to which the contract did not provided for but resulted in the speedy correction of inadequate performance and defects in design, equipment and workmanship;

(b) the extent to which inadequate performance of the plant was not quickly corrected and the amount of losses, including consequential losses, that were incurred as a result;

(c) where a dispute arose, how it was settled with or without arbitration and whether the buyer received adequate compensation through the settlement.

Contracts which would better protect the interests of all parties

Participants at the Seminar could give their views on:

(a) the scope and contents of contracts suitable for use in developing countries and a recommendation on how model forms of contract should be prepared;

(b) the adequacy of legal safeguards that have been included in contracts in the past;

(c) the adequacy of legal provision for liquidated damages, penalties and bonus incentives;

(d) the practical value of including performance bonds and other types of bond in the contract;

(e) the need for new methods and procedures for settling disputes with or without arbitration.

Extending performance guarantees to cover the first year of operation of the plant

Some inexperienced buyers of plants fear that after commissioning of the plant it may not continue to operate successfully and the seller will not be obligated to provide the assistance needed to achieve high levels of production. Various ways are suggested for overcoming this problem and participants could express their views on the following proposals:

(a) to make it a contractual obligation of the seller to provide assistance with management of the plant, training of personnel and maintenance of equipment during the first year or two years of the plant's operation;

(b) to extend the contract to cover the initial period of operation of the plant and offer a bonus for the seller for successful operation and a penalty for inadequate performance of the plant during the first year of the plant's operation;

(c) to include in the contract a performance, technology or maintenance bond which covers adequate performance of the plant during the first year or two years of the plant's operation.

Proposals for establishing a Multilateral Insurance Scheme to cover consequential losses arising from inadequate performance of process and equipment

Once a fertilizer plant has passed its commissioning test and has demonstrated a period of successful operation (say six months), it should be possible for the owner to obtain insurance from commercial sources covering both loss or damage and resulting consequential losses arising from "machinery breakdown". This form of insurance covering loss of profits or business interruption insurance is available to many types of business, including the fertilizer industry.

Consequential losses resulting from defects in design and equipment that show up before, during or immediately after the commissioning test cannot at present be covered by insurance available from commercial sources. Furthermore, contracts in current use do not cover the buyer for consequential loss suffered as a result of delays in completion and/or inadequate performance resulting from defects in design and equipment.

The first paper summarized in Part I, outlines a Multilateral Insurance Scheme that would indemnify the buyer against consequential losses arising from such causes. The author proposes that the insurance be prepared as an extension of existing forms of insurance and take into account the contractual obligations of the supplier.

Participants at the Seminar are invited to give their views on the outline of the scheme suggested in Part III of the first paper summarized in Part I (ID/WG.25)/

As regards the institutional arrangements for the scheme, three proposals have been made, namely that the insurance cover be offered:

(a) by insurance companies; insurance underwritten by an insurance company in a developing country might be reinsured internationally;

(b) by the Government of the country supplying the plant through its export credit insurance agency;

(c) by a new multinational agency to be established by Governments to provide such insurance.

Participants are invited to comment on these proposals.

Whichever approach is adopted, there will [illegible] to create the expertise capable of assessing the risks involved in this new type of insurance. An interim step, therefore, might be for Governments or UNIDO to establish a new body with a staff of technical and insurance experts who could assess the risk, advise insurers but not itself provide insurance. Such a body is proposed in the third paper summarised in Part I.

There is the question of how large an insurance premium would be charged. The second paper summarised in Part I was not able to estimate the cost of the premium for the broader type of insurance proposed. But some participants may have views on this.

Finally, one must consider whether the buyer, the seller directly or through his Government's export credit insurance agency should pay the premium. Some views may be expressed on this point.

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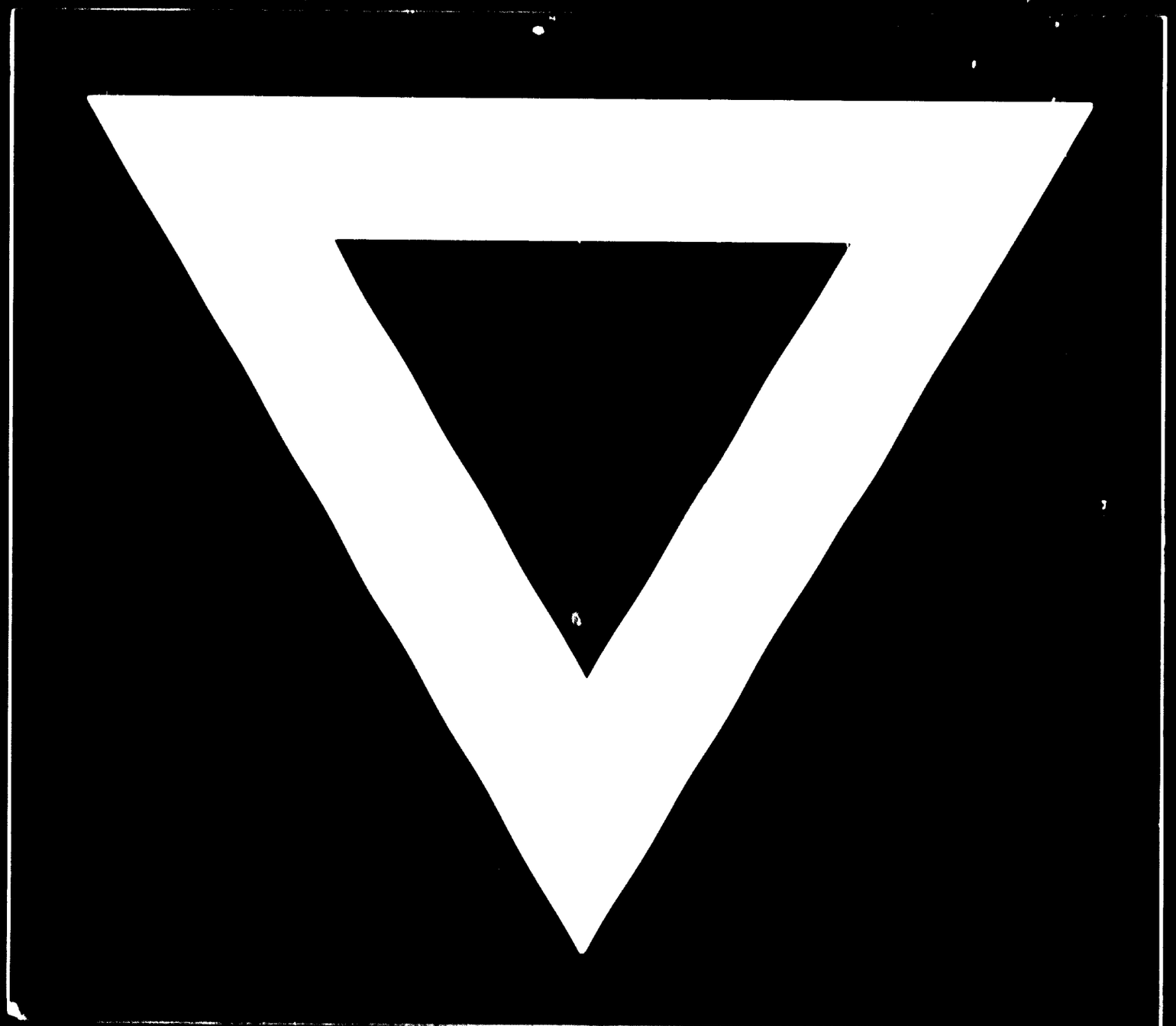

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