

## Purchasing and Inventory Control

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## Purchasing and Inventory Control in MM

- **Material Management** is one of the critical and crucial part of every organization involved in manufacturing process.
- **Bad Management** of inventory, purchasing methods has lead to fall of organizations.
- **Total number of Spares** varies from organization to organization.
- **An Efficient and Effective Material Management System** is important in the purchasing and inventory control for **Effective Cost Control** in maintenance.

## Inventory Control

• **Inventory** is the stock of any item or resource used in an organization and can include: raw materials, finished products, component parts, supplies, and work-in-process

• An *inventory system* is the set of policies and controls that monitor levels of inventory and determines what levels should be maintained, when stock should be replenished, and how large orders should be

• **Firms invest 25-35 percent of assets in inventory** but many do not manage inventories well

## Inventory Control - Spares

### OBJECTIVES

- To minimize the capital blocked up in inventory or in other words maintain optimum level of inventory .
- To strike a balance between production costs and operating and maintenance costs.
- To avoid wastages, losses and optimum utilization.

## Inventory Control - Spares

### FUNCTIONS :

- Identify the spares required for maintaining the equipments.
- Asses annual requirements.
- Determine how-much to procure and when.
- Standardization of spares.
- Identify slow moving, obsolete, defective or damaged items and life of spares where ever it is applicable.
- Preparation of policies and procedures to suit to the organization.
- Prepare spare parts specifications.
- Auditing of Inventories regularly.

## Inventory Analysis

- For inventory control a selective approach for each item according to its importance is to be chosen.
- Most important analysis are :
  - (1) A B C Analysis- Annual consumption
  - (2) V E D Analysis-Vital, Essential, Desirable
  - (3) F S N Analysis-Fast moving ,Slow moving, Non moving

## Design of Inventory

- Order Quantity
  - Economic Order Quantity(EOQ)
- Order Timing
  - Reorder Point
- EOQ minimizes the sum of holding and setup costs
- $Q = \sqrt{2DC_o/C_h}$ 
  - D = annual demand
  - $C_o$  = ordering/setup costs
  - $C_h$  = cost of holding one unit of inventory

## Order Quantity

To determine the quantity of spares to be ordered for each of the item, the following are kept in mind.

- (1) Order cost – Cost due to processing of purchase order.
- (2) Inventory carrying cost – Interest on capital, storage cost insurance, maintenance cost.
- (3) Economic order quantity is the one which considers the cost of ordering and inventory carrying cost.

## Spare Parts Development

Development of alternate source of supply of spares for station to build up a competitive atmosphere among the vendors. The objectives are

- To optimize the spares cost.
- Reduction in lead time.
- Quality.

## Identification Process

- 1) High value critical spares of imported origins.
- 2) Spares whose manufacturing has been discontinued or spares for which poor response from the manufacturers.
- 3) Spares of Indigenous proprietary origin.

## Inventory Control – Central Pool

- Objective is to keep high cost, high lead time, spares of interchangeable type with similar stations at one centrally located place.
- When need arises any member station can draw from central pool and replenish immediately

## Spare Parts and Procurement action depends upon.

- Identification of spares of common in nature for the equipments and allocation of material Codification number accordingly.
- Consumption History
- Fast moving spares
- Slow moving spares
- Procurement practices
- Lead time
- Price discounts and bulk purchases.

## Purchasing Objectives

- Purchasing's responsibility is to buy materials of the
  - right quality, in the right quantity, at the right time, at the right price, from the right source, with delivery at the right place.
- Furthermore, this objective must be achieved with a minimum investment in inventories.
- Achieving this objective of security with a minimum investment demands a fine balancing of various factors:
  - risk of shutdown, the cost inherent in forward buying, and the economies of quantity purchases.
- Weighing these factors calls for experience and a high order of professional judgment.

## Purchasing Objectives...

- A further objective of purchasing is to avoid duplication, waste, and obsolescence of the various items purchased.
- The purchasing department can do much to eliminate these risks by considering each purchase in relation to
  - long-range operating plans
  - short-range considerations of the immediate purchase.

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## Purchasing

### Procurement cycle

- Review selection
- Determine needed quantities
- Reconcile needs & funds
- Choose procurement method
- Select suppliers
- Specify contract terms
- Monitor order status
- Receipt & inspection

## In Purchasing...

- Purchasing Strategy & Forecasting
- Purchasing Procedures and Techniques
- Supplier Selection & Evaluation
- International Purchasing

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## Purchasing Strategy & Forecasting

- How to make a make-or-buy decision.
- How many suppliers do you need?
- Which suppliers should be selected?

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## Purchasing Strategy & Forecasting..

- How do we forecast the quantity to be purchased?
- What kind of forecasting methods should be used?
- Time of forecasting

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## Purchasing Procedures

- What are the basic steps of purchasing
  - Capital Purchases
  - Requisition
  - Preparation of Purchase Order
  - Placing Order
  - Receiving
- Purchasing documentation and forms.
  - Requisition
  - Purchase Order
  - Invoice

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## Purchasing can be done..

- Open tender
- Restricted or limited tender
  - From limited suppliers (about 10)
- Negotiated procurement
  - Buyer approaches selected potential Suppliers & bargain directly, Used in long time supply contracts
- Direct procurement
  - Purchased from single supplier, at his quoted price, Prices may be high
- Rate contract
  - Firms are asked to supply stores at specified Rates during the period covered by the Contract
- Spot purchase
  - It is done by a committee, which includes an officer from stores, accounts & purchasing departments

## Purchasing Procedures and Techniques...

- Some recent trends in procurement:
  - Electronic Ordering
  - Stockless Purchasing
  - Standardization
  - Just in Time Purchasing.

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## Supplier Selection & Evaluation

- How do we find the suppliers and types
  - Brokers, Wholesalers, Producers ,etc
- Supplier selection standards  
Price, Quality, Service, Reliability, Evaluate Performance
- Advantages of buying direct and buying from distributor.

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## International Purchasing

- Have to locate the best sources in internationally
- Differences in currency, language and culture.
- Legal issues
- Types of agreements
- Protection in international purchasing

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THANKYOU