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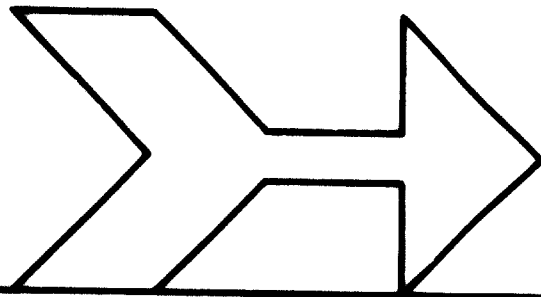
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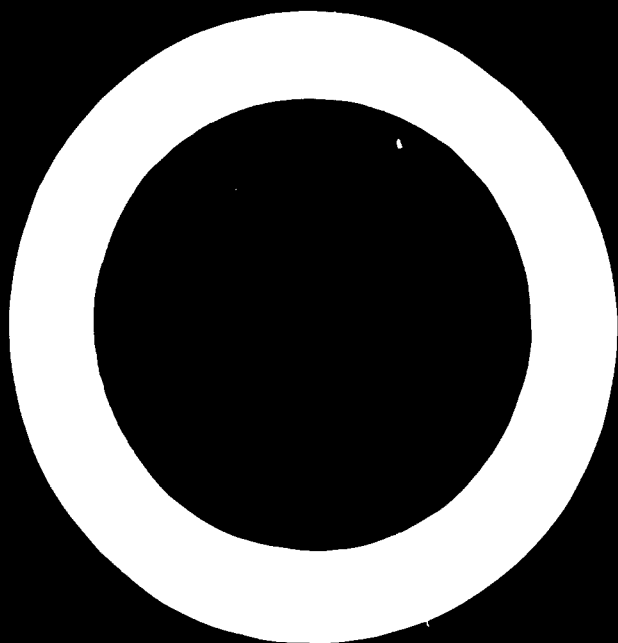
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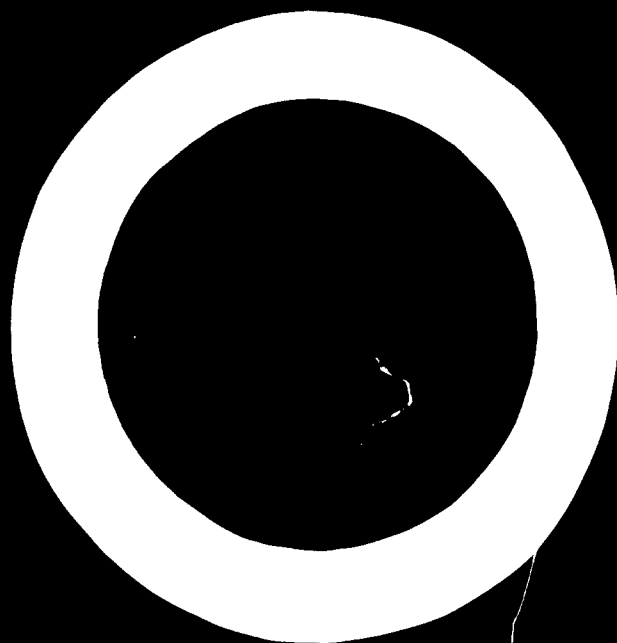
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# A GUIDE TO INDUSTRIAL PURCHASING

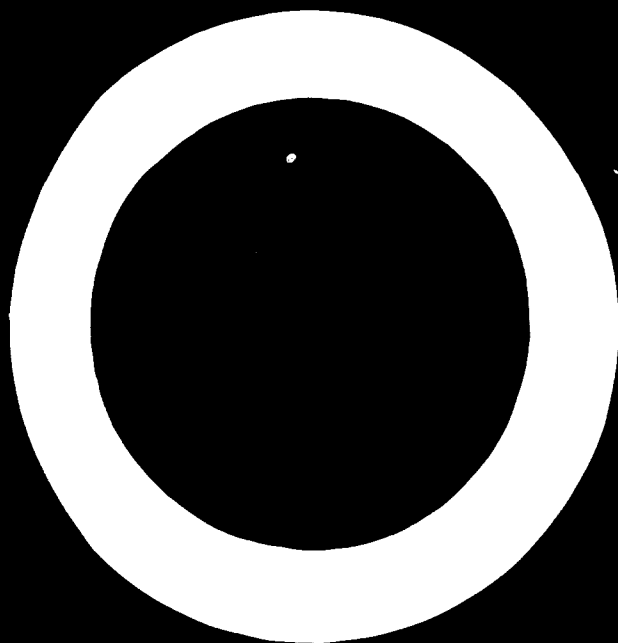


UNITED NATIONS





**A GUIDE  
TO  
INDUSTRIAL PURCHASING**



7/12  
UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION  
VIENNA

**A GUIDE  
TO  
INDUSTRIAL PURCHASING**



UNITED NATIONS  
New York, 1972

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## PREFACE

In accordance with resolution 1183 (XLI) adopted at its forty-first session in August 1966, the Economic and Social Council of the United Nations requested the Secretary-General:

"... to study the feasibility of setting up, within the United Nations Organization for Industrial Development or any other appropriate United Nations body, an advisory service which could provide information to the developing countries on the sources of supply, the cost and the quality of equipment needed for their development."

This resolution provided the terms of reference for an expert group meeting, which was sponsored by the United Nations Industrial Development Organization (UNIDO) and held in November 1967 in New York. Members of the group included experts in supply management and in the organization and operation of purchasing units from both the public and private sectors in developed and developing countries.

In their report, the expert group recommended that UNIDO establish the Advisory Service for the Supply of Industrial Equipment to Developing Countries. This service went into operation at the end of 1968.

One of the recommendations of the expert group was that UNIDO should make pertinent information on this subject available in the form of manuals, brochures and publications. To further this aim, UNIDO is publishing the present guide to purchasing industrial equipment.

The present publication contains discussions of purchasing policy, organization and methods. The annex is a check list of procedures for the purchase of industrial equipment. Selected references are given for further study. However, the International Federation of Purchasing, 1, Rue Aux Laines, Brussels, Belgium, issues current bibliographies of purchasing literature.

This publication has been prepared with the assistance of Alexander Morrison, a Fellow of the Institute of Cost and Works Accountants, and of the Institute of Purchasing and Supply, a member of the National Council of Quality and Reliability, and of the Purchasing Officers Association of Great Britain. Mr. Morrison is the Executive Director of Highways and Transportation for the Greater London Council, and the author of *Storage and Control of Stock*.<sup>1</sup> He has previously been Director of Supplies for the Greater London Council and Divisional Purchasing and Stores Controller for the National Coal Board.

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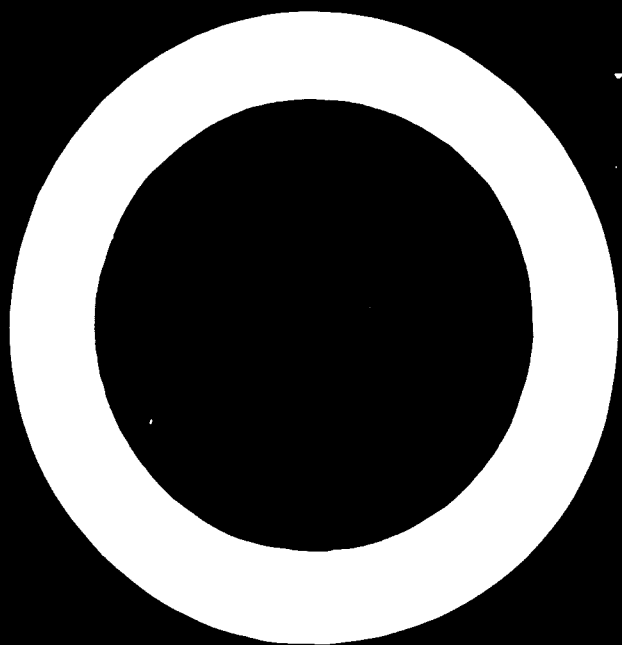
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## CONTENTS

	<i>Page</i>
<i>Chapter 1</i> THE PURCHASING FUNCTION IN DEVELOPING COUNTRIES	1
<i>Chapter 2</i> PURCHASING POLICY AND ORGANIZATION . . . . .	4
<i>Chapter 3</i> SPECIFICATIONS AND STANDARDIZATION . . . . .	10
<i>Chapter 4</i> PURCHASING METHODS . . . . .	13
<i>Chapter 5</i> PURCHASING FORMS . . . . .	21
<i>Chapter 6</i> PROCEDURES FOR BUYING AN IMPORTED MACHINE . . .	26
<i>Chapter 7</i> EXPORT AND IMPORT PROCEDURES . . . . .	34
<i>Annex</i> CHECK LIST OF PROCEDURES FOR THE PURCHASE OF INDUSTRIAL EQUIPMENT . . . . .	41
<i>Bibliography</i> . . . . .	43

## EXPLANATORY NOTES

Billion signifies a thousand million.

Dollar (\$) refers to US dollar.

Ton refers to metric ton (1,000 kg).

The following abbreviations are used in this publication:

c.i.f.	Cost, insurance and freight
CPM	Critical Path Method
f.a.s.	free alongside ship
f.o.b.	free on board
f.o.r./f.o.t.	free on rail/free on truck
kg	kilogram
m	metre
mm	millimetre
PERT	Programme Evaluation Review Technique
V	volt

International organizations:

IATA	International Air Transport Association
ISO	International Organization for Standardization

## **THE PURCHASING FUNCTION IN DEVELOPING COUNTRIES**

### **The economic effect of purchasing**

Developing countries are currently spending about \$10 billion per year on imported plants, machinery and equipment. This figure indicates the importance of the purchasing function and the necessity for the utmost effort and expertise to ensure that the cost, quality, delivery dates, services provided by the supplier and other conditions are as favourable as possible. The buyer must therefore seek and evaluate a great deal of information about the sources of supply. In order to do so, it is imperative to enter the world market and to use all the available resources in promoting international competition for the purchase of goods, especially machinery and equipment.

Prior to the consideration of purchasing equipment, the possibilities of rental, leasing or the purchase of used equipment should be investigated. However, there may be taxes and duties added to the value of rented equipment that are not recoverable depending upon the end use. A customs appraisal of used equipment before contracting for its delivery would indicate the duty to be paid. A complete discussion of this aspect of equipping a plant is beyond the scope of the present publication.

Experience has shown that efficient, modern buying practices can provide significantly more and better equipment and goods than can be obtained otherwise, and thus can help maximize the degree of industrial growth obtainable for the available funds. Therefore, the individuals who are responsible for purchasing have opportunities to further the economic development of their countries.

### **Special problems in developing countries**

Purchasing is a vital activity for industrial complexes, public and private utility plants, agricultural enterprises, government departments and municipal authorities. Although there is no ideal standard system that can be applied in all organizations and circumstances, there are certain established principles and practices that constitute a guide to efficient buying.

Prior to examining them, it is necessary to consider the special needs and conditions of the buyers in developing countries, for whom this guide is intended. They may work in either the public or private sector on major agricultural programmes, on large construction projects such as dams, bridges and irrigation systems, on mining, transport and electricity operations, in primary industries such as cement manufacture, sugar extraction, flour milling and meat processing, or perhaps in secondary industries such as textiles, metal pressings, pottery and motor vehicles.

It is more difficult to be an efficient buyer in a developing country than elsewhere, because of the special problems that are described below:

- (a) Local industry is generally not highly diversified. Most manufactured items, particularly plant and machinery, must be imported. Purchasing in foreign markets is always difficult. In addition to a potential language problem, the buyer must exert much effort to determine the most suitable and modern material or equipment, to locate good sources of supply, to consider packaging, transport, import-export regulations, methods of payment and the enforcement of guarantees. (The buyer should not continue to trade with an exporting country merely because of tradition or for historical reasons. Existing contracts may be satisfactory, but the buyer must compare them to the terms of other international suppliers.)
- (b) Funds are usually limited, and financing may require special arrangements. Where purchases are to be paid for by loans from international agencies or from other governments, conditions relating to the source or method of purchasing may be attached to the finance provision. The buyer must examine these conditions to ensure that they are not unreasonable in commercial terms. For example, there is no profit in securing a loan at a 0.5 per cent lower rate of interest if the price of the purchased goods will be 50 per cent higher (e.g., because the terms of the loan require the use of a particular source of supply or a particular product). The buyer must point out to his employer the probable effect of purchasing restrictions attached to the provision of finance. A proper evaluation requires a wide knowledge of comparative prices and of the quality of goods available on the world market.
- (c) Local facilities for the installation of machinery or the establishment of a plant are seldom adequate. Furthermore, technicians are not readily available to repair goods that are received in a damaged or defective condition. The purchase contract must include installation and service facilities provided by the supplier as a normal part of the transaction. In many instances, this consideration is extended beyond the point of initial installation by special long-term service contracts for maintenance service or spare-part supplies. If many large items of equipment are obtained from a number of different sources, the problem of maintenance and spare parts becomes particularly complicated and more costly.
- (d) Inspection arrangements for purchases from abroad require careful attention. The buyer seldom relies solely on post-delivery inspection of important or costly items. There should usually be some inspection during manufacture or prior to shipment.
- (e) Equipment and materials may have to be specially designed or treated to function properly (e.g. for use in tropical areas).



- (f) Purchasing must conform to the governmental regulations and procedures that inevitably accompany the rapid economic development of a country.
- (g) There is a scarcity of highly skilled commercial and technical staff; therefore, unskilled labour must be trained to carry out the work required. The purchase agreement can include a clause that the supplier provides the required training of skilled labour to operate purchased equipment.

Furthermore the buyer in a developing country faces problems involving quality, quantity, delivery and price. Therefore, even a man of great ability and wide experience will need much assistance to perform the task efficiently. Determining the most suitable types of machinery and equipment for a particular purpose is not an easy matter; a buyer will generally require expert technical advice on the specifications to be given or on their suitability for individual equipment. Sometimes the buyer obtains this advice from experts in his own organization. If, however, the advice proves to be inadequate, the buyer should consider employing a consultant, particularly for costly items. A reputable independent consulting organization that specializes in this type of work will advise impartially on technical matters, recommend potential sources of supply and assess the offers of manufacturers.

## Chapter 2

# PURCHASING POLICY AND ORGANIZATION

Purchasing policy should be established at a high organizational level. It should generally cover the following points:

- (a) Purchases are to be made at the lowest total or "ultimate cost"; this cost takes into account not only price, but also quality, delivery performance and conditions of finance. Although the lowest available quoted price is frequently the best, it is not always so. For machinery, it is particularly important that maintenance and operating costs be considered. The buyer should have authority to accept higher quoted prices if considerations of quality (e.g., ease of maintenance), delivery or finance justify an acceptance.
- (b) Competitive offers should be sought whenever possible. (Limitations on competition because of the need to favour local products even if imports are cheaper or the conditions of reciprocal purchasing agreements should be clearly stated.)
- (c) More than one source of supply for especially important materials is desirable. For example, if a particular type of high-duty alloy steel is used in large quantities and is vital to the production process, the availability of at least two suppliers would prevent serious financial losses in case of failure of delivery due to strikes, transport difficulties or other causes.
- (d) Prices quoted should be confidential and not disclosed to other suppliers or unauthorized persons.
- (e) The payment-policy goals should be decided, i.e. whether to pay bills promptly and thus claim the maximum discounts or to take full advantage of extended credit terms and thus conserve capital.
- (f) The purchasing department should have the sole authority to sign official orders and to request prices from suppliers. Furthermore, all correspondence concerning purchases is a function of the purchasing department.
- (g) The initial contact of a supplier's representative should be with a member of the purchasing department.
- (h) The chief buyer should have financial authority to purchase goods as required for general stock. But for the purchase of special items such as machinery, he should also have specific financial approval from the general manager, chief accountant or another senior officer.

- (i) Inventory-control targets should be determined. Although these targets are more applicable to non-durable items than to machinery, they do apply to machinery parts such as gaskets, belting, small gears and bushings. The effect of distance in terms of time should be noted for imported goods when fixing stock levels; account should be taken of the length of time required for delivery, outstanding orders in transit or awaiting clearance at ports and stock in transit between the port of delivery and the final destination.
- (j) No gifts should be accepted by employees from suppliers.

### **Duties of the purchasing department**

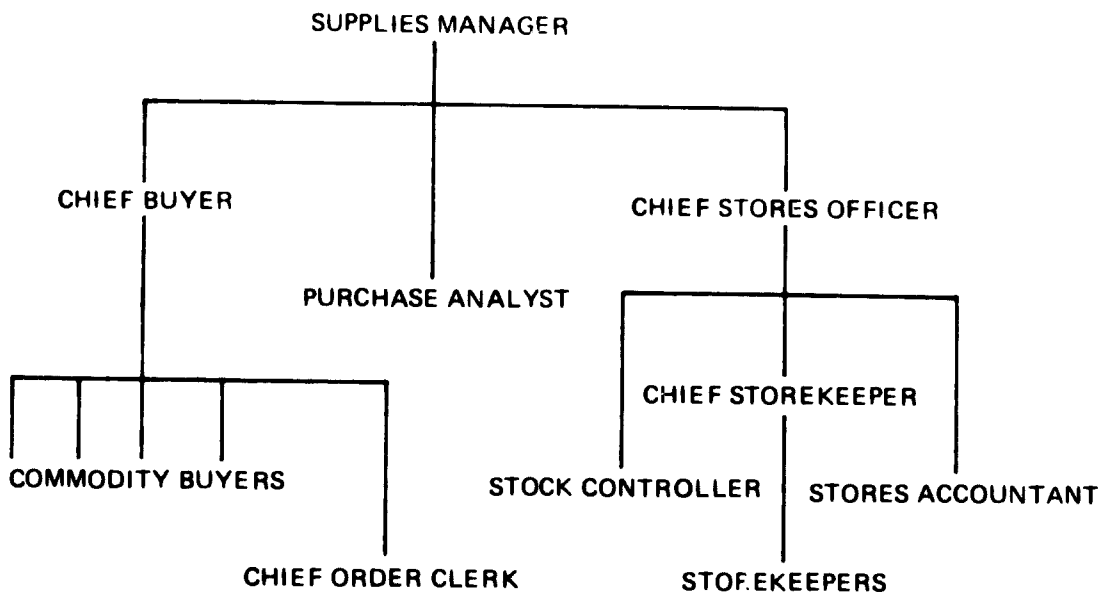
The duties of the purchasing department vary to some extent in different organizations, but the following outline is typical:

- (a) Obtaining specifications for items to be bought.
- (b) Preparing and modifying a list of approved suppliers.
- (c) Requesting quotations or tenders from suppliers.
- (d) Negotiating prices, conditions of contract and delivery times.
- (e) Preparing, signing and dispatching official orders.
- (f) Informing the proper individuals in other departments when orders have been placed, when there is a danger of late deliveries or when there is any difficulty with an order.
- (g) Expediting the orders placed to obtain deliveries on time.
- (h) Arranging documentation for orders placed and deliveries made. The procedures involve government regulations, financial rules, import duties, transport arrangements, inspection of goods abroad and insurance in transit.
- (i) Corresponding with suppliers about queries and disagreements.
- (j) Conducting various types of purchasing research including study of the market to determine the best sources of supply and of modern developments in manufacturing processes or methods of transport and the use of new products or techniques as they become available. It is helpful for a buyer to travel abroad and personally meet the suppliers. He can visit their factories, study their methods and discuss his needs with them. Furthermore, it is desirable that he attends national or international trade fairs and exhibitions where the newest materials and machinery are on display and experts are present to explain the details. It is particularly valuable for buyers in developing countries to maintain a library of current catalogues. It should include catalogues of materials and machinery from individual manufacturers, directories of trade associations, national export and trade registers, buyers' guides and international reference works of suppliers in various industries.

- (k) Organizing effective co-operation between provisioning and purchasing (this is more applicable to general stock items than to machinery). Provisioning is the process of deciding the quantity of stock to be purchased and the date the order should be placed, so that the goods are delivered when they are required to replenish stocks. Provisioning requires forecasting the rate of use, estimating the delivery time that will be quoted by suppliers and determining the appropriate quantity to be ordered that can be purchased at the best price.
- (l) Arranging for the inspection of machinery and all other goods. It is important to check that the quality is in accordance with the specifications and that the items are suitable for the purposes for which they are intended. In some cases, as mentioned earlier, this may involve inspection and tests carried out at the works of the manufacturers before the goods are dispatched.
- (m) Handling of invoices for goods delivered. The buyer is responsible for the price and conditions of contract. He should, therefore, check the invoices to ensure that the price agrees with his order, discounts have been credited where appropriate, the terms of payment and the transport insurance and other charges are correct. He should verify that the supplier has carried out his part of the agreement in accordance with the terms and conditions of the contract. Furthermore, he must verify that the supplier has provided the documents necessary for customs clearance, inspection and guarantees and ensure that the consignment has in fact arrived in good condition, the quantity is correct, and the physical inspection after delivery has been satisfactory.
- (n) Exploiting the standardization of materials. A degree of standardization enables orders to be placed for larger quantities of the same items and thus usually results in lower prices. Furthermore, spare parts will be interchangeable for standardized machinery. By consulting the records, the buyer can determine the quantities involved and can extrapolate the expected price improvement if larger quantities of standard items are purchased. (There are limits as to how far this aim is worth pursuing; it is best for the purchasing department to advise on the benefits that might accrue from a programme of standardization. The final decision should be taken and enforced by the managing director, the production manager or another high-ranking official.)

### **Organization of the purchasing department**

The organization of the purchasing department depends on the size of the parent body it serves. For a small firm, the work may be done by one man, but as the size increases, the structure of the purchasing department becomes more complicated and the operation is allocated to a number of subsidiary sections. A suitable organization for a large firm is outlined in the figure below. The specific duties of the personnel in the purchasing department are as follows:



*Organization of a purchasing department for a large organization*

### *Commodity buyers*

Some degree of specialization is desirable in a large purchasing office. An individual accustomed to dealing with a particular type of material becomes familiar with specifications, prices, suppliers, deliveries and general problems in relation to it. Therefore, where the volume of work requires a number of buyers to be employed, each buyer should be allocated a commodity or group of commodities, for example, machinery and spare parts; tools and ironmongery; textiles; fuel, oil and paints; raw materials; stationery and office equipment; and construction contracts.

### *Chief order clerk*

The work of the buyers should be confined to executive duties such as evaluating the qualifications and suitability of suppliers, deciding where to place orders and handling important negotiations and correspondence. The chief order clerk should be in charge of the order office, which attends to routine matters that do not require the attention of a highly paid, trained buyer. The following work is the responsibility of the chief order clerk:

- (a) Opening and distributing incoming mail;
- (b) Preparing and sending invitations to quote, when the buyer has approved the nature of the quotation, the contract conditions and the list of suppliers to be invited;
- (c) Assembling the documents to aid the buyer's comparison of various offers after quotations have been received and opened;
- (d) Preparing orders for the buyer's approval and signature;

- (e) Checking and certifying invoices;
- (f) Sending routine letters about delivery and minor errors on invoices;
- (g) Maintaining purchasing records;
- (h) Performing general clerical duties.

#### *Purchase analyst*

The purchase analyst is responsible for purchasing research and value analysis. Furthermore, his duties include the preparation and maintenance of a stores vocabulary, advice on standardization and the maintenance of a catalogue library.

#### *Chief storekeeper*

The chief storekeeper manages the warehouses. He directs all the physical storekeeping work, including the receipt and issue of materials, and the custody of stock to ensure that it is stored securely and kept in good condition during storage.

#### *Stock controller*

The task of the stock controller is to keep the value of stock within the prescribed limits and to ensure that items are available when required. He provisions the general stock items.

#### *Stores accountant*

The stores accountant keeps the stock records and accounts that provide the basic information for the stock controller. Stock-taking arrangements are usually his responsibility.

### **Relations with other departments**

To perform its duties responsibly, the purchasing department must practice maximum co-operation with the following groups:

#### *Production department*

In manufacturing organizations, the production department will probably be the most important customer of the purchasing department and must be treated accordingly. Production personnel must have close and regular contact with the supplies department so that they know the current situation. Production officials should indicate their expected material requirements as early as possible and provide clear technical details. They should inform the buyer or stock controller about the production programme and particularly of anticipated changes. They should assist in preparing specifications and undertaking inspection and testing when required. The purchasing staff should always consult their production colleagues on technical

questions if they are in doubt. The production department must be informed promptly about changes in the supply situation such as delays in delivery, inspection failures, amendments to orders placed and particulars of new or alternative materials or equipment.

#### *Finance department*

The finance department exercises a control function by checking that all departments spend money only for authorized purposes, do not exceed their budgets and comply with the accounting regulations. The purchasing department will, therefore, assist the finance department in preparing the budget, checking that all purchases have proper financial authorization and controlling the value of stock within the approved financial limits. Both departments must co-operate in the checking and payment of invoices, material costing, stock evaluation and in the provision of finance for imports.

#### *Inspection*

There may be either an independent inspection department or a functional sub-department. In either case, the inspectors must work closely with the purchasing personnel. For instance, some incoming purchased goods need only a routine visual inspection by the storekeeper or a clerk. But machinery and other technically complex items of considerable value should be inspected by a qualified engineer or chemist either from the inspection department (if there is one) or from a technical department of the organization. The purchasing department must supply the inspector with a copy of the detailed specifications that were sent with the order, instructions about the tests to be applied and the standards or limits to be accepted. Furthermore, the purchasing department must work closely with the inspection staff in deciding whether to inspect goods at the works of the supplier before shipment or whether to use the "delegated inspection" principle and rely on the supplier's own inspection staff to do this. If the decision is not to rely on delegated inspections because of the importance or complexity of the items or uncertainty about the supplier's quality-control programme, the inspection and purchasing staffs must decide whether to handle these inspections themselves or whether to employ a technically skilled independent agent in the supplier's country. (A capable agent can ensure that all appropriate examinations and tests are carried out, provide the inspection and test certificates needed to comply with specified regulations and generally protect the interests of buyers; information about agents is usually available from the commercial section of the appropriate embassy.)

#### *Other groups*

Although production, finance and inspection are the main groups with which the purchasing department has day-to-day relations, there may be less frequent contacts with transport, maintenance, sales, design and quality-control personnel. The purchasing department should take full advantage of the services provided by these other groups and co-operate with them in their work.

## *Chapter 3*

# **SPECIFICATIONS AND STANDARDIZATION**

## **Specifications**

To avoid costly disappointments and misunderstandings, it is extremely important for the buyer to offer a very precise description of the items to be purchased. He can do this in a number of ways e.g. by referring to brand names, trade marks, national or international standard specifications and recognized market grades, or by providing samples or specially prepared specifications. The methods most suitable for purchasing industrial equipment and related items are discussed in detail.

## **Brand names and trade marks**

Many manufacturers give brand names to their products, such as "Gradall" earth-moving equipment, "Gardenmaster" spades and "Bulldog" hammers. Alternatively, trade marks of various designs are used that may incorporate the name of the firm. The intention behind this practice is to assure the buyer of a certain standard of quality and performance. For many general-store items (such as hand tools, nuts and bolts, pipe fittings, abrasives, protective clothing, cleaning materials, lubricating oils and tool steel), purchasing by this method can be reliable and easy. Once a supplier has established a well-known brand name, he will be anxious to maintain his reputation and will therefore supply goods of the appropriate quality and be eager to rectify a justifiable complaint. This is a good policy, but it may have disadvantages. Continual purchases of brand-name products from the same supplier eliminates competition. Some items such as cleaning powders or paint can be purchased often at a lower price by asking for quotations to prepared specifications rather than a brand name or trade mark.

## **Standard specifications**

Most countries have national standards institutes that prepare and publish official standard specifications after consultation with appropriate representatives of both manufacturers and consumers. Therefore the final declared standard is technically correct, practical to manufacture and suitable for its intended purpose.



The particulars quoted vary according to the nature of the item. A standard specification for steel would give the following information:

- (a) Details of the chemical analysis giving the percentage of each element.
- (b) Particulars of the performance of the steel such as yield stress, elongation, ultimate tensile strength and impact resistance.
- (c) The code number of the national standard.

The buyer then needs only the following two additional characteristics to complete the purchasing description:

- (a) The finished condition, for instance "as rolled", "bright finished, hardened and tempered" or "cold drawn".
- (b) Details of the dimensions required—for example, bars of 20-mm diameter plus or minus 0.50 mm; length 4 m plus or minus 10 mm. (The expression "plus or minus 0.50 mm" is the allowed "tolerance", i.e. a bar of steel to this specification will be acceptable if its measured diameter is between 19.5 and 20.5 mm.)

Official standards usually define and explain standard terms and symbols, supply details of appropriate tolerances and methods of testing and frequently give an indication of the purposes for which the material is suitable. Buyers should have copies of their own national standard specifications and those of countries from which they import materials. These documents must be updated regularly to reflect the frequent revisions of authorized standards.

The use of published standards can be most helpful to buyers in developing countries, but caution is necessary. If items have been purchased abroad using the national standard of the exporting country, and if the same items will now be purchased from another country, care must be taken to check that the standards of the second country are the same, or at least compatible, with those of the first. In this connexion, it may be helpful to consult the International Organization for Standardization (ISO), which co-operates with national standard institutes and publishes international standards intended for general acceptance.

For the buyer of imported equipment, the variations in dimensions and standards from one country to another can produce serious problems. For example, if a compressor built in the Federal Republic of Germany has to be linked by piping made in the United Kingdom to a press produced in the United States, the different sizes or thread forms (or even variations in the metal) can present formidable obstacles. Although general guidelines are difficult to formulate, the buyer should consider the compatibility of the goods and attempt to overcome predictable difficulties before orders are placed. An accurate assessment requires expert technical advice. If the buyer cannot get this advice from internal sources or from consultants, he must ask the supplier when requesting a quotation. The buyer describes the equipment with which the item to be purchased must be compatible and details the task the item is expected to perform.

### Specially prepared specifications

Unique items that cannot be adequately described by the use of trade names, brand names, market grades, standard specifications or samples are of great importance. They include most machinery and equipment, as well as many related items and production materials.

It is not generally regarded as the duty of the buyer to produce these highly technical specifications. Nevertheless, he must be satisfied that specially prepared specifications are complete, reasonable and a satisfactory basis for good purchasing results. He should check the following points:

- (a) Are the basic specifications sufficiently comprehensive to cover all the characteristics of the item that need to be defined such as chemical analysis, dimensions, finish, method of construction and performance?
- (b) Is there a clear description of tests to be performed before and after delivery?
- (c) Are the quoted tolerances reasonable? One of the most common faults in specifications is to request limits of dimensions or analysis that are too severe. The tighter the tolerance, the more expensive is the purchase price. Therefore, unnecessarily close limits should be avoided.
- (d) Does the description include adequate information about packaging, preservation and marking?
- (e) Will the requested sizes and packings be reasonably easy to handle and store? For example, it is not feasible to order a large machine weighing 20 tons for delivery completely assembled if there is no available lifting equipment to move it after arrival.

## **PURCHASING METHODS**

As a general principle, the buyer must inspire confidence in all his commercial contacts. As the agent of his organization, he must conduct himself in such a manner as to justify a reputation for discretion, reliability and fairness, both for himself personally and for the organization that employs him. He takes full advantage of legitimate competition but avoids fostering destructive or unfair competition. He recognizes that hard bargaining in regard to price may result in problems with quality and delivery and a reluctance to bid on future orders. (Indeed, if the supplier is unable to earn a profit, he may no longer be in business to bid on future orders.)

The buyer does not invite quotations from firms with whom he has no intention of dealing merely to test the market or to compare prices; his invitations to quote should be genuine. Quotations of confidential prices must not be disclosed to others. The buyer must consider a fair offer of competitive prices without seeking subsequent price reductions by pitting one supplier against another. He makes the greatest possible efforts to ensure that the requested quantities and deliveries are realistic. He honours all terms of the agreement.

The buyer promotes the utmost co-operation with suppliers by discussing any difficulties that may occur in finalizing the order, seeking help in producing better materials or improving delivery, requesting advice about his requirements and being candid about the prospects of future business. At the same time, the buyer must establish a reputation of protecting his own interest. He insists on performance by the suppliers, particularly on quality and delivery. He will not accept shoddy goods or weak excuses for delay; he will deal severely with unfair practices. He expects suppliers to respect the confidence placed in them. In the event of a serious default, he will pursue his rights and demand refunds, restitution or other remedies to which he is entitled under contract conditions. The buyer must be fair as well as strict.

### **Sources of supply**

Purchases can be made from manufacturers, wholesalers or other agents and retailers. It is commonly expected that to deal directly with the manufacturer will provide the best price, but this is not always true. Manufacturers are generally interested only in supplying orders of a reasonable minimum value. A controlled production programme does not permit small orders to be filled. Another factor is

the delivery time; many manufacturers do not hold stocks of finished products, and the delivery time then depends partly on the work load. Apart from these considerations, some manufacturers and trade associations have a definite policy of not dealing directly with individual purchasers; they market all products through appointed distributors or agents. However, where the material requirements are substantial, it is generally advisable to deal directly with the manufacturer.

Wholesalers play an important part in the over-all supply picture. Their prices may be higher than those of manufacturers, but they perform services that the manufacturers do not. Wholesalers generally provide quick delivery from stock and may be able to offer a variety of makes of similar articles so that the buyer has a choice. They will accept comparatively small orders. The buyer can rely upon wholesalers who carry a wide range of stock instead of holding substantial stock himself. This can be a worth-while service because it is expensive and troublesome to hold stock.

The commercial or industrial buyer often pays little attention to the retailers; the latter, however, should not be forgotten. He has a place in the scheme of things, principally because he is conveniently located. It is often prudent to make appropriate, small cash purchases from retail shops within a reasonable travelling distance. This practice has the advantages of providing the quickest possible delivery and avoiding the full cycle of paper work associated with an official order.

### **Consignment buying**

Large quantities of spare parts for machinery are sometimes purchased by consignment buying. In this system, the supplier provides a complete stock of the spare parts that are estimated to be needed for a substantial period. The customer provides suitable storage facilities. He records daily the parts that are used and pays the supplier monthly the agreed prices for these parts. Periodically, the stock is replenished by the supplier. The stock remains the supplier's property, and he may undertake independent inventory or inspection of the stock at suitable intervals to ascertain that his property is intact and in good order. When the demand is large enough to justify this arrangement, it can be a convenient one for buyers in developing countries, where stocks of machinery spare parts are not otherwise readily available.

### **Methods of pricing**

#### *Fixed prices*

The supplier offers a specific price, and the buyer accepts it. This will be the price of every item supplied for the duration of the contract. For single purchases, small quantities or deliveries to be completed in a short space of time, this common form of pricing is the most satisfactory one because of its simplicity. On the other hand, it should not be employed for important items or for long-term contracts for regular supplies without a careful consideration of the alternatives. A fixed price quoted for regular weekly deliveries or for an item to be supplied in two years' time is not likely to be at the best available terms.

### *Prevailing prices*

The supplier charges the current price at the time of delivery. This method of pricing applies only to goods for future delivery and is intended to protect the supplier against unforeseen fluctuations in his costs. Buyers tend not to favour the method because it makes their commitments uncertain and gives the supplier too much control of the situation. It is, however, suitable for items of modest value that are required at irregular intervals (for instance, miscellaneous ironmongery and small tools purchased from a general distributor) because it avoids requesting the individual prices of a number of small items and thus saves paper work. If substantial purchases over a period of time are involved, the buyer should ask for some quantity discount and should seek cash discounts for prompt payments. Prevailing-price (also called "price-ruling") purchases should be checked against the published price list of the supplier at the time of delivery. If there is no published list, the prices must be compared with those paid previously. Any unreasonable discrepancies should be investigated.

### *Retrospective rebates*

In this arrangement, the buyer tries to obtain the maximum advantage from the volume of his business with an individual supplier. If purchases are frequent and of substantial value over a period of time, a rate of discount may be granted that increases with the total value of the orders. For example, in a six-month period, there would be no discount for total deliveries under \$1,000 but a discount of 6 per cent for total deliveries of \$5,000 or more. At the end of each six-month period, the supplier sends a cheque to the buyer for the discount earned in that period. This is often an acceptable arrangement with a wholesale distributor or general merchant.

### *Cost-plus*

The supplier charges the actual manufacturing costs plus an agreed upon percentage that represents overhead and profit. No buyer likes this form of contract unless by agreement he can send a qualified cost investigator to check the actual costs incurred (and even then, there is no assurance that the method of manufacture is the most economical one). The weakness of the situation is obvious; the greater the costs the manufacturer incurs, the greater will be his profit. Nevertheless, there is sometimes no mutually acceptable alternative method. It often has to be adopted for development contracts when a firm is invited to design and manufacture equipment of an entirely new type. Occasionally, cost-plus pricing is unavoidable for urgent repair or conversion jobs on major plants or installations where an accurate estimate of the work to be done or of the spare parts to be provided is not practicable.

If cost-plus prices are specified, the buyer must consider whether he desires and can afford a complete cost investigation. In the absence of a complete investigation, he should require the supplier to give details of costs incurred by indicating the number of working hours, wage rates, costs of materials and overhead. All arrangements for checking costs should be specified in the purchase order.

An alternative approach to this type of contract is to pay the contractor the costs and a fixed fee instead of a percentage of the costs. For complete plants, other variations may be possible such as cost-plus with a guaranteed maximum (whereby the buyer knows that his maximum total costs will not exceed a certain figure) or cost-plus with a bonus/penalty clause.

### *Fixed price with escalation clauses*

Fixed prices are easy for a supplier to quote for quick delivery, because if the goods are to be dispatched within a day or two, he knows exactly what they have cost him and, therefore, the profit he will gain from the sale. However, for a future delivery in a year or more, he cannot be certain of his costs. If, therefore, he is forced to quote a fixed price, he must include provisions in the price for possible increases in wage rates, variations in the costs of purchased materials and components and potential changes in taxation rates or even tax structure. Since these uncertainties force him to be cautious, he is likely to overestimate the adverse effect of the changes between the time of tendering a bid and the delivery date, and will quote a comparatively high fixed price. Two alternatives to this procedure are to use the prevailing-price or cost-plus methods but, as shown above, they are acceptable only in special circumstances. Often, a better alternative is to quote a price based upon current costs with the addition of an escalation clause. It is usually a condition of the offer that in the event of changes in raw material costs, wage rates or taxation, the price quoted will be adjusted accordingly. The buyer must watch certain points in this respect, for example:

- (a) A provision should state that not only will the price increase if costs increase, but that it will be reduced if costs are reduced.
- (b) The arrangement should indicate the specific price for a given change in costs. For example, for machinery, the provision for labour costs may specify a 1 per cent increase in the machine's total cost for every \$0.10/hour increase in labour costs. For copper tubing, the provisions for materials may specify that for every \$10/ton increase or decrease in the world market price of copper, the price will be adjusted by 1 per cent.
- (c) The sequence of price adjustment should be explicitly stated; the price is adjusted immediately after a change takes place or there is a stipulated time lag. For example, if wages are increased on 1 October and delivery is due on 2 October, few, if any, additional labour charges have been incurred. The same principle applies to material costs. Therefore, it may not be unreasonable to suggest that adjustments be made one month after the event concerned. When large sums of money are involved, it may be necessary to pro-rate the adjustment over the remaining period of the contract or to require detailed, documentary evidence of the actual costs incurred, although these procedures are complicated and are costly themselves.
- (d) Appropriate documentation for changes in taxation should be required to justify substantial increases, particularly for customs.

### **Cash discount**

The prompt payment of invoices is rewarded in some trades by cash discounts. For example, "2½% monthly account" means that 2.5 per cent may be deducted from the invoiced price if payment is effected before a fixed date (usually about the 15th of the next month after the invoice has been received). Terms of "4%, 7 days" allow for a deduction of 4 per cent when the invoice is paid within seven days. The

purpose of this arrangement is to allow the supplier to collect his outstanding accounts quickly and thus conserve his own working capital. Invoices subject to cash discount must be segregated and paid promptly to qualify for the discount.

### **Quantity discount**

In this practice, the quoted price varies with the quantity ordered because the unit cost of production is usually less for larger quantities. For instance, the standard unit may be \$1 for orders of less than 25. For orders between 25 and 100, there might be a discount of 5 per cent and for orders exceeding 100 items, the discount may be 10 per cent. Because the quantity ordered frequently has a significant effect upon the price, the competent buyer examines this aspect of his transactions carefully to receive the maximum advantage of quantity discounts until a point is reached where further savings are outweighed by the costs or risks of carrying excess inventory.

### **New items**

Before processing a purchase requisition for a costly item that has not been ordered previously, the buyer should determine whether it is a unique requirement or whether the order is likely to be repeated. Substantial discounts may be given for orders of more than one item of equipment or machinery, even if the delivery is spread over a considerable time interval. The total annual consumption should be estimated of fast-moving items, such as small tools, nuts and bolts, paint, lubricants, abrasives and pipe fittings. The buyer can then consider whether it is more profitable to order the quantity requested on the purchase requisition or the estimated annual supply.

### **Aggregation of similar items**

Some goods are stocked in a range of sizes. For example, there may be more than 100 nut and bolt sizes. The provisioning of them singly results in many small orders which will not provide discounts. On the other hand, if a lot of the entire range of nuts and bolts is ordered from a manufacturer, the maximum discount available will be secured. The principle could be applied to twist drills, pipe fittings, electric cable, paint, furniture, stationery, clothing, sawn timber and many other materials.

### **Estimated quantities**

The buyer is likely to get the lowest quotation when he can indicate the exact quantity required. Unfortunately it is not always possible to give fixed quantities when inviting quotations. Although the buyer must take into consideration the circumstances of each purchase prior to estimating the desired quantities, he may choose one of the following options:

- (a) A minimum quantity that the buyer will accept during a given period. The supplier should be asked to quote a fixed price for the minimum quantity and a discount rate for larger quantities.

- (b) An estimated quantity with a margin of error, such as 2,000 plus or minus 10 per cent. The supplier quotes a fixed price. The smaller the margin of error given, the better the price is likely to be.
- (c) Agreement to purchase the item exclusively from the supplier selected during a given period. However, a non-committal estimate of the approximate quantity may be necessary.

### Contract conditions

The usual principle followed in commercial transactions is that unless other conditions are specified of which both parties are fully aware, the business will be subject to the general contract law of the country concerned. The principle may be adequate in many respects, but in the event of litigation, it is likely to lead to delay and expense because every point at issue will have to be argued separately in relation to the general law, and the burden of proof will be upon the buyer if he seeks redress. On the other hand, if the purchase agreement cites specific conditions, no difficulty should arise in interpretation. It is common practice, therefore, for a purchasing organization to adopt standard conditions that can be applied to most of the orders it places with suppliers. Professional legal advice is necessary to select the conditions in any particular case, because they will depend upon local circumstances. It is therefore difficult to generalize on this subject, but the following factors are relevant:

- (a) *Acceptance.* A period of time should be stated for acceptance of an order by the supplier.
- (b) *Quality.* The supplier should stipulate that the goods will be of the description and quality specified.
- (c) *Delivery.* The supplier should be required to deliver on or before the agreed date. In the event of non-compliance, the remedial action available to the buyer should be indicated.
- (d) *Inspection.* The buyer has the right of inspection, if necessary through an agent, and the right to return rejected items without payment.
- (e) *Guarantee.* The supplier will replace any defective items within a stated time without additional charges.
- (f) *Infringement of patents.* The buyer is not responsible if patent contingencies arise.
- (g) *Liability for damage or loss in transit.* The supplier assumes all risks until the time of transfer according to the commercial terms (ex works, f.o.b. or c.i.f.) of the contract. If loss or damage occurs within the liability of the supplier, the buyer is responsible for reporting them promptly. The responsibility for transit insurance should be clearly stated.
- (h) *Payment.* The arrangement for the payment of invoices and terms of settlement should be outlined.
- (i) *Assignment.* The supplier should not give the order to another company without the buyer's consent.



Other factors that may be included are insurance, course of action in the event of bankruptcy, variations subsequent to the original order, arbitration, responsibility for drawings and samples, and arrangements for storage of goods by the suppliers. Standard contract conditions of this type must be brought to the attention of all tenderers and suppliers. This is usually indicated by printing them on the invitations to quote and on purchase order forms.

### Arbitration

Most commercial operations proceed smoothly, but occasionally there are difficulties or disputes. Legal action is a last resort because of the delay and expense involved; commercial disputes are therefore usually settled by an agreed compromise between the parties. To cover disputes that may not lend themselves to such compromise, an arbitration clause may be included in the contract. This arrangement provides that an unresolved disagreement between the buyer and seller should be referred to an impartial third party who acts as arbitrator, decides the issue and arrives at a decision to be accepted by both parties. The arbitrator must have no business connexion with either party and no personal interest in the transaction. The presidents of professional institutes and of chambers of commerce are frequently chosen as arbitrators. In practice, the system works best when arbitration is applied solely to matters of fact, such as questions concerning the quality, completeness, finish or performance of an item. If arbitration is applied to matters of law, there is always the possibility that the loser will appeal to a law court. Arbitration clauses should be phrased very carefully because the law governing the subject varies in different countries.

### Analytical techniques: value analysis

There are several analytical techniques that can be applied very profitably to the purchasing function. The first of these is value analysis, which involves examining every aspect of items to be purchased to see whether a better value for money can be obtained by making changes. The following changes could be considered:

- (a) Use new materials or designs (for example, parts made of corrosion-resistant, plastic materials that could wear as well as more costly metal alloys).
- (b) Modifications in production or maintenance methods to permit greater standardization of machinery, parts and supplies.
- (c) Try new sources of supply, new transportation methods or packaging techniques.
- (d) Review the quality-control criteria of both the supplier and the buyer's organization to determine improvements and greater co-ordination that ensure good quality while decreasing the volume of testing by the buyer's organization.

Value analysis should be a continuous process; it is usually undertaken by a team consisting of the buyer, production engineer, chief designer and other appropriate

specialists. If a team is not available, the buyer can perform some of the work himself and consult technical personnel when necessary. Basically, he must analyse the function of the machine, part, material or service that is being requisitioned and then, on the basis of his experience and insight, he must determine whether an item other than the one requisitioned can provide a better value for the function required.

Although the buyer may not have the technical background to evaluate many of the specifications for complicated equipment, possible savings may be effected by consulting the requisitioner about items that appear unnecessarily restrictive or more costly than the requisitioner realizes. A fuller discussion of value analysis is given by Miles (1961) *Techniques of Value Analysis and Engineering*, McGraw-Hill, New York.

### PERT and CPM

Two analytical techniques that can be applied to purchasing are Programme Evaluation Review Technique (PERT) and Critical Path Method (CPM). Both PERT and CPM are concerned with planning, scheduling, co-ordinating and controlling the various activities that determine the execution time and cost of a project.

Although PERT was originally more concerned with time and CPM with cost, these techniques have now become largely synonymous. They are most widely used for major projects such as the building of new plants, but they can be used for smaller projects, such as the purchase of a non-standard piece of equipment.

For example, if the production department informs the buyer that it is essential for a non-standard item of equipment to be installed and in operation by a certain date, the buyer can use PERT to see whether this date allows sufficient time for the full sequence of purchasing procedures or whether some steps will either have to be telescoped or eliminated (e.g. by negotiating a price with a trusted supplier rather than asking for competitive bids or placing the order on a cost-plus basis so that the design work can begin quickly). Once the buyer is given a preliminary delivery date, he can use PERT to determine whether this date will meet the schedule (allowing for transport, customs clearance, installation etc.) or whether special measures such as overtime payments or air freight are necessary. The PERT diagram (also called arrow or network diagram) can help the buyer in his follow-up work and may reveal sequential activities that can be carried out concurrently.

The above type of PERT analysis can be made manually. However, large intricate projects with many interrelated activities necessitate the use of a computer to obtain the full benefits of a PERT analysis. The following books are detailed discussions of PERT and CPM: Baker and Eris (1964) *An Introduction to PERT-CPM*, Irwin, Homewood, Illinois and Shaffer, Ritter and Meyer (1965) *The Critical Path Method*, McGraw-Hill, New York.

## PURCHASING FORMS

Well-designed purchasing forms lead to efficiency in carrying out and controlling the various steps in the purchasing process. The most important forms are discussed individually below.

To conserve clerical time, reduce mistakes and afford ease of reference, the forms should be made as consistent with each other as possible, and their use should be part of a co-ordinated procedure. For example, the serial number and the date should appear in the same position on each document, and the same type face should be used for similar information. The spacing should permit the use of a typewriter. The copies can have different colours with one colour being allocated to each department—such as red for production, blue for finance and white for supplies—to facilitate sorting, distribution and filing. The standards for the design of commercial forms published by national standards institutes are worth studying.

### Purchase requisition

Equipment and machinery can seldom be withdrawn from the general inventory. Rather, the person authorized to request the purchase of such items must complete a purchase requisition in duplicate. The original is sent to the purchasing department and the copy retained. The information appearing on a purchase requisition may reflect the special needs of the company concerned, but the following items are usually essential:

- (a) The date and the serial number, which is one of the numerical series allocated to the department preparing the document.
- (b) The material code number and description of the items requested.
- (c) The quantity required expressed in units of issue (the smallest quantity normally supplied from the store room). The unit of issue should be used consistently in purchasing documentation to avoid confusion. For example, the unit of issue for bar steel should be kg, ton or cm.
- (d) The delivery date required. The buyer must state this date when inviting quotations because it may affect the price. Receipt of the purchase order is a confirmation of the delivery date. The designation "as soon as possible" is not efficient. If the material is not wanted immediately, a specific date

should be quoted, and the buyer can advise the departments concerned of the probable delivery dates. A user requiring material that is known to be unavailable on demand should seek advice in determining his exact requirements, and complete a purchase requisition in sufficient time for the purchasing department to satisfy his needs.

- (e) The job cost number, overhead cost centre, vote account or other accounting code to which the value of the goods is to be charged.
- (f) The name of the department and the signature of the authorizing officer. The purchasing department should maintain an accurate roster of individuals authorized to sign purchase requisitions with specimen signatures for checking the proper authorization.
- (g) A space for the purchasing department to insert particulars of the order when it is placed (order number, date of order, name of supplier and delivery promised). The disposition of all requisitions can thus be controlled, and information is subsequently available for reference purposes.

The purchase requisition may be employed by the stores controller for stock replenishment, if a system of stock-review cards is not used. (The card is sometimes called a travelling purchase requisition because it can be used many times.)

### Invitation to quote

This document, which can be described as an "invitation to tender", may be designed to suit individual circumstances. The following requirements are typical:

- (a) A complete purchasing description of the required items with trade names, market grades, standard specification numbers or other means of identification. It is important for the buyer to be precise so that all bidders quote on the same basis.
- (b) The delivery date required should be realistic. The buyer usually knows the approximate delivery that can be expected and acts accordingly. If the delivery date is vital, it should be stated that late offers will not be considered.
- (c) Discounts should always be invited. In the absence of a request, they may not be offered.
- (d) The conditions of the contract under which the goods are to be supplied must be an integral part of the invitation to quote. A method in general use is to print the conditions on the back of the form.
- (e) The form should include a section for the supplier's actual quotation. However, the supplier may have to use a separate page for equipment with extensive technical details that must be included in the quotation.
- (f) The date by which the quotation is to be received must be stated and, if possible, the invitation should be accompanied by an addressed return envelope on which are the serial number of the invitation and the date for return. The buyer should allow the supplier sufficient time to reply in accordance with the complexity of the order.

- (g) The supplier should be invited to suggest suitable alternatives as well as the specified quotation.
- (h) Tenderers should be asked to state clearly a validity period that covers their submitted tender, or alternatively the buyer should state the required validity period of the tender.

### Tender schedule

The tenders received from suppliers are kept sealed until the designated day when they are all opened. Appropriate particulars are entered in the tender schedule. The procedure for handling tenders, particularly in regard to machinery and equipment, is described more fully in the following chapter.

A typical document of this type provides the following details for each bid received:

- (a) Date of opening;
- (b) Quotation number;
- (c) Description of goods;
- (d) Name of firm quoting;
- (e) Price offered;
- (f) Delivery date offered;
- (g) Discounts or allowances;
- (h) Remarks (sometimes called exceptions). Notation of special conditions requested by the supplier or important variations between the invitation to quote and the offer.

### Purchase order

The following features pertain to most purchase orders:

- (a) The form must clearly show that it is an order and should bear an instruction such as "Please supply the following goods subject to the conditions overleaf".
- (b) Similar to the invitation to quote, the contract conditions should be printed on the back, if convenient. If the supplier does not accept all the conditions stipulated by the buyer, the reservations should be stated in detail. It is necessary to spell out the conditions that govern the transaction because, in the event of a subsequent dispute, the first question that will be asked is "What are the contract conditions under which this order was placed?"
- (c) The date should be entered, and each order should have a serial number for identification. The supplier should be asked to quote the serial number on all correspondence, invoices and other relevant documents.
- (d) A complete purchasing description of the material should be given as in the invitation to quote.

- (e) For important purchases, the price should be entered on the order after discounts have been credited. Frequent and urgent small-value orders may be placed with regular suppliers in accordance with a separate price list without stating the price on the actual orders. (If this practice is to be followed, it should preferably be incorporated into the statement of purchasing policy approved by the management.)
- (f) Delivery instructions and terms of payment should be in accordance with the quotation of the supplier.
- (g) Although it may not be essential to acknowledge all orders, a request to acknowledge is usually desirable.
- (h) Where the number of orders for imported goods is large, the purchase order should be designed to provide for complete details of delivery dates, place of delivery, forwarding instructions, packing details, submission of documents, method of payment, inspection arrangements and particulars of agents involved.
- (i) Duty or tax exemption certificates should be included.
- (j) Instructions for invoicing should be given.

### Purchase record

All relevant purchasing information for the material concerned should be included on the purchase record. It should include the following data:

- (a) A minimum supply quantity or a standard batch number, if applicable. (For example, "orders of less than 100 will not be accepted" or "orders to be in multiples of twelve".)
- (b) Payable customs or other taxes for imported materials; if duty paid can be reimbursed by the government, the arrangements for payment that apply are given.
- (c) Indications of suppliers who have given particularly good service and of those who are to be excluded because of past failures.
- (d) The average delivery time.
- (e) Special packing or delivery instructions.
- (f) The availability of trade, quantity or cash discounts.
- (g) Other appropriate information.

### Invoice

An invoice is sent by a supplier to claim payment for delivered goods. There is no standard form for the document; since each supplier has a unique invoice, there is a variety of sizes, shapes, colours and formats. The basic purpose is to secure payment. The following information is usually given: serial number of the invoice, date, reference number of the purchase order, quantity supplied, price of each item, particulars of discounts, total sum for payment and terms of settlement.

The invoice is sent first to the chief accountant. Since it is a demand for money, it is an important document and must be handled carefully. Accordingly, there will be an invoice register in the finance department where particulars of all documents are entered daily as they are received, i.e. invoice register serial number, date of receipt, name of supplier, invoice number of the supplier and net amount due.

The registration clerk endorses the invoice register serial number on the invoice and sends it to the order office in the purchasing department where the following points are checked by reference to a copy of the order, the goods-received note and other relevant documents:

- (a) The invoice applies to an order placed by the organization.
- (b) The invoice has not already been paid. (Some companies insist that their suppliers send original invoice documents without copies to avoid the danger of double payment.)
- (c) The quantity ordered has been received in good condition and has passed inspection. This evidence is provided by a receipt from the storekeeper or an inspection certificate. At this point it is usual to enter the invoice serial number on the copy of the order to show that payment has been claimed.
- (d) The price is in accordance with the terms of the order.

The invoice is then certified by the chief order clerk and returned to the finance department, where the figures are checked. The remittance to the supplier is entered in the invoice register.

## Chapter 6

# PROCEDURES FOR BUYING AN IMPORTED MACHINE

The buyer must carefully plan the acquisition of an imported machine, such as a power press that may cost several thousand dollars. The following considerations must be taken into account:

- (a) *Authority.* Verifying proper authorization for the purchase;
- (b) *Finance.* Approving the necessary finance arrangements;
- (c) *Specifications.* Writing detailed specifications or clear performance instructions with supporting details;
- (d) *Quantity.* Evaluating the possibility of subsequent orders for other machines and ancillary equipment;
- (e) *Selection of suppliers.* Determining a supplier's ability to manufacture and deliver the machine as specified;
- (f) *Preliminary negotiations.* Setting up the appropriate procedure to initiate inquiries;
- (g) *Invitation to quote.* Determining the decisions to be made at this critical stage and the details to be given on the tender documents;
- (h) *Assessment of offers.* Establishing criteria for analysing the tenders and authority for the final evaluation;
- (i) *Contract administration.* Outlining steps necessary for administration of the contract after the order has been placed.

### Authorization

To avoid confusion in the non-routine purchase of an expensive machine, the buyer must insist that the purchase requisition bears not only the signature of the originator, but is countersigned by the head of a department, the managing director or a senior official whose authority for financial arrangements is undisputed. Although the full description of a complicated machine may not be suitable for stating all details of packing and shipping instructions, the requisition form should be



employed as the authorization for the purchase. Additional information and drawings can be attached to the form. The individual requesting the machine should sign all attachments to avoid future disputes about the specifications.

### Finance

A licence is often required to import goods. Furthermore, there may be governmental regulation of currency, particularly foreign exchange. The buyer should be familiar with domestic financial regulations as well as those in the exporting country.

Furthermore, if there is a fluctuating rate of exchange, the buyer should consider the forward purchase of foreign exchange at the time of the contract to stabilize the liability of his organization for the payment sum. Decisions must be made about the place of payment (locally or abroad) and the specific method (bank transfer, banker's draft, letter of credit, bill of exchange or other method). In all financial matters, the chief accountant should be consulted before the firm assumes commitments.

### Specifications

Detailed manufacturing specifications are not likely to be available, but it is essential to produce at least performance specifications stating the intended task of the machine, the capacity and the rate of operation. Information must be given regarding the available electricity supply, the nature of the foundations or floor where the machine is to be installed, the method of installation by local or foreign labour and details of other equipment with which it should operate. The information should be supplied by the technical staff or consultants. It is, however, the duty of the buyer to check the details for consistency and omissions.

The degree of detail in specifications depends on the type of machine, the intended application and on the available technical advice. The following illustrative simple performance specifications are for a multi-tool press:

- (a) Machine to be capable of pressing steel sheet up to and including 10 standard-wire gauge thickness and up to 1 m wide.
- (b) Speed of operation not less than 30 pressings/minute over a continuous period of 8 hours, including service time if necessary. (Machine should be tested for this purpose on mild steel sheet to specification XYZ 1234 of a thickness of 12 standard-wire gauge producing pressings measuring 90 cm X 25 cm. The test should be carried out at the manufacturer's works before dispatch and an inspection certificate should be provided.)
- (c) Machine suitable for a 440-V, 3-phase, 50-cycle electricity supply and to be provided with an appropriate electric motor specified by the machine's manufacturer.
- (d) Machine mounted on a fabricated steel base plate not larger than 2 m X 2 m with holes for foundation bolts as in the attached drawing (No. MD 3787).
- (e) Installation on site to be the responsibility of the purchaser. The intended location for this machine is in a covered brick shop with a 20-cm thick, reinforced concrete floor with 3-m clearance to roof trusses. Maximum clear

access at doors is 4 m high by 5 m wide. The available handling equipment is a petrol-driven, mobile crane with a slewing jib capable of lifting up to 5,000 kg.

- (f) Manufacturer to recommend a spare-parts supply suitable for two years' maintenance of machine.

The supplier may respond to performance specifications in one of the following ways:

- (a) If he manufactures a standard machine that meets the performance requested, he will offer it.
- (b) If he manufactures a standard machine that meets most, but not all, of the requirements, he will offer it and suggest that the customer modify his methods in order to use this machine.
- (c) If the supplier does not manufacture a standard machine that meets the specifications, he will quote the estimated cost of a machine built to specifications. If he is awarded the order, he will be required to produce a set of detailed component and assembly drawings, which will form the manufacturing specifications.

Often, in a developing country, the buyer's organization can furnish only a performance outline and the exporting supplier must provide detailed specifications. A worth-while alternative is to employ an engineering consultant, because a competent consultant will eliminate mistakes and enable the statement to be as comprehensive as circumstances allow. On the basis of experience, he is familiar with possible technical difficulties and ways to avoid them.

### Quantity

Discounts can be obtained when several machines are ordered at the same time, and the savings will be particularly substantial if the machines are built to specifications. The buyer should, therefore, determine in each case whether a similar unit is likely to be required in the future. If it is, he should order both at the same time, even if the second unit is to be delivered at a later date.

### Selection of suppliers

Although methods of selecting the suppliers who will be asked to tender bids have already been discussed in a general way, a few specific comments in regard to machinery are appropriate.

It is always a good idea for the buyer of machinery to keep in touch with other machinery buyers in his country. From them he can obtain information about inquiries they have made, their experience with particular suppliers regarding the quality of their products, the reliability of deliveries, prices, the availability of spare parts and after-sales service. For this reason, small groups of buyers should be encouraged to form purchasing associations. This can be done with the advice of larger institutes, such as the European Federation of Purchasing or the International Federation of Purchasing.

Another point to be considered is financial stability. If the supplier is short of capital or if the finance arrangements are poorly managed, the payment of bills is likely to be slow. Therefore, the supplier may have difficulties in obtaining raw materials or components, which will affect his own delivery time. Shortage of money may tempt him to forgo some quality-control procedures, to use poor materials for the sake of cheapness or to cut the service he gives. The buyer should be assured, therefore, that a potential supplier is not in financial difficulties. Since nearly all well-known machine manufacturers have an international reputation, there is no need to be concerned about their dependability in this respect. In case of doubt, however, the buyer may check the financial position of a firm by consulting credit rating lists or publications like the Stock Exchange Year Book, which gives a summary of company trading results, by making discreet inquiries in the trade or by requesting bankers' references.

### **Preliminary negotiations**

After listing the possible suppliers, the next step is to determine which of them might be asked to tender. If the suppliers have local representatives, the buyer should ask them to call and discuss his requirements. He should then write to all the manufacturers on his list, explain the goods he wants to buy and ask them whether they wish to be invited to quote. The replies to this inquiry will eliminate uninterested suppliers. The replies will probably include catalogues, illustrations, details of contract conditions, shipping arrangements and payment methods; representatives may even call personally to discuss business matters. At this point the buyer can prepare a short list of companies that should be invited to quote. These companies should be from among those that have expressed interest in the business, are believed capable of meeting the quality and delivery requirements (based on previous experience, recommendations of technical personnel or other buyers or on general reputation) and are known to be financially sound.

Occasionally the buyer may find that another individual in his organization has contacted one or more manufacturers on matters other than requests for technical information. This can lead to embarrassing situations or even to an unauthorized commitment. In this event, the buyer, acting decisively but tactfully, has to inform the person concerned that further contacts are to be made only through the purchasing department or with its permission. The suppliers concerned must be informed in writing that only the buyer is authorized to negotiate, and that all future communications should be addressed to him.

### **Invitation to quote**

For imported machinery, the request-for-quotations stage is the most critical one in the purchasing cycle. If the correct decisions are taken and proper information given to suppliers, the subsequent progress of the transaction is likely to be satisfactory. The buyer must, therefore, carefully consider the following points:

- (a) The specification is as complete as possible.
- (b) The inspection arrangements should provide for inspection by the supplier with certificates provided before dispatch, inspection on the supplier's

premises by an agent or consultant employed by the buyer or inspection by the buyer's organization after delivery.

- (c) An acceptable delivery date must be ensured. If delivery is critical, there must be a provision in the contract for a guarantee or a payment of liquidated damages for failure to deliver on time. If the delivery date is not met, the buyer should have the right to cancel the order and place the business elsewhere with reimbursement of consequential costs and expenses.
- (d) The way the price is quoted. A fixed price expressed in the buyer's local currency is probably the best procedure, but it is not always obtainable. If the delivery time is lengthy, the supplier may insist on quoting a price with an escalation clause. As discussed earlier, the escalation clause must be clearly defined in the contract. The increases claimed can be justified by documentary evidence, and the calculations are based on an arrangement agreeable to both parties at the time the order is placed. Some firms quote prices ruling at date of dispatch; this is a risk because it gives the buyer no control over the actual price payable and should therefore be avoided.
- (e) The stage at which payments are due. The possibilities include payment in full against shipping documents, payment in full after installation and testing or a schedule of part payments (e.g. 25 per cent on placement of order, 50 per cent on shipment and the remaining 25 per cent after satisfactory installation and operation). The method of payment and the currency should be specified.
- (f) The conditions of delivery are explicit (ex works, f.o.b. (free on board), c.i.f. (cost, insurance and freight) or supply and erected). For ex-works or f.o.b. purchasing, the buyer should describe the type of packaging, because he will be responsible for damage in transit. He will either have to arrange the transport and insurance, which may be difficult, or employ a shipping and forwarding agent in the country of origin. In all circumstances, the buyer should make clear on the invitation to quote the terms of responsibility for transport, packing, damage, loss, delay and insurance. It does not necessarily follow that suppliers will quote on the buyer's terms, but the requirements should be stated.
- (g) The question of guarantee must be included by stating, for example, "the supplier will be required to guarantee the machine for a period of one year after installation with respect to any defects arising as a result of defective design, materials, workmanship or failure to meet the performance specification, and he will indemnify the purchaser for any costs arising from such defects or failure". There will be additional costs for this protection. An alternative is to request a statement regarding the nature of the supplier's guarantee. The tender document should always clearly state that the supplier will be responsible for any infringement of patent rights.
- (h) The form of the invitation to quote should indicate:
  - (i) Whether the price is inclusive of packaging, transport and insurance or whether these expenses are separate.
  - (ii) Whether spare parts are required, and if so, the specific stock recommended by the seller and its price.
  - (iii) The desired after-sales service and its cost.

- (iv) Whether the seller is expected to train local machine operators, and if so, whether there are extra costs for this service.
- (v) If installation is to be by the supplier, whether it is included in the quoted price, or whether it involves an extra cost.

### Assessment of offers

When suppliers are invited to tender, they should either be given specially printed envelopes or be asked to write "TENDER" or "QUOTATION" on their own envelopes. At the time of invitation, the date for the return of tenders should be given. A tender arriving after this date should be returned unopened to the sender with the explanation that it arrived after the deadline. This date should be the "opening" day. In order to avoid suspicion of collusion, malpractice or fraud, it is necessary to take the following precautions:

- (a) Tenders should not be opened when received. They should be stamped with the time and date of receipt and placed in a locked box, the key to which is held by a trustworthy person who has preferably no connexion with the purchasing department.
- (b) On the appointed day, the box is unlocked and all the tenders are opened. The documents themselves are stamped with the time and date and appropriate particulars entered in the tender schedule, as described in the previous chapter.

Original documents and tender schedules should be signed by the person in charge of opening tenders. The buyer himself or another member of the purchasing staff should be present in order that two individuals always observe the opening of tenders. Thus the following precautions are effected:

- (a) The buyer concerned does not have access to the tender box.
- (b) A figure on a tender cannot be altered when it is opened.
- (c) There is no possibility of fraudulent tender documents being included in the list.
- (d) The tender schedule is evidence of the actual quotations.

After the tenders have been opened and scheduled, the engineering or production manager who requisitioned the machine should examine the various offers, compare them with the specifications, list the machines that are technically acceptable and indicate any particular preferences and the reasons for them. He should indicate the reason for discarding any of the tenders. The buyer then examines the written report to determine the best value for money by checking all the points above under the "Invitation to quote". Thus the buyer determines whether the suppliers have, in fact, offered to provide the exact requirements.

In practice, this is seldom the case, because most manufacturers prefer to quote on the basis of their own conditions of contract, which naturally tend to favour the supplier. The problems arising at this stage depend upon the circumstances of each individual case. The buyer must use his experience and common sense. In general, if the conditions required by the supplier are not too onerous, they may be accepted.

If, on the other hand, the buyer believes that some of the proposals are seriously disadvantageous, he should seek a compromise with the supplier and discuss the situation with the "requisitioner" to determine the best offer. They should then report jointly to the general manager for approval of the purchase, unless the rules of the organization delegate this authority to the buyer himself.

The official order can now be prepared, signed by the buyer and sent to the successful tenderer. For important orders, it is usual to ask the supplier to confirm his acceptance in writing to avoid possible misunderstandings or postal failures.

The order form must be absolutely clear and unambiguous. It is not sufficient to state, "Please supply one multi-tool press as per your quotation of 14 July". The following points should be covered:

- (a) The specifications should be given in detail;
- (b) The number of machines and details of additional equipment or spare parts and the separate price for each;
- (c) The inspection arrangements;
- (d) The delivery date;
- (e) Particulars of guarantee;
- (f) The method and time of payment;
- (g) The party responsible for packing, shipping and insurance;
- (h) The names and addresses of agents appointed by the buyer for the purposes of inspection, shipping, insurance or payment of accounts;
- (i) If negotiations with the supplier have altered the conditions of his original offer, the final terms should be described precisely.

### Contract administration

The contract becomes effective after the order has been placed. The buyer is responsible that the terms of the contract are fulfilled both by the supplier and by his own organization.

The agents appointed for the inspection, shipping and payment of accounts must be reliable. To inform them of the transaction and of their duties in connexion with it, they should be sent a copy of the order and other pertinent instructions or documents.

The inspection agents should submit progress reports. All correspondence or negotiations with suppliers and agents should be handled by the buyer in order that he is fully aware of all details concerning the contract and can answer queries concerning it from individuals in the organization. For equipment that requires a lengthy construction period, monthly or more frequent progress reports may be essential to assure the promised delivery. It is advisable to inquire about the progress and the delivery date after one half of the construction period has elapsed. The technical staff should be informed of a delay immediately, and any guarantee clause in the order should be brought to the attention of the supplier.

Changes or additions to the machine may become necessary during the course of the contract. All variations must be covered by an official order giving full particulars and their effect on price, delivery or other circumstances. These details must be conveyed to agents.

Generally the buyer is in contact continually with the manufacturer and the agents by correspondence, telephone or personal visits in order to be fully aware of the latest developments. He knows when the order is in the supplier's production programme, when the manufacture is completed, when inspection has taken place and its results. He certifies progress payments, receives the shipping documents and checks them; he knows when the consignment leaves the port of dispatch, when it lands at the port of arrival and leaves for its final destination on his own premises. After delivery, the receipt note from the storekeeper confirms that all is in order or gives a detailed report of damage, shortage or discrepancy. The buyer transmits the information to the supplier, the carrier or the agents for replacement, repair or compensation.

Where the supplier is responsible for the installation of the machine, for test running or for the training of local operators, the buyer obtains a certificate from the engineer or production manager confirming that these activities have been carried out satisfactorily, and that final inspection was satisfactory. The buyer checks and sends the appropriate documentation to the chief accountant, so that all parties are paid for their goods or services in accordance with the contract.

Although the buyer is not expected to be an authority on legal matters, he should be sufficiently knowledgeable of contract law to conduct business and prepare documents in such a way as to minimize the chance of disputes. He should be acquainted with the law relating to title to goods, agency, guarantees, fraud, and the rights and responsibilities of the parties to a contract. To avoid litigation, the invitation to quote and the official order must contain explicit details of the nature and conditions of the order and the precise arrangements for delivery and payment.

The buyer must draw the supplier's attention to any failure in performance and promptly send written evidence. On the other hand, the buyer must try to rectify any legitimate complaint from the supplier or the agent and provide a written reply without delay. Despite all precautions, however, the buyer may find that legal action seems inevitable. If expert legal advice is not available in his organization, he should consult a solicitor before any commitment.

The buyer should always remember that he is the agent for his organization in all purchasing transactions. Therefore, the primary responsibility for following good commercial practice and avoiding legal disputes rests with him.

## *Chapter 7*

# **EXPORT AND IMPORT PROCEDURES**

Movement of a purchased machine from its place of manufacture to its ultimate destination involves the supplier and the buyer as well as the exporting and importing countries, whose officials may require compliance with governmental controls, port and customs regulations etc. The previous chapter, which dealt with procedures for buying an imported machine, pointed out, that the buyer must pay considerable attention to these regulatory and related aspects specifically to financial regulations, terms and methods of payment, transport and insurance, and the use of agents for inspection and forwarding. These aspects deserve attention, because they can prove as important to the success of the purchase as the choice of supplier or even the choice of the machine.

### **Nature of contract**

Export transactions can be divided into two categories. One type involves countries in which the exporter maintains a representative. In the other category are countries in which the volume of business does not justify direct representations; the exporter offers goods to these countries on terms of sale that are universally recognized, and the contract for payment for these goods must afford proper protection to both the buyer and the supplier.

These two categories by direct representation or by contract are not necessarily independent of each other; they can be complementary. The tendency for their coexistence increases as international trade becomes more sophisticated.

### **Terms of sale**

A manufacturer supplies local representatives with goods for resale at prices established locally and in the local currency. The eventual purchaser is not in any way involved in the physical problems of the transactions, although he may need to present evidence of governmental permission for the goods to be imported and for the transfer of exchange. However, where the purchase is negotiated between the purchaser and manufacturer directly, as is common in the import-export trade, the responsibilities of the purchaser are more complex and must be clearly understood.



Conditions of sale vary greatly. For example, at one extreme, the term "ex works" required that the buyer or his agent collect the goods from the factory. At the other extreme are arrangements whereby the manufacturer is responsible for delivering the goods to the buyer at the overseas site and for their arrival in good condition. Actually, most of the world's trade in manufactured goods involves terms that lie between these two extremes. Two conditions of sale that are more widely used than others are f.o.b. and c.i.f. (The International Chamber of Commerce, 38 Cours Albert 1er, 75 Paris 8, France, published the booklet *Incoterms*, which gives a recognized set of rules for the interpretation of the chief terms used in foreign trade contracts, such terms as ex works, f.o.r., f.a.s. and f.o.b.)

For an f.o.b. order, the supplier is responsible for placing the goods in a sound condition on board an export vessel approved by the buyer and for all expenses up to that point. The buyer or his agent is responsible for negotiating freight space, securing bills of lading, paying ocean freight charges and arranging marine insurance. Customs formalities are handled by the supplier at the port of shipment and by the buyer at the port of discharge.

One exception to this generally understood interpretation of f.o.b. occurs in the United States. Because of the considerable distances there between many of the manufacturing centres and the nearest seaboard, the term f.o.b. signifies inland railhead rather than port of shipment. However, "through bills of lading" from inland depot to the port of destination overseas are readily obtainable in the United States.

Prices quoted by the supplier should clearly indicate the port of shipment on an f.o.b. order. Prices should be net of national taxes and drawback duty that is paid on imported raw materials where a refund of duty is obtainable on the re-exported, finished product. Export licences are the responsibility of the supplier; import licences are the responsibility of the buyer.

For c.i.f. orders, the supplier is responsible not only for delivery to the export vessel but also for transport to the port of destination and for appropriate insurance. The supplier's responsibility ceases as soon as goods are loaded on the export vessel and as soon as invoices, clean bills of lading that show the goods to be in good condition upon shipment and the necessary insurance certificates have been supplied. Prices must be net of local taxes. Export licences and customs entries for the country of origin remain the supplier's responsibility, while import licences and customs entries at the destination are the buyer's responsibility. Liability for loss and damage rests with the buyer, who has no claim against the supplier if the documents are in order.

In the following discussion, other terms of sale used in international trade agreements are briefly defined:

#### *Services less than f.o.b.*

- (a) *f.o.r./f.o.t. (free on rail/free on truck)*. The supplier is responsible for the loading of the goods on rail wagons or trucks and for all expenses to that point. The buyer must instruct the supplier about the destination of the goods and pay all charges relating to their transport there.
- (b) *f.a.s. (free alongside ship)*. This is similar to f.o.b. except that according to the custom of the port, certain charges at the loading berth may be the buyer's responsibility. Liability for the condition of goods passes from the

supplier to the buyer after the goods are on the quay or in the loading barge.

*Services greater than f.o.b.*

- (a) *c. and f. (cost and freight)*. This is similar to c.i.f., except that the buyer is responsible for insurance during ocean transit.
- (b) *ex-ship*. The buyer does not pay for goods until discharged at a named port of destination. He assumes no liability for goods that are lost or damaged during the ocean voyage.
- (c) *franco quay (at specified port of destination)*. This is similar to c.i.f., except that the supplier is responsible for import duties, other import expenses and for handling customs and licence formalities at the port of destination. This form of contract has a limited application for manufactured goods and is more appropriate for bulk consignments.
- (d) *Supply and erected*. The supplier undertakes to erect the equipment (or construct an entire plant) at a specified site and to transfer it in an operational condition. The supplier is responsible for all formalities and expenses in importing the necessary equipment; the buyer is expected to obtain the necessary governmental approval. An arbitrator or consultant is usually named in the contract to mediate possible disputes over the quality and the proper functioning of the equipment.

### Packing

Exporters have the responsibility of providing adequate packing for normal handling during inland transit and the ocean voyage, according to the custom of the trade. The packaging must provide for easy handling during all stages of the journey. Restrictions in size and weight are particularly relevant. The buyer must inform the supplier of restrictions that are unknown to him. Packing should conform to legislation in the countries of origin and destination.

### Air freight

A comparison of the advantages and disadvantages of air freight *versus* the land-sea forms of transport discussed above should not be based on transit costs alone. Air freight, although more expensive, has the advantages of speedier transit, lower packing costs and less risk of damage. By virtue of the faster transit, capital is not tied up for as lengthy a period as with sea or land transport.

Air freight is delivered directly to the airlines for a specific flight. The consignee is informed of its estimated time of arrival and can arrange for collection from the airport. Rates for scheduled services are controlled by the International Air Transport Association (IATA). For large consignments, the charter of an aircraft reduces the costs considerably.

A recent development in air transport that has considerable future potential is the economic benefit obtainable for medium-sized consignments by a number of "shippers" (the traditional name given to those who dispatch goods by air) who

charter an aircraft together. The IATA regulations are being modified to permit a maximum of four shippers to charter an aircraft jointly. Airline agents are intermediaries in collecting the required tonnage.

### Invoice formalities

In all forms of international trade, the supplier prepares invoices to a reasonable standard specified by the buyer. Particular attention must be given to the special invoicing requirements of the importing country; these may involve certificates of value and origin, and consular invoices.

### Bills of lading and shipping advice

It is essential that the documents the buyer needs for the delivery at the port of entry (and to arrange customs clearance) be in his possession at the time of the vessel's arrival and preferably well in advance of that date. The bill of lading is the most important document; in its absence, the consignee will experience great difficulty in obtaining delivery. The bill is signed by the master of the carrying vessel or by an individual on his behalf. It functions as a receipt for the goods, a document of title to the goods and evidence of the terms and conditions of carriage.

The consignee may not be the ultimate recipient; many buyers appoint an agent to act on their behalf in the port and to arrange the delivery to the final destination. The supplier or his agent should send a preliminary shipping advice and subsequently the main shipping advice to the consignee.

The "preliminary shipping advice" is a copy of the forwarding instructions to the supplier; it contains the name of the vessel, the shipping mark, the buyer's reference numbers, the total value, the number of packages, the contents, the weights and measurements. The information is sufficient for the consignee to complete preliminary arrangements to receive the goods. Furthermore, he can arrange customs clearance and take delivery by means of a letter of indemnity even if receipt of the main shipping advice is delayed.

The "main shipping advice" includes a signed bill of lading against which the consignee can obtain delivery from the ship, an unsigned copy showing the freight charges, copies of the invoice from the supplier and the packing specifications.

### Marine insurance

The usual commercial practice is to secure enough insurance to cover the cost of the goods, transpo charges and 10 per cent for incidentals. Internationally recognized terms of insurance are readily available. The institute cargo clause (all risks) is usual for manufactured goods with optional coverage for war, strikes, riots and civil disturbance. In most cases, claims for loss or damage during ocean transit are payable by the local agent of the insurer at the destination. For claims larger than \$200, it is advisable to obtain a Lloyd's survey report as *bona fide* evidence of loss or damage.

## Finance

Aspects of payment concern time, method, place and currency. When the buyer is known to the supplier, it is often possible for payment to be made by sight draft against the submission of invoices, bills of lading and insurance certificate (if applicable) by the supplier. The agreed price is then remitted by cable or air-mail transfer. When the buyer is unknown to the supplier, payment can be requested through a bank against a bill of exchange. The bill clearly defines the transaction and is actually a guarantee that the buyer will pay the documented charges.

Qualifications in a bill of exchange can be included in special clauses. For example, it is not unusual for a bill to be payable a specified number of days after submission of the documents—in other words, the buyer has temporary credit during all or part of the transit time and perhaps longer. In another well-established practice, commercial banks may temporarily finance the buyer by settling the supplier's claim for payment; the buyer must reimburse the bank (and pay a fee for the service) at a specified later date. Banks do not normally accept responsibility for the detailed accuracy of documents or guarantee that goods have been supplied to specification.

## Letters of credit

Most contract terms provide for payment to be effected against receipt of shipping and other documents. However, a letter of credit may be required by governmental regulations of exchange in certain countries (for example, in Japan, the Philippines, Spain and the Union of Soviet Socialist Republics). Furthermore, the supplier may want a letter of credit for security reasons, and banks may require one if the order is to be financed.

A letter of credit cannot be granted until a definite contract price (at designated terms of sale) and a delivery date have been obtained. Inland or ocean freight charges may be written in the letter of credit for repayment at documented costs, but it is not necessary to obtain an estimate of these charges. The issue of a letter of credit is a commitment of funds, but no debit is made to the account of the buyer until the bank has paid the claim.

The following forms of letters of credit may be requested:

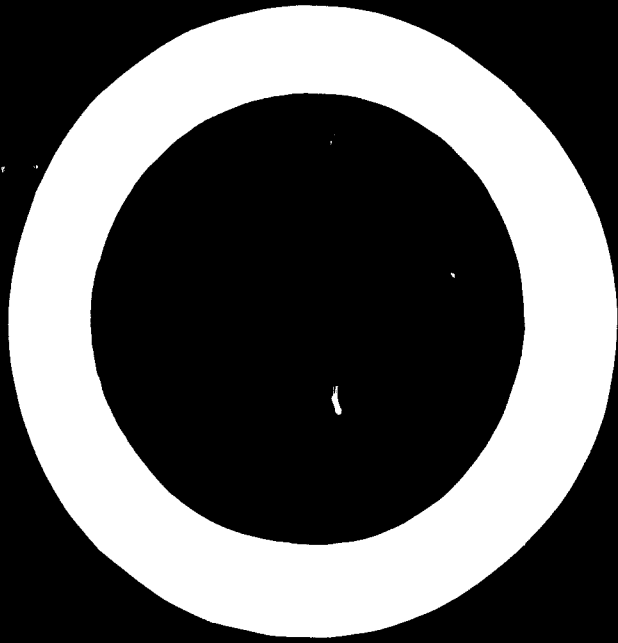
- (a) *Irrevocable*: The issuing bank is committed to honour the provisions of payment, acceptance or negotiation contained in the credit provided that there is compliance with all terms and conditions of the credit. All irrevocable letters of credit are thus automatically confirmed by the issuing bank.
- (b) *Irrevocable and confirmed by advising bank*: Suppliers in some countries (for example, Spain) are required by government regulations to specify that a letter of credit opened in their favour in London is confirmed by the advising bank (a bank in their country).
- (c) *Transferable*: A letter of credit is usually payable only to a named beneficiary (i.e. the supplier), but if the supplier uses a contractor to fill part or all of the order, the contractor may require a transferable credit. The issuing bank is then empowered to accept the instructions of the named beneficiary to transfer part or all of the credit to a third party (who may be

unknown to the purchaser). If the purchaser requires the goods to come from a particular source or country, he may restrict the "transferability" accordingly for example, "transferable only within the sterling area".

### **Agents for purchasing, inspection and shipment**

Although the buyer may be knowledgeable in purchasing equipment and supplies from sources within his country or in neighbouring countries, he may not have had an opportunity to gain expertise for acquiring capital equipment on a competitive basis from international sources. In these circumstances, a reputable purchasing or inspection agency can be employed to carry out all or part of the tendering and procurement processes. Under this arrangement, the buyer should still reserve the final decisions as to the issue of inquiries, adjudication of tenders and terms of contract.

For the efficient handling and transport of exports, many large manufacturers and their customers rely on shipping and forwarding agents who operate in all countries and often have international connexions with offices at major transport and industrial centres. The buyer is advised to query suitable agents, their reputation, the services offered and the fees before deciding whether it is advantageous to use their services.



## **CHECK LIST OF PROCEDURES FOR THE PURCHASE OF INDUSTRIAL EQUIPMENT**

- (1) Is the correct model number given and are all required performance features stated?
- (2) Do the specifications accurately describe the equipment as represented by the manufacturer and as approved by the engineering, operating or production department?
- (3) Are all variations or attachments to the standard item specified and included?  
Have standard control methods been given?
- (4) Do contractors working on the plant site have a copy of appropriate safety regulations?
- (5) Can the supplier meet the required delivery date?  
Can he provide earlier delivery?  
If so, is this desirable?
- (6) Has the supplier been requested to supply copies of all required drawings, lists of parts, operator manual, lubrication recommendations and manufacturer's warranty?
- (7) Have verbal commitments been made that should be included in the contract?
- (8) Should the equipment be capitalized?  
Could it be written off to expense?  
Has the leasing or rental of equipment and the purchase of used equipment been considered?
- (9) Are any provisions necessary for the servicing of this equipment?
- (10) Is the guarantee fully suitable to this contract?  
Does it provide maximum protection against all contingencies?
- (11) Are the hydraulic, electrical, mechanical, pneumatic, lubricant and painting specifications fully clarified?
- (12) Are the shipping terms fully specified?
- (13) Are the proper tax and duty certificates shown?
- (14) Are prices given in local currency?  
If prices are given in foreign exchange, is this indicated?
- (15) Are the supplier's terms of payment acceptable?  
Is a holdback on contract: required?  
(Holdback is mandatory when the purchased equipment is installed by contractors or subcontractors.)  
Has holdback been negotiated?  
Have arrangements been made for progress payments?

- (16) Has the expenditure been properly authorized?
- (17) Is special packaging required?
- (18) Have installation charges and acceptance responsibilities been fully clarified? (Installation and inspection charges may be extra costs unless included in the contract.)
- (19) Is the option to cancel the contract a necessary provision?  
If so, under what terms and conditions?
- (20) Are provisions for escalation really necessary?  
If so, are these provisions specific enough to prevent misunderstanding or abuse?
- (21) Is there any trade-in equipment?  
If so, are there spare parts in stock that should be included in the contract?
- (22) Are mill-analysis or cost-analysis certificates required for special materials?
- (23) Is the order properly cost coded?  
Have copies of the order been distributed to the correct individuals in the organization?
- (24) Is there adequate control of f.o.b. shipments on taxable items to avoid paying sales tax on the freight?
- (25) Has sufficient care been exercised with regard to f.o.b. factory prices?  
(Heavy equipment should be quoted f.o.b. cars or trucks. On f.o.b. factory contracts, suppliers should be informed that car loads or truck loads are not to be split.)
- (26) Will vendors allow discounts on spare parts if ordered at the same time as equipment?
- (27) Is the correct power supply given?  
Must electrical equipment have special approval?
- (28) Is inspection at the manufacturer's plant required?  
(This may be very desirable for pressure vessels, stainless steel tanks, large compressors etc.)
- (29) Is the order a confirmation of a telephone or telex order?  
If so, is this stated in the order?
- (30) Is there any salvage value to scrap material in connexion with a repair job, e.g. the old tubes when retubing a heat exchanger?



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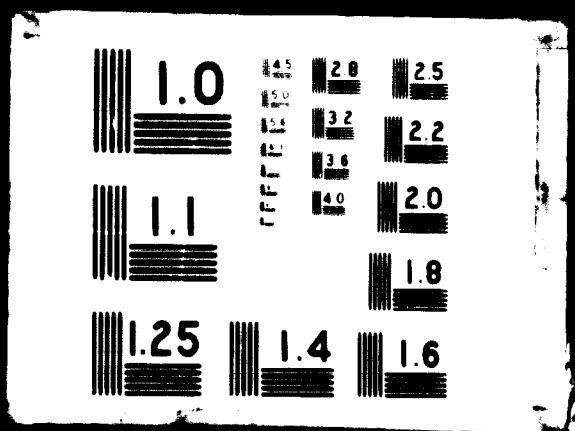
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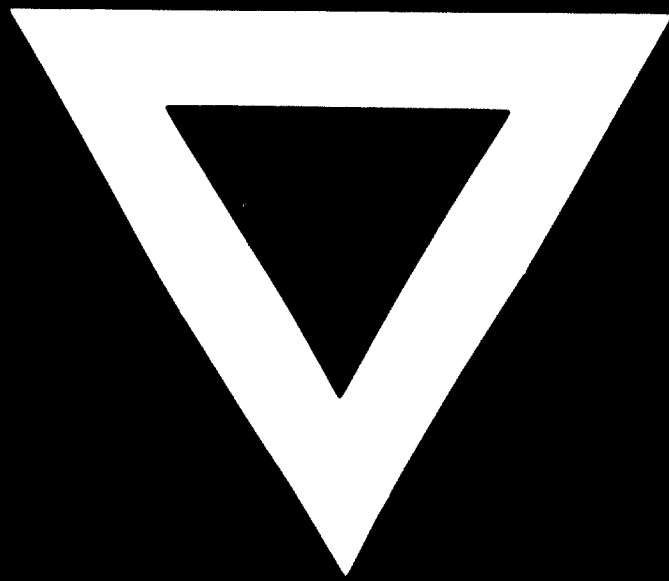
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