MATERIAL MANAGEMENT
INVENTORY CONTROL
&
PATIENT SAFETY

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AIM OF MATERIAL MANAGEMENT

1. The Right quality
2. The Right quantity of supplies
3. At the Right time
4. At the Right place
5. For the Right cost

INVENTORY CONTROL

It means stocking adequate number and kind of stores, so that the materials are available whenever required and wherever required. Scientific inventory control results in optimal balance

STORAGE

- Adequate space
- stored in an appropriate place
- Group wise / alphabetical arrangement helps in identification & retrieval
- First-in, first-out principle to be followed
- Monitor expiry date
- Follow two bin or double shelf system, to avoid Stock outs
- Reserve bin should contain stock that will cover lead time and a small safety stock

ECONOMIC ORDER OF QUANTITY

- **EOQ = Average Monthly Consumption X Lead Time [in months] + Buffer Stock – Stock on hand**

RE-ORDER LEVEL

stock level at which fresh order is placed.

Average consumption per day x lead time + buffer stock

Lead time: Duration time between placing an order & receipt of material

(Ideal – 2 to 6 weeks).

ABC ANALYSIS

- **This is based on cost criteria.**
- **It helps to exercise selective control when confronted with large number of items it rationalizes the number of orders, number of items & reduce the inventory.**
- **About 10 % of materials consume 70 % of resources**
- **About 20 % of materials consume 20 % of resources**
- **About 70 % of materials consume 10 % of resources**

- The **Pareto principle** (also known as the **80-20 rule**, the **law of the vital few,** and the **principle of factor sparsity**) states that, for many events, roughly 80% of the effects come from 20% of the causes.
- named after Italian economist Vilfredo Pareto, who observed in 1906 that 80% of the land in Italy was owned by 20% of the population;

‘A’ ITEMS

- **Small in number, but consume large amount of resources**

- **Importance:**
  - **Tight control**
  - **Rigid estimate of requirements**
  - **Strict & closer watch**
  - **Low safety stocks**
  - **Managed by top management**

‘B’ ITEM

- **Intermediate**

- **Characteristic:**
  - **Moderate control**
  - **Purchase based on rigid requirements**
  - **Reasonably strict watch & control**
  - **Moderate safety stocks**
  - **Managed by middle level management**

‘C’ ITEMS

- Larger in number, but consume lesser amount of resources

- Importance:
  - Ordinary control measures
  - Purchase based on usage estimates
  - High safety stocks

  - ABC analysis does not stress on items those are less costly but may be vital

VED ANALYSIS

- Based on critical value & shortage cost of an item
- It is a subjective analysis.

  - Items are classified into:
- Vital:
  - Shortage cannot be tolerated.
- Essential:
  - Shortage can be tolerated for a short period.
- Desirable:
  - Shortage will not adversely affect, but may be using more resources.

PROCURMENT OF EQUIPMENT

- **Points to note before purchase of an equipment:**
  - **Latest technology**
  - **Availability of maintenance & repair facility, with minimum down time**
  - **Post warranty repair at reasonable cost**
  - **Upgradability**
  - **Reputed manufacturer**
  - **Availability of consumables**
  - **Low operating costs**
- **Proper installation as per guidelines**

HISTORY SHEET OF EQUIPMENT:

History sheet

- Name of equipment
- Code number
- Date of purchase
- Name of supplier
- Name of manufacturer
- Date of installation
- Date of commissioning
- Spare parts inventory
- Techn. Manual / circuit diagrams / literatures

History sheet

- Guarantee period
- Warranty period
- Life of equipment
- Down time / up time
- Unserviceable date
- Date of condemnation
- Date of replacement

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- Maintenance sheet:
- Annual maintenance contract [AMC]
  - Starting date
  - Expiry date
  - Service / repair description
  - Materials / spares used
  - Cost of repairs
    - In-house
    - Outside agency

EQUIPMENT MAINTENANCE & CONDEMNATION

- Maintenance & repairs
- Preventive maintenance
- Repair of equipment

PREVENTIVE MAINTENANCE

- Purchase with warranty & spares.
- Safeguard the electronic equipments with: (as per guidelines)
  - Voltage stabilizer, UPS
  - Automatic switch over generator
- Requirement of electricity, water, space, atmospheric conditions, etc. Must be taken into consideration
- Well equipped maintenance cell must be available
- All equipment must be operated as per instructions with trained staff
- Monitoring annual maintenance contracts. (AMC)
- Maintenance cell
- Communications between maintenance cell & suppliers of the equipment.
- Follow-up of maintenance & repair services

- Repair of equipment
- Outside agencies
- In-house facility

OBJECTIVE OF MAINTENANCE

- Primary: Increase Operational Reliability

Increase personal safety at minimum cost

Down Time :

- Down Time:- The duration for which any machine goes out of production due to break down is called down time. The down time is the total time taken on account of maintenance to rectify the fault. The total time taken on account of maintenance involves the time actually spent by the respective maintenance team to correct the fault and waiting time for want of spares required for rectify the defect.

- Down time = Repair time + waiting time

WAITING TIME :

- **The waiting time is the most unproductive elements of total down time .**

- **The reason for waiting time could be :-**
- Want of spares
- Want of crew members
- Lack of communication.
- Lack of proper supervision

CONDEMNATION & DISPOSAL

- **Criteria for condemnation:**

- The equipment has become:

1. Non-functional & beyond economical repair

2. Non-functional & obsolete

3. Functional, but obsolete

4. Functional, but hazardous

CONCLUSION

- Material management is an important management tool which will be very useful in getting the right quality & right quantity of supplies at right time, having good inventory control.
- Adopting sound methods of condemnation & disposal will improve the efficiency of the organization & also make the working atmosphere healthy .

THANK YOU