Chapter-IV

Storage, Distribution and Disposal Management

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Storage

Stores management plays a significant role in the operation of any business. Stores management is nothing but receiving, storing and issuing of materials, on which the efficiency of the manufacturing operations depend. Receiving and storage are service functions and involve a lot of paper work. The benefits of an efficient receiving and storing are bound to determine the cost of administering them. Receiving and storing are the key actions considered in the materials management because of the following reasons:

(i) The quality of the end products largely depends on the quality of materials received.

(ii) The smooth and uninterrupted production flow is dependent on the efficient stores function.

(iii) The stores organization acts as a custodian of the items received by the business organization.

(iv) Above all, these functions directly or indirectly affect the production costs (Patel and Chunawalla, 1986).

Since material stored is equivalent to cash and form a major part of the total product cost, it is essential that material should be properly accounted for and safe-guarded in an efficiently organized stores section or stores department. With a judicious
and proper control in the management of stores, one can minimize the losses of obsolescence, pilferage, excess storing etc.

A proper scientific method of store keeping will help in bringing down the acquisition and retention cost of inventory and thereby reduces the material cost and its overheads. In India, on account of several constraints, 4 to 6 months’ inventories are common and for certain items it will be in between 20 to 30 months’ stock (Anantha Krishnan, 1976). It is in this context that the stores management assumes great importance. As on now, certain big, industrial organizations in India like Maruthi Udyog Limited, brought down the inventory levels to a low of 10 to 15 days of consumption with the adoption of techniques like Just-in-Time. This just-in-time technique enables the suppliers and vendors to supply the materials needed by the company within hours after receiving the purchase order from the user company and by using the facilities like land and buildings extended by the user companies. This just-in-time technique enables the user companies to minimize ordering costs, carrying costs, warehousing costs, insurance costs etc. It is appropriate in the light of the above facts that there is an urgent need to all the manufacturing industrial units to go for just-in-time technique.

Preservation of items in the space provided in the stores is of great importance because floor space accommodation is a costly affair. The high cost of space is due to the price of the land, the cost of construction of the building and the facilities provided for it. So, the space provided needs judicious use of it. Keeping items
in stores, particularly the slow-moving and non-moving spare parts, is an important job and often this was given least importance in Indian industry. To have an effective storage programme, factors such as nature of the item, condition of part, the expected idleness, item economic value aspect and the need for protective for certain items should be taken care of. In some cases, the additives to preserve the item intact exceed the cost of the item itself. That’s why, this kind of articles are to be placed at a separate location within the stores. It is desirable to have a separate portion of the stores, ear-marked with specific dimension, controlled entry and controlled conditions of weather to protect from dust, sun-rays and extreme temperature. The preservatives applied for some parts include bearings, delicate instruments, rubber articles, valves, electricals, grinding wheels, batteries, steel wire rows, lead, copper, silver parts, acids, cylinders holding different gases, wood, glass sheets etc. While preserving some of the items certain measures are to be taken by the stores personnel to protect the items from moisture, water, rats, white ants, sunrays, humidity, dust and dirt etc.

To identify the item in shelves or racks of the stores requires good lighting in the stores building, otherwise darkness resist the personnel working in stores to work effectively and efficiently. Lighting also enhances good working conditions for the employees in the stores, who work day-in and day-out in operations like receiving, inspecting, staging, handling and distribution of goods in a pleasant environment and it goes in a
long way in reducing monotony and in ensuring optimum service to the organization.

Safety is another important factor to be considered in stores location and layout. Since the stores handle a good number of goods of high value everyday in large volume, it needs proper safety measures. The following are some of the measures expected to be adopted by the managements to reduce accident and pilferage in the stores.

(a) By arranging some training programmes, providing literature on the materials and displaying the visual aids, the managements should instill a kind of safety consciousness amongst the personnel working in stores section.

(b) Safety kits like shoes, gloves, helmets, minor’s lamps must be provided to the workmen and all other concerned personnel in the stores organization to keep away from the accidents. Wearing safety kits must be encouraged.

(c) In order to minimize the handling expenses, stocking must be at an appropriate place as decided earlier for different items.

(d) The operators of the material handling equipment must be trained well in handling various kinds of stores and items and the materials handling equipment must be kept in good working condition so that the materials
demanded by the user department reach the work spot within minutes of their order to the stores section.

Necessary fire fighting equipment must be provided at various points where inflammable materials are stored and at different incoming and outgoing doors. Fire extinguishers, fire escape alarms and sprinklers of water and foam and stand buckets must be made available to all the personnel working in the stores section and familiarize them in handling the above said fire fighting equipment. Finally, in order to extract more work from the personnel of stores organization, certain facilities are to be provided by the management near the stores. They include drinking water, toilets, enough number of windows to have good ventilation, air sucking pumps etc.

Shipbuilding is an assembling industry, which procures thousands of assembles and equipment. They must be stored in the stores until they are issued to the production departments. To extract all the associated benefits of an ideal stores organization, the selected shipyard companies established their stores nearer to the production departments with all the necessary facilities except few stores, which are located at distant places and away from the shipyard of about five kilometers, three kilometers, two kilometer and one kilometers. Getting material from distant stores is a difficult task and also involves higher handling cost. This can be attributed for a simple reason, that is, non-availability of space within the shipyard.
The stores function is a crucial function of all the industrial undertakings irrespective of type of management whether in public or private sector. This is known for its pivotal corner of activities of materials in motion. The operational conditions of the stores in different organizations differ in a wide manner. Therefore, the systems followed also vary from organization to organization. An efficient stores system must aim at good procedures, efficient organization, smooth and speedy receipts and issues (Shah N.M., 1978). A designed stores system ensures timely information for decision making particularly, because this is the starting point of all other activities in the organization for control. It is in this context that the systems and procedures have to be looked into.

There are mainly two stores systems for physical control of stores material:

1. Closed stores system
2. Open stores system

A firm often employs the two systems basing upon the scale of operations and the ability of the organization.

In a closed stores system, the items are physically stored in a closed and controlled area. The general practice is to maintain physical control by looking the storage area so that no one can enter the stores other than the authorized stores personnel. Materials incoming and outgoing will take place only when it is accompanied by an authorized paper signed by the concerned authority.
In an open stores system, there is a great advantage for mass production type of operations, which requires continuous supply of the same materials. Under this system, each material is stored close to the point of its usage. Materials are stored in bins, shelve, racks, pallets, roty boxes etc. Storage facilities are completely open and any worker has access to any storage facility. After the materials are received, stores personnel are usually responsible for the delivery to the production departments. This system is designed to expedite production activities in the organization. Under this method, little emphasis is laid on physical safety of the materials. An assembling industry like shipbuilding exhibits the cleanest example of an open stores system. Generally speaking, an open system is more likely to function successfully, if it is not applied to a large number of items. Firms apply such a system to several hundred items typically experience bitter results.

The stores section, which is a part of the commercial department in all the selected shipyard companies, maintains certain relationship with different branches of its own and other departments in the organization. The stores section has to deal with planning, production, quality control and commercial departments of the selected shipyard companies. The stores section and purchase sections and their functions are more or less complimentary. Close co-operation between these two sections will result in better standardization, coding of stores items, value analysis, variety reduction, inventory control, salvage, disposal of obsolete material, scrap, etc.
Even in the absence of an integrated materials management department in selected shipyard companies the stores section and purchase section have close co-operation and co-ordination. These sections are under the direct control of General Manager (Commercial Department). Presently, the stores sections are headed by an officer-in-charge in the cadre of Deputy General Manager. Similarly, a deputy general manager also heads the purchase department. These two sections are working under the overall control of General Manager (Commercial Department).

To co-ordinate the activities of the two important organs (stores section and purchase section) of the selected shipyard companies, the stores section inspects some items of the stores independently and internally by itself. For some other items, the stores sections take the help of quality assurance department to conduct test of quality. The stores section usually gathers the samples from the received items. This quality assurance department works with close cooperation with the stores section. The stores organization maintains close contacts with the production departments. It is the responsibility of the production department to fix production schedules and communicate the same to the stores organization. The stores section has to arrange for the supply of raw materials, tools and consumables in the required quantities and at the required time without sacrificing the policies of the stores section.

Distribution
Next to storage, the stores section’s responsibility is to issue the material to the consuming departments as well as to outside ancillary units for further processing. Depending upon the production programme, the bill of materials and the necessary work orders are issued. Similarly, the quantity to be issued against each component requiring material is also specified by the competent authority. This automatically controls the consumption of materials. Besides regular consumption requirements, sometimes the user departments made material requisitions on *ad hoc* basis and against this *ad hoc* material requisition notes, issue will be made available by the stores section to cater the temporary needs such as tools, kits, samples, issue on returnable basis. Separate methods are to be followed for these issues and this should be made by authorized persons and accounted in a proper way. It is necessary to have a valid authorization in the form of a material requisition voucher note. It is against this, the stores people after collecting the materials requisition voucher form, the user department will issue the quantities of materials mentioned in the voucher by making an entry in the books of stores section and also an entry has to be made in Electronic Data Processing (EDP).

Before issuing the material, the store keeper will have to check the availability of the materials, quantity required, work places and centres, material code, budgeted quantity, verification of signature of the authroised persons was signed on the MRN/MRV, authenticity of indenture, conformity with the
control limits and then issues the material. This is the procedure laid down by the General Manager (Commercial Department) to issue the materials from stores section. In the selected shipyard companies, the stores documentation is maintained in a proper and pucca manner. Receipts and issue are the two basic documents on which the entire material management operates. As on now, there is no such separate materials management department in the selected shipyard companies. The functions of materials management department are now carried out by commercial department, purchase department, import section and stores section. The stores department in selected shipyard companies is maintaining a separate and detailed register for one time issues like air conditioners, water coolers and such other items. For the issues to the sub-contractors will be authorized by the sub-contracting section and gate passes to be provided by the same section and on providing the necessary gate pass only, the stores section issues the material to the subcontractors. While issuing the materials, the stores personnel must be very cautious in counting the units and measuring the quantity to be issued. In order to minimize the discrepancies and for better reconciliations of physical stock with book balance, necessary precaution must be taken up by comparing the figures of the items with that of the opening stock, plus receipts during the month, minus issues made to the various departments during the month, considering the rejections and similar other unaccepted consignments. However, it is noticed that there are a number of discrepancies in the stores
section. This must be avoided by taking some measures of tallying the material regularly and periodically from time to time. One such measure seems to fit to control discrepancies by posting issues, receipts and returns. Another measure is that the stores section needs to debit the materials issued to the user departments. The personnel working in the stores need to indicate a lower balance in the stock of each item after the issue is made. This will help of the replenishment of stores by receipts with equal quantity of the issued materials to maintain a minimum level, which helps the production department to run uninterruptedly. Apart from these measures, the stores is expected to maintain documents like bin card, kardex, list of slow-moving, non-moving, fast-moving, obsolete items, scrap, disposal, rejected note, accepted note, delivery, supplier invoices, indents, bills of materials, copy of purchase orders, codification files, documents pertaining to bin number for the item and copy of purchase order along with purchase order number and copies of material requirement for planning.

In the selected shipyard companies, even after computerization of stores section, because of the poor reliance and poor experience of the people working in Electronic Data Processing, it still maintains manual documents of the above said. Again certain discrepancies were observed while reconciliation of figures and facts of the stores items which were fed into the computers and manual documents they maintained. This should be curtailed soon after the people working in EDP and stores
section gains experience and expertise in using computers and computer data on material information system. Maintaining both manual and computer documents is a high expensive exercise and this will be ruled out within a short period.

**Disposal**

Recently regarding SOS (Surplus, obsolete and scrap) items, management has assumed tremendous importance in materials activity, in view of the financial stringency. Those materials, which are in excess of concern’s operational requirements forms surplus and this surplus originates basically from three sources namely scrap, obsolete materials and damaged equipment. The problem of identification and disposal of obsolete surplus goods is acute in many developing economies, because of the fear that the same item may not be available, if needed again in the same organization. Holding obsolete and surplus stocks is costly. The costs include: inventory carrying charges which is currently estimated at about 30 per cent cost of periodic stock-taking, cost of maintaining the records, cost of security, cost of preservation, loss of use of capital tied up in inventories, cost of additional staff for stores work, cost of storage space, cost of lower morale due to seeing the same non-moving item every day etc. In view of the cost impact of the redundant and obsolete stocks, special efforts must be made to avoid keeping them.

Surplus from production process is inevitable. All the materials are not used completely or wholly in manufacturing process. It is not possible to eliminate this type of surplus. At the
most, what the managements can do is to minimize the surplus by proper planning. Surplus sometimes results in ineffective use of machinery, equipment and tools. Further it arises due to ineffective or poor purchasing process adopted by the management. Through appropriate steps in procurement process, this can be reduced significantly. Proper identification and recovery of surplus, scrap from valuable materials, precious metals, tools, machinery, instruments and other materials such as wood, iron, brass, copper etc. is a growing source of revenue. These items are very important in the present day because of their growing rate of demand and usage by other industrial units.

The items, which are not damaged, not used, and have some economic value and use but not by the concern’s operations are called obsolete items. These items include spare parts of machines which are phased out assemblies related to modified equipment for which there is no further need by the user, items like food and drugs whose effectiveness have lapsed with the passage of time. Changes in product design, technological innovation, rationalization, cannibalization, inaccurate forecasts, faulty purchase practices, improper store keeping, wrong codification, poor maintenance and mistakes in several departments like planning, purchasing, transportation, design, stores handling, etc., are some reasons for obsolete items. All tools and equipments at some point in their life become surplus due to wearing out or due to technological obsolescence. In the present day rapid advancing
technological, world majority machine tools seldom wear out as they are replaced very frequently.

Various estimates of money locked up in the obsolete items are available in Indian Scenario. The then finance minister Mr. C. Subramaniam provided the first estimate. He mentioned on December 10, 1974 that the amount of money blocked in obsolete and surplus material is estimated around Rs. 2,500 crore in India. Presently with further industrialization the figure today is expected to be over Rs.50,000 crore. Strategies for identification, minimization and disposal of obsolete items need a good computerized information system for generating periodic reports for action.

Scrap is another classification, which is usually tagged on to obsolete and surplus materials. Scrap can be defined as a process of identifying waste such as turnings, borings, flashes etc. In other words, it can be defined as a residue from within the organization. The amount of scrap as a percentage of total production is certainly a measure of the working efficiency of the personnel connected with the production. Scrap also arises due to a number of reasons like breakage, distortion, in the form of condemnation of the machinery, turnings, borings, screws, flashes, spoilage, empties, broken tools etc. Waste steel, irreparable materials are usually categorized as scrap. Thus, scrap refers to unusable material, whose value is only in terms of its material content. Only 80 per cent of material that gets into the plant will come out as
finished product and the remaining 20 per cent is normally converted into process scrap.

Scrap is usually collected, properly segregated, and categorized into (i) ferrous scrap, (ii) metal scrap, and (iii) waste. Non-returnable containers, packing cases, pallets, gas cylinders, drums, tins, containers are also treated as scrap for the purpose of disposal.

Since the purchase department is well versed with the quality, price, availability and non-availability, lead time etc, in majority of the companies, the responsibility of disposing the scrap, surplus and obsolete materials has been assigned to the purchase department.

The other departments and sections are not expected to know everything about all the materials required by the company. The familiarity with all the methods of obtaining the material by purchase department made it competent to handle the crucial responsibility of disposal of the disposable materials.

Basically, there are three methods of disposal and these include (a) annual contract. (b) Inviting offers from time to time, and (c) public auctions. It is necessary to ensure that the items which are to be listed as identified items for disposal are not needed in any department, division, section of the company. Similarly, it is essential to look for the highest possible realized value from the disposable items. For it, it needs to consider the minimum valuation of the item that should be done in terms of the depreciated use, or its scrap value. The advantages of transferring
the item to other departments should be thoroughly examined. Dangerous chemicals must be dumped in the deep seas or buried in the ground. Before disposal, it is essential that scrap is segregated according to metal, shape, size, etc. When the scrap is mixed, the return is even lower than the lowest element in the mixture. The costly surplus or scrap such as copper, aluminum, tungsten involved is inevitable that they are segregated as returns are huge and price levels are different. The buying parties are required to deposit the earnest money. Many a time, the selling company insists on the basic price calculated in close coordination to the finance department. Sometimes the selling agency (generally purchase department) has to deal with hard bargainers, who form into cartels and at the same time it should be able to answer the queries raised by audit department as regards to the realization value of the scrap.

**Government Policy for the Disposal of Imported Surplus**

Sale of any imported materials or item have to be put to the notice of chief controller of imports and exports (CCI and E) for obtaining a prior approval before the sale is made. For the disposal of surplus and scrap material, the government departments and the government undertakings make use of the services of the above canalization agencies. The canalization agencies include State Trading Corporation of India, Metals and Minerals Trading Corporation of India, SAIL International, Director General Supplies and Disposal and Metal Scrap Trading
Corporation of India. If the company intends to sell any scrap, it has to be informed at least to any one of the canalisation agencies.

Table 4.1 shows the pattern of steel scrap in the selected shipyard companies during the years 1998-99 to 2008-09. In the year 1998-99, the consumption of steel was Rs. 85.32 lakh and having steel scrap of Rs. 11.16 lakh and amounts to 13 per cent of the consumption. Whereas, in the year 1999-2000, the scrap value of steel amounts to Rs. 12.83 lakh against consumption value of steel of Rs. 91.65 lakh with a 14 per cent scrap. Similarly, in the year 2000-01, the consumption of steel was Rs.113.99 lakh with a scrap of Rs. 13.45 lakh and amounts to 11.8 per cent of the consumption. Rs.251.98 lakh worth of steel was consumed in the year 2001-02 and recorded a scrap of Rs. 31.25 lakh which contributed 12.4 per cent.

Table 4.1

Percentage of Steel Scrap Identified in Relation to Value of Steel Consumption in the Selected Shipyard Companies during 1998-99 to 2008-09

<table>
<thead>
<tr>
<th>Year</th>
<th>Iron &amp; Steel Consumption (Rs.in Lakh)</th>
<th>Scrap of Iron &amp; Steel (Rs. In Lakh)</th>
<th>Percentage of Scrap in Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998-99</td>
<td>85.82</td>
<td>11.16</td>
<td>13</td>
</tr>
<tr>
<td>1999-00</td>
<td>91.65</td>
<td>12.83</td>
<td>14</td>
</tr>
<tr>
<td>2000-01</td>
<td>113.99</td>
<td>13.45</td>
<td>11.8</td>
</tr>
<tr>
<td>2001-02</td>
<td>251.98</td>
<td>31.25</td>
<td>12.4</td>
</tr>
<tr>
<td>2002-03</td>
<td>275.36</td>
<td>44.6</td>
<td>16</td>
</tr>
<tr>
<td>2003-04</td>
<td>138.1</td>
<td>19.33</td>
<td>14</td>
</tr>
<tr>
<td>2004-05</td>
<td>229.18</td>
<td>28.42</td>
<td>12.4</td>
</tr>
<tr>
<td>2005-06</td>
<td>619.53</td>
<td>81.78</td>
<td>13.2</td>
</tr>
<tr>
<td>2006-07</td>
<td>208.76</td>
<td>25.3</td>
<td>12.1</td>
</tr>
</tbody>
</table>
In the year 2002-03, Rs. 44.06 lakh worth of steel became scrap with an annual consumption of Rs. 275.36 lakh. This pushed the percentage of scrap to 16 per cent. In the year 2003-04, steel scrap was generated to the tune of Rs. 19.33 lakh and contributed 14 per cent of Rs. 138.1 lakh of consumption. During the year 2004-05, the percentage of scrap amounted to 12.4 per cent with a scrap of Rs. 28.42 lakh and with a consumption of Rs. 229.18 lakh. There was a meager percentage of hike in scrap with a value of Rs. 81.78 lakh and for consumption of Rs. 619.53 lakh. There was no drastic change in the percentage of scrap in the year 2006-07 with a scrap value of Rs. 25.30 lakh against the consumption of Rs. 208.76 lakh. During the year 2007-08, the consumption was recorded at Rs. 113.49 lakh with a scrap value of Rs. 15.89 lakh and contributed a percentage of 14.0. It has been observed from the table 4.1 that the percentage ranged between 11.8 and 16. This is much higher than the scrap percentage of European ship building units whose scrap ranges between 9 to 10 per cent.

It is generally accepted that no one is capable of utilizing cent per cent material in the production process. If we carefully observe the trends in the percentage of scrap, it is alarmingly high which speaks of the ineffective use of raw materials i.e. steel. This phenomenon suggests that there is a considerable amount of scope
for the selected shipyard companies to control the generators of steel scrap.

Table 4.2

Percentage of Disposable Surplus and Scrap to the Income Generated From the Sale of Stores and Scrap in the Selected Shipyard Companies

<table>
<thead>
<tr>
<th>Year</th>
<th>Disposable Surplus Identified (Rs.in Lakh)</th>
<th>Income Generated by Sale of Stores and Scrap (Rs. in Lakh)</th>
<th>Percentage of (3) in (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998-99</td>
<td>563.6</td>
<td>25.02</td>
<td>4.4</td>
</tr>
<tr>
<td>1999-00</td>
<td>147.41</td>
<td>18.53</td>
<td>12.6</td>
</tr>
<tr>
<td>2000-01</td>
<td>-118.36</td>
<td>19.46</td>
<td>N.A.</td>
</tr>
<tr>
<td>2001-02</td>
<td>186.04</td>
<td>20.91</td>
<td>11.2</td>
</tr>
<tr>
<td>2002-03</td>
<td>542.48</td>
<td>23.9</td>
<td>4.4</td>
</tr>
<tr>
<td>2003-04</td>
<td>757.6</td>
<td>31.26</td>
<td>4.1</td>
</tr>
<tr>
<td>2004-05</td>
<td>1156.89</td>
<td>42.79</td>
<td>37</td>
</tr>
<tr>
<td>2005-06</td>
<td>1279.8</td>
<td>22.39</td>
<td>1.7</td>
</tr>
<tr>
<td>2006-07</td>
<td>1826.44</td>
<td>23.23</td>
<td>1.3</td>
</tr>
<tr>
<td>2007-08</td>
<td>2460.69</td>
<td>14.39</td>
<td>0.6</td>
</tr>
<tr>
<td>2008-09</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

NA : Not Available

Source: Compiled from annual Reports of Selected Shipyard Companies

The table 4.2 reveals that the disposable surplus and scrap of all the materials including stores, scrap, ferrous, non-ferrous, wood, machinery, equipment, fittings, components, alloys and spares amounted to huge blocking of scarce financial resources. Whereas, the income generated by the sale of surplus, obsolete, scrap and disposable revenues are coming down gradually year
by year. This reduction in income generated by the sale of scrap and surplus automatically increased the accumulation of disposable surplus and scrap items. In the year 1998-99, the disposable value of the items stood Rs. 563.31 lakh and in the year 2007-08, it was about Rs. 2060.69 lakh. The income generated by the sale of surplus and scrap in the year 1998-99 was Rs. 25.03 lakh and it was only Rs. 14.39 lakh in the year 2007-08. This is only a fraction less than 1 per cent of the accumulated disposable surplus and scrap. From this, it can be attributable that the management of the selected shipyard companies is not effective enough in managing the scrap and surplus.

Presently, the chairman-cum-managing directors of the selected shipyard companies periodically appoint a committee with the heads of departments of various departments as its members to identify and value the surplus and the scrap carried unnecessarily by the company. There was no separate department or section to identify, value and dispose off the surplus, scrap and non-moving equipment and materials.

The committee appointed by CMD is required to submit a detailed report of the identified surplus and scrap items to him within the time prescribed. Due to their pre-occupations, the functional heads and members of the committee responsible for identifying excess and unwanted items of different kinds might not be in a position to present the information relating to the items. It has been observed that about Rs. 25 crore worth of disposable surplus and scrap items lay useless in all the stores
owned by the selected shipyard companies. Safeguarding and preserving from pilferage, weather, sun and heat is again a problem for the management of the selected shipyard companies. Hence, there is a need to establish a separate section under the overall control of General Manager (commercial) to identify, locate, value and initiate steps to dispose off the unwanted scrap at an early date so that the realization value may be put for some other productive purpose.

Certain items ensure the quality with the mark on them by the classification society prior to their despatch from their manufacturer. For certain other items, the surveyor of the classification society visits the work places of the suppliers and examines the quality and finally issues a certificate to the manufacturer. The shipyard obtains these certificates with the material. Again, when certain items are required, approval of the owner’s inspection on the quality it is necessary. It is worth noting that the quality of the ship entirely depends on the material inputs used in the construction of the ship.

The classification societies include Lloyds Register of Ships, Indian Register of Ships and DQA of the Department of Defence, Government of India.

Since material stored is equivalent to cash and forms a major part of the total product cost, it is essential that the material should be properly accounted for and safe guarded in an efficiently and organized stores. With a judicious and proper control of
management of stores, one can minimize the losses due to the obsolescence, pilferage, excess storing, etc.

Preservation of items in the space provided in the stores is of great importance because floor space accommodation is a costly affair. Keeping of items at various places in stores, particularly the slow moving and non-moving items is an important job. But often this is given least importance in Indian industry.

To have an effective storage programme, factors such as nature of the item, codification of the item, the expected idleness, economic value of the item and the need for protection should be taken care of. To identify the item in an easy way on the shelves and racks, it is necessary to have good lighting.

The stores section which is a part of commercial department in the selected shipyard companies has to maintain good relationship with branches of its own other departments in the organization. The stores and purchase sections’ functions are complimentary and close cooperation between these two sections will result in better standardization, codification, value analysis, variety reduction, inventory control, salvage, disposal of obsolete and scrap. Even in the absence of integrated materials management in the selected shipyard companies, the stores and purchase sections have close cooperation and co-ordination.

The stores section is responsible for the issue of materials to various departments and sections in the selected shipyard companies. Basing on the bill of materials, work order, material requisition notes, the stores personnel need to issue the material as
prescribed in the authorized documents as mentioned above. While delivering the quantities of material, the personnel in stores section, enter an entry in the books of stores and also an entry has to be made in EDP.

The two basic documents, which are supposed to be maintained by the stores section, are receipts and issues. They are being maintained in proper and pucca manner. However, it is noticed that there is a good number of discrepancies in stores section and this can be avoided by taking certain measures like tallying the material regularly and periodically from time to time. The store is expected to maintain documents like bincard, kordex, obsolete items, rejected items, suppliers index, indents and bills of materials.

Even after the computerization of the stores section, the selected shipyard companies are depending mostly on manual documents because of the poor reliance and inexperienced people working in the EDP section. For this, the selected shipyard companies should arrange for training in the area of material information system of EDP people and thereby minimize the expenses of maintaining both.

Surplus obsolete and scrap items management assumed tremendous importance in the materials management activities. Surplus originates from three sources namely scrap, obsolete materials and damaged equipment. Holding these items is costly to the organization. These costs include carrying charges, cost of maintaining the records, loss of the use of capital held up in
inventories. In view of this, special efforts need to be made to avoid keeping them.

In Indian scenario, the first estimate was provided by the then Finance Minister, Mr. C. Subramaniam, who mentioned on December 10th, 1974 that the amount of money blocked in obsolete and surplus material was about Rs. 2,500 crore in India and it is expected to be Rs. 50,000 crore.

There are three methods of disposal of surplus, obsolete and scrap items. They are (a) annual rate contract, (b) inviting offers from time to time, and (c) public auctions.

Table 4.2 presents the percentage of disposal surplus and scrap of all items to the income generated by the sale of such items during 1998-99 to 2008-09. After observing the percentage of disposed surplus against the identified disposable surplus, it is suggested that the selected shipyard companies should establish a separate section under the overall control of General Manager (Commercial) to identify, locate, value, and initiate steps to dispose off the unwanted material and scrap at an early date so that the realization value may be put for some other productive purpose.