STORES MANAGEMENT

We are quite familiar word with word store and its utility. Normally it is assumed that store is a place where excess material is kept which will be used as and when required. Loss of items, deterioration, obsolescence and inadequacy [of what is stored to what is needed] are treated as 'part of life'.

Modern scientific management has no place for such defects built into the system as 'part of life'. As students of management we have to constantly look for Non Value Activities in the system and eliminate them totally or minimize them. Let us look at stores as a function of modern management.

Objectives of store as a management function

In the chain of internal customers and suppliers stores has several internal customers. As a matter of fact all functions of management are internal customers to stores. Customers as usual expect Quality Cost and Delivery from every supplier. Stores also have to deliver these customer expectations. In the process of discharging this obligation Stores perform some activities that are functions of Stores.

functions of stores

- Receipt
- Storage
- Retrieval
- Issue
- Records
- Housekeeping
- Control
- Surplus management
- Verification
- Interaction & coordination

1. Receipt: refer to the flow diagramme. Any item of goods or material that enters the organization always enters through the stores. Similarly, every item unless specifically excluded, has to leave through the store. Stores is the final account keeper of all materials. Material sent by any supplier after the security clearance comes to the stores. Stores check the document carried by the carrier, known as Delivery Challan, against the copy of the Purchase Order placed on the supplier by the organization. Once the adequacy is established and quantity is verified the material is sent for testing for quality parameters. Some times quality control teats are elaborate and time consuming. If the policy of receipt is to unload the material subject to quality control acceptance, it is cleared for unloading. Unloaded material is kept on the hold if it not yet cleared by quality control department. If the material is rejected it is sent back to the supplier after clear documentation.

2. Storage: Once the unloaded material is approved by the quality control department, as per the quality plan in the quality system, it is moved to a specific place in the stores layout. The material is so stored that it becomes easy to retrieve and issue subsequently. Storage should also ensure protection against deterioration, damage and pilferage. Detailed system is adopted for location and labeling of items while in storage. Storage plan is made keeping in mind,

- nature of the product- physical state, toxicity, inflamability and other hazards
- volume and weight- heavy or light
- movement frequency- fast moving or slow moving
- point of use

3. Retrieval: Easy and quick retrievability of items that are demanded by the internal customers. Easy identification, maximum space utilization and minimum handling are key factors to retrieval functions. It is common knowledge in many of the companies that after hours of searching for the item is declared to be out of stock. This causes hold up of production process and avoidable urgent purchase of out of stock material. This function takes place as per established retrieval system.

4. Issue: Refer to the flow diag**.** Fulfilling customer demand for the item in minimum time, keeping quality high and cost minimum is issue. An internal customer doesn't pay the price but he has to fulfill requirement of authorization for the demand. A duly authorized indent or requisition for the item is the key

5. Records: Maintaining records of receipt and issue. Updating the stock levels as per movement of materials. Basic records of store are bin card and stock register. Bin card is placed on the bin in which items are stored. This gives information about receipt, issue and balance. stock register gives all the information in the bin card and also the value.

6. Housekeeping: Maintenance of spic and span cleanliness in the store and ensuring principle of Place for Everything and Everything in its place is fully implemented. Good housekeeping ensures satisfactory work practices

7. Control: Taking measures to ensure material plan is being adhered to. Any changes in consumption pattern or replenishment pattern are closely monitored for corrective action. Material movement is watched to identify nonmoving material for disposal. Effective control puts into effect management objective of 'no shortage and no excess'.

8. Surplus management: Effective disposal system for unneeded material to reduce inventory cost and proactive measures to eliminate deterioration and obsolescence.

Ref. To the note on obsolete, surplus and scrap management.

9. Verification: Stock verification to eliminate gap between information and physical stock. In stores some items are maintained as stock items. The stores triggers the procurement cycle for such items when a predetermined reorder level is reached. Hence correct stock position through verification is critical to ensure 'no shortage and no excess' for the item.

10. Interaction & coordination: Very close interaction between Purchasing, production, quality control and engineering functions is obviously needed in the discharge of the functions discussed so far. It also becomes necessary to coordinate the flow of material samples and information through a network of departments for performance of stores functions. Besides, every management function being an internal customer interaction is very important.

Stores organization

Store is a function of materials management in an organization. Hence it is generally found that stores function **reports to the materials manager**. But in some situations stores function **reports to the production function.**

The earlier type of arrangement is based on the concept that stores along with other functions of materials management can be integrated into the materials organization. This will stream line all materials management functions effectively.

The other arrangement is leaning on the fact that production function is very closely linked to stores. And a common command can reduce cost and inrease effectiveness. And also keep material accounting outside the scope of procurement function.

Centralized or decentralized stores organization

Centralized stores concept is to store all items at a central place and control materials movement from this central place. Whereas decentralization concept is moving the material to the respective consumer function or directly to the points of use.

Features of centralized stores organization

1. Effective supervision and control.
2. Issue at single point reduces cost of issue
3. Reduced personnel requirement
4. Efficient layout for stores
5. Better handling technology
6. Better inventory checks
7. Maintenance of optimum stores
8. Fewer redundant and obsolete items
9. Elaborate documentation

Features of decentralized stores organization

1. Reduced handling
2. Customer friendly
3. Diluted risk of fire
4. Fewer production stoppages
5. Visual management is easier

Stores Systems and Procedures

Stores Systems and Procedures operate the stores every day. Systems and procedures should undergo continuous review to avoid redundancy and rigidity. Continuous review in the form of PDCA should provide the benefit experience of implementation. Operation of stores is made up of number of activities involving various functions inside and outside the organization. These activities are tied together by procedures so that transparency comes in and variations due to individual personalities are limited.

The system should take care of physical flow of materials and flow of information.

Identification system: When one deals with large number of items depending on physical description of the item becomes unreliable. Hence we need a system which provides a unique identification for each item in the stores. Materials suppliers to stores follow their own numbering system for identification. But the systems being unique to their companies they are not unique to the stores of the buying organization. Hence it is primary responsibility of stores management to develop a unique identification system to facilitate clear communication internally.

1. Arbitrary approach: Go on assigning serial numbers in sequence to the materials as they arrive in the stores. This is a unique system as every item will posses a unique identification number. But it will not be possible to identify the family of parts to which this particular part belongs. This type of numbering will not reveal any classification of the part.

2. The symbolic approach: This is a system using numerical, alphabets or a combination of both for identifying a part or item.

Following is an example:

1 52 43 25

First digit 1, stands for general class to which this item belongs like say, raw material.

Second two digits indicate the generic class like say, bars.

Third two digits indicate steel rounds and the last two digits indicate the specific number.

Similarly alphabets or alphanumeric can be used in place of numbers.

3. Engineering drawing number: This is quite useful internally. But has a serious limitation that it is applicable to manufactured parts only

Receipt system: Stores receive materials from various sources. Some of them are internal and some are external. Receipt system is specific to the source. When materials arrive from an external source following system handles the receipts.

Purchase function raises a PO on the source of supply a copy is sent to the stores. Stores are now advised about the order. When the supplier on whom the order is placed supplies the goods he sends goods dispatch note, giving information about carrier, value of the goods, date of dispatch etc. to the receiving stores. The carrier sends a document called consignment note. These documents enable the store to make arrangement for receipt of the consignment.[handling equipment, space etc.]

When the consignment arrives at the receiving section it is checked against the documents already received with respect to the consignment. General condition of the goods also is checked. Rest of the system can be understood from the Flow Diagram -1

When internal departments send material to stores a material return note, transfer note or scrap report is enclosed.

Types of storage

In actual practice we come across different types of stores classified as per the nature of the products stored, types of the materials stored and function of the storage.

As per types of the materials stored

1. Raw Materials store
2. Components store
3. Work in process store
4. Finished goods store
5. Semi finished goods store
6. Tools store, die crib
7. Consumable materials store

As per nature of the materials stored

1. LPG store
2. Chemicals store
3. Hazardous materials store

Refrigerated materials store

As per function of the storage

1. receiving store
2. central store
3. general stores
4. sub stores

Storage systems

Physical systems

physical storage of material is very important from the point of view of identification, retrieval and issue. Various methods adopted for physical storage are mentioned below.

Closed door system: the stored material is held under lock and key. Entry into the store is restricted authorized persons only. Physical movement of the material is only with authorized documents only. Maximum security and tight control on movement are features of this system

Open stores system: In this system material is stored near point of use and there is restriction on consumption. Control passes on to the operations department

Random access stores system: There is no fixed location for an item. Item occupies the available physical slot when it enters the store.

Stores address is fixed to the occupying item electronically. For issue the item is located by this address. This system facilitates maximum space utilization but electronic control is needed.

Stores record system

In stores management two types of records are fundamental one is called **bin card** or stock card and the other is **stores ledger**.

Stock card or bin card: bin card, fixed on the bin shows the quantity received, issued and balances. Copy of this record is maintained for reference by the stores in charge. This record also triggers purchase activity when ROL of an item is reached

store ledger, contains value in addition to the physical stock which is also shown on the bin card.

Issue system

From the stores material is issued for internal consumption and some times issued to outside parties for processing.

Issue to consuming department: Material is issued to consuming departments against a material requisition slip which is duly authorized and made with reference to a work order for production. Quantity needed for production is mentioned in the work order and stores employees are not authorized to issue excess quantity. Hence an automatic control is exercised on consumption. The work order mentioned above is raised based on the bill of materials for production.

rigid control on issue to processors outside

Issue to outside parties for processing: procedure is same but a rigider control is exercised

Stores accounting and verification systems:

Purpose of stores accounting is to know

1. cost of materials consumed in production
2. levels of wastage produced
3. value of material lying in stock

for ascertaining the above following factors are taken into account

1. material price
2. freight charges
3. insurance
4. duties
5. tax
6. packaging charges etc.

a. FIFO System:

First in first out system- when the material is issued it is assumed that the one which came first is going out. Hence the rate pertaining to the first in is applied. To the stock latest price is applied.

When there are several price changes this system becomes complex

b. LIFO System:

Last in first out at the time of issue. When the material is issued latest entrant is assumed to be going out. Hence latest prices is applied to the issue. And reciept price is applied to stock

c. Average cost system: an average is established with price of each item in every shipment taken into account. Total items received and price paid for these items is calculated. And average price for each item from this lot is calculated and applied to the issue and stock.

d. Market value system: while issuing current market price is applied. Stock value is calculated at receipt price

e. Standard cost method: based on price trend a standard price is fixed for a particular period and this price is applied

General guide lines for closing stock are apply market price or receipt price whichever is lower. Make accounting provision for obsolescence and or deterioration.

Stock verification systems

Discrepancies invariably occur between physical stock and books in spite of good store keeping. Hence a system is needed to locate this gap and apply correction.

Purpose of **Stock verification** is

1. to reconcile stock figures with books
2. to identify areas for tighter control
3. to keep a check on pilferage and fraudulent practices
4. to back up balance sheet stock figures

Systems of physical stock taking

Annual stocktaking: stock is checked once a year, generally at the end of financial year. This method is quite popular among large number of engineering industries. Total stop is enforced on items entering and leaving the stores and physical counting is done. This may necessitate stoppage of production for a few days. Discrepancies are noted for management action. Nonmoving items are identified for action.

Main features of this system

1. correct position of stock is ascertained without any confusion about any item
2. Stoppage of production is generally required.
3. Final list of surplus or shortage items is prepared.
4. Final list of damaged or lost items is made.

Perpetual Inventory and Continuous Stock Taking System

When the firm is very large and no of items and quantity per item is huge annual stocktaking becomes complicated and hence impractical. Production stoppage also may not be possible. Many firms follow following simple method of continuous stocktaking. Inventory is divided into 52 parts and year also is divided 53 weeks. Every week stocktaking is done. Discrepancies and damages etc. are identified and corrected continuously.

Main features of this system

1. production stoppage is not required
2. method is simpler, hence accurate
3. corrections are applied regularly to flaws
4. action on slow moving items can be faster. No need of waiting for the year end
5. stock control is effective

Low point inventory system

Stocktaking is done only when the inventory level of the item comes to minimum level

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Obsolete, surplus and scrap management.

Obsolete items are good in all respect but have no useful role in the company due to changes that have occurred in the course of time. They have economic worth in the market.

Surplus items are those that have accumulated due to faulty planning, forecasting and purchasing. Hence a usage value is associated with these items.

Scrap is wastage generated due to processes like turning, boring drilling etc. and also due to bad manufacturing. it is said that in India nearly Rs. 2500 crores are tied up as obsolete, surplus and scrap items.

Causes for their generation

Changes in product design – obsoletion

- Rationalization – initiative for variety reduction leads to surplus or obsolete items
- Cannibalization – parts of one idle machine are fitted on another machine needed urgently during maintenance, results into obsoletion of parts and at times even scrap
- Faulty planning and forecasting – leads to excess procurement, surplus generation.
- Faulty purchase practices – sub-optimization in buying to utilize available discounts and transportation economy, surplus and obsolete stocks are generated.
- Other causes – parts kept aside for insurance claims, bad storage system, bad material handling, bad manufacturing and badly maintained machines are other causes for spoilage and scrap.