

2. Draft Legal Guide on drawing up international contracts for construction of industrial works: draft chapters: report of the Secretary-General (A/CN.9/WG.V/WP.13 and Add.1-6)

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[A/CN.9/WG.V/WP.13]

Introduction

1. At its second session, the Working Group on the New International Economic Order decided to request the secretariat to commence the preparation of a legal guide on contracts for the supply and construction of large industrial works.¹ The Commission at its fourteenth session approved this decision by the Working Group and decided that the Guide should identify the legal issues involved in such contracts and suggest possible solutions to assist parties, in particular from developing countries, in their negotiations.²

2. After having completed at its second³ and third⁴ sessions the consideration of a study submitted by the secretariat of clauses used in contracts for the supply and construction of large industrial works,⁵ the Working Group at its third session requested the secretariat to submit to the Working Group an outline of the structure of the Guide and some sample draft chapters.

3. At its fourth session the Working Group discussed the outline of the structure of the Guide and the draft chapters "Choice of contract type", "Exemptions" and "Hardship clauses".⁶ There was general agreement that the structure of the Guide was on the whole acceptable. It was also generally recognized that, as the work progressed, some rearrangement of the structure might become necessary, and the secretariat was given the discretion to make such rearrangement. The contents of the draft chapters were also considered to be generally acceptable, and suggestions were made for improving them.

4. At its fifth session, the Working Group discussed the draft chapters "Termination",⁷ "Inspection and tests", "Failure to perform",⁸ "Variation clauses",

"Assignment" and "Suspension of construction" as well as a note on the format of the Guide.⁹ Suggestions were made for improving the draft chapters and the illustrative provisions contained therein. Some general observations were exchanged on the draft chapter "Damages",¹⁰ and consideration of this draft chapter and the draft chapter "Liquidated damages and penalty clauses"¹¹ was postponed to the sixth session.

5. The present report contains in its addenda six draft chapters prepared by the secretariat: "Scope and quality of works", Add.1; "Completion, acceptance and take-over", Add.2; "Allocation of risk of loss or damage" (previously referred to as "Passing of risks"), Add.3; "Insurance", Add.4; "Sub-contracting", Add.5 and "Security for performance", Add.6.

[A/CN.9/WG.V/WP.13/Add.1]

Scope and quality of works**Summary**

The contract should describe accurately and in detail the works to be constructed, and in particular its scope and quality. For this purpose, contract practice has developed special contract documents (paragraph 1). The main documents in which the scope and quality are described are the principal contract document, specifications, and drawings. Other documents, such as those listing standards to be applied in the construction, may also be used (paragraph 3). The parties should determine which of the documents dealing with the scope and quality of the works form part of the contract (paragraph 4).

The basic description of the scope of construction to be effected should be set forth in the principal contract document (paragraph 5). This document should also define the main types of performance expected from the contractor (e.g. design, civil engineering), and the major items of construction to be performed (e.g. manufacture of generators) (paragraphs 5-6). In a turnkey contract, the contractor may be obligated to effect all construction which is usual, or which is necessary, having regard to the intended purpose of the works (paragraph 8).

¹A/CN.9/198, para. 92.

²Report of the United Nations Commission on International Trade Law on the work of its fourteenth session, *Official Records of the General Assembly, Thirty-sixth Session, Supplement No.17 (A/36/17)*, para. 84.

³A/CN.9/198.

⁴A/CN.9/217.

⁵A/CN.9/WG.V/WP.4 and Add.1-8, A/CN.9/WG.V/WP.7 and Add.1-6.

⁶A/CN.9/WG.V/WP.9 and Add.1-4.

⁷A/CN.9/WG.V/WP.9/Add.5.

⁸A/CN.9/WG.V/WP.11/Add.1-3.

⁹A/CN.9/WG.V/WP.11/Add.6-9.

¹⁰A/CN.9/WG.V/WP.11/Add.4.

¹¹A/CN.9/WG.V/WP.11/Add.5.

The specifications and drawings together should contain full information on quality, and a full technical description of the works to be constructed. Certain information may be more appropriately conveyed through specifications, and other information through drawings (paragraph 10).

Specifications may describe from a technical standpoint the required quality of the equipment, materials and services to be used for the construction (so-called "design" specifications). Alternatively, the specifications may describe from a technical standpoint the required performance of the finished product, without describing in detail how this performance is to be achieved (so-called "performance" specifications) (paragraph 12). Specifications may list the sections of the work covered by the specifications (paragraph 13). The extent of detail contained in specifications will vary. For example, "design" specifications will contain detailed descriptions (paragraph 14) as will specifications for building work (paragraph 15).

The drafting of specifications may be facilitated by the use of standards prepared by professional bodies. Such standards define the characteristics of certain equipment or materials. The use of such standards gives an assurance of quality through uniform testing and inspection procedures. The standards to be used should be familiar to the purchaser (paragraphs 17-19).

Drawings show in diagrammatic form the various component parts of the works. Drawings may be supplied by the purchaser or his consulting engineer (paragraph 20). The contract may obligate the contractor to bring to the notice of the purchaser any inconsistency he may discover between such specifications and drawings (paragraph 21). Where the contract provides for the purchaser to supply basic drawings and for the contractor to prepare detailed drawings on the basis of these basic drawings, the contract should contain a mechanism to ensure that the detailed drawings conform to the basic drawings (paragraph 22).

The contract should address the issue of responsibility for inaccurate or insufficient specifications and drawings. In principle, the party who supplies inaccurate or insufficient specifications and drawings should be responsible for the data contained therein (paragraphs 23-24). In some cases, an ancillary part of the construction may be omitted from specifications and drawings supplied by the purchaser. If the construction obligations of the contractor have been defined in terms of achieving a certain result, and not limited by reference to the drawings and specifications, the contractor would be responsible for achieving the result (paragraph 25).

The parties should determine which of the several documents relating to the scope and quality of the works is to prevail in the event of an inconsistency. In principle, the principal contract document should prevail over other documents. In respect of specifications and drawings, the decision as to which should prevail may depend on the aspect of the construction involved (paragraph 27).

The contract should determine the extent of confidentiality of the information contained in technical documents prepared by a party for the purposes of the construction and delivered to the other party. The parties may wish to provide that in general the party who prepares the documents retains the ownership in them. The documents may be used for the purposes for which they are intended, but should not be disclosed to a third person without the other party's consent. In certain circumstances, however, the purchaser may have an interest in obtaining ownership in technical documents prepared by the contractor (paragraphs 28-29).

* * *

A. *General remarks*

1. In works contracts it is of great importance to describe precisely the subject-matter of the contract, which is usually a combination of civil engineering, building, the manufacture, delivery, and erection of equipment, and the supply of materials. The description must be, on the one hand, broad enough to encompass the scope of the whole works (purpose, capacity and other main characteristics) and, on the other hand, detailed enough to define the quality and other characteristics of the technical details. In order to achieve this, contract practice has developed special descriptive methods and a special system of contract documents.

2. The contractual arrangements in each case will determine the parties who have to supply the various contract documents. If the purchaser solicits bids for the construction of the works, he must attach to his invitation to tender documents which describe the works to be constructed. If a licensor is to supply a process to be utilized in the works, he must supply the documents which will enable the contractor to construct that part of the works relating to the utilization of the process. Under a turnkey contract, the purchaser may only indicate the main features and operational capabilities of the works which he desires to be constructed, and the contractor will be obliged to supply the specifications and drawings defining the quality of the works.

B. *Determination of scope and quality of works in contract documents*

3. The scope and quality of the works are usually reflected in several types of documents. The principal contract document will contain a basic description of the works to be constructed, and may contain general statements as to the quality of the works. Technical details of the works to be constructed, its quality, and how exactly the construction is to be effected are contained in contract documents usually entitled "specifications" and "drawings". Provisions describing the quality of equipment, materials and services are contained in specifications, and depictions of the intended use of equipment, materials and services are contained in drawings. In some contracts, particularly when civil engineering and building work is involved, there is

often another type of document (sometimes referred to as a "bill of quantities") which contains further details of the scope of the work to be performed. Other documents may also be relevant to determining the scope and quality of the work, such as lists of standards to be observed in the construction.

4. Some of the documents mentioned above focus primarily on legal obligations, while others focus on technical standards and engineering details. Nevertheless, all these documents are legally important because they together contractually determine the scope and quality of the works. The parties should clearly determine which of the documents dealing with the scope and quality of the works form part of the works contract. Such a determination may be advisable, as the rules of the applicable law determining the documents which form part of a contract may be inappropriate to a works contract.

C. Description of works

1. Scope of construction

5. The basic description of the construction to be effected under a works contract should be set forth at the beginning of the principal contract document. This document should also define the main types of performance expected from the contractor, such as the supply of equipment, design, fabrication, installation, testing and delivery of mechanical and electrical components, transportation, civil engineering, building and maintenance.

6. The parties should in addition set forth in the principal contract document a more detailed enumeration of the major items of construction to be performed, such as the manufacture or supply of generators, turbines, structures for housing turbines, or kilns, or the construction of administrative buildings. Such a more detailed enumeration may also set forth the basic engineering characteristics of the enumerated items.

7. The principal contract document should include an account of the conditions under which the capacity and operational capability of the works is expected to be achieved. In some works contracts, a precise description of such conditions (for example, the power load needed or the specific mix of raw materials which should constitute the input) may be very lengthy, and it may not be practical to include it fully in the principal contract document. In such cases, the description of such conditions contained in other documents should be clearly linked to the basic description contained in the principal contract document.

8. The basic description of the works may be complemented, in particular in a turnkey contract, by an additional provision obligating the contractor to effect all construction which, although not specifically described, is nevertheless usual or necessary, having regard to the intended purpose of the works. The mere use of the term "turnkey" to describe the contract may

not be sufficient to impose such an obligation on the contractor, since the term may not under some legal systems have a settled meaning. Such a provision will avoid disputes as to who should bear the costs of small items of material or work either forgotten during the negotiations or not considered worthy of special mention.

9. The description of what is to be done by the contractor may be followed by an enumeration of equipment or materials to be supplied or building or civil engineering to be effected by others, in cases where the purchaser or other contractors also participate in the construction. Although, from the legal point of view, it is unnecessary to enumerate items of work not to be performed by a contractor, such a negative enumeration often makes for certainty. The parties may also sometimes wish to use a model of the works or a portion of the works to be constructed in order to define the scope of the construction to be effected.

2. Quality of works

10. The parties should ascertain that the specifications and drawings together contain full information as to quality, full instructions on how equipment, materials and services are to be related, and the complete technical requirements of the work. When bids are solicited, the specifications and drawings together should be sufficiently detailed to enable a bidder to prepare a priced tender. No clear rules may be formulated as to what information should be conveyed through the drawings and what information should be conveyed through the specifications. The nature of the two types of documents, however, influences their content. What can be better expressed graphically and through drawings should not be included in specifications, which consist of descriptive writing. Thus, for example, a whole structure may be shown in drawings without an attempt to indicate the different materials to be used for its construction. A breakdown of the component parts of the structure, and the properties of the different materials to be used for construction, may be set forth in the specifications.

(a) General descriptions

11. The parties may include in the principal contract document a provision setting a general standard of quality for the equipment, materials and services to be used in the construction of the works. Such a provision may state that all equipment and materials to be incorporated in the works, and services to be supplied, should be "first class", "most suitable", or "the best quality". Such a clause may protect the purchaser where some specific quality has not been provided for in the specifications. Such general descriptions of quality, however, are capable of differing interpretations, and accordingly it is desirable that the contract should also contain very specific quality requirements for the variety of equipment, materials and services to be used in the construction.

(b) *Specifications*

12. The specifications may themselves contain data on the quality of materials and services and instructions on how these are to be applied and combined in order to achieve the results shown in the drawings, or they may simply describe in technical language the required performance of the finished product without describing in detail how this performance is to be achieved. In the latter case the specifications are often called "performance" specifications, while in the former case they are often called "design" specifications. The specifications may also contain other data describing the work (e.g. dimensions). Specifications will usually have general provisions and special technical provisions. The parties should make certain that the documents containing the specifications form part of the contract.

13. The general provisions in specifications, while being similar in content to the general descriptions in the principal contract document, should be more elaborate. No guidelines can be laid down for the drafting of these provisions applicable in all cases. However, the generally technical nature of specifications will result in their containing more technical data and being more technically precise and elaborate than the descriptive provisions of the principal contract document. Specifications in their general provisions should list the sections of the work covered by the specifications. In some instances, the parties may find it useful to set forth in the specifications requirements concerning specific methods of work to be adopted by the contractor, or a special sequence in the construction (required, for example, by an unusual condition of the site). In practice, information concerning such matters as the availability of storage space for the contractor's equipment and materials or the availability of power, water, or other utilities, is sometimes given in the specifications.

14. "Design" specifications should contain a detailed technical description of each item of the work. Such specifications should describe the types and kinds of materials to be provided for each item, their physical and performance properties, the sizes and dimensions of each item of work, the manufacturing techniques to be applied, and any other information of a technical nature relating to the quality of the construction to be effected.

15. Specifications differ for various types of work. Specifications for building may need to be more detailed than for civil engineering due to the multitude of smaller items contained in a building project. Both building and civil engineering specifications will generally be "design" specifications. On the other hand, in specifications for equipment, where the emphasis is likely to be on the performance of the equipment, the specifications will necessarily have to leave considerable latitude to contractors in selecting the proper design, manufacturing techniques and materials to achieve the required performance. The type of contract to be entered into may also influence the degree of detail required. If an invitation to tender solicits bids on a lump-sum basis, very detailed specifications may be needed.

16. The parties should determine how the specifications may most accurately describe the quality of materials to be used. In some cases, the quality may have to be defined in terms of outward appearance, while in other cases it may have to be defined in terms of physical or chemical properties. The contract may prescribe various inspection requirements and testing or approval procedures in order to secure the quality of the specified materials (see chapter XIII, "Inspection and tests"). When any of these procedures are to be conducted at the premises of the contractor, the contract should stipulate the facilities (e.g. laboratory facilities) to be afforded by the contractor for this purpose.

(c) *Standards*

17. The drafting of specifications may be facilitated by the use of various standards, e.g. for equipment and materials. Standards for equipment and materials are regularly issued and perfected by various professional engineering bodies, industrial associations and governmental authorities. Where the contract provides for the use of a standard, the source of the standard and the means of ascertaining the requirements of the standard should be specified.

18. Some standards have become internationally accepted and are widely used in international tendering and contracting. Such standards may relate to matters such as the quality, contents, dimensions, form, weight, composition, packing, and testing of certain equipment or materials. As a rule, the use of such standards is advisable because the standards give tested and verified criteria in respect of the matters which they regulate, and provide an assurance of quality through uniform testing and inspection procedures. Parties should also ascertain whether, under the applicable law, the observance of certain standards is mandatory.

19. The parties should ensure that the standards are appropriate for the type of works being constructed. The use of inadequate standards may lead to defects in the works. The parties should also ascertain whether the standards to be used are familiar in the purchaser's country. The use of unfamiliar standards may reduce the possibility of employing sub-contractors from the purchaser's country or using local materials.

(d) *Drawings*

20. The drawings show in diagrammatic form the various component parts of the works, and in some cases the appearance of the whole works. In cases where the purchaser or his consulting engineer is responsible for supplying the drawings, it may often occur that drawings supplied by the purchaser prior to tendering will not be sufficient for the execution of the construction, and that further drawings become necessary. In such cases the purchaser should, after the conclusion of the contract, from time to time supply further and more detailed drawings. Such further

drawings should be consistent with earlier drawings, as otherwise the contractor may claim that he is being required to effect construction not provided for in the contract.

21. The parties may wish to obligate the contractor to bring to the notice of the purchaser any inconsistency he may discover between drawings and specifications supplied by the purchaser. Such a provision is intended to give the purchaser the opportunity to decide whether the drawings or the specifications are to be followed by the contractor. The contract should therefore entitle the purchaser to determine this question and should obligate the contractor to perform in accordance with the purchaser's determination.

22. In some cases, although the purchaser supplies basic drawings, the contractor is obligated to provide detailed or "shop" drawings. Such drawings are a detailed elaboration of the ideas already contained in the basic drawings provided by the purchaser. The contract should provide that such detailed drawings which the contractor produces should not contain any deviations from the basic drawings. In order to maintain proper control over the work of the contractor, the contract should also provide that the contractor is obliged to submit all detailed drawings for the approval of the purchaser. The contract may, however, provide that approval of the detailed drawings, or the absence of objection by the purchaser to such drawings, should not be deemed to be consent by the purchaser to changes from the basic drawings. If such provision is made, the contract should entitle the purchaser to require corrections to be made to such detailed drawings so as to make them accord with the basic drawings, and to require that any work already done on the basis of the inconsistent detailed drawings should be re-executed so as to conform to the basic drawings.

3. *Responsibility for inaccurate or insufficient specifications and drawings*

23. In cases where specifications and drawings are to be furnished by the purchaser, contractors should be obligated to analyse the information contained in the specifications and drawings, and if they find that such information is inaccurate or insufficient, to suggest modification. However, the purchaser should be responsible for the inaccuracy or insufficiency, and all corrections and changes necessitated by such errors may be considered as variations ordered by the purchaser. He should be obligated to pay all costs incurred by the contractor as a result of such corrections and changes (see the chapter, "Variation clauses").

24. If specifications and drawings are to be supplied by the contractor, he should bear the costs occasioned by all corrections and changes necessitated by inaccurate or insufficient specifications and drawings. Moreover, if such corrections and changes cause a delay in the contractor's performance, he should also be liable for such delay.

25. Cases may arise when an ancillary portion of the construction has been omitted from the specifications and drawings. If the error was made by the contractor, he should be responsible for the omission. If the error was made by the purchaser, the consequences may depend upon the nature of the works contract. If the construction obligations assumed by the contractor have been primarily defined in terms of a specified result (for example, as in a turnkey contract), the contractor should be liable if he does not achieve the result even if a portion of the construction needed for this result had been omitted from the specifications and drawings. If, however, the obligations assumed by the contractor have been primarily limited to the specifications and drawings (for example, to supply and erect certain equipment described in the specifications and drawings), his obligations would be limited by those documents, and the costs resulting from the error should be borne by the purchaser.

26. Disputes may also arise when the use of specified equipment, materials or services is required by the purchaser in certain specifications and drawings furnished by him and it is later discovered that such equipment, materials or services are not suitable for their intended purpose. A solution analogous to that indicated in the preceding paragraph may be adopted. If the contractor has assumed responsibility for the entire design and construction of the works or a portion of the works, the contractor should be obliged to evaluate the specified equipment, materials or services prior to using them. If he discovers their unsuitable character, he should be entitled to the costs entailed in changing the specifications and drawings. If he does not discover the unsuitable character, he should be liable if the works are as a result defective. If, however, the contractor has assumed responsibility only for constructing the works in accordance with specifications and drawings to be supplied by the purchaser, he should not be liable if he uses the specified equipment, materials or services and the works are as a result defective.

D. *Hierarchy of documents*

27. The parties should consider the possibility that the documents defining the scope and quality of the works contain some inconsistent provisions. It may be advisable to provide a method of determining which document is to prevail in such cases. Parties may wish to provide that, where the principal contract document is inconsistent with other documents, it should always prevail. In particular, the contract should clarify that the obligations of the contractor with regard to the required type and operational capability of the works should, in the event of a conflict, prevail over the scope of the construction as indicated in the specifications and drawings. Where specifications and drawings are inconsistent, which document is to prevail may depend on the aspect of the construction involved. For example, it is often provided that in respect of civil engineering, drawings are to prevail over specifications. A possible approach may be to provide that, unless the contract

provides otherwise in respect of any special aspect of the construction, specifications should prevail over drawings. This approach may be justified on the basis that written terms may be considered a more reliable reflection of the agreement between the parties than formulations contained in drawings. As regards other documents, parties may wish, to the extent possible, to determine and indicate in the contract the order of priority among them. Where it is not possible to indicate an order of priority, the contract should provide that any dispute between the parties as to priority should be settled in dispute settlement proceedings (see the chapter "Settlement of disputes").

E. Extent of confidentiality of specifications, drawings and other technical documents

28. The extent of the confidentiality of the information contained in the specifications, drawings and other technical documents is an important question which should be settled in the contract. The parties may wish to provide that the party who prepares the specifications and drawings should also retain the ownership in them. In works contracts it is usual for the contract to provide that the contractor retains ownership in the technical documents relating to the construction delivered to the purchaser. The purchaser has the right to use such documents for the purposes for which they are intended (e.g. the performance of construction obligations of the purchaser), but he may not disclose the information contained therein to a third person without the contractor's prior consent. The same principle should be applicable to technical documents which the purchaser delivers to the contractor.

29. In some cases, however, the parties may wish to provide that the technical documents supplied by one party will become the property of the other party. For example, if the purchaser intends to construct a second identical or similar works himself, he may wish to obtain ownership not subject to restriction on their use of the technical documents prepared by the contractor. It is usual for the contract to provide that technical documents which the purchaser receives for the purposes of maintenance are to be subject to the ownership of the purchaser. The contract may, however, provide that all such technical documents, even when they are owned by the purchaser, remain confidential and may not be disclosed to third persons.

[A/CN.9/WG.V/WP.13/Add.2]

Completion, acceptance and take-over

Summary

The contract should contain provisions dealing with completion of construction, acceptance of the works and take-over of the works and other property. Such provisions should establish when these events occur and their legal consequences (paragraphs 1-2).

In general, completion of construction should occur when equipment, materials and services required under the contract have been supplied by the contractor. The contract should specify a date by which, or a period of time within which, construction should be completed (paragraphs 3-7). The contract may contain a time schedule establishing the sequential order in which construction activities are to take place. Where several contractors are to participate in the construction, a time schedule should, whenever possible, be included in each contract, and the contractor should be obligated to perform in accordance with the time schedule (paragraphs 8-11).

A time for completion, or an obligatory time for construction of a portion of the works under a time schedule, should be extended in certain situations (paragraphs 12-16). The contractor should be obligated to deliver to the purchaser notice of an event which would entitle the contractor to an extension of time and of which the purchaser may not be aware. He should also be obligated to deliver to the purchaser notice of the length of the extension which he considers to be reasonable, when the facts needed to ascertain the length of the extension become known to him (paragraph 15).

Completion of construction should be proved through mechanical completion tests. If the results of the mechanical completion tests are successful, construction might be considered to have been completed as of the date proposed by the contractor for the commencement of the tests, or, alternatively, on the date of successful completion of the tests (paragraphs 17-19).

After completion, acceptance of the works by the purchaser should occur if the works is free of serious defects. In general, this should be proved through performance tests. However, the purchaser should be entitled to accept if he so desires even if performance tests are not successful (paragraphs 20-21).

Acceptance should be considered to occur at the time of successful completion of performance tests. If the performance tests are not conducted at the time required under the contract, the contract should contain appropriate provisions to determine when acceptance occurs. If performance tests are not needed, acceptance should be considered to occur when completion of construction is proved (paragraphs 24-25). It may be advisable for the contract to require the execution of an acceptance protocol (paragraphs 26-27).

The contract should set forth the legal effects of acceptance. At the time of acceptance, the contractor's obligations to hand over the works to be taken over by the purchaser should arise, the risk of loss of or damage to the works not already borne by the purchaser should pass from the contractor to the purchaser, and the period for the quality guarantee should commence to run. Acceptance may also have other legal effects (paragraphs 28-31).

The contract should provide that take-over occurs when a party takes possession of equipment, materials,

the plant during construction or the completed works, as the case may be. In cases of take-over other than take-over of the works by the purchaser after acceptance, the main consequence of take-over should be that the risk of loss of or damage to the property passes to the party taking it over, unless he already bears the risk (paragraph 32).

The contract may provide for the purchaser to take over property prior to acceptance, for example, where a portion of the works is completed by a separate contractor, where the works is to be operated during a trial operation period, where the contract is terminated, or where construction is to be completed by a new contractor at the expense and risk of the contractor (paragraphs 33-38). The contract may provide for the execution of a take-over protocol (paragraph 39). The contract may also provide for the take-over of certain property by the contractor (paragraphs 40-41).

* * *

A. General remarks

1. The main obligation of the contractor should be to complete construction of the works in accordance with the contract. Thereafter, acceptance of the works by the purchaser should occur and the works should be handed over to the purchaser. In some situations the purchaser may take over the works without accepting it. The contract provisions on completion, acceptance and take-over should be harmonized with other contractual provisions, in particular with the provisions on failure to perform and the passing of risks. The way in which the time and consequences of completion, acceptance and take-over are to be settled may depend upon the type of works contract and the nature of the works to be constructed.

2. The contract should clearly establish when completion, acceptance and take-over occur and their legal consequences. In general, the contract should provide that the completion of construction occurs when equipment, materials and services required under the contract have been supplied by the contractor. The contract should require completion to be proved through successful mechanical completion tests. Generally, acceptance should occur when the contractor proves through successful performance tests that the completed works functions substantially as required by the contract and is therefore without serious defects, although acceptance might also occur in some cases in which the performance tests are not held or when the results of such tests are not successful. However, the contract should ensure that even after acceptance of the works the purchaser will have remedies in respect of defects discovered before acceptance or notified during the guarantee period, provided the contractor is liable for them (see the chapter "Failure to perform"). Take-over by a purchaser should occur when he takes possession of equipment, materials, the plant during construction or the completed works, as the case may be, and by a contractor when he takes possession of equipment or materials.

B. Completion of construction

1. Time for completion of construction

3. The contract should clearly set forth the time when the construction must be completed by the contractor. The time for completion may be determined either by a fixed date or by reference to a period of time. If a fixed date is used, the contract should specify the situations in which this date may be postponed and the length of postponement. If the contract requires construction to be completed within a specified period of time, the contract should specify when the period is to commence, under what circumstances it will cease to run or will be prolonged and the permissible extent of the prolongation.

4. In determining when a period of time for completion of construction commences, the following dates may be considered:

(a) The date on which the contract enters into force;

(b) The date on which the contractor receives notice from the purchaser that all licences for import of equipment and materials and official approvals for construction of the works required in the purchaser's country have been granted to the purchaser, or that construction should begin;

(c) The date of receipt by the contractor of an advance payment of a portion of the price to be made under the contract;

(d) The date on which the purchaser delivers to the contractor a design, drawings or descriptive documents needed for the commencement of construction.

5. The contract might include more than one of the dates mentioned in the preceding paragraph, in which case the time period should commence from the latest of those dates.

6. If only one contractor participates in the construction of the works, it would generally be in the interest of the purchaser for the construction to be completed as early as possible and for the fixed date or the end of the period of time to be considered as a final date for completion, with earlier completion being permissible or even encouraged. In some cases, however, the purchaser may not wish construction to be completed earlier for various practical reasons, including his financial arrangements.

7. Exceptionally, in some cases which involve complex and long-term construction, it may not be possible at the time of entering into the contract to specify a fixed date or a period of time for completion of construction. In such cases the contract may set forth an estimated date or period of time and provide that the definite time for completion must be agreed later, within a period of time to be specified in the contract. If the parties fail to agree, the time for completion should be determined in dispute settlement proceedings (see the chapter "Settlement of disputes"). The pendency of such proceedings should not interrupt the performance of the contract.

2. *Time schedule for construction and completion*

8. The contract may contain a time schedule to establish the sequential order in which construction activities are to take place. A time schedule is desirable in order to facilitate an evaluation of the progress of the construction. It may also facilitate the fixing of an extension of time for completion in the case of a variation or an obstacle to construction. The time schedule may refer to the sequencing and scheduling of individual tasks which are required for the completion of construction, without imposing any legal obligations. Alternatively, it may establish obligatory interim completion dates or periods of times for phases of the construction or portions of the works. A contractor who fails to meet such obligatory dates or periods of time should be liable for delay (see the chapter "Failure to perform", paragraphs 36-38). In addition to the contractor's obligations with respect to construction of the works, the time schedule should reflect any obligations of the purchaser relating to construction (e.g. handing over of the site or supply of equipment or materials). When a time schedule is contained in the contract, the contractor should be obliged to deliver to the purchaser periodically during construction (e.g. on the first day of each month) a report on the progress of construction.

9. The time schedule should be prepared in such a form (e.g. graphically) as would permit the actual progress of the construction to be recorded and compared with the time schedule. One method for designing the time schedule which the parties may wish to consider is the so-called "critical path method". In this method the entire construction is divided into individual tasks and each task is assigned a period of time within which it is to be performed. These periods are incorporated in a schematic diagram depicting the sequence and interrelationship of construction activities. Critical activities, i.e. activities on which other activities depend, form a continuous chain, known as the critical path, through the schematic diagram. This method may facilitate the evaluation of the consequences of delay in certain construction activities upon other such activities.

10. Where several contractors are to participate in the construction (the separate contracts approach; see the chapter "Choice of contract type"), a time schedule of the sequence of construction should be included in each contract to enable the purchaser to co-ordinate the construction of the entire works. The contractor should be obligated to construct in accordance with the time schedule. The sequence of the construction under each contract should be harmonized with an overall time schedule for the construction of the entire works. However, where it is not possible to agree on a time schedule at the time of entering into a contract, the contract might only stipulate the period of time within which the construction required by the contract must be completed. A precise time for the commencement of construction may be determined later by the purchaser, taking into consideration the time schedule for construction agreed with other contractors participating

in the construction. However, the contract may provide that if the purchaser requires the construction to commence before or after specified dates, the contractor would be entitled to a certain adjustment in the price. The contract may also provide that if the purchaser does not require the commencement of construction within a period specified in the contract, the contractor may be entitled to terminate the contract.

11. Should the contract provide that the time schedule is to be agreed upon by the parties at a later date, the contract should also provide a procedure to be followed for reaching such agreement. If the time for completion is extended, the time schedule for construction should be adapted to the new time for completion. Failure to agree on the time schedule or its adaptation should entitle either party to resolve the disagreement in appropriate dispute settlement proceedings.

3. *Extension of time for completion*

12. The time for completion of the construction specified in the contract, or an obligatory time for construction of a portion of the works under a time schedule, should be extended if certain events occur. The parties may wish to provide for such an extension in the following situations:

(a) The construction has been suspended by the purchaser for his convenience or by the contractor because of the purchaser's failure to perform an obligation (see the chapter "Suspension of construction", paragraphs 6 and 17, and the chapter "Failure to perform", paragraph 16);

(b) Further work must be performed by the contractor due to a variation of the construction ordered by the purchaser (see the chapter "Variation clauses") or due to safety, environmental or other administrative regulations binding on the contractor which are issued after the conclusion of the contract;

(c) Further work must be performed by the contractor to make good loss or damage the risk of which is borne by the purchaser, or to make good loss or damage caused by the purchaser, or a person employed by the purchaser for construction;

(d) The purchaser, or a person employed by him for construction, prevents the contractor from constructing the works in accordance with the contract;

(e) The construction is prevented as a result of an exempting impediment (see the chapter "Exemptions").

13. If, in exceptional cases, the contract provides that liquidated damages are to be payable even if failure to complete on time is due to an exempting impediment, the time for completion should not be extended as a result of the occurrence of such an impediment. If the time required for completion were extended, an inconsistency would result because the event giving rise to the obligation to pay liquidated damages (i.e. failure to complete by the date required in the contract) would not occur.

14. The contract should provide that if grounds arise for an extension of time for completion, the time for completion of the construction is to be automatically extended by a period of time reasonably needed for completion, taking into account any further construction which must be effected, the period of time during which the contractor was prevented from continuing with the construction, or the period of time during which the construction was suspended. While the period of extension should be reasonably commensurate with the duration of a suspension or of an obstacle, it need not in all cases be of the same length as the duration of the suspension or the obstacle. In some cases it may be reasonable not to extend the time for completion at all, in particular if critical construction activities are not affected. For example, additional time might not be necessary in the case of a short interruption due to adverse weather conditions at the beginning of long-term construction.

15. In respect of certain events which would entitle the contractor to an extension of time for completion, but of which the purchaser may not be aware (e.g. those mentioned in (c) and (e) of para. 12, above), the contractor should be obliged to deliver promptly to the purchaser notice of the occurrence of such events. In all cases, when the extent of additional construction to be effected by the contractor or the duration of a suspension or an obstacle becomes known to the contractor, he should be obligated to deliver to the purchaser notice of the length of the extension which he considers to be reasonable. Where, within a specified period of time to commence from the time when the contractor delivers the latter notice to the purchaser, the parties fail to agree on the extension of time which is to be given, either party should be entitled to ask for a settlement of the issue in dispute settlement proceedings. The contractor should be obliged to continue with any construction which is not affected by the event entitling him to an extension of time.

16. The issue of extension of time for completion in the case of variation of the construction by the purchaser and the procedure to be followed in this connection are discussed in the chapter "Variation clauses".

4. *Proof of completion: mechanical completion tests*

17. When the contractor considers the construction to have been completed, he should deliver notice thereof to the purchaser, and the contractor should be obligated to prove the completion through mechanical completion tests having successful results. The purpose of such tests is to demonstrate through visual inspection of the works and mechanical operation of equipment that the entire construction undertaken by the contractor has been completed in accordance with the contract (see the chapter "Inspection and tests"). If during these tests it is discovered that certain items are missing, but their absence does not prevent or delay the operation of the works, the results of the tests should be considered successful.

18. If the results of the mechanical completion tests are successful, the construction might be considered to have been completed as of the date proposed by the contractor for the commencement of the tests or, alternatively, on the date of successful completion of the tests. However, if the latter date is chosen for the date of completion, the contract should provide that if, due to obstacles for which the contractor is not responsible, the tests cannot be completed by the time set forth in the contract for the completion of construction, the contractor is not to be regarded as being in delay.

19. If the mechanical completion tests are not conducted on the scheduled date, or if the results of the tests are not successful, completion will not be proved. The contract should contain appropriate requirements for the tests to be conducted at some later date or to be repeated. If certain formalities (e.g. the participation of an inspecting organization) are required for the conducting of mechanical completion tests, and if the tests cannot be conducted due to an inability to comply with these formalities which persists beyond the period of time specified in the contract for the conducting of the tests, the contract should permit the contractor to prove in any other manner the completion of the construction (see the chapter "Inspection and tests").

C. *Acceptance*

20. The contract should provide that after completion, acceptance of the works by the purchaser is to occur if the works is free of serious defects (see the chapter "Failure to perform"). In general, this should be proved through performance tests (see the chapter "Inspection and tests"). The performance tests should not be conducted until the mechanical completion tests have proved to be successful, unless the purchaser consents to the conduct of performance tests without the conduct of mechanical completion tests. In some cases, however, the contract may permit the mechanical completion tests and the performance tests to be conjoined in the same test procedures. In other cases, due to the nature of construction, performance tests may not be needed.

21. Even when the performance tests are not successful, however, the purchaser should be entitled, if he so desires, to accept the works. Such acceptance may be effected by the execution by the parties of an acceptance protocol (see paras. 26 and 27, below).

22. If certain formalities (e.g. the participation of an inspecting organization) are required for the conducting of performance tests, and if the tests cannot be conducted due to an inability to comply with these formalities which persists beyond the period of time specified in the contract for the conducting of the tests, the works should be put into operation. The operation of the works for a period of time equal to the period of time specified in the contract for the duration of performance tests should be deemed to constitute performance tests.

23. If the construction of different portions of the works is completed at different times and these portions can be tested and used independently, each portion may be accepted separately, if the contract provides for such separate acceptance. In such cases, the rules in respect of the completion and acceptance of the entire construction should apply to the completion and acceptance of such portions of the construction. However, in some cases where several contractors participate in the construction of the works, it may not be possible to test or put into operation the equipment supplied and erected by one of these contractors before the entire works is completed. In such cases, the conduct of performance tests and acceptance cannot occur until the completion of construction by other contractors, and the contract may provide that the portion of the works completed by the contractor should be taken over by the purchaser.

1. *Time of acceptance*

24. As acceptance of the works has significant legal effects, the contract should clearly stipulate when acceptance occurs. If performance tests are conducted with successful results, acceptance should be considered to occur at the time of the completion of the tests, whether or not the purchaser signs a performance test protocol (see the chapter "Inspection and tests") or performs an act of acceptance, such as the signing of an acceptance protocol. If there is a dispute between the parties as to whether the performance tests were successful, and it is later found that the tests were successful, acceptance would have occurred at the time of completion of the tests.

25. If the performance tests are not conducted on the scheduled date, or if the results of the tests are not successful, acceptance will normally not occur, and the contract should contain appropriate requirements for the tests to be postponed to some later date or to be repeated, as the case may be (see the chapter "Inspection and tests"). If the postponed tests are not conducted due to reasons for which neither party is responsible, acceptance should not occur until the tests can be conducted and their results are successful, unless the purchaser decides to accept even though the tests were not conducted. However, for the case where the postponed tests are not conducted due to reasons for which the purchaser is responsible, the contract should provide for acceptance to occur when the contractor despatches to the purchaser a written notice that acceptance is considered to have occurred. If the postponed tests are not conducted due to reasons for which the contractor is responsible, no acceptance should occur unless the purchaser decides to accept even though the tests were not conducted. In cases where performance tests are not needed, acceptance should be considered to occur at the time when completion of construction is proved. Disputes as to whether the works has been accepted and, if so, on what date, should be settled in dispute settlement proceedings.

2. *Acceptance protocol*

26. It may be advisable for the contract to require the execution of an acceptance protocol, signed by both parties, in which the acceptance of the works by the purchaser would be confirmed. A protocol which is binding on both parties is preferable to a unilateral act evidencing acceptance. Such a protocol would minimize disputes as to whether and on what date the works has been accepted. In addition, by means of an acceptance protocol the purchaser could indicate his acceptance of the works in cases where acceptance would not otherwise occur (para. 21, above).

27. The acceptance protocol should evaluate the results of the performance tests, if it was not possible to present such an evaluation in the performance tests protocol (see the chapter "Inspection and tests"), and should indicate the date of acceptance. Normally, this should be the date when the performance tests have been completed with successful results. In addition, it may be advisable for the protocol to include a time schedule for the supply of items which were discovered during the mechanical completion tests to be missing (if such a time schedule is not already included in the mechanical completion tests protocol, see the chapter "Inspection and tests"), and for the cure of the defects discovered during the performance tests. If the parties differ as to certain issues, such as the time-limit for the cure of discovered defects, the protocol should reflect the views of both parties. Such differences should be settled in dispute settlement proceedings.

3. *Legal effects of acceptance*

28. The contract should clearly set forth the legal effects of acceptance. The parties may agree that at the time of the acceptance, the contractor's obligation to hand over the works and the purchaser's obligation to take it over arise, that the risk of loss of or damage to the works passes from the contractor to the purchaser, and that the period for the quality guarantee commences to run. In addition, acceptance may affect the remedies available to the purchaser in respect of defects discovered in the works. Some remedies for defects in the works (e.g. price reduction) may be available only if the works is accepted. The conditions under which other remedies (e.g. termination of the contract) are available may differ depending on whether or not the works is accepted (see the chapter "Failure to perform", paragraphs 55 and 69). The time of acceptance may also be relevant for certain other issues, for example, the payment of a portion of the price (see the chapter "Price").

29. After acceptance by the purchaser, the contractor should be obliged promptly to hand over the works to be taken over by the purchaser and to leave the site.

30. The contract should provide that the risk of loss of or damage to the works not already borne by the purchaser should pass from the contractor to the purchaser at the time of acceptance of the works. In

certain situations, the risk of loss of or damage to the plant during construction may already be borne by the purchaser prior to acceptance, such as in situations where several contractors are employed for the construction of the works (see the chapter "Allocation of risk of loss or damage"), or where the completed works is taken over by the purchaser for the purpose of a trial operation prior to the performance tests and acceptance (see paras. 35 and 36, below).

31. The period for the quality guarantee in respect of the works should, generally, commence to run at the time of acceptance. In some cases, however, a portion of the works which has been completed by the contractor and accepted by the purchaser is not to be operated before completion of construction and the conduct of performance tests in respect of the other portions of the works. In these cases, the guarantee period may commence to run at a time other than the acceptance of that portion of the works (see the chapter "Failure to perform", paragraphs 30 and 31).

D. Take-over

32. The contract should provide that take-over occurs when a party takes possession of equipment, materials, the plant during construction or the completed works, as the case may be. In cases of take-over other than take-over of the works by the purchaser after acceptance (see para. 29, above), the main consequence of take-over should be that the risk of loss of or damage to the property taken over passes from the party handing it over to the party taking it over, unless the latter party already bears the risk (e.g. where the risk passed at the time when equipment was handed over to the first carrier for transmission to the purchaser). In addition, an obligation of the purchaser to pay a portion of the price may arise upon his taking over certain property (see the chapter "Price").

1. Take-over by purchaser

33. In addition to providing for the purchaser to take over the works at the time of his acceptance of the works, the contract may provide for the purchaser to take over property prior to acceptance of the works.

(a) Take-over after completion of construction by one of several contractors

34. This is discussed in para. 23, above.

(b) Take-over for trial operation

35. In some works contracts it may be agreed that the performance tests are to be conducted after the works has been run in, the purchaser's personnel have become fully acquainted with the operation of the works and the works is running under normal operating conditions. This approach may give greater assurance to the

purchaser that the works, as operated by his own personnel, do in fact meet the performance standards specified in the contract. This is normal practice under a product-in-hand contract (see the chapter "Choice of contract type") and may be advisable in any other contract in which the contractor undertakes to train the purchaser's personnel to operate and maintain the works. If the parties choose this approach, the contract should provide for the works to be taken over after the completion of construction is proved, and should specify the duration of the trial operation period. This period should commence at the time the works is taken over. The contract should provide for the trial operation period to cease to run during any interruption in the operation of the works for which the contractor is responsible. Normally, performance tests should be conducted at the end of the trial operation period.

36. During the trial operation period, the works should be operated by the purchaser's personnel under the direction and supervision of the contractor's personnel. The costs of the contractor's personnel should be borne by the contractor and other costs connected with the operation of the works should be borne by the purchaser. However, the contractor should be liable to cure at his own expense all defects discovered during the trial operation, unless they are caused by events covered by the risk borne by the purchaser, or by a failure of the purchaser's personnel to observe instructions given by the contractor. The output of the works during the trial operation should be owned by the purchaser.

(c) Take-over in case of termination of contract

37. Where the contractor fails to perform his obligations in accordance with the contract, the right of the purchaser to terminate the contract is, generally, limited to uncompleted or defective portions of the works (see the chapter "Termination", paragraphs 6-10). In such cases the purchaser should be entitled to require the portions of the works already constructed to be handed over to him in order that the construction might be completed, or that discovered defects be cured, by himself or by another contractor. The take-over of the uncompleted or defective works should be effected within a short period of time, to be specified in the contract, after the termination. The guarantee period in respect of the portion of the works taken over by the purchaser should commence to run from the time when the entire works is completed and put into operation.

(d) Take-over in case of completion of construction at contractor's expense and risk by another contractor

38. If the purchaser chooses the remedy of completing the construction by a new contractor at the expense and risk of the contractor (see the chapter "Failure to perform", paragraph 38), the contractor should be obliged to hand over the uncompleted works to be taken over by the purchaser. The time of the take-over should be the time when the contractor is obliged to

stop the construction and leave the site (see the chapter "Failure to perform", paragraph 65).

2. *Take-over protocol*

39. In all cases of take-over noted in paras. 34-38, above, it may be advisable for the contract to require the execution of a take-over protocol, signed by both parties, which would indicate the take-over of the works by the purchaser. The protocol should also indicate the date of take-over and the condition of the works at the time of take-over.

3. *Take-over by contractor*

40. In cases where defects are to be cured by the replacement of defective equipment or materials, or where the contract is terminated because of defects in the work, the contractor may be obliged to take over defective equipment or materials, if they are in the possession of the purchaser, and to remove them from the site. In some cases, however, the contractor may be permitted under the contract to take them from the site only after having replaced them with new equipment or materials.

41. If the contract is terminated by the contractor due to failure to perform by the purchaser, the contractor may be entitled to take over equipment or materials supplied by him and in the possession of the purchaser if they have not been paid for by the purchaser. Costs connected with taking over the equipment or materials should be borne by the purchaser.

[A/CN.9/WG.V/WP.13/Add.3]

Allocation of risk of loss or damage*

Summary

The contract should clearly provide who bears the risk of loss of or damage to equipment and materials, the plant during construction and the completed works and what are to be the consequences of such risk (paragraphs 1-4).

The parties may sometimes exclude from the risk to be borne by the contractor certain kinds of accidental events or certain acts of third persons (the so-called "excepted risks"). This exclusion will in practical effect allocate those "excepted risks" to the purchaser (paragraph 8).

The determination of the time when the risk of loss of or damage to equipment and materials supplied by the contractor for incorporation in the works should pass from the contractor to the purchaser may depend

on who is to be in possession and take care of such equipment and materials. Furthermore, the possibility of insuring the equipment and materials, and the time when the condition of the equipment and materials can be checked, would be relevant (paragraphs 11-16). If only one contractor is employed to construct the entire works, the risk of loss of or damage to the plant during construction and the completed works should be borne by him until the acceptance or the take-over by the purchaser (paragraphs 20 and 21). If several contractors participate in the construction, the risk in respect of the plant during construction and the completed works should generally be borne by the purchaser (paragraph 22).

When the contractor bears the risk, he should be obliged to make good the loss or damage at his expense with all possible speed. If the risk is borne by the purchaser, the contractor should be obliged, if so required by the purchaser, to make good the loss or damage at the purchaser's expense as soon as he can conveniently do so (paragraphs 23-24).

The contract should also provide for the passing of the risk of loss of or damage to equipment and materials supplied by the purchaser for incorporation in the works (paragraphs 17-19), and for the allocation of the risk of loss of or damage to the contractor's tools and construction machinery to be used for effecting the construction (paragraph 25).

* * *

A. *General remarks*

1. During the construction of the works, physical loss or damage for which neither party is responsible may be caused to equipment or materials to be incorporated in the works, to the plant during construction, or to the completed works, as well as to tools and construction machinery to be used by the contractor for effecting the construction. Such loss or damage may be caused by accidental events, or by the acts of third persons for whom neither party is responsible. The likelihood of such loss or damage is usually higher in connection with a works contract than with certain other types of contracts because the construction involved is frequently a long-term and complex process. It is therefore advisable for the contract clearly to allocate the risk of such loss or damage during the construction, i.e. to determine the scope of the risk of such loss or damage to be borne by each party. When the risk is borne by one of the two parties, he will have to bear the financial consequences of the loss or damage resulting from such a risk without being able to obtain compensation for those financial consequences from the other party.

2. The accidental event or act of a third person causing the loss or damage may also cause a failure of performance by the party bearing the risk. For example, as a result of having to repair the plant damaged by a storm, the contractor may be unable to meet his completion date, and this may result in loss to the

*This chapter has previously been referred to under the title "Passing of risks".

purchaser. Whether the party failing to perform is liable in damages for this loss will depend on whether the accidental event or act of the third person constituted an exempting impediment (see the chapter "Exemptions").

3. The question of who bears the risk of loss or damage is settled in different ways under different legal systems, and some legal rules may be inappropriate to a works contract, such as a rule that risk is to be borne by the owner of property. Under some legal systems, the risk of loss of or damage to property may pass to a purchaser prior to its handing over when the property is clearly identified to the contract by marking, shipment, notice given to the purchaser, or other means. In addition, legal rules may provide that equipment and materials, once incorporated in a plant, form part of the plant, and that the rules governing the bearing of risk in relation to the plant also apply to the equipment and materials so incorporated. In principle, however, many legal systems permit the parties to agree on who bears the risk, subject to certain limitations.

4. In determining how to allocate the risk of loss or damage between the parties, they may wish to consider the interplay of various factors. Thus, it may be advantageous to allocate the risk to the party who has the duty to care for the property, as this may lessen litigation over whether the loss or damage was caused by a failure to take due care of the property, or by an accidental event or act of a third person which could not have been prevented. It may also be advisable to allocate the risk to the party who is able to insure the goods at the least cost, or who under the normal practice relating to a works contract will provide the insurance cover for the loss or damage in question, or who is in a better position to pursue a claim against an insurer (see the chapter "Insurance"). It may also be advantageous to allocate the risk to the party who can best salvage and dispose of the damaged property.

5. In addition, it should be noted that it is generally not advisable to provide in the contract for more than one passing of risk between the parties in relation to the same risk (e.g. from purchaser to contractor, and then from contractor to purchaser). A multiple passing of risk is likely to create complexity and uncertainty as to who bears the risk.

6. The financial consequences of bearing a risk may be considerably mitigated if the risk is insured against. However, since certain risks connected with the execution of a works contract may not be insurable on reasonable terms, it should be noted that a party may be compelled to bear certain risks against which he has not insured (see the chapter "Insurance").

7. The risk borne by a contractor may cover loss of or damage to equipment and materials to be incorporated in the works, the plant during construction, and the completed work until acceptance. Whether the risk in respect of all, or only some, of these items should be borne by the contractor may depend on the type of works contract in question.

8. The parties may sometimes exclude from the risk to be borne by the contractor loss or damage caused by certain events. In practice, loss or damage caused by war, rebellion, other military action, riots (unless solely caused by employees of the contractor or his sub-contractors), nuclear fuel or waste, pressure waves of aircraft, earthquake, or floods is often excluded. This exclusion usually applies only to cases where the loss or damage is caused by the events in the country where the works is to be constructed. If, however, the purchaser is to bear such risks in respect of loss of or damage to equipment or materials supplied by the contractor caused by such events even outside the country where the works is being constructed, the contract should clearly provide when the purchaser should commence to bear such risks (e.g. at the time when the equipment or materials are handed over to the first carrier for transportation to the site).

9. In some works contracts, the scope of the risk borne by a party is limited only to loss or damage caused by natural accidental events (e.g. floods, storms) and the allocation of the risk of loss or damage caused by a third person for whom neither party is responsible is left to the applicable law. This approach may, however, be inadvisable because situations may often arise in practice where it is not clear whether the loss or damage was caused by an accidental event or by such a third person.

10. In situations where equipment, materials, the plant during construction or the completed works are in the possession of the contractor, but the risk of loss of or damage to such property is borne by the purchaser, it is advisable to provide that the contractor should take all reasonable precautions to prevent or minimize such loss or damage. The contractor should also be obligated to notify the purchaser promptly of loss or damage which occurs.¹

B. Equipment and materials supplied by contractor for incorporation in works

11. The time when the risk should pass from the contractor to the purchaser may depend on who is to be in possession of the equipment and materials and who is to take care of them. Furthermore, the risk should not pass at a time when there is only a limited possibility of checking the condition of the equipment and materials. If the equipment and materials are not properly checked at the time the risk passes and they are later found to be lost or damaged, it may be difficult to determine when the loss or damage occurred and who is to bear the risk thereof.

¹Illustrative provision

"In constructing the works and performing any other obligation under the contract concerning any equipment and materials, the plant during construction or the completed works, the contractor shall take all reasonable precautions to prevent any loss thereof or damage thereto, the risk of which is borne by the purchaser, and to minimize the amount of such loss or damage. The contractor shall promptly notify the purchaser of any such loss or damage after he has discovered it or ought to have discovered it."

12. The type of works contract may also be relevant to determine the time the risk should pass. If only one contractor assumes responsibility for the entire construction of the works (in particular, in the case of a turnkey contract), the risk of loss of or damage to equipment and materials to be incorporated in the works should be borne during the construction by the contractor. If, in such cases, the purchaser were to bear the risk at any time during the construction, and the works fails to operate in accordance with the contract, disputes may arise as to whether such failure to operate is due to loss of or damage to equipment or materials in respect of which the risk was borne by the purchaser, or to defective performance by the contractor.

13. If, however, the parties to a turnkey contract do agree that the risk during the construction should be borne by the purchaser, they may reduce the difficulty mentioned in the previous paragraph by stipulating that the contractor is responsible for the failure of the works to operate unless he proves that the failure was caused by loss or damage the risk of which was borne by the purchaser, and unless he has notified the purchaser of such loss or damage promptly after he has discovered it or ought to have discovered it.

14. If several contractors participate in the construction of the works, the time when the risk of loss of or damage to the equipment and materials is to pass from a contractor to the purchaser may depend on whether or not the contractor's personnel are to be present at the site at the time of delivery. If the contractor's personnel are to be present and to take over the equipment and materials, which are to remain in the contractor's possession until they are incorporated in the works, the parties may wish to agree that the contractor is to bear the risk until such incorporation.²

15. If, however, the contractor's personnel are not to be present at the site at the time of delivery, and the equipment and materials are to be taken over and stored by the purchaser until their use for the construction by the contractor, the risk should pass to the purchaser at an appropriate time and remain with the purchaser. The parties may wish to consider which of the times set forth below may be an appropriate time for the passing of the risk to the purchaser:

(a) The time when the equipment and materials are handed over to the first carrier for transmission to the purchaser under the contract, or effectively pass the ship's rail at the agreed port of shipment;

(b) The time when the customs formalities are concluded at the frontier of the country from which the equipment and materials are exported; or

(c) The time when the equipment and materials are taken over by the purchaser or put at the disposal of the purchaser at the site.³

16. An alternative approach is to provide that the risk is to pass in accordance with the relevant rule under the International Rules for the Interpretation of Trade Terms (INCOTERMS) of the International Chamber of Commerce applicable to a trade term (e.g. CIF or FOB) chosen in the contract by the parties.⁴

C. Equipment and materials supplied by purchaser for incorporation in works

17. Under some works contracts, the purchaser is obligated to supply equipment or materials to be used by the contractor for the construction of the works. In these cases the contract should clarify which party bears the risk of loss of or damage to such equipment or materials.

18. The parties may wish to provide that, if the contractor's personnel are to be present at the site at the time of the supply by the purchaser and the contractor bears the risk in respect of the plant during construction and the completed works until acceptance, the risk in respect of the equipment or materials supplied should pass from the purchaser to the contractor at the time when they are taken over by the contractor. If the contractor fails to take them over, the risk may pass from the time when the contractor is in delay in taking them over. This approach has the advantage that, if after completion of the construction a failure of the works to operate in accordance with the contract were to occur involving such equipment or

³Illustrative provisions

"(1) The risk of any loss or damage from any cause whatsoever to equipment and materials to be supplied by the contractor for incorporation in the works shall pass from the contractor to the purchaser at the time when [the equipment and materials are handed over to the first carrier for transmission to the purchaser under the contract] [the equipment and materials effectively pass the ship's rail at the agreed port of shipment] [the customs formalities are concluded at the frontier of the country from which the equipment and materials are to be exported under the contract] [the equipment and materials are taken over by the purchaser or put at the disposal of the purchaser at the site].

"(2) [Identical to footnote 2, para. (2), above.]"

⁴Illustrative provision

"The equipment and materials to be supplied by the contractor for incorporation in the works shall be delivered on the basis of [FOR ... (named departure point)] [FOT ... (named departure point)] [FAS ... (named port of shipment)] [FOB ... (named port of shipment)] [C & F ... (named port of destination)] [CIF ... (named port of destination)] [Freight/Carriage Paid to ... (named point of destination)] [Freight/Carriage and Insurance paid to ... (named point of destination)] [Ex Ship ... (named port of destination)] [Ex Quay (duty paid ... named port)] [Delivered at Frontier ... (named place of delivery at frontier)] [Delivered Duty Paid at ... (named place of destination in the country of importation)] and the time when the risk shall pass from the contractor to the purchaser shall be determined in accordance with the International Rules for the Interpretation of Trade Terms (INCOTERMS) of the International Chamber of Commerce in force on the date of the conclusion of this contract." (INCOTERMS as revised in 1980 are contained in ICC document No. 350.)

²Illustrative provisions

"(1) The contractor shall bear the risk of any loss or damage from any cause whatsoever to any equipment and materials supplied by him until their incorporation in the works.

"(2) However, the risk borne by the contractor shall not cover any loss or damage caused by the purchaser or any person employed by him [or caused by ... (here indicate "excepted risks"; see para. 8, above) in the country where the works is to be constructed]."

materials, disputes between the parties as to the cause of such failure might be reduced. The advantage of this approach is less when the purchaser bears the risk in respect of the plant during construction and the completed works. In such a case, this approach results in a double passing of risk (from the purchaser to the contractor and from the contractor to the purchaser when the equipment and materials are incorporated in the plant). Furthermore, disputes as to the cause of a failure of the works to operate may not be substantially reduced, as the purchaser bears the risk in respect of such equipment and materials after their incorporation in the plant. Accordingly, the parties should consider whether the risk is to remain with the purchaser or whether the risk should pass to the contractor.

19. Where, because the contractor's personnel will not be at the site at the time of supply, the parties have determined that the risk in respect of equipment and materials to be supplied by the contractor should pass to the purchaser at the time of such a supply or before they are supplied at the site (see para. 15, above), it would be advisable to provide that the risk in respect of equipment and materials to be supplied by the purchaser should also remain with the purchaser.

D. Plant during construction and completed works

20. If only one contractor is employed to construct the entire works (in particular, in the case of a turnkey contract), it is advisable for the contract to provide that the contractor bears the risk of loss of or damage to the plant during construction and the completed works until acceptance (see the chapter "Completion, acceptance and take-over"). As already indicated in para. 12, above, this approach may prevent disputes as to whether the failure of the works to operate in accordance with the contract is due to a defect for which the contractor is responsible, or to loss or damage the risk of which was borne by the purchaser.

21. The time when acceptance occurs will depend on the provisions in the contract regulating this issue. If the contract does not provide for acceptance to occur automatically in certain situations but requires an act of acceptance by the purchaser, and if the purchaser fails to accept, the risk may pass at the time when the purchaser is in delay in acceptance. If a trial operation is to take place before acceptance of the works, the contract may provide that the risk is to pass at the time of take-over of the works by the purchaser (see the chapter "Completion, acceptance and take-over").

22. If two or more contractors participate in the construction and the purchaser is to co-ordinate the construction of the works as a whole (see the chapter "Choice of contract type"), it may be advisable to provide that the purchaser bears the risk of loss of or damage to the plant during construction. It may not be practical, or even possible, for each contractor to bear the risk in respect of a portion of the plant, since a particular portion may incorporate equipment and materials supplied by more than one contractor, or may

be constructed through the use of equipment and materials supplied by one contractor and services supplied by another contractor. However, if one of the contractors is to co-ordinate the construction (e.g. a semi-turnkey contractor), the risk of loss of or damage to the plant may be borne by him and not by the purchaser.

E. Consequences of bearing of risk

23. Where the contractor bears the risk of loss of or damage to equipment or materials supplied by him to be incorporated in the works, the plant during construction or the completed works until acceptance, he should be obliged to make good the loss or damage covered by the risk at his own expense with all possible speed. In order to make good the loss or damage, the contractor should at his own expense replace property which has been lost or repair property which has been damaged. Where the contractor bears the risk of loss of or damage to equipment or materials supplied by the purchaser, the purchaser should be obliged, if so requested by the contractor, to make good the loss or damage at the contractor's expense as soon as the purchaser can conveniently do so (e.g. taking into account his other commitments).

24. Where the purchaser bears the risk of loss of or damage to property supplied by the contractor, such loss or damage should not discharge him from his obligation to pay the price payable in respect of the lost or damaged property. However, if such loss or damage occurs during construction, the purchaser should be obliged to make good the loss or damage with all possible speed. Since, however, the property was supplied by the contractor, the purchaser may prefer to oblige the contractor to make good the loss or damage at the expense of the purchaser. This obligation should be limited only to cases where the purchaser asks the contractor to make good the loss or damage before the expiry of the guarantee period. The contractor should be entitled to compensation for all reasonable costs incurred by him for the purpose of making good the loss or damage. He should be obliged to make good the loss or damage as soon as he can conveniently do so (e.g. taking into account his other commitments). An alternative to this approach would be to give the purchaser the right to order the contractor to make good the loss or damage as a variation order. The provisions for adjustment of the price and extension of the time for construction in the case of variations would apply when the contractor makes good the loss or damage (see the chapter "Variation clauses").

F. Contractor's tools and construction machinery to be used for effecting construction

25. The contractor will bring tools and construction machinery to the site to be used only for effecting the construction. The risk of loss of or damage to such property should be borne by the contractor and should not pass to the purchaser. The contract may provide

that the tools and machinery may in some situations be used by the purchaser or someone employed by him for the construction. Even in these cases, however, it may be advisable that the risk be borne by the contractor, if the tools and machinery are used as provided for under the contract. However, if they are used by the purchaser without the consent of the contractor or in an inappropriate way, or if the purchaser is in delay in returning them, the risk should be borne by the purchaser. The purchaser should be obliged to make good to the contractor the financial consequences of loss of or damage to the tools and machinery.

[A/CN.9/WG.V/WP.13/Add.4]

Insurance

Summary

The contract should require property insurance and liability insurance (paragraphs 1 and 2). It should specify the risks which are to be insured against, the party who is obligated to provide the insurance, the parties and other entities who are to be named as insured parties, the amount of insurance, the applicable deductible or excess, and the period of time to be covered by the insurance.

The property insurance should insure against loss of or damage to the plant during construction and to the completed works (paragraphs 11 to 18), to equipment and materials to be incorporated in the works (paragraphs 19 to 22) and to the contractor's machinery and tools (paragraph 23). Where the contractor is to bear the risk of loss of or damage to the entire plant during construction and the completed works, and in some cases where the contractor is to be responsible for co-ordinating construction by other contractors, the contractor should be obligated to provide insurance covering the entire plant and works and to keep the insurance in force (paragraph 12). The contractor should be named as an insured party if he is to bear the risk of loss of or damage to the plant and works; the purchaser should also be named as an insured party if the risk of loss or damage may pass to him prior to acceptance (paragraph 13).

With respect to the risks to be insured against, it may be advisable for the contract to require a comprehensive policy insuring against loss or damage resulting from all perils, except those perils excluded by the policy. The contract should also specifically require insurance against loss or damage resulting from such of the excluded perils as may be relevant to the particular contract (paragraphs 14 and 15). The contract may require that the insurance compensate not only for loss of or damage to the plant and works, but also for losses such as lost profits and increased loan servicing costs. It should require that the insurance compensate for the costs of repairing or replacing lost or damaged portions of the plant or works, and professionals' fees connected therewith (paragraphs 17 and 18).

The contract may contain analogous requirements in respect of insurance covering equipment and materials to be incorporated in the works (paragraphs 19 to 22) and the contractor's machinery and tools (paragraph 23).

The liability insurance should insure against the contractor's liability for loss of or damage to the property of the purchaser or of a third person, and for injury to any person, arising out of the contractor's performance of the contract, including acts or omissions of his employees and sub-contractors, as well as liabilities under indemnities or other liabilities assumed by the contractor under the contract (paragraphs 24 to 32).

The contract may also require the contractor to provide specific types of liability insurance, such as products liability insurance (paragraph 25), professional indemnity insurance (paragraph 26), insurance against liabilities arising from the operation of vehicles (paragraph 28), and insurance to compensate employees for work-related injuries (paragraph 29). Liability insurance should be required to be in effect prior to the time when construction commences, and should cover loss, damage or injury occurring throughout the construction phase and the guarantee period (paragraph 31).

The contract should obligate the contractor to submit appropriate proof to the purchaser that insurance which the contractor is obligated to provide is in effect (paragraph 33). If the contractor fails to provide required insurance, the purchaser should be able to take out the insurance and to deduct the costs thereof from sums due to the contractor, or to recover these costs from the contractor (paragraph 34). If, due to non-co-operation by the contractor, the purchaser cannot take out insurance which the contractor has failed to provide, the purchaser should be able to terminate the contract (paragraph 35).

* * *

A. *General remarks*

1. Due to the risks of loss, damage and injury resulting from a large number of potential perils during the construction of industrial works, and the potential financial consequences of such risks, it is common for a works contract to require that insurance be taken out against these risks. Governments which are purchasers, as well as lenders, often require such insurance. This chapter deals only with insurance which the contract may or should obligate a party to provide. It does not deal with types of insurance which a party may wish to have, or is required by law to have, but which the contract ordinarily need not obligate a party to provide.

2. Works contracts usually contain provisions relating to:

(a) Property insurance, to insure the completed works, the plant during construction, equipment and materials to be incorporated in the works and the

contractor's machinery and tools against loss or damage. This insurance insures property owned by the insured party and in which he otherwise has an insurable interest (e.g. property in respect of which he bears the risk of loss or damage);

(b) Liability insurance, to insure the contractor against his liability for loss, damage or injury caused in connection with his performance of the contract, as well as his liability under indemnities granted by him in the contract to the purchaser.

3. The fact that a party has provided insurance covering certain risks should not constitute a limitation of the liabilities or obligations of that party under the contract, even if the contract requires him to insure against those risks. The contract should contain an express provision to this effect.

4. The insurance provisions in the contract should specify the risks which are to be insured against, as well as the party who is obligated to provide the insurance, the parties and other entities who are to be named as insured parties, the amount of insurance, the deductible or excess, if any, applicable to each risk (i.e. the amount of a financial loss which the insured must bear himself, the insurer compensating under the insurance policy only to the extent the loss exceeds such amount), and the period of time to be covered by the insurance. Due to the complex and often unique nature of industrial works projects, insurance coverage will usually have to be tailored to meet the particular circumstances of the project.

5. The parties should be aware that the type or amount of insurance which can be provided will be limited by what is available in the insurance market. Some coverage which a party might consider desirable may not be available. Other coverage may be obtainable only at a cost which may not be economically justified in a particular project. Therefore, in drafting insurance provisions, the parties should bear in mind whether it is possible to obtain contemplated coverage at reasonable rates.

6. The amount of insurance required by the contract and the scope of the risks insured against should not exceed those which are necessary or prudent under the circumstances of the project. Purchasers should be aware that even if the contractor provides and pays for insurance, the costs of insurance will usually ultimately be borne by the purchaser. For example, in a lump-sum contract, the costs of insurance provided by the contractor will be reflected in the price charged by the contractor; and in a cost-reimbursable contract, these costs will be borne directly by the purchaser. Excessive insurance required by the purchaser will unnecessarily increase the price which he must pay. Moreover, in a lump-sum contract, imposing excessive insurance costs on the contractor may tempt him to reduce other costs in order to maintain the attractiveness of his bid or his profit margin. Such a practice could adversely affect the quality of the works to be supplied to the purchaser. When it is contemplated that the contractor will be obligated to provide certain types of insurance, the

purchaser may wish to consider whether it would be financially advantageous for him to obtain the insurance himself, as well as the desirability of agreeing that the various types of insurance should be subject to deductibles or excesses as large as are prudent, taking into account the nature and magnitude of the risks in question.

7. It is advisable that the insurance programme for the plant during construction and the completed works be co-ordinated to the greatest extent practicable and possible. The existence of numerous separate policies covering different risks and different parties and issued by different insurers, perhaps in different countries, often results in duplication of insurance against some risks and gaps with respect to insurance against other risks. It is often desirable to have a single policy cover as many of the risks and parties as possible. If separate policies are necessary, it may be desirable for them to be issued by the same insurer. It is generally possible to achieve a higher degree of co-ordination in the insurance programme in a turnkey contract than when several contractors are involved.

8. The parties should be aware of any mandatory rules of law relating to insurance in connection with the construction of industrial works. For example, in some countries local law requires that insurance covering loss, damage or injury occurring in connection with the construction of works in those countries be taken out with insurers in those countries (see also para. 27, below).

B. Property insurance

9. The contract should require insurance against loss of or damage to the completed works, the plant during construction, equipment and materials to be incorporated in the works and the contractor's machinery and tools. This insurance should cover loss or damage arising from natural causes and from acts and omissions of persons for whom neither party is responsible.

10. Except to a limited extent, insurance against loss of or damage to the completed works, the plant during construction and equipment and materials will not compensate for the costs of repairing or replacing defective equipment or materials supplied by the contractor or of portions of the plant or works defectively constructed by him. In addition, the insurance usually will not insure against loss of or damage to the plant or works resulting from defective design. However, the insurance will often compensate for repair and replacement of portions of the plant and works and of equipment and materials other than those which are defective or are defectively designed or constructed. Loss or damage caused by defective design may be covered by professional indemnity insurance (see para. 26, below). It should be noted, however, that professional indemnity insurance normally covers only loss or damage resulting from negligent design, while the exclusion from property insurance of loss or damage resulting from defective design may extend

even to loss or damage resulting from non-negligent defects. Thus, coverage for loss or damage to the plant or works due to defective design will often be incomplete.

1. *Insurance of plant during construction and completed works*

11. The insurance covering the plant during construction and the completed works should be required also to cover temporary structures and structures ancillary to the works, such as administrative and maintenance facilities. The contract should require this insurance to cover the plant and the works until the works has been accepted by the purchaser. After acceptance the works should, of course, be covered by insurance taken out by the purchaser; however, the contract need not contain a provision to this effect.

12. In a turnkey contract, and in other types of contracts in which the contractor bears the risk of loss of or damage to the entire plant during construction and to the completed works prior to acceptance, the contract should obligate the contractor to provide insurance against loss or damage to the plant and works and to keep this insurance in force. Where a semi- or partial turnkey contract or separate contracts approach is adopted for the supply and construction of the works (see the chapter "Choice of contract type"), it is not desirable for each contractor to provide insurance covering only the portion of the plant and works supplied and constructed by him. This could result in the duplication of insurance costs and could present problems in administering a claim for loss or damage involving two or more contractors. In such cases, therefore, the purchaser should normally provide insurance against loss or damage covering the plant and works as a whole. However, when one contractor is to co-ordinate construction by the other contractors, he may be obligated to provide and keep in force such insurance until acceptance by the purchaser.

13. The contract should stipulate who are to be named as insured parties in the insurance policy. If the contractor is to bear the risk of loss of or damage to the plant during construction and the completed works prior to acceptance, he should be named as an insured party. Where the risk of loss or damage may pass to the purchaser prior to acceptance (see the chapter "Completion, take-over and acceptance"), the purchaser should also be named as an insured party. Where the purchaser is to bear the risk of loss of or damage to the entire plant during construction (see the chapter "Passing of risks"), he should be the insured party.

14. Different approaches may be adopted with respect to the risks required by the contract to be insured against by property insurance. One approach may be to specify in the contract that the insurance must insure against all loss or damage arising from any peril. The parties should be aware, however, that insurance satisfying such an all-encompassing requirement is unlikely to be available. Insurance policies, even those

designated as insuring against all risks, usually exclude risks of loss or damage arising from various perils.

15. Some insurers make available a comprehensive insurance policy which insures against loss or damage from all perils, with the exception of certain specifically excluded perils, such as wear and tear, explosion or mechanical or electrical breakdown (with respect to the portion of the plant or works immediately affected by such perils) and pressure waves caused by aircraft. Loss or damage from some of the excluded perils, such as loss or damage arising from the installation and use of equipment in the works (e.g. explosion and electrical or mechanical breakdown), may be insured against by special endorsements to the policy or under a separate policy, at additional cost. If the contract is to require that a comprehensive property insurance policy be provided, the parties should carefully consider whether the policy excludes any perils which present risks against which insurance should be provided, given the nature of the construction to be performed under the contract. It would be preferable for the contract to require a comprehensive property insurance policy and additional insurance against risks arising from perils excluded from the comprehensive policy than to attempt to itemize in the contract the specific perils which are to be covered by insurance.

16. Under the contract risks arising from certain perils (so-called "excepted risks") may be excluded from the risks borne by the contractor (see the chapter "Passing of risks"). If such an approach is adopted in the contract, it would be desirable, if possible, for the insurance which the contractor is obliged to provide to insure even against risks arising from such excluded perils. Otherwise, the purchaser would have to obtain separate insurance for these risks. Such division of insurance could lead to gaps in or unnecessary duplication of insurance, and higher insurance costs. Moreover, in the event of loss or damage, a time-consuming and costly dispute could arise as to whether the loss or damage was insured against under the insurance taken out by the contractor or under that taken out by the purchaser.

17. The insurance of the plant during construction and the completed works will normally compensate for loss or damage to the property. It will usually not compensate for other types of losses. For example, it will not compensate for losses such as lost profits and increased loan servicing costs resulting from the fact that, due to the loss of or damage to the plant, the works could not be completed on time. However, such losses may be covered by a special endorsement or policy, and if the purchaser desires to have such coverage, it should be expressly required by the contract.

18. The contract should require the property insurance to compensate for the cost of repairing or replacing the lost or damaged portions of the plant or works. It should also require the insurance to compensate for costs connected with the repair or replacement, such as

architects', surveyors', lawyers' and engineers' fees, and costs connected with dismantling and removing the damaged portions. The amount of insurance required should be sufficient to cover all of the various types of compensation to be provided by the insurance. The contract may therefore take into account the effects of inflation in determining the amount of insurance.

2. *Insurance of equipment and materials to be incorporated in works*

19. The contract should expressly require insurance against loss of or damage to equipment and materials to be incorporated in the works. The contract should require this insurance to be in effect from the time the equipment and materials are shipped to the site until the time they are incorporated in the works. When the equipment and materials are incorporated, they will be covered by the insurance of the plant and works discussed in the previous subsection. In some cases it may be desirable to require the coverage to begin earlier than at the time of shipment (e.g. when the equipment or materials have been identified to the contract). Such a requirement may be desirable, for example, if loss of or damage to equipment or materials on the contractor's premises prior to shipment would adversely affect the financial resources of the contractor and thus his ability to perform the contract.

20. It is desirable for a single insurance policy to insure the equipment and materials for the entire period referred to in the previous paragraph. If the equipment and materials were to be insured under separate policies for individual stages within this period (e.g. transit, storage off-site and storage on-site), incomplete or overlapping coverage could result. Moreover, if insurance during each stage were provided under separate policies, it might be necessary in the event of loss or damage to identify the stage at which the loss or damage occurred. This could be difficult or impossible in many cases. Insurance covering equipment and materials during the entire period is available in some of the comprehensive policies described in para. 15, above. In the event that it is not possible to obtain insurance for the entire period in a single policy (e.g. if the comprehensive policy will not insure the equipment and materials before or during transit), the contract should require the separate policies providing insurance during the various individual stages to be taken out with the same insurer.

21. In a turnkey contract, and in other types of contracts in which the risk of loss of or damage to equipment and materials remains with the contractor until they are incorporated in the works, the insurance described in this subsection should be provided and kept in force by the contractor, with the contractor named as the insured party. In contracts in which the risk with respect to some equipment or materials is to pass to the purchaser prior to their incorporation in the works, both the contractor and the purchaser should be named as insured parties.

22. The discussion in paras. 14-18, above, concerning the risks to be insured against and the amount of insurance which should be required is equally applicable to insurance of equipment and materials.

3. *Insurance of contractor's machinery and tools*

23. In particular projects it may be desirable to obligate the contractor to insure against loss of or damage to his machinery and tools during shipment to the site, while they are stored off-site and while they are on the site. If they are to be insured, they should be covered against the same risks as are the works, plant during construction and equipment and materials to be incorporated in the works. It may be possible for such coverage to be included in a comprehensive insurance policy insuring the plant and works.

C. *Liability insurance*

24. The contract should obligate the contractor to insure against his liability for loss of or damage to the property of the purchaser or of a third person, and for injury to any person, arising out of the contractor's performance of the contract, including acts or omissions of his employees and sub-contractors. In addition, the contractor should be obligated to insure against any indemnities or other liabilities which he assumes under the contract (e.g. undertakings by him to indemnify the purchaser against the purchaser's liability to third parties). A contractor will often maintain blanket insurance for some of these liabilities in his ordinary course of business. This insurance should not be duplicated; rather, the contractor should provide such additional insurance as is needed to cover fully the risks and term, and to meet the amount, required by the contract.

25. Liability insurance will often not be available to insure the contractor against his liability to the purchaser for defects in the works due to a failure of the contractor to perform his obligations under the contract (e.g. liability for the supply of defective equipment or materials or for defective construction). However, some liability insurance policies may insure against the contractor's liability for loss of or damage to portions of the plant not being worked on, resulting from acts or omissions of the contractor in the course of construction. The contract may require such insurance. The contract should obligate the contractor to insure against liability for loss of or damage to the property of a third person, and for injury to any person, due to a defect in the works constructed by him. While such coverage is usually included in a liability insurance policy, it may be necessary for the contractor to obtain such coverage under a separate products liability insurance policy.

26. If the contractor is to provide architectural, design or similar professional specialist services, the contract should obligate him to take out professional indemnity insurance. This insurance insures against the liability of the supplier of such specialist services for loss or

damage caused to the purchaser or to third persons or their property as a result of the negligent performance of such services.

27. Laws in some countries hold contractors liable for structural defects in the works for the first ten years of the life of the works and make insurance against such liability mandatory. However, while insurance against liability to third parties for loss and damage resulting from such defects may be available, insurance against liability to the purchaser for defects in or collapse of the works may be difficult to obtain.

28. Liability for loss of or damage to property and for personal injury arising out of the operation of motor vehicles owned or used by the contractor and sub-contractors may have to be insured against separately. Such insurance, which is mandatory in many countries, should be specifically required by the contract. So, too, should coverage for liability arising out of the operation of aircraft and watercraft, if they are to be used in the construction of the works.

29. Many legal systems have statutory schemes with respect to compensation for injury to workmen on the site and other employees of the parties and of sub-contractors. Some of these schemes require employers to provide insurance to compensate employees for work-related injuries. In other legal systems, workmen may be left to their remedies under general legal principles governing injury and damages. The contract should obligate the contractor to provide such insurance as is required under relevant laws. If insurance is not required, the contractor should be obligated to insure against his liability for injury to his employees and those of his sub-contractors. Moreover, if under relevant laws insurance to compensate for injury suffered by employees is required in a certain amount but an employee is able to recover an amount in excess of the required amount of insurance, insurance against this excess exposure should be required, in addition to the insurance required by law. In some legal systems an injured employee of a contractor or a sub-contractor may be able to recover compensation from the purchaser. Therefore, the contract should obligate the contractor to name the purchaser, as well as the contractor, as insured parties in the insurance described in this paragraph (see also para. 32, below).

30. The amounts of insurance coverage to be provided by the types of insurance described in this section will depend on the magnitude of the risks present in a particular project, the extent to which it is economically prudent to insure against these risks, and other factors such as the amount of a particular type of coverage which must be provided by law.

31. The contract should require the contractor to have the insurance discussed in this section in effect prior to the time when he or any sub-contractor commences construction on the site. It should cover loss, damage or injury occurring throughout the construction phase and the guarantee period.

32. Because of the possibility that a single incident resulting in loss, damage or injury to a third person could give rise to claims against several or all of the participants in the construction (e.g. purchaser, contractor and sub-contractors), it is usually prudent for each of these participants to be insured against their liabilities for such loss, damage or injury. The most desirable way to accomplish this would be for all participants to be named as insured parties in one policy. If they were to be insured under separate policies, and if the loss, damage or injury suffered by a third person could have been caused by more than one participant, the various participants and their insurance companies may become involved in time-consuming and costly litigation to establish which participant should ultimately bear the loss or the extent to which the participants should contribute to the compensation payable to the claimant. If it is not possible for all participants to be insured under one policy, all of the policies covering the various participants should be taken out with the same insurer. Such requirements should be expressly stipulated in the contract.

D. Proof of insurance

33. In order for the purchaser to be able to satisfy himself that the contractor has performed his obligations to provide insurance and to keep it in force, the contract should obligate the contractor to produce to the purchaser, when the purchaser requires him to do so, duplicates of the insurance policies or certificates of insurance, showing all of the relevant terms of the policies, and receipts for the payment of premiums.

E. Failure of contractor to provide insurance

34. The contract should provide that if the contractor fails to provide or keep in force any insurance which he is required to provide, the purchaser may obtain the insurance. In a lump-sum contract, the purchaser should be able to deduct the amounts paid by him for such insurance from sums due to the contractor or, alternatively, to recover such sums from the contractor. In a cost-reimbursable contract, the purchaser should be able to deduct from sums due to the contractor, or recover from the contractor, the amount by which what the purchaser had to pay for the insurance exceeds what the cost of the insurance would have been had the contractor fulfilled his obligation to obtain it or keep it in force.

35. The contract should provide that if, due to the failure of the contractor to co-operate with the purchaser or the insurer, the purchaser is unable to obtain or keep in force certain types of insurance which the contractor was obliged but failed to provide or keep in force, the purchaser may terminate the contract. In addition, the contract should provide for the contractor to be liable to the purchaser for any loss or damage suffered by the purchaser as a result of the contractor's failure.

[A/CN.9/WG.V/WP.13/Add.5]

Sub-contracting

Summary

The term "sub-contracting" as used in this guide refers to the employment by the contractor of a third party to perform certain of the contractor's obligations under the contract (paragraph 1). It is desirable for the contract to contain provisions dealing with the permissible scope of sub-contracting, the selection of sub-contractors and other aspects of sub-contracting.

As a general characteristic of sub-contracting in a works contract no contractual relationship should be created between the purchaser and the sub-contractor, and the contract should clearly confirm this principle. Moreover, the contract should specify that the contractor is to be liable to the purchaser for the performance of the contractor's obligations by sub-contractors to the same extent as the contractor would be liable if he failed to perform the obligations himself. The contract should also require the contractor to indemnify the purchaser against any liability which the purchaser may have to bear towards a third person as a result of an act or omission of the sub-contractor, to the same extent that the contractor would be obligated to indemnify the purchaser if the contractor himself had committed the act or omission (paragraph 5).

In some cases it may, however, be desirable for the contract to permit the purchaser to communicate directly with sub-contractors. Thus, the contract might obligate the contractor to authorize a sub-contractor to act on his behalf in settling with the purchaser certain issues connected with the performance by the sub-contractor.

In some cases the contractor may be expected to sub-contract the performance of most or all of his obligations. In others, it may be advisable for the contract to prohibit the contractor from sub-contracting the performance of all or part of his obligations (paragraphs 7 and 8).

With regard to the selection of sub-contractors, the parties might consider three basic approaches. The choice of a particular approach would depend upon the interest of the purchaser in influencing the selection of a sub-contractor (paragraphs 9 to 12). The first approach is the selection of sub-contractors by the contractor without any participation by the purchaser in the selection.

Under the second approach, prior to entering into the contract the parties would either agree upon particular sub-contractors to be employed by the contractor or agree upon a list of acceptable sub-contractors from which the contractor would select his sub-contractors (paragraphs 13 and 14).

Under the third approach, the contract would not specify the sub-contractors whom the contractor may

engage. Rather, a sub-contractor might be chosen by the contractor subject to the consent or objection of the purchaser (paragraphs 15 to 19).

The sub-contractor may, alternatively, be nominated by the purchaser, subject to a right of the contractor to object if the nominated sub-contractor does not agree to terms of the sub-contract which sufficiently protect the contractor's interests, or if the contractor has other reasonable objections to the sub-contractor (paragraphs 20 to 23). However, the nomination system should be used with caution, and with a full understanding of the procedures and contractual provisions and their consequences (paragraphs 24 and 25).

Normally, the purchaser will not be able to claim directly against the sub-contractor for non-performance or defective performance. If the purchaser wishes the sub-contractor to undertake particular obligations, such as confidentiality or guarantee obligations, and if the purchaser wishes to be able to claim directly against the sub-contractor for a violation of such obligations, the contract should provide mechanisms to accomplish this (paragraph 26).

The contract might permit the purchaser to pay the sub-contractor directly if the contractor has failed to pay sums due to the sub-contractor. The making of such direct payments might be conditioned on the purchaser's delivering to the contractor a demand for proof that payment due to a sub-contractor has been made, and the contractor's failure within a specified period of time thereafter either to deliver such proof to the purchaser or to deliver to the purchaser an explanation constituting sufficient grounds for his failure to make such payment (paragraphs 27 to 31).

* * *

A. General remarks

1. The term "sub-contracting" as used in this guide refers to the employment by the contractor of a third party to perform certain of the contractor's obligations under the contract. The term includes, for example, third parties who are employed by the contractor for the erection of the works or the supply of other services on site, and those who produce equipment for the contractor to be incorporated in the works.

2. It is common for a contractor to employ sub-contractors to perform certain of his obligations under a works contract. A contractor may not possess the expertise, personnel, equipment and financial resources to perform by himself all of the specialized work for which he is responsible under the contract. Even if a contractor is able to perform all of his contractual obligations himself, he may be required by regulations in force in the country where the works is to be constructed to employ local sub-contractors to perform some types of work. In some countries, contracts for the construction of industrial works are entered into by a foreign trade organization, or similar entity, and this

entity sub-contracts for the performance of the construction obligations under the contract.

3. It is desirable for a works contract to contain provisions dealing with the permissible scope of sub-contracting, the selection of sub-contractors and other aspects of sub-contracting. Without such provisions, under some legal systems a contractor might be able to sub-contract more liberally than would be desirable from the point of view of the purchaser; under other legal systems his ability to sub-contract without the express consent of the purchaser might be restricted. In formulating such provisions, the parties should be aware of any mandatory rules in the law applicable to the contract and legal rules in force in the country where the works is to be constructed.

4. As a general characteristic of sub-contracting in a works contract, no contractual relationship should be created between the purchaser and the sub-contractor. The contract should clearly confirm this principle in respect of all cases of sub-contracting. The contract should expressly and clearly provide that the contractor is to be liable to the purchaser for any failure of a sub-contractor to perform an obligation of the contractor to the same extent that the contractor would be liable if he failed to perform the obligation himself. Preserving the contractor's liability for the performance of his obligations under the contract will preserve the purchaser's right to redress for defective or non-performance of an obligation of the contractor. It will also prevent the obtaining of such redress by the purchaser from being hampered by an inability to prove whether the defect resulted from a failure of performance by the contractor or by a sub-contractor.

5. In addition to providing that the contractor should be liable to the purchaser for a failure by a sub-contractor to perform, the contract should obligate the contractor to indemnify the purchaser against any liability which the purchaser may have to bear towards a third person as a result of an act or omission of a sub-contractor, to the same extent that the contractor would be obligated to indemnify the purchaser if the contractor himself had committed the act or omission.¹

Illustrative provisions

"(1) All sub-contractors employed by the contractor are those of the contractor alone, and no provision of this contract shall be interpreted or applied so as to give rise to or imply the existence of a contractual relationship between the purchaser and any sub-contractor, except to the extent that this contract expressly provides otherwise.

"(2) The contractor shall be liable to the purchaser for any failure of a sub-contractor to perform an obligation of the contractor under this contract to the same extent that the contractor would be liable if he performed such obligation himself. No sub-contracting by the contractor or ability of the contractor to sub-contract shall diminish or eliminate the responsibility of the contractor for the complete performance of his obligations in accordance with this contract.

"(3) The contractor agrees to indemnify the purchaser against and save him harmless from any liability which the purchaser may have to bear towards a third person as a result of an act or omission of a sub-contractor, to the same extent that the contractor would be obligated to indemnify the purchaser against and save him harmless from such liability resulting from an act or omission of the contractor himself."

6. The insulation of the purchaser from the sub-contractor, however, does not necessarily mean that there should be no communication between these two entities. In some cases it may be desirable for a purchaser to be able to communicate directly with a sub-contractor, particularly when technical matters are involved, to enable such matters to be efficiently discussed and understood by the purchaser and sub-contractor. The contract might therefore obligate the contractor to authorize a sub-contractor to act on his behalf in settling with the purchaser certain issues connected with the performance by the sub-contractor.

B. Right of contractor to sub-contract

7. In some situations, it may be expected that the contractor will sub-contract the performance of most or all of his obligations, for example, where the contractor supplies the technology for the works and the purchaser relies on the contractor's expertise in selecting and supervising sub-contractors to construct the works incorporating this technology. In other cases, it may be advisable for the contract to prohibit the contractor from sub-contracting the performance of all of his contractual obligations. The extent and nature of the obligations which the contractor might be permitted to sub-contract should depend upon the extent to which, because of the purchaser's reliance on the expertise and reputation of the contractor, or because of the nature of an obligation, the purchaser expects the obligation to be performed by the contractor himself. For example, in a turnkey contract a contractor may be selected because of his ability to supply a particular major component of the works. In such a case, the contractor should not be permitted to have this component supplied by a sub-contractor. In addition, a purchaser may wish to restrict or prohibit the contractor from sub-contracting if the purchaser is to supply the design and he wants to protect the confidentiality of the design.

8. There are two different approaches by which the contract may delimit the scope of permissible sub-contracting. Under one approach, the contract could specify those obligations which the contractor cannot sub-contract and provide that all other obligations may be sub-contracted, subject to the other provisions of the contract (e.g. those discussed in the following section). Under the other approach, the clause could prohibit the sub-contracting of any of the contractor's obligations, except those obligations specified in the clause which the contractor may sub-contract, again subject to the other provisions of the contract. The decision as to which approach to adopt may depend on the nature of the contract. In a turnkey contract, for example, in which it is usually expected that a relatively large number of the contractor's obligations will be sub-contracted as compared with other types of contracts, it may be preferable to specify those obligations, if any, which cannot be sub-contracted, and to permit other obligations to be sub-contracted.

C. *Selection of sub-contractors*

9. For cases in which the contractor is permitted to sub-contract, the following basic approaches to the selection of sub-contractors might be considered by the parties. Under the first approach, sub-contractors would be selected by the contractor without any participation by the purchaser in the selection. Under the second approach, sub-contractors would be agreed upon by the parties prior to entering into the contract, and these sub-contractors would be stipulated in the contract. Under the third approach, specific sub-contractors would not be stipulated in the contract; rather, either the contractor would select the sub-contractors subject to the approval of the purchaser, or the purchaser would select the sub-contractors subject to a right of the contractor to object to the selection. It is possible for the contract to provide different approaches to the selection of sub-contractors to perform different obligations.

10. The parties might wish to adopt the first approach for cases in which the purchaser has little or no interest in the selection of the sub-contractors, for example, the selection of sub-contractors to supply certain routine and non-critical services.

11. In many cases, however, the purchaser has a concrete interest in the selection of a sub-contractor. First, he may be interested in having the sub-contracted obligations performed by a firm that possesses the expertise and resources needed to perform the obligations satisfactorily. Second, in contracts in which the price charged by a sub-contractor will directly affect the price payable by the purchaser to the contractor, such as in a cost-reimbursable contract, the purchaser will be interested in having the sub-contracted obligations performed at the most reasonable price. Third, the purchaser may wish to be assured that particular equipment to be installed be of certain standard which can only be met by some sub-contractors. Fourth, the purchaser may wish to be able to restrict the contractor to the employment of local sub-contractors, or he may be obliged to do so by local law. Fifth, due to arrangements with foreign financing organizations, the purchaser may be obliged to engage in a certain amount of sub-contracting with sub-contractors from the country of the organization.

12. These circumstances may be accommodated by having the contract provide for the purchaser to be involved in the selection of a sub-contractor. The degree and nature of the purchaser's involvement may vary, depending on the type of contract between the contractor and purchaser and the importance to the purchaser of being able to exercise control over the cost and quality of the performance of the obligation to be sub-contracted and the identity of the sub-contractor. Purchasers should be aware, however, that the ability to compel a contractor to sub-contract with a particular sub-contractor could be more costly for a purchaser, since the contractor will have to include in his price his costs of exercising increased supervision over a sub-contractor with whom he may not be familiar, as well

as an increment to account for his increased risk resulting from his being liable to the purchaser in respect of such a sub-contractor.

13. If possible, and in particular if the item or service to be supplied by a sub-contractor is critical for the works, it is desirable for sub-contractors to be agreed upon by the parties prior to entering into the contract, and to be specified in the contract (i.e. the second approach referred to in para. 9, above). This will avoid disputes as to the choice of sub-contractors in particular instances. It will also avoid interruptions of the work and financial consequences which may arise in cases in which one party does not agree to a sub-contractor proposed by the other party. Moreover, such an approach might help to avoid "bid-shopping" by the contractor after the contract has been awarded. Under this practice, a contractor uses a bid which he has obtained from a sub-contractor, and upon which his own contract price is based, to try to obtain lower bids from other sub-contractors and possibly force a lower bid from the first sub-contractor. If the contractor is successful in procuring a lower price from the sub-contractor (which, in most lump-sum contracts, will not benefit the purchaser), the sub-contractor may have an incentive to perform less satisfactorily in order to prevent his profit margin from being reduced.

14. Under the second approach, the contract might specify a particular sub-contractor to perform a certain obligation. Alternatively, the contract might include a list of acceptable sub-contractors who have been agreed to by the purchaser and the contractor prior to entering into the contract, and the sub-contractor would be selected by the contractor from the list. The ability of the purchaser to agree to a sub-contractor or a list of sub-contractors might be facilitated if the contractor were to obtain bids from proposed sub-contractors and present them to the purchaser together with details of their past work records. However, the solicitation of bids by the contractor could result in extra expenses to him which would ultimately have to be borne by the purchaser. Moreover, in contracts other than cost-reimbursable contracts, the contractor may be reluctant to reveal to the purchaser bids submitted by sub-contractors.

15. When the contract does not specify the sub-contractors whom the contractor may engage, there are various mechanisms to provide for involvement by the purchaser in the selection of a sub-contractor (i.e. the third approach referred to in para. 9, above). One such mechanism is for the contract to provide that the contractor may not sub-contract without the consent of the purchaser. Either such consent could be required to be given in writing by the purchaser to the contractor, or the purchaser could be deemed to have given consent if the contractor delivers to the purchaser a written request to sub-contract with a particular sub-contractor, and the purchaser does not deliver to the contractor a written objection to such sub-contracting within a specified period of time after receiving the request. Under either approach, the written notice to be given by the contractor should include the name and address

of the proposed sub-contractor and the work to be performed by him. In contracts in which the price charged by the sub-contractor will directly affect the price to be paid by the purchaser (e.g. cost-reimbursable contracts and some lump-sum contracts), the notice should also include the price to be charged by the sub-contractor. The contract may also provide that any objection by the purchaser to sub-contracting proposed by the contractor must be based upon reasonable grounds.²

16. One possible problem with the approaches mentioned in the preceding paragraph is that if a contractor proposes a sub-contractor who fails to meet with the approval of or is objected to by the purchaser, and the contractor must find and propose a new sub-contractor, the work could be interrupted, possibly resulting in financial consequences to both parties. It may be noted, however, that cases in which the contractor proposes a sub-contractor who does not meet with the approval of the purchaser are not very frequent.

17. If a dispute arises as to whether the purchaser's grounds for objecting to the sub-contractor proposed by the contractor are reasonable, two approaches are possible. Under one approach, the dispute could be submitted to dispute settlement proceedings, with no sub-contractor employed until the dispute is resolved. The construction would be interrupted to the extent that it could not be performed without a sub-contractor having been employed. If the purchaser's objection were found to be reasonable, the contractor would be obligated to choose another sub-contractor and to bear the financial consequences of the interruption of construction. If the purchaser's objection were found to be unreasonable, the contractor could be permitted to sub-contract in accordance with his notice to the purchaser, and the purchaser could be required to bear the financial consequences of the interruption of construction.

18. The parties may, however, consider an alternative approach, which would minimize the interruption of construction. Under this approach, the contractor would be obligated immediately to deliver to the purchaser a new notice of sub-contracting which meets the purchaser's objection. The dispute concerning the reasonableness of the purchaser's objection to the sub-contracting proposed in the first notice could be submitted for settlement immediately or at some later time. The pendency of such proceedings would not postpone the employment of a sub-contractor acceptable to the purchaser. If in the dispute settlement pro-

ceedings the purchaser's objection were found to be unreasonable, the purchaser could be required to bear the financial consequences of any interruptions in construction or other financial consequences, such as those arising from a failure of the sub-contractor to perform satisfactorily, resulting from the contractor's acting in accordance with the purchaser's objection. If the purchaser's objection were found to be reasonable, the contractor could be required to bear these consequences.

19. In certain types of contracts, e.g. cost-reimbursable contracts, the contractor might be required to solicit bids from a certain number of sub-contractors for the performance of the obligations to be sub-contracted and to submit to the purchaser bids which the contractor would be prepared to accept. The sub-contractor could be selected from these bidders either by the purchaser or by the contractor, subject to the consent of the purchaser. This mechanism may be more appropriate for the selection of sub-contractors to provide equipment or services which are relatively routine, or which are not fundamental to a special design or other services. With respect to highly specialized or integral items, there may not exist a range of sub-contractors from whom bids could be solicited.

20. Even more extensive involvement by the purchaser in the selection of sub-contractors may be provided by having the purchaser himself select a sub-contractor and require the contractor to execute a sub-contract with him. This, in essence, is the system of "nomination", which is common in certain parts of the world and which can also be found in some international contracts for the construction of industrial works.

21. Under the nomination procedure, the purchaser identifies and negotiates with prospective sub-contractors to perform obligations which are specified in the contract as being subject to the nomination procedure. These negotiations may take place before the contract is entered into. If so, it may be possible to include in the contract the essential terms of a sub-contract to be concluded by the contractor, including the price. In a lump-sum contract, if a price for the sub-contracted work is not established at the time of entering into the contract, an estimated price for this work may be set forth in the contract, and the contract price may be increased or decreased by the difference between the estimated price and the actual price for the sub-contracted work. In any event, the contract would obligate the contractor to enter into a sub-contract only with the sub-contractor nominated by the purchaser.

22. Under this system, in order to protect the contractor against being obligated to enter into a relationship with a sub-contractor which is unduly prejudicial to his interests, the contract may allow the contractor to refuse to enter into a sub-contract on certain grounds. These grounds may include the following:

(a) If, with respect to the materials, equipment or services to be provided by the sub-contractor, the sub-contractor will not undertake toward the contractor obligations and liabilities of the same scope and extent

²*Illustrative provision*

"The contractor shall deliver to the purchaser written notice of his intention to sub-contract, which shall include the name and address of the proposed sub-contractor, [and] a precise description of the work to be performed by him [and the price to be charged by him]. The contractor shall be permitted to sub-contract in accordance with such notice after the expiration of . . . days following the delivery thereof to the purchaser, unless within the said . . . days the purchaser delivers to the contractor an objection, specifying reasonable grounds, to the proposed sub-contractor, the obligations to be sub-contracted, or the price to be charged by the sub-contractor."

as are imposed on the contractor towards the purchaser, including obligations and liabilities with respect to quality, timing, guarantees, and financial amounts of liability;

(b) If the sub-contractor will not agree to indemnify the contractor against and save him harmless from any liability which the contractor incurs towards the purchaser or a third person as a result of acts or omissions of the sub-contractor;

(c) If the contractor has any other reasonable objection to sub-contracting with the sub-contractor. This could cover situations in which, for example, the contractor has previously had unsatisfactory experience with the sub-contractor, or in which the sub-contractor's financial situation prejudices his ability to perform satisfactorily. This ground could be stipulated in addition to, or as an alternative to, the more concrete grounds in (a) and (b), above.

23. If the nomination system is adopted, the parties should consider what should occur if the contractor properly refuses to enter into a contract with a sub-contractor nominated by the purchaser. The purchaser might be obligated to re-nominate, or the contractor might be given the task of finding a new sub-contractor subject to the approval of the purchaser to be procured according to mechanisms which should be specified in the contract. In either case, the purchaser should bear the financial consequences of an interruption of work which may arise from these procedures. For cases in which the contractor refuses to enter into a sub-contract because the sub-contractor refuses to incorporate terms in the sub-contract designed to protect the contractor *vis-à-vis* the purchaser, the contract might obligate the contractor to enter into the sub-contract if the purchaser agrees to a reduction in the scope of the obligations of the contractor to the purchaser, so that they match the obligations of the sub-contractor to the contractor.

24. There are various advantages to the purchaser of a mechanism such as the nomination system. It enables the purchaser to choose a sub-contractor and gives the purchaser a large measure of control over the price and other terms under which the sub-contracted obligations will be performed. It also enables the purchaser to make use of a particular design, equipment or service supplied by a certain sub-contractor. In addition, it is a way for the purchaser to ensure that sub-contracts are awarded to local firms. These benefits may be achieved by the purchaser without himself having to enter into a contractual relationship with the sub-contractor. However, this mechanism should be used with caution and with a full understanding of the procedures involved, as well as the contractual provisions and their consequences. There are various pitfalls which could be encountered in the use of the nomination system, and these should be dealt with by appropriate contractual provisions. For example, unless clearly negated by the contract, implications might be drawn from the degree of the purchaser's involvement in the selection of a contractor that contractual rights and obligations arise directly between the sub-contractor and the purchaser,

or that the contractor's liability for the performance of the sub-contractor is limited. The contract should make it clear, therefore, that the sub-contractor's contractual relationship is with the contractor alone, and that the contractor is liable to the purchaser for the performance of the sub-contractor (see para. 4, above).

25. Another problem which could be encountered with the nomination system is that if the sub-contractor abandons his performance of the sub-contract, or if the sub-contract is terminated, a question may arise as to which party is to bear the burden and costs of engaging a new sub-contractor to complete the unfinished work. The contract should make it clear that the contractor is obligated to provide at his own expense a new sub-contractor to complete the work, subject to the approval of the purchaser to be procured according to mechanisms which should be specified in the contract. The contractor should also be responsible for financial consequences arising from the interruption of the work and the process of engaging a new sub-contractor.

D. Ability of purchaser to claim directly against sub-contractor

26. A sub-contractor who is not a party to the contract between the contractor and the purchaser will have no contractual obligations towards the purchaser. However, in some situations the purchaser may wish the sub-contractor to undertake certain obligations (e.g. to preserve the confidentiality of the design or to guarantee his work), and to be able to claim directly against the sub-contractor for a violation of these obligations. The purchaser may procure such obligations and the ability to enforce them directly against the sub-contractor in the following manner. First, the contract would impose such obligations on the contractor. In addition, the contractor would be obligated to obtain the same obligations from the sub-contractor, either by a provision in the contract obligating the contractor to do so, or by the purchaser's conditioning his consent to a sub-contractor proposed by the contractor on the contractor's obtaining such obligations from the sub-contractor. An additional provision would be included in the contract by which the contractor assigned to the purchaser the contractor's rights against the sub-contractor for a violation of the obligations, if such an assignment is permitted by applicable law.

E. Payment for performance by sub-contractors

27. The contract should contain no obligation on the part of the purchaser to pay the sub-contractor directly. With no contractual relationship between the purchaser and the sub-contractor, the sub-contractor will have to obtain payment from his contracting party, the contractor. Under the pricing structure of the contract, either the cost to the contractor of the services of his sub-contractors will be provided for in the contract price (e.g. as is done in most lump-sum contracts), or the actual cost of such services will be payable by the purchaser to the contractor (e.g. as is done in a cost-

reimbursable contract, or in a lump-sum contract if the contract price may be increased by the amount by which the actual cost of such services exceeds the estimated price for such services set forth in the contract).

28. There may, however, be instances in which the purchaser wishes to pay a sub-contractor directly, such as when the contractor has failed to pay a sum previously due to the sub-contractor and the smooth progress of the contract programme is threatened by a reluctance of the sub-contractor to continue to work. The contract might therefore authorize the purchaser to pay a sub-contractor directly and recover the sums so paid from the contractor or otherwise be credited for such payments. Unless such authorization is expressly included in the contract, a purchaser who pays a sub-contractor directly will place himself in peril, since he will remain liable to pay the same sum to the contractor. The contract should also make it clear that such direct payments by the purchaser are made on behalf of the contractor in order to avoid the implication of the existence of a contractual relationship between the purchaser and the sub-contractor.

29. The contract should authorize the purchaser to demand proof from the contractor that payment due to a sub-contractor has been made. If, within a specified period of time after delivery of such a demand to the contractor, the contractor does not deliver such proof to the purchaser, or deliver to the purchaser a written explanation of the grounds for not making such payment, the purchaser may be authorized to make the payment to the sub-contractor if the grounds for the contractor's non-payment are not sufficient, and to recover the amount of the payment from the contractor or otherwise be credited for such payments.

30. The method by which the purchaser recovers from the contractor or is credited the amount of his direct payment to the sub-contractor may depend upon the payment structure of the contract. In a lump-sum contract, the purchaser should be able to deduct the amount of his payment from the contract price to be paid to the contractor. However, if a lump-sum contract stipulates an estimated sum in respect of the sub-contracted work but provides that the contract price may be adjusted in accordance with the actual price of the sub-contracted work (see para. 21, above), the purchaser should be able to deduct at least to the extent of the estimated sum stipulated in the contract. Where the contract price has already been fully paid to the contractor by the purchaser, the purchaser should be entitled alternatively to claim reimbursement from the contractor.

31. In a cost-reimbursable contract, if the purchaser pays the sub-contractor directly on behalf of the contractor in respect of the sub-contracted work, no adjustment need be made as between the contractor and the purchaser, since the contractor will not have incurred a cost for the sub-contracted work which is to be reimbursed by the purchaser. However, under the terms of some sub-contracts, a contractor's obligation

to pay a sub-contractor may accrue only after the contractor has received payment from the purchaser. In such cases, the purchaser should be authorized if he deems it necessary to pay the sub-contractor directly after the purchaser has paid the contractor for work performed by the sub-contractor but the contractor has failed to pay the sub-contractor. The purchaser should then be entitled to deduct the amount of his direct payment to the sub-contractor from sums which later become due to the contractor, or to claim reimbursement from the contractor.

[A/CN.9/WG.V/WP.13/Add.6]

Security for performance

Summary

Each party to a works contract may seek security against failure of performance by the other. The forms of security which the purchaser usually obtains are guarantees (paragraphs 4-32), the right not to pay the full sum due to the contractor until proof of satisfactory performance by him (paragraphs 33-36), and security interests in property (paragraph 43).

A guarantee provides that, if a failure of performance by the contractor occurs, a third party (the guarantor) will be responsible for that failure in the manner described in the guarantee (paragraph 4). Two kinds of guarantees may be required by purchasers—performance guarantees (paragraphs 5-8) and repayment guarantees (paragraphs 5 and 9). Performance guarantees, which are security for due performance by the contractor, usually take one of two forms. Under one form, commonly known as a first demand guarantee, the guarantor undertakes that he will pay the purchaser a specified sum of money as compensation upon the bare assertion of the purchaser that the contractor has failed to perform (paragraphs 7 and 14). Under the other form, commonly known as a performance bond, the guarantor undertakes that, upon proof by the purchaser that the contractor has failed to perform, the guarantor will at his option either himself rectify the failure, or will engage another contractor to do so, or will pay a sum of money as compensation (paragraphs 7 and 15).

A repayment guarantee is a security that an advance payment made by the purchaser to the contractor will be repaid by the contractor. Such a guarantee usually takes the form of an undertaking by the guarantor to pay the purchaser a specified sum of money if the contractor does not repay the advance (paragraph 9).

In regard to guarantees which he requires, the purchaser should consider whether he should specify the guarantors who are acceptable to him. The purchaser often specifies that the guarantors should be institutions in his own country, as it will be easier for him to enforce guarantees given by such institutions. Contracts often provide that a guarantee may be given by an

institution in the contractor's country, but that the guarantee must be confirmed by an institution in the purchaser's country (paragraphs 10-11).

The link between the purchaser and the guarantor is established under the guarantee. However, the contract should prescribe the nature and terms of the guarantee which the contractor is obligated to provide (paragraph 12). The guarantee may be independent or accessory. A typical example of an independent guarantee is a first demand guarantee, while a typical example of an accessory guarantee is a performance bond (paragraphs 13-15). Each form has its advantages and disadvantages (paragraphs 16-18).

Guarantees may be furnished by the contractor at the time of the conclusion of the contract, or the contract may provide that the guarantee is to be furnished within a short period of time after the conclusion of the contract. In the latter event, the contract should determine the purchaser's remedies if the guarantee is not furnished (paragraph 19).

The liability of the guarantor is normally limited to a specified monetary value. If the works contract contains certain limitations of the contractor's liability for failure of performance, the parties may wish to include such limitations in the guarantee (paragraphs 20-21). The parties should also determine the currency in which sums are to be paid under the guarantee. The parties may wish to consider whether the amount of the guarantee should be reduced in certain circumstances. In regard to a performance guarantee, reduction may be justified after the purchaser receives some assurance of satisfactory completion of construction (paragraph 22).

Under many legal systems, variations of a contract discharge the liability of a guarantor. Accordingly, the contract generally regulates the effect of variations on the guarantee (paragraphs 24-27). The contract should also regulate the duration of the guarantee. It is in the interest of the purchaser that the guarantee be maintained till the contractor's obligations are discharged. The guarantor and the contractor are interested in fixing a clear expiry date for the guarantee (paragraphs 28-31).

The contract may formulate the payment conditions so as to provide that full payment of the price is to be made only upon satisfactory completion of construction by the contractor (paragraphs 33-36).

The contractor may obtain security for the payment of sums due to him in the form of an irrevocable letter of credit (paragraphs 37-42) and security interests in property (paragraph 43). The parties should agree on certain issues connected with the letter of credit (e.g. the currency of payment, and the documents to be presented to the bank to obtain payment) (paragraphs 41-42).

Each party often wishes to create by agreement security interests in his favour over property of the other party. There are, however, certain disadvantages connected with such security interests (paragraph 43).

* * *

A. General remarks

1. Each party to a works contract is aware that failure of performance by the other party may cause him considerable loss. While a party will have contractual remedies under the works contract against the other party for compensation in the event of such failure, he may wish in addition to have other remedies to protect himself against the failure. For this purpose, each party may wish to arrange for some form of security upon which he can call in place of or in addition to his contractual remedies under the works contract. Such security may take various forms. It may take the form of a promise of a third person of substantial financial standing to pay a sum of money upon failure of performance. It may take the form of an undertaking by such a third person to cure or complete defective or incomplete construction. Both these arrangements are generally known as guarantees. It may also consist of a right in respect of certain funds, or over property belonging to the other party, which may be exercised so as to obtain compensation.

2. The parties should in their contract set forth the forms of security to be provided by each party and the consequences of a failure to do so. The furnishing of security entails costs for the party who furnishes it. The costs may vary with the value and form of the security. Parties should therefore determine the degree of protection that they reasonably require, and avoid over-protection. Where a guarantee is to be provided, the contract and the guarantee would be separate legal instruments. However, their provisions should be harmonized, and the contract terms should not derogate from the rights to which a party is entitled under a guarantee.

3. The law applicable to the security may not be the same as that applicable to the contract. The law applicable to the security may mandatorily regulate certain aspects of the security, such as its form, its period of validity and, where the security consists of a guarantee, the rights arising from retention of the guarantee document. It will also determine the relationship between the security and the works contract. The parties should take account of the law which will be applicable to the security in determining the nature of the security to be obtained. Where the security consists of a guarantee, it may also be necessary to take account of the law of the country of the guarantor, which may mandatorily regulate the guarantor's business, e.g. require registration and impose ceilings on the amounts which may be guaranteed.

B. *Security for performance by contractor*

1. *Guarantees*

4. Guarantees provide that, if a specified failure of performance by the contractor occurs, a third person (the guarantor) will be responsible for that failure in the manner described in the guarantee. The term "guarantee" is not universally used to describe such agreements, and the terms "bond", "suretyship agreement" and "indemnity" are often used. In some countries, banks are prohibited from issuing guarantees. However, "stand-by letters of credit", having the same function as guarantees, may be issued by banks. A stand-by letter of credit is a letter of credit opened by a bank at the request of the contractor in favour of the purchaser. Under the terms of such letters of credit, the purchaser would be entitled to claim a certain sum of money from the bank in the event of failure of performance by the contractor.¹ The guarantees dealt with in this chapter are distinct from guarantees of quality. The latter type of guarantee consists of contractual undertakings by a party as to the quality of his performance, e.g. that equipment or materials to be supplied by him will be of a stated quality.

5. Guarantees as security for the purchaser are frequently used in the following contexts:

(a) As security that a contractor who has submitted a tender will not withdraw his tender before the date set in the invitation to tender for awarding the contract, and as security that he will conclude a contract if the contract is awarded to him and will submit the performance guarantee specified in the invitation to tender. Such guarantees, commonly known as tender guarantees, are dealt with in the chapter "Invitation to tender and negotiation process";

(b) As security against loss that a purchaser might suffer if a contractor who has concluded a contract fails to perform in accordance with the contract. Such guarantees are commonly known as performance guarantees;

(c) As security that an advance payment made by the purchaser to the contractor will be repaid to the purchaser. Such guarantees are commonly known as repayment guarantees.

(a) *Performance guarantees: function*

6. A purchaser who is entering into a works contract will seek a contractor who possesses the financial as well as the technical and operational resources needed to complete the work. Often, however, a purchaser may not have full information concerning a prospective foreign contractor's finances, the extent of his other work commitments (which could interfere with his performance), his prior performance record, or other factors bearing on the contractor's ability to see the

project through to completion. Furthermore, unforeseen factors occurring after the conclusion of the contract may affect the contractor's ability to perform the contract. Invitations to tender and works contracts therefore often provide that performance guarantees must be furnished by the contractor, so that remedies may be available to satisfy the liabilities of the contractor in the event of failure of performance. Requiring a performance guarantee may also tend to prevent contractors who are unreliable or have no financial resources from tendering. Guarantor institutions generally make careful inquiries about the contractors whom they are asked to guarantee and will normally only provide guarantees if they have reasonable grounds for believing that the contractor can successfully perform the contract.

7. Performance guarantees are generally of two types. Under one type, hereinafter referred to as monetary performance guarantees, the guarantor only undertakes to pay the purchaser funds up to a stated limit, to satisfy the liabilities of the contractor in the event of the contractor's failure of performance. Such guarantors are often commercial banks. Under the other type, the guarantor at his option undertakes either himself to cure or complete defective or incomplete construction effected by the contractor, or to obtain another contractor to cure or complete the construction, and also to compensate for other losses caused by the failure of performance. The value of such undertakings is limited to a stated amount. The guarantor generally also reserves the option to discharge his obligation by payment of money to the purchaser up to a specified sum. This type of guarantee is generally given by specialist guarantee institutions, like bonding and insurance companies, and is hereinafter referred to as a performance bond. The purchaser may find it advisable to permit a tendering contractor to submit either type of guarantee, as the contractor may have business relations with a guarantor institution willing to provide one or the other of these types to the contractor at an inexpensive rate. From the point of view of the purchaser, each form of guarantee has certain advantages and disadvantages (see paras. 16-18, below).

8. In all works contracts, the contractor undertakes not merely to complete the construction, but also to cure defects notified to him by the purchaser before the expiry of the period of the quality guarantee (see the chapter "Failure to perform"). The contractor's performance during this guarantee period may be secured either by the same performance guarantee which covers performance up to completion, or by a separate performance guarantee, sometimes called a maintenance guarantee. In the account that follows, it will be assumed that the parties wish to provide for a single performance guarantee. The considerations set forth below as relevant to a performance guarantee would also be relevant to a separate maintenance guarantee.

(b) *Repayment guarantees: function*

9. In order to assist the contractor in the purchase of materials and equipment and in mobilization, a purchaser

¹The nature of stand-by letters of credit is described in a report of the Secretary-General, "Standby letters of credit" (A/CN.9/163) (Yearbook . . . 1979, part two, II, B).

often makes an advance payment to the contractor of part of the price. This advance payment would be set off against sums due to the contractor for his supply of services, materials and equipment. To protect the purchaser against failure of repayment by or bankruptcy of the contractor, the contract may provide that the contractor must furnish a guarantee of repayment in case such events occur.

(c) *Choice of guarantors*

10. The purchaser may wish to decide whether he should specify the guarantors whom he is willing to accept. The advantage of specification is that those guarantors can be specified who are of proved financial standing and have a satisfactory record in settling claims. The disadvantage of specification is that this may exclude contractors with no access to the specified guarantors or may prevent contractors from using guarantors with whom they have a close relationship and who are willing to provide guarantees inexpensively.

11. A possible approach is to provide that in the first instance the contractor can propose a guarantor of his choice. If the proposed guarantor is not acceptable to the purchaser, however, the contractor should be obliged to replace him with one who is acceptable. In this connection, the purchaser should also consider whether he should stipulate that only guarantees furnished by financial institutions in the country of the purchaser are acceptable. In some countries, governmental regulations may provide that only guarantees furnished by local financial institutions may be accepted. The advantage of stipulating that guarantees should be given by institutions in the country of the purchaser is that such guarantees can be more easily enforced and the sums due more easily collected. The disadvantages are that local institutions may charge more for guarantees and also may not be prepared to give certain forms of guarantees, such as a performance bond. Furthermore, local institutions may not be prepared to give guarantees on behalf of foreign contractors who are not known to them. A possible approach is to permit the contractor to use non-local guarantors, but to require that a local financial institution confirm the guarantee. In certain countries, the financial standing of institutions providing guarantees is checked and approved by governmental agencies, and limits are placed on the sums they may guarantee. The purchaser may wish to provide that, where a guarantor is proposed from such a country, the guarantor should be an approved institution.

(d) *Nature of guarantor's obligation*

12. While the contract between the contractor and the purchaser can prescribe the nature and terms of the guarantee which the contractor is obligated to provide, it is the guarantee itself which establishes the link between the guarantor and the purchaser. Accordingly, the legal relationship between the purchaser and guarantor is governed by the provisions of the guarantee and the law applicable to it. The contract between the purchaser and

the contractor should expressly state that the purchaser can resort to the guarantee only if there is in fact a failure of performance by the contractor. The contract may, however, also impose certain limitations on the purchaser's right to resort to the guarantee (e.g. by providing that before resorting to the guarantee the contractor should be given notice of his failure of performance, and that a specified time period must elapse after delivery of such notice before a claim can be made under the guarantee).

13. In form, a performance guarantee is closely connected with the underlying works contract, i.e. the guarantor has to pay, or arrange for performance, upon failure of performance by the contractor under the works contract. The terms of the guarantee, however, may make the guarantee in practice independent of the works contract, or accessory to it.

14. A typical example of a guarantee which in practice is independent of the obligations in the underlying works contract is a first-demand guarantee, under which the guarantor has to make payment on demand by the purchaser. The purchaser is entitled to recover under the guarantee upon his bare assertion that the contractor has failed to perform. Whether in fact there is a failure under the works contract, or whether there is liability for such failure on the part of the contractor, is irrelevant to the guarantor's liability.

15. The guarantee would be accessory when the obligation of the guarantor is more closely linked to liability of the contractor for failure of performance under the works contract. The nature of the link may vary under different guarantees, e.g. the purchaser may have to establish the contractor's liability by producing an arbitration award which holds that the contractor is liable, or the guarantor may be entitled to rely on certain defences which the contractor may have in respect of his failure of performance. Performance bonds usually have such an accessory character.

16. The advantage to a purchaser of a first-demand guarantee is that he is assured of prompt recovery of funds under the guarantee, without proof of failure of performance by the contractor or of the extent of his loss. A purchaser may frequently lack the expertise required to prove the contractor's failure of performance. Furthermore, certain guarantors, in particular commercial banks, prefer first-demand guarantees as the conditions under which their liability to pay accrues are clear, and they are not involved in disputes between the purchaser and the contractor as to whether or not there has been failure of performance in respect of the works contract. The costs to a purchaser resulting from obtaining a first-demand guarantee, however, may be more than those resulting from obtaining an accessory guarantee, since the contractor may wish to include in the price the cost of insurance which he wishes to take out against the risk of recovery by the purchaser under the guarantee when there has been in fact no failure of performance by the contractor, or the potential costs of an action for damages against the purchaser in case of such recovery. In addition, as a reflection of the higher risk of payment

borne by a guarantor under a first-demand guarantee, the amount of the guarantee would normally not exceed a very limited percentage of the contract price. A disadvantage of a first-demand guarantee to the contractor is that, if there is a recovery under the guarantee in breach of the terms of the works contract, there may be difficulties and delays in the recovery of damages from the purchaser, whereas the loss caused to the contractor may be immediate, since the guarantor may immediately after payment reimburse himself from the assets of the contractor.

17. Under a performance bond, the purchaser must prove that the contractor has failed to perform, and the extent of the loss suffered by him. Furthermore, all defences available to the contractor if he were sued for failure of performance are available to the guarantor. Accordingly there is a possibility that the purchaser will face a protracted dispute when he makes a claim under the guarantee. However, the monetary limit of liability of the guarantor may be considerably higher than under a first-demand guarantee, as a reflection of the lesser risk of payment borne by the guarantor. A performance bond may also be advantageous if the purchaser cannot conveniently arrange for the cure or completion of construction himself, but would need the assistance of a third person to arrange for such cure or completion. Where, however, the contract involves the use or transfer of a technology known only to the contractor, cure or completion by a third person may not be feasible, and a performance bond under which the guarantor may employ a third person for cure or completion may have no advantage over a monetary performance guarantee.

18. It may be noted, however, that the manner in which guarantees are to be formulated is a matter for agreement between the purchaser, the contractor and the guarantor. The parties may wish to provide that the guarantee to be furnished is to be neither completely accessory nor a pure first-demand guarantee. Thus, they may wish to provide for the furnishing of a guarantee under which a sum of money is payable only if the demand is made in writing and is accompanied by a specified written statement which identifies or describes the failure of performance which has resulted in the demand. The guarantor would, however, be under no duty to investigate the correctness of the statements made regarding the failure of performance. It would also be possible, again, to provide for a guarantee under which money is payable only if the demand of the purchaser is accompanied by a certificate of the engineer, or an independent third person acting under an expeditious dispute settlement mechanism, deciding that there has been failure of performance by the contractor. Furthermore, the common interest of both parties in the successful completion of the contract serves to discourage an abuse of rights under guarantees.

(e) *Time of furnishing guarantee*

19. Disputes between the parties as to the wording and nature of guarantees to be furnished may be minimized if the guarantee becomes effective and the contract is concluded at the same time. In order to

achieve this, the purchaser may stipulate in his invitation to tender the guarantors whom he would be prepared to accept and set forth a form of the guarantee which he requires. Alternatively, the parties may wish to provide that the guarantee is to be furnished within a short specified period of time after the conclusion of the contract (e.g. because this is less expensive). In order to assure the purchaser that a contractor to whom a contract is awarded will furnish the required performance guarantee, the tender guarantee to be furnished may provide that it is not to expire until the performance guarantee is furnished (see the chapter "Invitation to tender and negotiation process"). Another approach is for the invitation to tender to require that a tender should be accompanied by a certificate from an institution qualified to be a guarantor to the effect that, if the contract were awarded to the tenderer, the institution would be prepared to give a performance guarantee of the kind described in the invitation to tender. If it is agreed that the guarantee is to be furnished after the conclusion of the contract, the parties should in the contract agree on the rights of the purchaser in case the guarantee is later not furnished (e.g. that he may terminate the contract and recover damages).

(f) *Extent of liability under guarantee*

20. The liability of the guarantor is normally limited to a specified monetary value. This value may be determined as a percentage of the contract price or advance payment. The exact percentage may be determined by an assessment of the risks of non-performance involved and a consideration of the limits which guarantors usually observe when providing guarantees for the type of works in question. A requirement of a very large guarantee sum may prevent smaller enterprises from bidding, as they might be unable to obtain guarantees for such sums. The parties should also determine the currency in which sums are to be paid under the guarantee. In the case of a repayment guarantee, this may be the currency of the advance payment. In the case of a performance guarantee, it may be the currency in which the contract price is to be paid. If the price is to be paid in more than one currency, a particular currency may have to be specified.

21. The works contract may contain certain limitations of the contractor's liability for failure of performance, such as an exclusion of liability for "indirect" loss. In such cases, the parties may wish to include in the guarantee such limitations of liability to the same extent as they appear in the works contract. However, where a guarantee is accessory (e.g. in the case of a performance bond), the law applicable to the guarantee may provide that the extent of liability of the guarantor is co-extensive with that of the contractor. If, therefore, under the applicable law the contractor's liability is limited, the guarantor's liability would be similarly limited. If, however, the applicable law is not clear on this issue, it would be preferable for the guarantee to deal with it.

22. The parties may also wish to consider whether the amount of the guarantee should be reduced after contract performance has progressed to a certain stage. In respect of performance guarantees, one approach may be not to provide for any reduction. This may be justified by the view that a failure of performance may occur at the last stage of construction, requiring for its compensation the full amount of the guarantee. Another approach may be to provide for a reduction upon acceptance of the works by the purchaser, since the mechanical completion tests and performance tests held prior to acceptance (see the chapter "Completion, acceptance and take-over") will have shown that performance has been in accordance with the contract. However, a reduction merely upon the acceptance of a stage of the work may not be justified, since failures of performance at subsequent stages may require for their compensation the full amount of the guarantee. Furthermore, failures of performance such as delay tend to occur after construction is well under way, and not at the early stages.

23. In order to give the purchaser comprehensive security, it would generally be advisable for liability under the guarantee to arise upon any form of failure of performance to which the guarantee relates. Thus, in respect of a performance guarantee, liability under the guarantee should arise upon non-performance, defective performance and delay in performance. The guarantor should be liable to pay for costs and damages caused by the failure of performance.

(g) *Effect of variation of contract*

24. A significant issue in connection with guarantees is the effect of a variation of the scope of obligations under the contract (see the chapter "Variation clauses") on the obligations of the guarantor. Since these variations will change the contractor's obligations under the contract, they will be of concern to the guarantor. A substantial extension or increase of the contractor's responsibilities may increase the risk to which the guarantor is exposed. In the case of a performance bond, such an extension or increase of the contractor's responsibilities may affect the guarantor's capability to cure or complete defective or incomplete construction. In some legal systems, unless otherwise provided in the guarantee, an alteration of the underlying contract could operate to release the guarantor; or the guarantor may be obligated only to the extent of the contractor's obligations at the date of issuance of the guarantee. In view of the frequency with which variations are made to a works contract, parties should expressly address this issue in the guarantee.

25. Different approaches may be adopted. Since the amount of the guarantor's liability is limited to a stated amount and the duration of the guarantee is also limited (see paras. 28-32, below), the guarantor may be prepared to bear his risk as so limited even if variations to the contract may to some extent alter that risk. If this approach is adopted, the guarantee should expressly state that it remains valid as limited by its original terms despite any variations to the contract. Another approach may be to provide that the guarantee is to

remain valid as limited by its original terms despite any variations, provided that such variations do not collectively increase the contract price by more than a stated percentage. If the stated percentage is exceeded, the consent of the guarantor is to be required if the guarantee is to remain valid. Yet another approach may be to provide that, if the contract is varied, the guarantee is to remain valid only in respect of contractual obligations which are not varied. In respect of obligations which are varied, the consent of the guarantor is to be required if the guarantee is to remain valid.

26. The provisions in the contract concerning variations and those in the guarantee concerning the effect of variations on the guarantee should be in harmony. Thus, if the contract gives the purchaser a unilateral right to order certain variations, the provisions in the guarantee should not be such that, in the event of any variation, the guarantee becomes invalid or does not apply to failure to perform the obligations as varied. Such lack of harmony would deter the purchaser from exercising his right to order variations.

27. Provisions which would maintain the validity of the guarantee in accordance with its original terms may not suffice to protect the purchaser. The variation of the contract may extend the period for performance or increase the liabilities of the contractor in the event of a failure of performance. The parties may therefore wish to provide that in such cases the contractor is obliged to procure from the guarantor appropriate modifications to the expiry date, amount and other relevant terms of the guarantee. The costs of such modifications should be borne by the party bearing the costs of the variations to the construction (see the chapter "Variation clauses").

(h) *Duration of guarantee*

28. It is in the interest of the purchaser that the guarantee should cover the full period during which any obligation of the contractor guaranteed may be outstanding. In respect of a performance guarantee, the guarantee should cover not only the period during which the construction is to be effected, but also the period of the quality guarantee (see para. 8, above, and the chapter "Failure to perform").

29. It is in the interest of the guarantor that the guarantee have a clear expiry date, when he will cease to bear the risks under the guarantee. Banks, in particular, will generally insist that such a fixed date be specified in monetary performance guarantees furnished by them. One technique used to delimit the period covered by a guarantee is for the guarantee to provide that claims may not be made under the guarantee after a specified date. In such cases, the parties may wish at the time of the conclusion of the contract to agree upon a fixed date to be inserted in the guarantee, calculated on the basis of an estimated period of time for the completion of the performance of the obligations to be guaranteed. However, while such a fixed date may

satisfy the interests of the guarantor, it may create difficulties for the purchaser and the contractor, since for various reasons the period of time for which the guarantee is required may extend beyond the fixed date (e.g. because of delay in performance by the contractor, or by the operation of clauses dealing with exempting impediments). Accordingly, where the contractor has not satisfactorily fulfilled his contractual obligations by the expiry date of the guarantee, the contract should obligate the contractor, upon the request of the purchaser, to arrange for an extension of the period of validity of the guarantee for a further period necessary for the satisfactory fulfilment of the contractor's obligations.

30. The guarantor under a performance bond may not insist on a fixed expiry date. However, because of the accessory character of the bond, the guarantor would cease to be liable when the contractor has discharged his obligations even if no specified expiry date had been provided in the performance bond. Another approach may be for the performance bond to provide that claims may not be made after the date of the final payment under the contract to the contractor. Such a final payment would only be made after the purchaser is satisfied that the contractor has fulfilled his obligations, and accordingly it would be reasonable to exclude claims against the guarantor after that date.

31. As regards a repayment guarantee, providing for expiry of the guarantee on a fixed date may present the same difficulties as in respect of a performance guarantee. When the guarantor does not insist on a fixed expiry date, a possible approach may be to provide for the guarantee to expire when the contractor has supplied services and equipment in the value of the guarantee amount. Such supply may be proved either by a certificate by the engineer or purchaser to that effect or by documents evidencing supply (e.g. invoices or transport documents certified by the purchaser, or site receipts from the purchaser's representatives).

32. Parties may also wish to deal with the situation where the contract is terminated prior to the last date for making claims under the guarantee. The parties may wish to provide that claims may be made under the guarantee subsequent to the termination, provided they are made as a consequence of failures of performance by the contractor.

2.1 Security for performance created through payment conditions

33. The payment conditions of the contract may be formulated so as to create a security available to the purchaser against failure of performance by the contractor. Under a works contract, payment is usually made in instalments as the work progresses. One method of formulating the payment schedule is to provide that an engineer or other independent third

party is to estimate the value of the performance effected by the contractor at specified stages of the construction and to provide that only the estimated value less a specified percentage is to be payable to the contractor. Accordingly, even upon completion of construction (see the chapter "Completion, acceptance and take-over") the contractor would not receive the full contract price. The full price would usually only be payable when the purchaser is satisfied that the works contains no defects and operates in accordance with the contract.

34. The advantage to a purchaser of a security created in this manner is that, upon a failure of performance by the contractor, he can utilize the sum not paid without recourse to a third party. A disadvantage is that, as the sum not paid only increases as construction progresses, it is an inadequate security during the early stages of construction. It is also possible that some contractors may experience a shortage of funds to finance the construction because they do not receive the full estimated value of the work done by them, and are forced to borrow money as a result. In such cases the costs of such borrowing may be incorporated by the contractor in the price quoted.

35. In fixing the percentage to be deducted from the estimated value to determine the amount payable at each stage, the parties should take into account several factors, e.g. the other security available to the purchaser, the extent of the estimated value, and the costs to the contractor occurring as a result of the deduction. Parties may feel that after the difference between the estimated value and the sum actually payable reaches a specified amount, the purchaser has adequate security. They may then wish to provide that, after that amount is reached, the full estimated value is to be payable for the work done. Another approach may be to provide that, when such difference reaches a specified amount, the percentage to be deducted from the estimated value should be reduced.

36. The contract will provide the procedures by which the contractor should satisfy the purchaser that the works contains no defects and operates in accordance with the contract (see the chapter "Inspection and tests", and the chapter "Completion, acceptance and take-over"). Payment of the balance outstanding from the full contract price after completion should be linked to the carrying out of these procedures. Thus, the contract may provide that a specified part of the balance outstanding is to be payable on acceptance. The remaining part may be payable upon the lapse of a specified period of time after the expiry of the quality guarantee period, provided the purchaser has no claims against the contractor at that point in time. The parties may also wish to provide that, on acceptance, the full balance outstanding should be payable to the contractor, provided the contractor furnishes a first-demand performance guarantee under which such outstanding balance may be claimed by the purchaser.

C. *Security for payment by purchaser*

37. The parties may wish to consider whether there should be some security for the performance of the main obligation of the purchaser, i.e. the payment of the price. When the construction of the works is financed by an international lending agency or other reputable institution, the contractor may have sufficient assurance that payment will be made for construction effected. Furthermore, since the payment conditions under a works contract usually provide that payment is to be made in instalments as the work progresses, the contractor has the option of suspending construction if an instalment is not paid. If, however, the contractor wishes to have security, the parties may wish to provide for payment under an irrevocable letter of credit.

38. Such a letter of credit consists of an irrevocable written undertaking by a bank (the issuing bank) given to the contractor at the request of the purchaser, to effect payment up to a stated sum of money within a prescribed time-limit and against stipulated documents.²

39. The parties may wish to determine the bank which is to issue the letter of credit. The undertaking of any recognized bank to pay may normally be regarded as sufficient security. The contractor may, however, obtain greater security if the contract requires the letter of credit to be confirmed by a bank in the contractor's country. Under such a confirmation, the confirming bank accepts a liability equivalent to that of the issuing bank. The contractor can recover payment under such a confirmed letter of credit without facing difficulties created by exchange control restrictions in the purchaser's country. However, requiring such confirmation would increase the costs of the purchaser. Parties should also agree on the time when the letter of credit is to be opened. Opening the letter of credit concurrently with the conclusion of the contract would create increased security for the contractor.

40. The terms of payment in the contract (e.g. currency of payment, amount of instalments payable, and time for payment) should be harmonized with the payment terms under the letter of credit. The parties should consider how the amount payable under the letter of credit should be specified (for example, an amount may be specified sufficient for the payment of any one of the instalments of the price payable under the payment schedule, such amount to be automatically made up to its original amount after each payment, until the full contract price is paid—the so-called revolving letter of credit). The terms of payment under the letter of credit should be agreed taking into account the commercial practices of banks in relation to letters of credit and the costs of the different possible arrangements. In all cases the letter of credit would provide for a maximum amount payable under it.

41. The parties in their contract should clearly agree on the documents against which the bank is to make payment and the wording and data content of these documents. Such documents would normally evidence the supply of the services, equipment or materials in respect of which the payment is made and may accordingly be of different types (e.g. engineer's certificates evidencing the progress of construction, transport documents, or site receipts by the purchaser's representatives in respect of the supply of equipment or materials).

42. It is in the interest of the contractor that the letter of credit should cover the full period during which any payment obligation of the purchaser may be outstanding. Banks will generally insist that a letter of credit should have a fixed expiry date. Determining such an expiry date may present difficulties. While the time schedule in the contract may specify a date for final payment, such date may be postponed for various reasons (e.g. delay in performance by the contractor, or exempting impediments preventing construction or payment). A possible approach may be to fix the expiry date by adding to the date for final payment specified in the contract a reasonable period for possible postponements of the date of final payment.

D. *Security interests in property*

43. In addition to the methods of providing security for performance considered above, the parties may consider the possibilities offered by the creation of security interests in property. Such security interests may be created independently of the agreement of the parties by the operation of mandatory provisions of the applicable law (e.g. a contractor who supplies labour and materials for construction may be given a security interest in the works constructed as security for payments due to him). Parties may wish to ascertain the extent to which security interests may be created by operation of law, and their rights under such security interests. In addition, parties may wish to create by agreement security interests for their protection. Mandatory legal rules may apply, regulating the manner in and the extent to which such security interests may be created. Under many legal systems, such security interests suffer from certain disadvantages (e.g. slowness in the procedures for realizing the collateral, obscurity as to the rules governing priority between different creditors, and the overriding effect of bankruptcy laws if the debtor becomes bankrupt). Furthermore, in the circumstances attending a works contract, certain forms of security may not afford a high degree of protection. Thus, a purchaser who obtains a security interest over the construction machinery of the contractor may find that after a certain period of use the machinery is of very little value, and a contractor who obtains a right to sell equipment supplied by him which has become the property of the purchaser may find that the value which may be realized by a sale of such equipment in the country of the purchaser is small.

²Such credits are usually governed by the Uniform Customs and Practice for Documentary Credits of the International Chamber of Commerce. These Uniform Customs and Practice set forth rules relating to the opening and operation of letters of credit. The latest revision of the Uniform Customs and Practice (ICC document No. 400) is expected to be in force from 1 October 1984.