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CHAPTER – 1
INTRODUCTION

1.1 Preamble

1.1.1 DRDO has been created to undertake Major Projects relating to Defence Hardware. The Projects are either customization of Imported Equipment or ab-initio Design and Development of Items required and projected by Armed Forces of Govt. of India. For the last two decades DRDO has been assigned with a number of high value time bound Projects incorporating state of the art technologies. This has increased tremendously the budget outlay for procurement of materials.

1.1.2 Hitherto DRDO was following the store accounting procedure of the three Armed Forces Viz., Army, Navy, and Air Force. DRDO was not having its own polices on Materials Management. Over the years, it has been found that the procedures and formats followed by Armed Forces are not suitable to DRDO. Hence a need was felt to evolve its own polices on Materials Management, streamline and consolidate procedures and remove adhocism while adhering to current Government Polices rather than depending upon assorted corporate instructions issued from time to time. This will obviate procedural delays ensuring purchase/ projects excellence.

1.1.3 Hence, to have its own policies DRDO has issued Materials Management Policy document vide Govt. letter No. DMM/ 81001/Policy/ 1995-96/ 5482/ D (R&D)/ 96 dated 29th Nov 1996. Followed by this Purchase Management Document was issued vide Govt. letter No. DMM/ 81002/ Pur-Pro/ 97-98/ 6407/ D(R&D) dated 29th Dec 1997 with a revision in July 2000. Subsequently a revised document on Purchase Management (PM-2003) have been issued vide Govt. letter No. DMM/PP/0000203/M/3045/D(R&D) dated 21 Aug 2003.

1.1.4 The present Stores Management Manual is intended to provide a standard reference for personnel engaged in stores management activities. It will simplify stores management procedures and tasks and remove impediments in the path of efficient stores management. This document will also create a uniform procedure for all the DRDO Lab/Estt to follow. This greatly removes the communication gaps between DRDO Lab/Estt hitherto following different procedures.

1.1.5 This document will be followed in the DRDO for all the stores management activities. In this Manual the terms ‘stores’, ‘stock’, ‘item’, ‘product’, ‘material; have been liberally used without strictly following their dictionary meaning.
All these words have been used to convey the same meaning. All these terms apply generally to all articles and materials purchased or otherwise acquired for the use of Government, including not only expendable and issuable articles in use or accumulated for specific purposes but also articles of deadstock of the nature of plant, machinery, instruments, furniture, equipment, fixtures and livestock, etc., but excluding books, publications, periodicals, etc., in a library.

1.1.6 Stores Management is a very important activity in any DRDO Lab/Estt. Chapter-2 gives the purpose and principles of Stores Management. For performing Stores Management very effectively, everybody in the Lab/Estt has to perform specific duties and shoulder certain responsibilities. This has been explained in Chapter-3. Any Organisation will have certain objectives and suitable organisational structure for achieving the objectives. This is covered in Chapter-4.

1.1.7 Stores have to be accounted based on their class and type. This is laid down in Chapter-5. All the stores have to be received in a Lab/Estt in a proper way, inspected and accounted, following certain methodology. This is given in Chapter-6. Chapter-7 gives Customs clearance of all imported and exported consignments. Carrier may delay, damage or miss some consignment, expected to be delivered at the Lab/Estt. The procedure to deal with the carrier is given in Chapter-8. Some defects may occur during the usage of equipment. The causes and accounting of such equipment is given in Chapter-9.

1.1.8 Industries all over the world have changed the word Materials Management as Logistics Management. The word “Logistics” is derived from a French word ‘Loger’ and is used in military jargon. Chambers dictionary defines it as “the art of movement and supply of troops, handling of the practical details of any large scale enterprise/operation”.

However, from Materials Management point, it can be defined as the total flow of materials from the start of demand from user group to supply of raw material to production, finished items to user for prototype building and transportation of required stores to trial sites. A good logistic system should ensure implementation of 9R concept explained in Para 1.2.

1.1.9 The objectives of Logistics Management are realised through its primary and secondary activities:

**Primary activities**

a) Order processing  
b) Inventory Control  
c) Transportation
Secondary activities

a) Warehousing  
b) Material handling  
c) Protective packaging  
d) Information System

Order processing is covered in PM-2003. Each of the secondary activities mentioned above are covered in chapters 10.

An efficient logistic system in a DRDO Lab/Estt should ensure efficient Supply Chain Management (SCM). This will benefit the DRDO Lab/Estt in the following ways:

Reduced operational cost  
Minimum Inventory  
Prompt and timely delivery to user groups  
Improved user confidence  
Good image with Armed forces  
Better overall projection of DRDO in the industry

Issue of stores is an important activity in the Logistics chain. The procedure is explained in Chapter-11. DRDO Lab/Estt deals with large variety of stores. Effective Inventory Management will reduce the risk of over provisioning as well as under utilisation of equipments/stores. Chapter-12 gives procedure for effective Inventory Management.

1.1.10 Every Lab/Estt uses Fuel, Oil and Lubricants for day to day running of vehicles. Proper receipt storage and accounting of FOL items is dealt in Chapter-13.

1.1.11 Some Lab/Estt deal with Armaments, Ammunition, Explosives and some special Materials. The special procedure required for dealing with them is given in chapter-14 and 16.

1.1.12 All the stores procured for a project through supply order should be accounted properly. Similarly items procured through Cash Purchase should have a simple and effective procedure of accounting. These are laid down in Chapter-15 and 18.

1.1.13 Store is a form of cash. Financial Regulations stipulate proper verification and checking of stores. This is given in Chapter-17 on stock verification. During usage some stores may be lost due to various reasons. The losses and their regularisation are dealt in Chapter-19. After stock verification,
some stores may be found in a condition not fit for use. The conditioning and disposal of stores is given in Chapter-20.

1.1.14 Every DRDO Lab/Estt should give equal attention to stores Management as is given to Project Management. Head MMG should be involved from the project proposal stage to ensure that Material Management Group effectively implements 9R principles as given at para 1.2.

1.1.15 Every DRDO Lab/Estt should ensure that proper infrastructure and warehouse facilities are created to suit the Lab/Estt requirements as explained in Chapter-10.

1.1.16 Every Lab/Estt should ensure that stocktaking exercise is conducted regularly every year and prompt action is taken to dispose off surplus, obsolete and scrap materials.

1.1.17 Approval of IF(R&D)/Govt. of India shall be obtained through DMM, DRDO HQrs. for any deviation from the Stores Management procedure as laid down in this Manual.

1.1.18 Every Lab/Estt shall use the formats of Stores Management firms as given in the Stores Management Manual Forms (SMMF). Any modification / suggestion in the Formats shall be effected with the Approval of DRDO HQrs (DMM) to enable uniformity in these forms. These forms are numbered from DRDO. SM. 01 onwards.

1.1.19 Any additional information on SMMF considered essential for the local specific needs of the Lab/Estt may, however, be incorporated without affecting the basic formats under intimation to DMM, DRDO HQrs.

1.2 Concept of Material Management in DRDO

1.2.1 Materials Management aim at working for 9R principles. i.e. to ensure

Right Material of
Right Quality and
Right Quantity at
Right Price Received from
Right Source at
Right Time and Supplied to
Right User in
Right Schedule and Payment to Vendor in
Right Committed Time.

1.2.2 From the objective it is clear that Materials Management is a Management function requiring total co-ordination between user group and CDA (R&D)
and also within the different departments of MMG like purchase, receipt, inventory control etc, for successfully supplying the stores in time for completion of project.

1.2.3 Since DRDO spends around Rs.2,000 Crores and above in a year for purchase of material, MMG plays a Key role and should ensure that minimum inventory is maintained, surplus reduced and wastage of allotted funds is avoided.
CHAPTER - 2
PURPOSE AND PRINCIPLES OF STORES MANAGEMENT

2.1 Purpose of Stores Management

The purpose of Stores management is to ensure economy in all Stores Management activities and proper utilisation of items procured. Accounting is one of the most important aspects of Stores Management. The purpose and principles of Stores Accounting are discussed in this chapter. The necessity of economy in all stores management activities cannot be over emphasized. This can only be achieved if the purpose of stores accounting is correctly understood by the stores managers, who, therefore, should have sound knowledge of stores accounting system and exercise strict control over the stores administration of a Lab/Estt.

2.1.1 Following are the four main purposes of stores accounting:

Recording of transactions as and when they occur.
Allocation of responsibilities for equipment in storage and in use.
Detection of weaknesses in the organisation and administration of the Lab.
Ascertaining the future requirement on the basis of past consumption.

2.2 Principles of Store Accounting

Stores Accounting Principles in DRDO are derived from the guiding principles of material management. They are as follows:

2.2.1 Principles of stores accounting should follow and adopt themselves to established principles of storekeeping procedure and not the reverse.

2.2.2 All materials received shall be examined counted, measured or weighed, as the case may be, when delivery is taken, and they shall be taken in charge by a responsible Government officer who shall see that the quantities are correct, their quality good, and they are according to approved specifications where prescribed and record a certificate to that effect. The officer receiving the stores shall also be required to give a certificate that he has actually received the materials and recorded them in the appropriate Stock Register.

2.2.2(a) Every transaction in the Accounting documents should be supported by vouchers.

2.2.3 Distinction is to be made between store accounting section and physical store.
2.2.4 Every item is to be BOC (brought on charge) as soon as received and the dates are to be shown in the Ledger.

2.2.5 Stock in stores is accounted in Ledger (Manual or Computerised) and other subsidiary accounting documents.

2.2.6 The ledgers are to be centralised in one place and individuals holding physical stock should have no access to the ledgers.

2.2.7 Recurring and non-recurring issues are to be clearly differentiated while recording in ledger. Non-recurring issues are to be posted in Red ink and recurring issues in black/blue ink. In computerised ledgers, however, the differentiation is to be made by putting ‘*’ symbol along the non-recurring issues.

2.2.8 Issues of stores are to be recorded in ledger as on the actual date of issue.

2.2.9 Accounts are not to be allowed to fall into arrears. Erasures and overwriting on ledgers and vouchers are not permissible.

2.2.10 No item is to appear on charge in more than one accounting document.

2.2.11 Exercise selective control on receipts, storage and issue of equipment.
3.1 Objective

The objective of this Chapter is to put forward the responsibilities of DRDO personnel in respect of Material Management.

3.2 Responsibilities of Lab/Estt Director

3.2.1 The responsibilities of Lab/Estt Directors in respect of Stores Administration are:

a) Supervision of all transactions concerning stores, which occur in his/her Lab/Estt.

b) Immediate investigation of any irregularity or defect in the stores accounting system, which may be disclosed by inspection or information, and initiate suitable remedial action.

c) Issue of suitable standing orders to ensure healthy stores management practices.

d) Periodical and surprise check of the Stores in stock and in use by the Director or his/her nominee

3.2.2 Importance of stores and its administration should be regarded by the Lab/Estt Director as one of their major considerations, as adequate attention to the same enhances the efficiency of the Lab/Estt and Organisation as a whole. They are responsible for ensuring that the stores regulations are strictly observed. Consequently they should make frequent inspections to ensure that:

a) Stores are being used for the public service only.

b) Ledgers, Account books and other documents or records in respect of stores and supplies are maintained in accordance with the regulations and no backlog in posting is to be accepted.

c) Periodic stocktaking is being carried out in accordance with their stocktaking program and procedures.
d) All items held in Divisions/Groups are placed specifically under the charge of individual officers nominated for the custody of the same.

e) All receipts and issues of stores are properly accounted for in accordance with the current regulations.

f) All objections, observations, etc., raised in audit are promptly dealt with.

g) Stores are kept clean, items neatly binned, tagged and stored in accordance with Chapter-10 of this manual.

3.2.3 Directors of Lab/Estt shall ensure that instructions laid down are strictly observed, so as to provide an accurate record of holding, and that the stores accounting is not neglected.

3.2.4 Directors of Lab/Estt shall coordinate the duties of different Group Heads / Wing Heads / Program Directors ensuring that they render proper assistance to Materials Management Department for observance and compliance of rules and regulations. They shall also ensure that adequate storage accommodation is available for all equipment held by the Lab/Estt.

3.3 **Responsibilities of Head MMG**

Head MMG is responsible to the Director for procurement, custody while in storage and issue of stores. He/She is also responsible for maintenance of stores accounting records. He/She shall also ensure that adequate stocks of commonly available items are held to meet requirements of different user groups/divisions.

3.4 **Responsibilities of Stores Officers**

Stores Officers shall be accountable to the Head MMG for duties and responsibilities assigned to him/her viz. procurement, receipt, storage, issue, accounting of stores and related material management activities. Officer, who is not a Stores Officer by profession, but designated by Lab/Estt Directors to function in Stores Division/MMG shall also have similar duties and responsibilities.

3.5 **Responsibilities of Stock Holders in MMG**

3.5.1 The Stockholders are generally responsible to the concerned Stores Officer for the following:-

   a) General tidiness and cleanliness of the storehouse.
   b) Correct storage and binning of equipment.
c) Precautions against loss, damage, or deterioration of items in stock by taking special care for arranging safe custody of stores by providing suitable accommodation more particularly for valuable and combustible stores for keeping them in good and efficient condition.

d) Issues are made on proper authority and vouchers.

e) Repairable items are properly categorised and labeled before being returned to stores.

f) Records are kept up-to-date and important documents are kept under lock and key.

g) The physical stock is in agreement with the ledger balances.

h) Stocktaking and snap checks are carried out as per program.

i) Maintaining stock accounts & inventories and preparation of correct returns in respect of the stores in his charge with a view to preventing losses through theft, accident, fraud or otherwise and creating condition to make it possible at any time to check the actual balances with the book balances.

### 3.6 Responsibilities of User Division / Group Officers Holding Stores

3.6.1 Great responsibility with regard to the economic use of equipment/supplies is vested in the Program Directors/Wing Heads/Division Heads and inventory holders. This responsibility should be exercised with the greatest care and constant vigilance must be maintained to ensure that personnel do not waste stores or supplies through carelessness or by improper use. Certificate of condition of repairable stores on return vouchers must be endorsed.
CHAPTER – 4

STORES ORGANISATION AND FUNCTIONS

ORGANISATIONS & STRUCTURES

4.1 Introduction

4.1.1 Any R&D project has two stages of success. The first stage depends on `Design, Drawings, and Development.

4.1.2 The second stage to convert the ideas successfully into hardware depends on Five M’s viz.,

Men
Material
Machines
Money
Management

The priorities among the 5Ms were continuously changing from pre industrial era to today’s cyber era and today Materials has become the top priority. Hence the Management of Materials acquired greater importance for success of any R&D project.

4.1.3 Material Management has evolved as an Art, Science and acquired a destined discipline in the manufacturing Industry.

4.1.4 DRDO Labs must consider Material Management an important function towards achieving the organizational goals. Material Managers should be involved in all stages of project so that R&D projects acquire greater percentage of success and timely completion.

4.2 Functions of MMG

a) Receipt of approved demand from user Group in form DRDO MM-06.

b) Processing of demand as given in Purchase Management 2003, as amended, and placement of Supply Order.

c) Receipt and issue of stores.

d) Taking the stores on ledger charge and ensure proper accounting.

e) Warehousing and preservation of stores.

f) Timely payment to the Suppliers.

g) Provisioning, procurement, warehousing, issue and accounting of central store items.
h) Coordinate and ensure accurate and timely completion of stocktaking of stores.

i) Preservation and maintenance of stores in good condition.

j) Disposal of surplus, obsolete and unserviceable/scrap stores.

k) Collection and Despatch of stores.

l) Settlement of store audit objections.

4.3 **Organisation of MMG**

4.3.1 From the functions enumerated above, it is desired that MMG may have the following departments in DRDO Lab/Estt:

a) Purchase Section

b) Central Receipt and Despatch Section

c) Central Ledger Section

d) Bill Section

e) Warehouse

f) MIS Section

g) Audit

h) Scrap Yard and Disposal

4.3.2 Suggested broad outline Organisation of MMG is given below:-
CHAPTER – 5
CLASSIFICATION OF STORES

5.1 Introduction

Stores have to be classified based on their life, utilisation, expendability, value, etc., for proper utilisation, accounting and control. The classification of stores in DRDO shall be based on different criteria such as:

- Expendability and Utilisation
- Serviceability status
- Consumption pattern
- Storage life of the item
- Value and life of item

5.2 Expendability and Utilisation

On the basis of expendability and utilisation, stores are classified as under:

5.2.1 Non-Consumable (NC): All items costing more than Rs.1000/- each, which retain their shape, size and function throughout its technical life are categorised as non-consumable items. These items are to be accounted for as per their original nomenclature till they are condemned and disposed off. These items are transferred to individual inventory of User Group/Division on Internal Demand and Issue Voucher (IDIV) or Conversion Voucher (CV).

5.2.2 Consumable (C): Items which are consumed, lose their identity/become unfit for use, lose their shape like raw materials, medicines, radioactive isotopes, FOL, free issue uniforms, stationery items, packing materials, gas, liquids, ammunitions, explosives, etc. Items of trivial nature up to the value of Rs.1000/- each, which may not be of the above mentioned characteristics, are also to be considered as consumable items.

5.2.3 Non-Consumable-Fitment (NCF): Items costing more than Rs.1000/- each, which are of non-consumable nature procured for fitment into other major assemblies or form part thereof such as spare parts/components of machinery, project fitment items, sub-assemblies, etc., are categorised as non-consumable fitment items. Whenever NCF items are being fitted into other major assembly Conversion Voucher (CV) as per format DRDO.SM.27, will be used in following two ways:

- When a new major assembly is formed. The right hand side of the Conversion Voucher will show the new assembly and both the sides of CV will be for ledger and inventory action.
b) When NCF item is fitted into existing major assembly. The right hand side of the CV, showing the existing major assembly will not be for ledger action.

Inventory for NCF items are to be distinguished from inventory of NC items. Any retrieved unserviceable NCF item will be returned to MMG as scrap for disposal after its replacement by a serviceable item. For identification of expenditure between Revenue & Capital under the stores head, the instructions issued by DBF&A vide letter No. DRDO/DBF&A/BE/82092/M/01 dated 09 Dec 2003 may be followed.

5.3 **Serviceability Status**
On the basis of serviceability status, stores are classified as under:

5.3.1 **Serviceable**: Equipment /stores, the condition of which is such that it can be used for the purpose for which it is intended or any other alternative purpose.

5.3.2 **Repairable**: Equipment /stores, which has been rendered unsuitable for use in its present form, but can be used after economical repair.

5.3.3 **Un-Serviceable**: Equipment/stores, the condition of which has deteriorated to such an extent that it cannot be used either for the purpose which is intended or for any other alternative purpose economically.

(Note: If the repair cost exceeds 50% of the present cost of procurement of similar new item, the existing item is considered to be Beyond Economical Repair (BER)).

5.4 **Consumption Pattern**
On the basis of consumption pattern, items are categorised as under:

5.4.1 **Moving Store**: Items for which issues are made from the Central Stock frequently are considered to be moving store.

5.4.2 **Non-Moving Store**: Items for which no issues are made from the Central Stock for 3 years or more are considered to be non-moving store.

5.5 **Storage Life of the Item**
On the basis of available life, items are categorised into five categories:

5.5.1 **Perishable items**: These items have very short storage life and include items like food materials, vegetables, fruits, milk, etc.

5.5.2 **Shelf-lifed items**: These items have a fixed storage life, normally defined by the manufacturer, and need to be discarded/subjected to functional test for extension of life after expiry of shelf life. Items like sealants, medicines,
resins, batteries, photo films, chemicals, rubberised goods, etc., fall into this category.

5.5.3 **Natural decay items**: These items reduce in their strength and measurable quantity while in storage. All radioactive materials fall into this category.

5.5.4 **Volatile items**: These items evaporate while in storage and include items like petrol, ATF, alcohol, camphor, iodine, etc.

5.5.5 **Long life items**: Items which do not have any specified storage life and do not fall into any of the above mentioned categories are classified as Long life items.

5.6 **Value and Life of Item**

On the basis of value and life of items, items are categorised as Capital and Revenue items. Non Consumable items costing more than Rs.10 Lakhs and having a life of more than seven years are called as Capital Items and are to be treated as Capital Assets of the Lab/Estt. Items not falling in this stated category are treated as Revenue items. All items acquired against the programmes / project requirements, which are very specific in nature and not having wider utility for other projects and Lab/Estt activities or meant for fabrication and development of prototypes, development-cum-engineering (D&E) models, embedded sub-systems, etc. will also be classified as Revenue items even though conforming to life / cost criteria.
CHAPTER-6
RECEIPTS, INSPECTION AND ACCOUNTING OF STORES

6.1 Introduction

Receipt of Stores at MMG can be broadly categorised as Internal Receipts and External Receipts depending on the source of receipt being from within the Lab/Estt or from outside the Lab/Estt respectively. Items returned by Inventory holders to MMG for salvage/disposal after condemnation, for onward issue to outside agencies or on closure of Projects, in-house fabricated/developed items, etc., are classified as Internal receipts.

DRDO Labs/Estts receive materials from different sources for meeting their requirements based on the supply orders placed on the Suppliers (both indigenous and foreign), indents/SWOD placed on Ordnance Factories, Supply Depots, Service Units/Formations, other Government organisations and sister Labs/Estts. Items may also be received on loan/free issue from the above sources. Such receipts are known as External Receipts.

6.2 Internal Receipts

The inventory holder returning the stores will raise Internal Return and Receipt Voucher (IRRV) DRDO.SM 17 in quadruplicate. This voucher has to be signed by the Inventory Holder and the Head of Division/Group. The first three copies will be sent to MMG along with the item to be returned. The Stock Holder of MMG will accept the item after Store Officer’s signature. The stockholder will fill up the quantity-received column and send all three copies to ledger section for allotment of IRRV number. Ledger Section will take ledger action and inventory action as applicable from the original copy of IRRV and retain this copy with them. The duplicate copy of IRRV will be forwarded to Stock Holder and triplicate will be sent to Inventory Holder for actioning the duplicate inventory and retention.

6.3 External Receipts

The materials may be received through various modes of transport viz., Road, Rail, Air, Sea, Post, Courier etc. Advance intimation regarding such receipts are normally received in Central Registry of Lab/Estt as RR/LR/AWB/BL/Postal notice etc. Central Registry should immediately forward such documents to MMG to avoid any demurrage/wharfage charges. CRDS will maintain a record of receipt of such documents in the Traffic Control Register (TCR) as per DRDO.SM.01. Close monitoring and follow-up will be required to ensure timely collection of the consignment from the carriers. Materials may also be directly delivered at the Lab/Estt by the concerned suppliers. Items may be received by the Lab/Estt on loan from
external agencies under specific authority or otherwise. Such receipts have to be entered in the In Loan Ledger (DRDO.SM.29) in addition to necessary CRV and Ledger action as described in succeeding paragraphs.

6.3.1 **Consignment received through Road**

When the consignment is despatched by the Consignor through road carriers, Lorry Receipt (LR) copy is received by the Consignee in advance. The despatch can be either on door delivery basis or carriers’ godown delivery basis. In the former case, delivery has to be taken by the CRDS ensuring the soundness of the packages. In case of damaged consignment, open delivery is to be taken and suitable endorsement has to be made in the Consignee copy as well as in Driver’s copy of LR duly signed by the Driver and I/c CRDS. The heavy equipment/ machinery/ bulky items may be taken straight away to the respective divisions/ installation sites to avoid double handling. Necessary paper work may thereafter, be completed.

In case, the consignment is received at carriers’ godown, the same has to be collected by CRDS representative against LR. Open delivery has to be taken in case the consignment is received in damaged condition and suitable endorsement has to be made in the Consignee copy as well as in Carriers copy. Whenever such consignments are covered by insurance, presence of a representative from the insurance company will also be necessary. In case, the consignment is dispatched by the Consignor on freight to pay basis, necessary payment has to be arranged by CRDS as per the existing purchase procedures. Demurrage/wharfage, if any, shall also be paid at the earliest to ensure that the demurrage/wharfage amount doesn’t get compounded, after the approval of Director Lab/Estt. Payment of demurrage and wharfage are treated as cash loss to State and need to be regularized by loss statement as per chapter – 19.

6.3.2 **Consignment received by Rail**

When the consignment is dispatched by the Consignor by Rail, Railway Receipt (RR) copy is received by the Consignee in advance. The consignment has to be collected by CRDS representative against RR from Goods Office of concerned Railway Station. Open delivery has to be taken in case the consignment is received in damaged condition and suitable endorsement has to be made in the Goods Delivery Register maintained by Railways and signed by CRDS representative. Similar endorsement has to be obtained on the Open Delivery Certificate to be issued by Railway authorities. Whenever such consignments are covered by insurance, presence of a representative from the insurance company will also be necessary. In case of any demurrage/wharfage, the same has to be paid by CRDS through MC note. Payment of demurrage and wharfage are treated
as cash loss to State and to be regularised by loss statement as per chapter – 19.

6.3.3 **Consignment received by Air**

When the inland consignment is despatched by the Consignor by Air, Air Way Bill (AWB) copy is received by the Consignee in advance. The consignment has to be collected by CRDS representative against AWB from Cargo section of concerned Airport. Open delivery has to be taken in case the consignment is received in damaged condition and suitable endorsement has to be made in the Consignee copy as well as in Carriers copy of AWB. Whenever such consignments are covered by insurance, presence of a representative from the insurance company will also be necessary. In case, the consignment is despatched by the Consignor on freight to pay basis, necessary payment has to be arranged by CRDS as per the existing purchase procedures. Demurrage/wharfage, if any, will also be paid after the approval of Director. Payment of demurrage and wharfage are treated as cash loss to State and to be regularized by loss statement as per Chapter – 19.

6.3.4 **Inland consignment by Post Parcels**

All Post Parcels are usually delivered at Central Registry who in turn will forward such consignment to CRDS. Central Registry should make necessary endorsement in the parcel receipt/slip with the Postman if there is any damage to the parcel. Open delivery is to be arranged by Central Registry in presence of CRDS representative and the postal authorities, if required. All concerned will sign the statement of damage to be raised in three copies. One copy is given to the postal authorities and the remaining two copies shall be taken by CRDS Representative of which one copy will be attached to the Claim on Postal Authorities.

6.3.5 **Inland consignment through Courier Service**

Such consignments shall be delivered by Courier representative to CRDS. Necessary instructions should be made available with Security Section to allow Courier representative to deliver the consignment to CRDS. In case, due to certain compelling security reasons, delivery of consignments is required to be taken at Security Section, delivery shall be taken by CRDS directly from Courier representative on intimation from Security Section.

6.3.6 **Imported consignments**

Imported Consignments received by Air, Sea, Courier or parcel post are cleared and collected as per the procedure laid down in Chapter-7 of this Manual.
6.4 Clearance without Despatch Document

In the event of non-receipt / misplacement of LR/RR/AWB/BL etc., the clearance of such consignments will promptly be effected under Indemnity Bond / Undertaking. All efforts shall be made to collect the consignment in time to avoid payment of demurrage/ wharfage charges. In case, the wharfage / demurrage charges are paid, the same shall be recovered from the defaulting agencies or regularised as given in para 6.6 of this Chapter.

6.5 Clearance / Unloading of wagons containing explosives/ armament stores

In respect of stores arriving in full closed wagon, the incharge collection will check the wagon to confirm that the seals are intact. A board of officers in the presence of railway representatives will inspect the wagons containing explosives/armament stores. The contents will then be unloaded and transported to the storehouse or the magazine. The stores will be transported under escort and/or in special purpose explosive vans to ensure complete safety, whenever considered necessary.

6.6 Regularisation of wharfage/demurrage charges

Whenever late receipt / non-receipt / misplacement of the despatch documents occurs and the consignment is cleared on payment of wharfage/demurrage charges, such payments will be regularised as follows:

a) The demurrage charges shall be recovered from the supplier's bills if the reasons are attributable to the Consignor. The CRDS will intimate to the concerned section of MMG for recovery action. In case, the payment could not be recovered from the Consignor, the same has to be regularised as loss as per chapter-19.

b) In case the delay is not attributable to the Consignor, the payment of demurrage/wharfage charges shall be regularised as Loss as per Chapter-19.

6.7 Collection of Stores at Ex-Works from Local/Out Station Suppliers

The stores are to be normally delivered on door delivery basis by the suppliers at CRDS of MMG unless specified in the supply order. If Supply Order is on Ex-Works basis, collection of stores shall be arranged by CRDS of the Lab/Estt. Pre-despatch inspection, whenever considered necessary, will be carried out by the User Divisions/ Inspection authorities. If the items are collected from Outstation Suppliers and sent through Rail/Road, the RR /
LR and other related despatch documents will be handed over to CRDS by the representative deputed for inspection/collection.

6.8 **Security Gate Store Entry Register**

All incoming stores including cash purchased items shall be entered in a register as per **DRDO.SM 02** maintained at Security Gate and the serial number of the register entry along with the security stamp shall be endorsed on delivery challan/invoice/packing note, etc.

6.9 **Stores Inward Register (SIR)**

A single point entry for all incoming materials, except cash purchased items, is essential to exercise effective control and facilitate spontaneous/easy linking. To ensure this, a "Stores Inward Register" (SIR) as per **DRDO.SM 03** will be maintained in the CRDS. All items of stores received will be entered in the register on the day of receipt and SIR number endorsed on the delivery challan/despatch documents. CRDS will verify the receipt against the relevant Supply Order, SWOD or any other authority of supply. Discrepancies, if any, will be noted. An "Item Identification Label/Tag/Barcode sticker", specimen given below, will be pasted/tied to the consignment(s) for identification.

| SIR No. & Date | : | ---------------- |
| Description of Item | : | ---------------- |
| Indenting Group/Division | : | ---------------- |

The receipt of the consignment shall be intimated to the User Group/Division immediately on the same day or next working day by CRDS to witness the opening of the consignment. In case of heavy consignment, the same may be arranged to be delivered at User premises before opening.

6.10 **Opening of consignments**

The consignments will be opened within 2 days of receipt of consignment and checked by officer incharge CRDS and representative of the User Group/Division for any visible damage. The items and quantity will be checked with reference to the documents like supply order, packing slip, delivery challan or invoice.

6.11 **Discrepancies**

On receipt of stores in the Lab/Estt, if a discrepancy is found to exist between the quantities or condition or type of the stores delivered/despatched and received, after the consignments are opened, a discrepancy report will be prepared as per **DRDO.SM 14**. Prompt action will be taken by
the CRDS to notify the discrepancy to the supplier/consignor, within 7 days of the receipt of the consignment under intimation to the User.

Where stores/consignments are collected after pre-delivery inspection and are transported to Lab/Estt under their own arrangements, subsequent raising of the discrepancy report on the supplier/consignor will not be in order. In such cases, action to regularise the loss will be taken in accordance with the procedure given in chapter-19 of this Manual.

All cases of discrepancies will be pursued vigorously for early settlement. In cases where discrepancies are admitted and made good by the suppliers, further action to regularise receipt will be taken accordingly.

In cases where discrepancies are not made good by the suppliers, the cost of the discrepancies shall be recovered from the suppliers by adjusting the subsequent payments due or liquidation of BG/Security Deposit. If the cost of discrepancy is higher than the recoverable dues and it is felt that no fruitful purpose would be served by taking up the matter further with the supplier, the net loss has to be regularised as per chapter-19.

6.12 Inspection and Acceptance

CRDS will raise Receipt and Inspection Note (RIN) as per DRDO.SM 5 in quadruplicate and will be controlled by allotting RIN serial number from RIN Control Register maintained as per DRDO.SM 4. CRDS will forward three copies of RIN along with the item to User Group/Division within 2 days from the date of receipt of stores for carrying out inspection / acceptance. It will be the responsibility of User Group / Division to carry out / arrange technical inspection of all stores by the competent inspecting authority / agency as specified in the supply order.

On completion of the inspection and acceptance, the User/Demanding officer will immediately return back two copies of RIN after signing and certifying for inspection and acceptance along with IDIV (DRDO.SM 15) duly receipted as per para 11.3 to CRDS within 7 working days. In case, the Inspection Report has been submitted by the Inspecting Agency on a separate sheet / proforma, it should be attached to the RIN being sent to CRDS. Head MMG is to submit a monthly report to the Director of Lab/Estt listing out all the RINs pending with User Group/Division for acceptance beyond the stipulated period.

6.13 Certificate Receipt Voucher (CRV)

6.13.1 As per Financial regulations, the items received in Lab/Estt are to be taken on ledger charge as soon as it is received. Even if the inspection cannot be completed for acceptance for justifiable technical reasons, viz.,
elaborate inspection procedures, involvement of external agency for trials etc., User Group/Division will forward IDIV, duly receipted for complete quantity, within 7 days to CRDS for preparation of CRV. RIN shall follow after the inspection process is completed. On receipt of RIN copies, one copy of RIN will be forwarded by CRDS to Bill Section for payment action.

6.13.2 CRDS will prepare CRV as per DRDO.SM.6 in quadruplicate on receipt of RIN and IDIV (or only IDIV in case inspection is delayed) from the User Group/Division. CRDS will forward the four copies of CRV along with copies of IDIV to Ledger section for controlling and posting. IDIV will be actioned by Ledger section as per para 11.3. On receipt of 4 copies of CRV, entries shall be made in respective ledgers, duly authenticated by the O I/c Ledger Section. The Ledger Folio Number shall be entered on the CRV and the CRV number shall be entered in the Ledger Folio for bringing the items on charge. All the 4 copies are duly signed by the Officer concerned. Three xerox copies are then taken by the O i/c Ledger Section and all the 7 copies shall be distributed as under:

1. LAO: One ink signed copy for credit verification
2. Bills Section: One ink signed copy for forwarding to CDA (R&D) along with bills and RIN, One Xerox copy for retention
3. Supply Order file: One ink signed copy
4. Budget Section: One Xerox copy
5. CRDS: One Xerox copy
6. Ledger: One ink signed copy

6.14 Central Stock Items

In certain cases, it is advisable, depending upon economics of purchase or MOQ to procure items in bulk and store them centrally for subsequent issues to User Group/Division. In such cases, IDIV action will not immediately follow the RIN and CRV action. IDIV action will be taken as and when the issues occur. CRDS will transfer the stock to the concerned MMG Stock Holder for storage and subsequent issues. Ledger Section will forward one Xerox copy of CRV to the said Stock Holder for his retention after BIN card action (DRDO.SM 8)

6.15 Rejected Items

In the event of items being found not acceptable technically, the User Group/Division will fill-up the quantity-rejected column in RIN and forward the same to CRDS along with the rejected items. The following actions will be taken:
6.15.1 On receipt of the rejected items along with RIN, CRDS will intimate the supplier with a copy to the concerned Purchase Section seeking replacement/rectification of the rejected stores at supplier’s expense. In case of unfavorable response from the supplier, CRDS will forward one copy of RIN to the Purchase Section who has to initiate necessary action for recovery of paid amount, as applicable. The item will be returned to the supplier. EIV action shall be taken while returning the item in case items are rejected after CRV action.

6.15.2 For imported items, the suppliers or their representatives in India will be informed by telex/fax/email asking for replacements of the rejected stores. Before despatch of rejected items to the foreign supplier, Return Material Authority Number (RMA No.) has to be obtained from the Supplier. Normally, the process takes considerable time for despatch. Till such time the item will be held on the charge of defective items ledger. Transfer from normal ledger/inventory to defective ledger will be through CV/IRRV.

6.16 **Maintenance of Accounting Ledgers**

All the incoming stores are taken on Ledger charge at Central Ledger Section of MMG. It is advisable to maintain separate ledgers for consumable and non-consumable items. In addition, separate ledgers are required to be maintained for salvage/scrap items, defective items, armament, ammunition, explosives, vehicles, etc. The Ledger sheet Proforma shall be as per DRDO.SM.07 and will be common for all types of ledgers. Basic principle of ledger accounting is one ledger sheet for one item i.e., irrespective of source of supply, mode of purchase, source of funds, inventory holder, etc., any particular item will appear on a single sheet in the ledger section and one sheet will accommodate one item only. A Master Ledger Index Register (MLIR) may be maintained indexing the items in respect to Ledger No. and Page No. MLIR may be divided into number of sections pertaining to different categories of items. Ledger section will also maintain Out Loan Ledger and In Loan Ledger for monitoring all Loan-Outs and Loan-Ins centrally for the Lab/Estt.
CHAPTER - 7
CUSTOMS CLEARANCE OF IMPORTED CONSIGNMENTS

7.1 Introduction

7.1.1 Imports by DRDO Labs/Estt are generally exempted from payment of Customs Duty by giving an appropriate Customs Duty Exemption Certificate.

7.1.2 Imported consignments are generally received through the following channels:

a) By Air
b) By Sea
c) By Air Parcel
d) By Courier

7.2 Air consignments

7.2.1 DRDO HQrs appoints a clearing agent for clearing of imported air consignments on arrival in India, under an air consolidation contract (ACC). All the Labs/Estts can avail of the services of Air consolidation agent (ACA) against this contract. The payment of bills for service charges/transportation as per the rates specified in the contract will be made by Lab/Estt through their respective office of AO/JCDA/ CDA(R&D). Authority letter signed by the Lab/Estt duly authorising the Clearing Agent for customs clearance will be given to the clearing agent once in a year. This authority letter will be used by the Agent for clearing the item on behalf of that Lab/Estt.

7.2.2 The following documents are to be made available to the Clearing Agent for clearance of consignments:

a) Copy of Purchase Order, placed on the foreign vendor alongwith amendments, if any.
b) Customs Duty Exemption Certificate (CDEC)
c) Technical write-up and end use certificate
d) GATT declaration
e) Priced copy of the Invoice from Supplier
f) Packing List
g) Airway Bill duly endorsed by Bankers

7.2.3 The documents at (a) to (d) can be handed over to the ACA immediately after acknowledgement of order by the foreign vendor. The documents mentioned at (e) to (g) will be handed over to ACA immediately on receipt of pre-alert.
7.2.4 Bill of Entry (B/E) is generated by Customs Authorities. There may be requirement to pay some additional amount as customs duty depending on the notification under which the consignment is being cleared.

7.2.5 The consignments are to be customs cleared within a specific period as notified by the Airport Authority of India from time to time to avoid payment of demurrage charges to the Ground Handling Agency (GHA).

7.2.6 The air consignments can also be cleared by the Embarkation HQrs, if so desired by the Lab/Estt. Also, Lab/Estt can entrust the task to any other clearing agents, following the procedure laid down in PM-2003. However, if the contract between the DRDO HQrs and the ACA is in existence, the rates of the other clearing agents should not exceed the ACA contracted rate.

7.2.7 For direct clearance by the Lab/Estt, the following procedure is to be followed:

The code number allotted by the Customs Authorities to DRDO Labs/Estts is 0100000011 and it is required to be mentioned on the Bill of Entry and other connected documents.

In such cases, the following procedure is to be followed:

a) Format for declaration at Service centre of Customs Office for Data Entry to be prepared and submitted to the Customs Service Centre with a copy of the supplier's invoice and a challan for the prescribed amount.

b) Based on the details furnished in the above declaration and invoice, a checklist is prepared by the Customs Authorities for verification and signature by the Lab/Estt.

c) This checklist after verification is submitted to Customs Authorities for preparation of Bill of Entry. Customs authorities prepare Bill of Entry and handover two copies to the Lab/Estt.

d) The copies of Bill of Entry along with documents as mentioned in para 7.2.2 above are to be submitted to the Assessing Officer for assessment of customs duty. Also, an application for passing the items through green channel is to be submitted to avoid open examination of the consignment.

e) Customs Authorities send the assessed copy of the Bill of Entry to their Audit Department for pre-audit.
f) After pre-audit, the Bill of Entry is passed online to the Shed Superintendent for examination.

g) After examination, the Shed Superintendent issues the 'Pass Out' to the Lab/Estt.

h) Lab/Estt will then approach the Ground Handling Agency (GHA) with an application for delivery of the consignment.

i) The Lab/Estt or authorised agency should arrange to clear the consignment from the cargo terminal immediately without any delay. Exchange Control copy of the Bill of Entry to be submitted to the Bank as evidence of support.

7.3 Sea Consignments

The clearance of all sea consignments for all Labs/Estts will normally be assigned to Embarkation HQrs, Mumbai / Chennai / Kolkata. The orders placed by Labs/Estts on foreign firms will include suitable provision to indicate "The Commandant, Embarkation HQrs, Mumbai / Chennai / Kolkata" as the Port Consignee and this shall be marked on the packages/containers/cargo for all consignments.

The following documents are to be made available to Embarkation Headquarters for clearance of consignments through Customs authorities:-

a) Copy of Purchase Order placed on the foreign vendors alongwith amendments, if any
b) Customs Duty Exemption Certificate (CDEC)
c) Technical write-up and end use certificate
d) GATT declaration
e) Priced copy of the Invoice from Supplier
f) Packing List
g) Original negotiable copy of Bill of Lading duly endorsed by Banker.

The documents at (a) to (d) can be handed over to Embarkation Headquarters immediately after acknowledgement of order by the foreign vendor. The documents mentioned at (e) to (g) will be handed over to Embarkation Headquarters immediately on receipt of Anticipated Out Turn Report (AOTR).

Bill of Entry (B/E) is generated by Customs Authorities. There may be requirement to pay some additional amount as customs duty depending on the notification under which the consignment is being effected.
These consignments are also to be customs cleared within a specific period as notified by the Port Trust Authorities from time to time from the date of arrival of ship at the port to avoid payment of wharfage charges to the Warehousing Agency. All the Labs/Estts are, therefore, to ensure that the above mentioned documents are made available to Embarkation Headquarters well before the arrival of the ship at the designated Seaport. The mode of dispatch of the consignment from Harbour to the Lab/Estt is also to be intimated to the Embarkation while forwarding the above mentioned documents. If the consignments are to be dispatched by road, Lab/Estt will provide necessary escorts and arrange payment of transportation charges. Exchange Control copy of the Bill of Entry to be submitted to the Bank as evidence of support.

7.4 Air Parcel

This is another mode of import of consignments. Lab/Estt may continue to get their small consignments by air parcel. The arrival of air parcel will be intimated by foreign post by sending a show cause notice through the Postal Appraising Department attached to them. On receipt of such notices, Labs/Estt are required to produce the following documents to the Appraising Department of the Foreign Post Office for Customs Clearance and delivery / onward delivery:

a) Copy of Purchase Order placed on the foreign vendors, alongwith amendments, if any
b) Customs Duty Exemption Certificate (CDEC)
c) Technical write-up and end use certificate
d) Priced copy of the Invoice from Supplier
e) Packing List

In respect of air parcel, no bill of entry is prepared. The postal wrapper itself will serve the purpose of Bill of Entry and can be sent to banker for evidence of shipment. The wrappers of the parcels may be produced to RBI, whenever insisted upon. If the custom duty is payable on imported post parcels, the same shall be paid through cash assignment/JCDA (R&D)/ CDA (R&D). For regularisation of advance drawn, the wrapper of the parcel showing the customs duty paid shall be produced to the audit authorities for verification.

7.5 Courier

7.5.1 This mode of dispatch is also being widely used. Labs/Estt may hire the services of our clearing agent for Customs Clearance, if so desired. The documents required for clearance of the parcels received through Courier are the same as indicated in respect of air parcel.
7.5.2 All parcels / consignments received by courier mode are being disembarked at Mumbai Airport (Break Bulk Point – BBP). Bill of Entry is not required to be filed for customs clearance of parcels/consignment containing documents. However, Bill of Entry is required to be filed for parcels/consignment containing stores.

7.6 **Refund of Customs Duty**

If customs duty is paid for any consignment, which is otherwise eligible for duty free import, the refund claim will be filed with the Customs immediately. All relevant and supporting documents will be enclosed along with the claim for submitting to Assistant Commissioner of Customs (Refunds) for claiming refunds. For further details of procedure on this subject, refer para-8.18 of PM-2003.

7.7 **Export**

Procedure to be followed is laid down in Para 8.16 of PM-2003. However, in case there is a need to arrange clearance of such consignments when it falls beyond the purview of air consolidation contract, Lab/Estt representative has to arrange custom clearance.

The detailed procedure for custom clearance and other allied issues covering salient feature of CDECs, export of items `Not Repairable in India', equipment imported for trial/demonstration/training, clearing agents, custom duty payment, refund claims, appeals, demurrage/warehousing charges, (for air and sea consignments), loss/damage/short-landing, draw back claims, pay back demand notice, inland transportation, acceptance/accounting of imported stores, and important documents used in imports; are enunciated in chapter 8 of PM-2003.
CHAPTER – 8
CLAIMS AGAINST CARRIERS

8.1 Introduction

Labs/Estts are procuring many items from Indian as well as foreign sources. Normally the mode of dispatch is by Road, Rail or Air. In the interest of various projects running and the importance of item involved the Laboratories are keen to get the item without any damage or delay. However, it has been experienced that on some occasions the carriers fail to deliver the goods in a reasonable period or the consignment gets damaged in transit. It is, therefore, important to know and follow the right procedure for preferring claim on carriers. Non-adherence to procedures may lead to rejection of the claim leading to loss to State.

8.2 Claims against the Railways

On all occasions when packages of equipment are received, the stores officer or his Representative shall ascertain if the packages have been damaged in transit or ensure that the seals, if any, are not tampered with in any way. Should there be any suspicion that the package has been tampered with, the circumstances are to be pointed out at once to the Railway Authorities and appropriate comment entered in the delivery book to that effect that the cases are damaged/tampered with. Railways, however, permit weighing in cases where:

8.2.1 Prima-facie reasons exists that incorrect weights have been entered on the railway receipt (R.R)

From appearance it seems likely that packages or consignment have been tampered with, i.e., seals broken etc. or actual damage has occurred.

8.2.2 In case of above open delivery shall be insisted upon. The package must be opened, in the presence of Railway Authorities and endorsement in ink shall be made on Railway Receipt and Carriers Receipt Note.

8.2.3 While taking ‘Open Delivery’, the Railways have right to demand the invoice on which particulars of the whole consignment are stated and this is to be provided on request. Any shortage or damage is to be endorsed in ink on the Railway Receipt and the Railways Inward Delivery Book.

Lab/Estt to clearly understand that once they have taken a delivery in clear receipt, the Railways accept no responsibility for damaged equipment. They will not entertain claims in respect of damages to contents discovered on opening the case after it has been accepted.
8.2.4 When there is clear evidence that the loss or damage has occurred in transit and that there is no evidence of cause of loss or damage attributable to the consignor, claim has to be raised on Railways. The responsibility for raising the claim and subsequent action is as follows:

a) Consignment between two Lab/Estt or between Defence Unit and Lab: The Consignee Lab/Unit.
b) Consignment from a Contractor on contract or on Local Purchase Orders on Ex-works terms: Consignee Lab/Estt
c) Consignment from a Contractor for ‘F.O.R.-Lab/Estt terms: By the Contractor.
d) Consignment from a Contractor against orders on a carriage paid basis: By the Contractor.

Under Section-77 of the Indian Railway Act IX of 1980, every claim for damage to goods must be preferred on Railways, within six months of the date on which the consignment was accepted by Railways. In cases given at para 8.2.4 (a) & (b) above, the claim for the provisional amounts should be lodged with in the statutory period if the exact amount is not available. Railway Authorities are to be regularly reminded till the claim is settled. To get quick response, following information is to be given while sending reminders or carrying out subsequent correspondence:

a) Number and date of the previous references from Railway Claim Office, if any.
b) Lab/Estt previous references to the Railway Claim Office.
c) Type of claim.
d) Name of station between which consignment was booked.
e) Number and date of Railway Receipt.
f) The indent book cost/value of item lost/damaged

8.3 Claims on Railways in case of Non-Delivery

8.3.1 Consignee Lab/Estt holding railway receipt for consignment, which is not received within a reasonable period i.e., 60 days from the date of dispatch shall send preliminary advice of claim to the Railways in the form of a letter. Particulars of the contents of the cases are to be requested from the consignor if not available with the Lab/Estt. The matter should be pursued with regular reminders to the Railways. Even after this action, If the consignment is still not received by the end of 4th month from the date of dispatch, a formal claim shall be preferred on Railways and their acknowledgement should be obtained the particulars of the claim are to be endorsed in the claim register which shall be maintained for such purposes by the CRDS of MMG. It shall be ensured that under no circumstances the preliminary advice of claim to be delayed beyond 60 days of date of dispatch.
and formal claim shall not be delayed beyond 6 months of the date of dispatch.

8.3.2 Claims on Railways is to be raised in Triplicate. Original copy is always addressed to the Railway Claim Office of the section of the Railways in which station of dispatch is indicated. The duplicate copy is sent to stationmaster of Local Railway Station and the triplicate copy is to be retained by the Lab/Estt. The consignee Lab/Estt shall ensure that the bottom counter foil of the claim form is returned by the railway claim officer to the Lab/Estt and if not received back within a reasonable time, say one month, Lab/Estt is to take further steps to obtain acknowledgement of the receipt of the claim.

8.3.3 Railway Authorities are to be regularly reminded till the claim is settled. To get quick response, following information is to be given while sending reminders or carrying out subsequent correspondence:

   a) Number and date of the previous references from Railway Claim Office, if any.
   b) Lab/Estt previous references to the Railway Claim Office.
   c) Type of claim.
   d) Name of station between which consignment was booked.
   e) Number and date of Railway Receipt.
   f) The indent book cost/value of item lost/undelivered

8.3.4 When any claim preferred has been accepted in full or part by the Railway authorities, the Consignee Lab/Estt will furnish to CDA (R&D) details of the claim, with a copy of letter from the Railways acknowledging the liability. CDA (R&D) will take necessary action for affecting the due recoveries from the Railways through exchange account.

If the Railway claim is not settled within one year, the matter shall be taken up demi-officially at the level of Director with Zonal Headquarters of the concerned Railways enclosing self contained statement of case duly supported by copies of all related communications and to be followed up regularly for a minimum period of six months. The matter is to be referred to DRDO Headquarters in case no settlement is received in six months from Zonal Headquarters. DRDO Headquarters shall take up the matter with the Railway Boards at appropriate level.

In case claim preferred against the Railways for loss/damage gets rejected and it is felt that no fruitful purpose will be served by pressing the matter further with Railways, the loss involved shall be regularised by Loss Statement as given in Chapter-19.

8.4 Claim on Airlines
When the consignment is lost or damaged in transit by air, the procedure and conditions applicable for claiming the compensation are given in the succeeding paragraphs. However, it may generally be the case that the Lab/Estt is dependent on Air Consolidation contractor for freight, delivery and clearance of the item and it is usually the responsibility of the Air Consolidation Contractor to prefer the claim for loss in transit.

When the individual packages are missing from a bulk consignment the following action shall be taken:

a) Lab/Estt shall accept delivery of the available packages.

b) Lab/Estt shall ensure to acknowledge the receipt of only actual number of packages delivered by Airlines.

c) The Lab/Estt Representative shall ensure that an endorsement is made regarding the missing packages on the delivery challan and/or on the delivery copy of Air Way Bill (Yellow copy).

d) If the shipment consists of packages of various weights, the Lab/Estt Representative should demand that the available packages are weighed to determine the missing weight. At times the packing list may reflect the weight of each package.

e) If the missing packages are not traceable, the Lab/Estt may prefer the claim with airlines along with all supporting documents. Claims on Airlines are preferred in the form of a letter along with supporting document.

8.5 **When the entire shipment is missing**

When the entire shipment is missing, the following steps shall be taken:

a) The Lab Representative should demand the Loss Certificate from the Airlines.

b) The loss Certificate should be submitted along with the detail claim to the Airlines.

8.6 **When parts of contents of individual packages are missing**

a) Firstly, while the shipment is still at the Airport, the Lab/Estt Representative is to determine the missing quantity by either counting or weighing in the presence of representative of the delivering Airlines.
b) Make specific notations concerning the magnitude of the loss of contents on the delivery challan and/or on the delivery copy of the Airway Bill.

c) File a proper claim along with all connected documents to the Airlines.

8.7 **When the contents of the shipment are damaged**

a) Determine the extent of damage while the shipment is at the Airport in the presence of Airlines representative.

b) The service of the Neutral Agent (A chartered/an Authorised Surveyor) may be availed for inspection and determination of magnitude of economic loss. The service charges for such agencies are payable through contingent bill from miscellaneous grant by CDA (R&D).

c) Make specific notations describing the damage on the delivery challan.

d) File a detailed claim with the Airlines along with all connected documents.

8.8 **When a shipment arrives late at the airport of destination**

a) Lab/Estt shall assess the loss sustained due to delayed carriage.

b) Lab/Estt shall ensure to report to the Airlines regarding the loss within the specific time frame fixed by the Airlines/ Airport Authorities.

c) Delay in transportation often results in additional cost to the shipper and/or Consignee. Airlines do entertain such claim, within, of course, the provisions of legal framework.

8.9 **Limitations on claims and action**

According to Para 2.1.4 of IATA (International Air Transport Association) Rulebook following are the limitations on Claims and Actions.

8.9.1 Receipt by the entitled Lab/Estt to delivery of the Cargo without complaint is prima-facie evidence that the same has been delivered in good conditions and in accordance with the contract of carriage.

8.9.2 No action shall be initiated in the case of loss or damage to goods unless complaint is made to a carrier in writing by the Lab/Estt entitled to delivery. Such complaint shall be made
a) In the case of visible damage or partial damage to the goods, immediately its after discovery and at least within fourteen (14) days from the date of receipt of goods.

b) In the case of other damage to the goods, within fourteen (14) days of receipt of the goods.

c) In the case of delay, within twenty-one (21) days from the date on which the goods were placed at the disposal of the person entitled to the delivery.

d) In the case of non-delivery of goods, within one hundred and twenty (120) days from the date of issue of Air Way Bill or from the date of shipment record which ever is applicable.

e) Any right to prefer claim for damages against the Carrier shall be extinguished unless an action is brought within two years of the occurrence of the events giving rise to the claim.

8.9.3 Overriding Law: As per para 2.1.5 of IATA Rule Book, in so far as any provision contained are referred to in the Air Way Bill or shipment record or these conditions are contrary to mandatory law, Government regulations, order or requirements, such provision shall remain applicable to the extent that it is not overridden there by. The invalidity of any provision shall not affect to any other part.

8.9.4 Carriers Right to Inspection: As per 2.1.7 of IATA Rule book, the carrier reserves the right to examine the packages and contents of all shipments and to enquire into the; correctness or sufficiency of information or documents tendered in respect of any shipment, but carrier shall not be under obligation to do so.

8.9.5 Extent of Compensation by Airlines

International Air Carriage is covered by the Warsaw convention of 1929. Notice to the effect is indicated in the originals of the Air Way Bill as under:

“If the carriage involves an ultimate destination or stopped in a country other than the country of departure, the Warsaw Convention may be applicable and the convention governs and in most cases limits the liability of the carrier in respect of loss, damage or delay to cargo to 250 French Gold Francs/Kg. Unless a higher value is declared in advance by the shipper and the supplementary charge (Valuation Charge) paid if required.”
The liability limit of 250 French Gold Francs/Kg. is approximately US $20.00/Kg. on the basis of US $ 42.22/ Ounce of Gold.”

As far as inland Air transit of cargo the claim on Airlines is compensatable by the carrier to the extent of Rs. 450.00/Kg. unless a higher value has been declared by the shipper at the time of shipment and the valuation charges are paid.

8.10 **Acceptance of claim by Airlines**

When any claim preferred has been accepted in full or part by the Airlines, the Consignee Lab/Estt will furnish CDA(R&D) with details of claim with a copy of letter from the Airlines acknowledging the liability and the draft / cheque given by the Airlines. CDA (R&D) will take necessary action for booking the above transaction into Government account.

8.11 **Claim on Road Transport Companies**

When a consignment dispatched by Road is found to be missing or damaged at the destination, following action shall be taken by the consignee Lab/Estt.

a) In case of a missing consignment, the consignee Lab/Estt shall inform in writing to the consignor along with the certificate of non-receipt.

b) In case of damage, the consignee Lab/Estt has to arrange open delivery along with the Representative of the receiving transport office or godown of the transporter or the Lorry driver, as the case may be and obtain the certificate for the extent of damage. Consignee Lab/Estt is then to forward the same to the consignor along with details of circumstances under which the damage was discovered.

c) The responsibility of preferring claim on the transport agency is of the consignor who is to arrange compensation to the consignee Lab/Estt as assessed by the consignor and consignee on mutual agreement.

8.12 **Acceptance of claim by Transporter**

When any claim preferred has been accepted in full or part by the Transporter, the Consignee will furnish CDA (R&D) with details of claim with a copy of letter from the Transporter acknowledging the liability and the draft/cheque given by the Transporter. CDA (R&D) will take necessary action for booking the above transaction into Government account.
8.13 **Claim on Shipping Agency for Sea consignment**

The clearing agents for all sea consignments are either the Embarkation Headquarters or the contractor for carriage. It is, therefore, the responsibility of Embarkation Head Quarters or the said contractor to prefer claim on the shipping agency.

8.14 **Claim of Compensation for transit losses in the case of Insured Goods**

Irrespective of mode of transportation i.e., by Air, Rail, Road or by sea the claim will be preferred on insurance agency along with all related documents and certificates in case the goods in transit when insured. It is up to the insurance agency to prefer the claim on carriers.
CHAPTER – 9

DEFECT REPORT AND ACCOUNTING OF DEFECTIVE STORES

9.1 Introduction

The DRDO Labs / Estt are established by the Govt. of India under MOD with an aim of development and modernisation of the sophisticated systems and best support to the Armed Forces.

The equipment in use in various DRDO Labs / Estts are designed to give predetermined performances according to the objective and purpose for which the DRDO Labs / Establishments have been created. A degree of quality output and reliability is built within the equipments for a specific purpose meant for. To avoid deterioration and failure in performance, a system of preventive measures and maintenance is to be followed.

Inspite of all such precautionary measures and a system of maintenance planning done prior to introducing the items for use, the defects / failures do occur during the service life of equipments which result in accidents, unsuccessful work and premature withdrawals of components causing failures in development objective and loss to State.

In the interest of the aim and objective of DRDO Labs / Estts and to improve the high quality of service in the process of research, development and production, it is to be immediately investigated and a prompt remedial measures taken to prevent further recurrence.

In the above context, a laid down procedure is to be followed for reporting and investigating defects on all types of equipments in use in the DRDO Labs / Estts. The procedure and action to be undertaken at the Labs / Ests, outside firms, for purchase/ fabrication / manufacture or any other service rendered by them and DRDO Headquarters are enumerated in this chapter.

9.2 Definitions

Defect : When an equipment or machine/ assembly due to an error in it, is not performing its objective/ purpose for which it is designed/ produced, the error on item is to be called as the defect.

Snag : The improper function or a fault of a machine/ assembly observed while carrying our trial run or day-to-day service is called “snag”.

Defect report : A report which is raised for defective equipment while noticed by the inspection team or designated authority while carrying inspection/ service is called “Defect report”.
Defect Register: A register is to be maintained under the Group Head of Quality Assurance Group for monitoring all the defects occurring in the divisions. A sub-register is also to be maintained division-wise.

9.3 Classification of Defects

In DRDO, the items are mostly purchased or fabricated from various external firms/agencies. Therefore, the case of defect is to be taken up as per the defect arising.

a) **The defects noticed on bought-out items**
On receipts of bought-out items from firms, the items are put up for inspection to QAG/user section. Any defect is noticed by the inspection authority, a defect report is to be raised stating the defects.

b) **The defects noticed on fabricated items**
Raw materials are supplied to external agency to produce finished part for the DRDO Labs/Estt. Generally the inspection is carried out at works of the firm carrying the fabrication work. The report has to be made in writing at the work-site itself. If defect is still noticed on receipt of fabricated items at the Labs/Estt., a report is to be raised and dealt with accordingly.

c) **The defect/snag noticed on trial run**
DRDO Lab/Estt carryout test/trial of equipment/product developed based on the sanction project. Their test/trial may be carried out either inside/outside the Lab/Estt. During test/trial run, when any defect is noticed, it is to be immediately recorded on the register, which is called “Record of Defect” register. The register will be authenticated by a specialist officer. Immediate action required if any would be endorsed in the register by the specialist officer.

d) **The defects while carrying out routine jobs**
While performing day-to-day routine job, the defect is also noticed in the machines and other related test equipments.

e) **The defect on service rendered by outside agencies**
Outside agencies are called for rendering services on the various equipments. When a defect in the service rendered by external agency is found, the matter to be reported to Divisional Head in writing.
9.4 **Causes of Defects**

Failures and defects occurring in the DRDO Labs/Esttts equipments could be attributed to any or a combination of the following reasons.

a) Faulty workmanship/human failure.
b) Providing inadequate specifications and servicing instructions.
c) Imperfect workmanship in fabrication.
d) Weakness in design.
e) Faulty material.
f) Corrosion/Deterioration 
g) Excessive wear.
h) Lapses on the part of user.
i) Defects due to incidents/accidents.
j) Defects caused due to improper handling /use.

9.5 **Dealing with Defects (BOI/Fabricated items.)**

Defects and Deterioration in new items are covered under warranty period and are to be dealt with according to the terms and conditions mentioned in supply order/contract and as per PM-2003 issued by DRDO HQrs. As and when a defect/ snag is noticed, a preliminary investigation is to be carried out at the Labs/Establishment level and action is to be taken as given below:

9.5.1 **Faulty workmanship /Human failure:** When such lapses are clearly identified, it is to be ensured that firm measures are taken and it does not occur again. The remedial measures are to be taken as suggested by Divisional Head.

9.5.2 **Providing inadequate specifications and servicing instructions:** For such defects an immediate action shall be taken to notify the corrective measures. The proper specifications and accurate servicing instructions are generated for amending the specification/servicing schedule.

9.5.3 **Imperfect workmanship in fabrication:** Order placed on the manufacturing/fabricating agency should be covered under warranty. Defects/ deterioration found by the inspecting authority shall be brought to the knowledge of respective agency immediately. The defective item shall be rectified or the cost of repair of the item shall be borne by the agency. To avoid such irregularity, a clear specification/sample shall be given to the agency and definite terms and conditions to be stipulated.

9.5.4 **Weakness in design:** When the defect is found on the equipment due to its own weakness in design, the design is to be modified suitably and the defective item would be examined if further use could be made.
9.5.5 **Faulty material**: The designated items/spares could not be produced due to faulty raw materials supplied to them. No agency/individual will be blamed and a corrective measures to be taken by Labs/Estt to avoid recurrence.

9.5.6 **Corrosion/ Deterioration**: Common causes of deterioration of equipment in stores may be summarised as follows:

a) Chemical reaction
b) Climatic (Direct effect of rain and sun)
c) Ineffective or defective or failure due to preservation and packing
d) Biological causes such as mildew and other pests

Such cases of deterioration shall be immediately reported to Head MMG who will in turn report the matter to Director. The Director of establishment is to arrange for the immediate inspection of the equipment in all the following cases. Suitably qualified specialist officer shall be nominated as an enquiry officer.

Suspected deterioration of equipment held on charge in the storehouse.
Equipment newly issued from the storehouse and found by the recipient to be defective.

When deterioration apparently not due to fair wear tear occurs in an item. The specialist officer is to render a report on his inspection to the Director.

Deterioration of equipment due to biological pests. Where instances of infestation and deterioration of equipment are discovered, the following actions are to be taken:

If total value of equipment deteriorated is within the financial powers of Director of Labs/ Estt, the concerned officer shall take the necessary anti-infestation action in accordance with the latest pest control instruction from DRDO HQrs, where pest control officers are established. The value of the loss is to be assessed and the loss statement in the prescribed format **DRDO.SM 23** is to be raised and to be forwarded to Director for write off action.

If the total value of loss exceeds the financial limits of the Director of the Lab/ Estt, the details are reported to DRDO HQrs for CFA sanctions. DRDO HQrs may arrange inspection by a qualified pest control officer. The pest control officer on the conclusion of the visit will furnish a report to the Director. He will recommend the appropriate disinestations and preventive action to be taken to prevent further spread of infestation. The action should be done on top priority, as more damage will be caused action if delayed.
9.5.7 **Excessive wear:** The causes of such arising are to be examined and to be prevented as per remedial measures.

Lapses on the part of the user: Ignorance of operating /using the equipment / item by the person details to operate may cause this problem. Group Head shall ensure that proper person with full knowledge & experience of operating the equipment only will be allowed to operate the equipment.

9.5.8 **Defects due to incidents/accidents:** Such defects arising due to incidents/accidents are to be registered in the record of defect, register at the User Group. The incidents are to be investigated by the members as nominated by the Director. The results are to be mentioned in the register and the remedial actions are taken to avoid repetition of such accidents happening.

9.5.9 **Defects in imported items:** Whenever imported items are found defective, the following actions are to be followed: -

a) Item found defective during inspection, and intimation is to be returned to the supplier, and a confirmation obtained from supplier for free replacement/repair including incidental charges. The items are to be issued on loan by an external issue voucher (DRDO.SM16).

b) In case of transit damages, arrange for survey in consultation with the insurance, company if consignment is insured. In case of non-insurance a claim to be lodged with the carrier and/or the ground handling agency (GHA).

c) In case of minor repair, where foreign supplier has an authorized agency in India, the item can be got repaired locally.

9.7 **Raising of Defect Report**

The defect report (Appendix -‘A’) is to be raised by an officer of the division in the following instances:-

a) When a new item is issued from stores and is found defective:

b) When an item is found defective in the stores.

c) When main assembly does not function and the reason of defect is to be investigated.

The officer raising the defect report will render suitable suggestions to make the equipment serviceable for further use. When defect item could not be repaired, the disposal and the preventive measure to be taken to is also to be stated for further such occurrence. The suggestions are to be made on
the defect report Proforma and to be clearly categorized as per the present conditions.

The equipment to be returned by the user to MMG (DRDO.SM 17).

9.8 **Action taken on defect report**

On the suggestion made by the concerned officer, Director of the Lab/Estt is required to constitute a committee with terms and conditions of reference for further recommendations and necessary actions. The under mentioned actions are to be taken based on the recommendation of the committee duly approved by CFA.

- **Serviceable**: No action necessary
- **Serviceable for other than the suggested for which purpose for which Intended**: Action is to be taken as suggested
- **Repairable**: The repair is to be done in establishment or by outside agency.
- **Unserviceable**: Action is to be taken as per decision for salvage.

9.9 **Accounting method**

9.9.1 **Defect found in store**: A conversion voucher in the prescribed format (DRDO.SM.27) is to be raised in triplicate when there is a change in category as per the recommendation of the Committee. Further a loss statement in the prescribed format is to be raised along with conversion voucher for write-off of the loss due to change in condition of items. The loss statement is to be signed by the Head of Material Management Group and to be approved by Director. Conversion Voucher along with loss statement shall be passed to Store Officer for SOC and BOC.

9.9.2 **Item found defect in user section**: An internal return voucher is to be raised when item is found defective in user sections. The item found defective in user sections. The item along with return voucher is to be handed over to the MMG as per the present for further action.

9.9.3 **Disposal of Defective Items**: After completion of defect investigation and issue of defect report, the defective item is to be taken for normal repair. The item can be used for other purpose as recommended.
Any particular defective item can be retained if there is any specific instruction. Unserviceable items are to be disposed of as recommended by the Committee.
CHAPTER 10
WAREHOUSING AND MATERIAL HANDLING

10.1 Introduction

Warehousing is one of the oldest practices in the world. With the onset of industrialization, the total concept of warehousing has undergone a vast change. Greater emphasis has now been given for good layout, greater utilisation of cubic space, optimum use of the material handling equipment and better design of packaging.

As each DRDO Lab/Estt has a different and unique role and charter of duties, it is not possible to give a single and common design for each Lab/Estt, nor cover the complete spectrum. This chapter broadly lays down the structure of good layout, the types of storage system and material handling equipment. Each Lab/Estt may have to design the warehouse to suit their requirement.

10.1.1 Functions

The functions of warehousing can be broadly described as follows:-

a) Receipts
b) Binning, stacking and maintenance of Bin Card and Location Chart.
c) Preservation
d) Issue

Receipts are covered in Chapter 6 and Issues are covered in Chapter 11 of this Manual.

10.2 Warehousing Systems

10.2.1 Single Echelon System. In this system all the material are received at a central warehouse and stored. Users will draw material as and when required. This type is suitable for small DRDO Lab/Estt.

10.2.2 Multi Echelon System. In this system, the DRDO Lab/Estt will have a Central Warehouse and a number of sub ware houses located near the user groups. Material will be supplied directly to the sub-warehouse instead of storing in a central warehouse. This is suitable for large DRDO Labs/Estts.
10.2.3 **Flexible System.** This is a mixture of Single and Multi echelon system. Here a central store generally receives and stores the material and issues to user warehouses as per the requirement. Also depending on the necessity user warehouse may directly receive the material. But all proper formalities have to be completed as given in Chapter-6 of this Manual.

10.3 **General Layout**

Each Lab/Estt should allot a specific space and location best suited for easy accessibility to all user divisions. A warehouse, as a general principle may be of one storyed building only. The material flow in and out of a warehouse should follow a straight line as far as possible. The overhead space should be utilised to the maximum extent either by installing mobile storage system, or high racking systems or installing mezzanine floor.

The width of the aisles, or walkways should occupy minimum space and at the same time allowing easy in and out movement of material handling equipment.

Generally the height of a warehouse ranges from 8 to 10 meters. The layout design should ensure proper ventilation and good lighting.

Based on the type and nature of materials, the warehouse is created to facilitate effective control and to ensure easy availability of stores/materials to various work centres and projects. Based on the functions, the Warehouses can be broadly classified as given in the succeeding paragraphs.

10.4 **Central Stores**

The Central Stores is a repository for bulk of materials provisioned for the Lab/Estt and provides coverage for meeting day-to-day and long-term material needs of all the groups/divisions/projects. While considering the location of Central Stores, the following important aspects will be taken into account:

10.4.1 As the central stores are to meet the assorted requirements of different work centres, separate Warehouse space will be provided for different category of stores and those requiring exclusive environmental conditions.

10.4.2 The main central stores comprising of different warehouses should be so located that these are easily accessible for all types of incoming consignments as well as making issues to various sub-stores/user groups.
10.4.3 The location of central stores should be such as to facilitate easy mobility of heavy/bulky items, material-handling equipments e.g., cranes, gantry, fork-lifters, trolleys, trailers etc.

For proper storage and preservation of items of different categories, special purpose racks, bins, storage stands, steel almirahs, partitioned chests etc. will be provided to prevent deterioration in storage and facilitate easy handling/visual inspection.

10.5 Divisional / Sub-Stores

While all the points/instructions covered in para 10.4.4 apply equally to the administration of Divisional/Sub-stores, the main reason for creation of such sub-stores is to provide prompt service to the user groups/projects. The location of such sub-stores should, therefore, be in the vicinity of the work centre where R&D work is in progress. The prime emphasis on the working of sub-stores is to provide simplified and single window service to the scientists for their day-to-day material needs, obviating the necessity for them to go to central stores for each transaction. The ledger records held for the Central stores will show the total of each item held in the central stores including the quantities held in the Divisional/Sub-stores. Their distinct numbers will identify the inventories of central stores and Divisional Sub-stores and the stores issued/consumed from the Divisional/Sub-stores will be charged off from the Central stores ledgers.

All items held in central and sub-stores will be entered in the respective bin cards, serially controlled in a register. The bin cards will indicate the latest stock position of any item held in stock. All entries pertaining to the receipts and issues will be promptly made into the bin cards. The documents requiring postings in Central ledgers will be passed on to the ledger sections immediately.

10.6 M.T. Stores

An exclusive M.T. store will be organised under the administrative and functional control of Head M.T. The M.T. store may be further sub grouped such as tyre store, battery store, Fuel, Oil and Lubricants (FOL) store and other M.T. spares store. FOL and battery store will be located in separate rooms/stores due to the nature of these stores. Tyre stores should preferably be separated from other stores. The M.T. stores, spares stores in particular, will be organised following the established storekeeping procedure namely proper racks will be used for storing the spares. The bins will be properly marked. Attractive and valuable stores such as spark plugs, light assemblies etc. will be stored in lockable almirahs. The stores will be placed under the charge of a senior storekeeper/technician/supervisor, who
is not connected, with the actual use of items on the vehicles. This will ensure that items are properly stored and accounted for. With the exception of minor consumables such as wires, cables, rivets, split pins etc., all the other items will be issued against return of old items proposed to be replaced. For proper identification of stores and check of current stock balances, bin cards and stock location cards or registers will be maintained and kept up-to-date, by recording consumption at least once in a month. Chapter-15 describes detailed procedure of layout and handling of FOL Stores.

10.7 Stationery Stores

A central `Stationery Store' will be established for the Lab/Estt. The stationery store will be set up in a well ventilated, clean and properly laid out store house, preferably within the premises of the stores building. The stationery store will be so organised as to have proper functional subgroups for effective management.

10.8 Perishable Stores

Food items, fruits and vegetables and other perishable items will be stored in a separate stores created exclusively for these items. Other items should not be mixed with these stores. Depending on the nature and preservation time required, the storehouse may be constructed to have open ventilated type or cold chambers with provision for deep freezers and normal refrigerated cabins. Regular day to-day monitoring is required to ensure that the perishable stores are properly utilised before they become stale/rotten.

10.9 Medical Stores

An exclusive medical store will be organised under the administrative and functional control of Medical Officer of the Lab/Estt. The stores will be kept in a well-ventilated room in proper racks in a storehouse, preferably within MI Room so as to have easy accessibility. The medical stores may further be sub-grouped such as medicines, drugs, surgical instruments, life saving oxygen based breathing apparatus etc. A refrigerator or air-conditioned accommodation will be provided for the storage of special drugs and medicines requiring refrigeration. All the medicines will be properly stored following medical storekeeping procedure. Registers or bin cards will be maintained indicating the location of the medicines and their stock balances. Monthly CIV will be posted on the stock register or bin card so that the
location and stock of the medicines can be easily verified. A monitoring system through a regular review of the register/cards will be carried out where the stock balances will further show the date of expiry of the medicines and drugs stored. Periodical review/inspection should be carried out to identify the drugs/medicines due for expiry of their shelf life to ensure timely consumption / use / disposal.

10.10 **Valuable / Attractive Stores**

Precious metals like platinum, gold, silver and their salts etc., require separate Warehouses with provision of strong rooms with dual key operation. Necessary lock-up storage space will be provided for storage. These locked Warehouses shall only be opened at the time of carrying transactions. Physical checks at regular intervals shall be carried out in accordance with the local standing orders.

10.11 **Special Stores**

The following categories of stores will not be stocked along with general stores and will be provided separate storage space for each of the category meeting the special safety measures as applicable to the respective nature of stores.

- Explosives, propellants, ammunition etc.
- Inflammable materials e.g., petroleum, kerosene, paraffin, alcohol, paints and other low flash-point chemicals.
- Acids and reactive chemicals.
- Fissionable and radioactive materials.
- Other combustible stores.

Separate chapters in the manual deal with the above type of stores.

10.12 **Design of Storage Space**

While designing for storage space, the following points may be taken into account:

a) The Warehouse should preferably be rectangular in space.
b) Material should move the shortest possible distance.
c) Loading and unloading docks should be positioned on the longer side.
The dimension of a Warehouse depends on the material procured/under procurement for different ongoing projects and procurement projected for future projects, which are in pipeline.

Generally, this is the area that requires careful attention of DRDO Lab/Estt while making a statement of case for a new project. The requirement of storage space for materials to be procured for that project should be projected in the statement of case, which will avoid problems later.

Hence, it is imperative that requirement of storage space is projected in the statement of case.

As mentioned earlier in para-5, two factors play vital role in arriving at the total space requirement. They are aisle (passage) width and height of stacking allowed.

The material handling equipment planned for use in that warehouse determines the aisle space to allow for turning radius and other safety requirement.

Design of Warehouse for any DRDO Lab/Estt depends on the following factors.

a) Type and nature of materials handled  
b) Type of storage needs  
c) Frequency of operations  
d) Type of safety precautions

Design of Warehouse for DRDO Lab/Estt differs from warehouse design for a production unit. In a production unit varieties are less but quantities are more, whereas in DRDO, varieties are more but quantities are less and their storage may be for longer periods.

10.13 Types of Storage

10.13.1 Open shed: This can be used for items like Heavy castings forgings etc., Raw material like rods, plates, sheets etc.

10.13.2 Open but covered shed: This can be used for items like

  a) Oil drums  
  b) Non-ferrous items  
  c) Non-perishable packages  
  d) Vegetables and food articles for immediate use.
10.13.3 Shed with doors: This is the general method of warehousing covering maximum types of materials.

10.14 **Preservation of Stores**

Preservation of stores is a very important aspect, which should be given proper attention by MMG of Lab/Estt. The head MMG should ensure that adequate action is taken for preserving the stores following the procedure and guidelines laid down by DMSRDE, KANPUR in their manual on Preservation of Stores.

10.15 **Material Handling**

10.15.1 **Definition**

International Material Management Society defines material handling as the art and science involving the movement, packing and storing of substance in any form.

10.15.2 Even though DRDO Labs/Estts are not production agencies, still material handling plays an important role. Material handling is one of the important links in the Logistic chain. It will not contribute any value addition to the stores/items being handled, but it can prevent damage to the item and personnel. Head MMG should make a proper selection of material handling equipment to ensure economy and safety. Following aspects may be considered while selecting material handling equipment:-

- a) Type and nature of material to be handled.
- b) Type of warehouse in which the material is stored.
- c) Safety precautions to be observed.

10.16 **Packaging**

10.16.1 **Functions**

Packaging occupies a very important place in Integrated Logistic support concept. Packing plays a crucial role for safe receipt and storage of material in the Lab/Estt as well as despatch of items to supplier and trial sites. Packaging of any product / component / item is done to perform four functions.

**Protection:** Enables shielding of the product from various hazards that occurs during handling, storage, transportation and exposure to atmosphere.
Containment: It is the package ability to hold its contents safely and securely.

Communication: Conveys information about the product inside the package either through printed information or pictures of the product on the package.

Transport: The package should be such that it is easy to handle for loading and unloading and should withstand the transport loads.

10.16.2 Objectives

Packaging planned for any item either for receipt or despatch should satisfy the following conditions:

Packaging should keep a provision for requirements of material handling equipments.
It should take into account the requirement of transporter who carries the goods.
It should satisfy the provisions of law.

This may be achieved by observing the following conditions:

Packaging should enclose the item completely to avoid mix up with other items.
Exterior surface should have provision for proper markings and safety precautions to ensure the item reaches correct destination safely.
It should ensure that the weight distribution is done properly to avoid accident while handling the consignment.
Exterior package should be capable of supporting other similar packages during stacking.
Packaging should be such that it will not give any room for pilferage.

Warehouse uses a variety of material handling equipment viz., forklift. Conveyor chain pulley block, Cranes, wheelbarrows etc., each type has a specific requirement regarding lifting and handling. The packaging should incorporate these provisions.

All transporters have laid down some essential requirements in packaging to ensure minimal damage to the consignment and to personnel handling the consignment. Compliance with their requirement will reduce the chance of damage and loss.

It is generally observed that items are taken out from their original packing and stored in the open. The packing is used for different
purposes other than storing of material. Head MMG should ensure that the items are stored in their original packing before actual use.
CHAPTER-11
STORES ISSUE PROCEDURE

11.1 Introduction

Issue of stores is an important activity in Stores Management. In DRDO Labs/Estts, stores are procured for using them for various research & development activities. Stores may, however, be procured in bulk and stored in MMG for subsequent issues in phases. This chapter deals with procedure to be followed for issuing items by MMG.

11.2 Types of Issues

All the issues can be categorised into the following three types:-

a) Internal Issues
b) External Issues
c) Trial Issues

11.2.1 Internal Issues: All issues of stores by MMG to different user divisions/ inventories existing within the Lab/ Estt are to be treated as internal issues.

11.2.2 External Issues: All issues of stores to any agencies outside the Lab/Estt either on loan or on permanent basis are to be treated as external issues. Permanent issues can be free issues as well as payment issues.

11.2.3 Trial Issues: All issues of stores to O I/c Trial team for conducting field trials / static trials either within or outside the Lab / Estt are to be treated as Trial Stores Issues.

11.3 Internal Issue Procedure

11.3.1 Inventory holder of User Division will raise an Internal Demand & Issue Voucher (IDIV), as per DRDO.SM.15 in quadruplicate. Purpose of the demand should be clearly mentioned in the voucher. All four copies of the IDIV duly signed by the demanding officer are to be taken to MMG for issue action. The stockholder in MMG will issue the items after obtaining the signature of the Stores Officer concerned and enter the quantity issued in the appropriate columns in all four copies. The inventory holder will sign for receiving the items on all four copies while collecting the items from the stockholder. All four copies will be sent to Ledger section for Voucher controlling, costing, ledger posting and Inventory action. OI/c Ledger shall ensure that the cost of issued
items based on the actual procurement cost is correctly entered on all four copies. The distribution of four copies of IDIV are as given below:

a) The ledger posting will be certified by the OI/c Ledger section on the first copy of the IDIV which will be retained in the ledger section for audit. Necessary entries will be made in the Original Inventory maintained at MMG.

b) The second copy of the controlled IDIV shall be collected by the Inventory holder for making necessary entries in the user group (duplicate) inventory and retained in demand folder maintained for this purpose financial year wise.

c) The third copy shall be sent to Budget section for expenditure monitoring and related accounting purpose.

d) The fourth copy shall be collected by the Stockholder for Bin card action and retention for record purposes.

11.3.2 The consumable stores as defined in Chapter 5 shall be issued by the concerned stockholder based on the IDIV. They will be charged off from ledger based on this voucher and no inventory action will be required. However, Inventory holders shall take action in their subsidiary accounting register maintained for consumable items. The Subsidiary Accounting Register of Consumable Stores maintained by the Inventory Holder is to be produced to audit whenever demanded. Raw Materials like bars, rods, sheets, plates of ferrous and non-ferrous and non-metallic materials, chemicals, cloth, food items like vegetable, pulses etc. also fall into the category of Consumable materials. The issued quantity of raw material will be charged off from the ledger balance based on the IDIV but the finished/semi finished product will be taken on charge in the concerned Ledger of the finished/semi finished product.

11.3.3 The items received at CRDS against specific user demand may be issued directly to user section by CRDS. In such cases CRDS will be treated as Stock holder and no Bin card action will be required. CRDS will ensure necessary IDIV action after the receipt & accounting actions as per Chapter 6.

11.4 External Issue Procedure

Some times DRDO Lab/Estt. may have to issue stores to sister Lab/Estt., Service formations or to other agencies either on loan / return of Loan or as permanent issue. Such issues shall be done through External Issue Voucher (EIV), as per **DRDO.SM 16**. The voucher will be made by MMG based on
noting from the concerned division for issue of stores to External Agencies duly approved by the Competent Authority. When the Inventory items are required to be issued to outside agencies, they have to be first returned to MMG on Internal Return & Receipt Voucher (IRRV) and taken on ledger charge before preparing EIV.

11.4.1 In case of issue to other DRDO Lab/Estt / Ordnance Factories, Service Estt, six copies of EIV will be prepared, controlled with EIV No and distributed as given below:

a) Two copies sent along with the item to the receiving agency for returning one copy back to the consignor as confirmation of receipt after endorsing RV No.

b) Two copies sent to Local Audit Officer (LAO) of Consignor for forwarding one copy to LAO of Consignee for credit verification.

c) One copy to CRDS for despatch entries and retention.

d) One copy retained in Ledger section after ledger action. Ledger section will make a Xerox copy of the EIV and forward it to Stock Holder (if applicable) for necessary BIN CARD action.

11.4.2 When the items are issued to private agencies / PSUs as Free Issue Materials against any Contracts or on specific instructions from competent authorities, EIV will be raised in five copies and distributed as above except that only one copy will be sent to LAO of Consignor. In such cases, it will be the responsibility of Consignor Lab to obtain written confirmation of receipt from Consignee.

11.4.3 Loan Issues.

In case of Loan issues, loan ledger action will be taken by MMG in Out Loan Ledger (DRDO.SM.28) maintained by Ledger section and necessary endorsement will be made in all copies of EIV by OI/c Ledger section. Regular monitoring of the Loan Ledger shall be done to ensure that the items are received back in the Lab/Estt. before the expiry of loan period. If the store is not received within the loan period, action should be taken by Head MMG / Head User Division to get the item back or extend the loan period. Director of the Lab/Estt is authorised to issue on loan for a period of one year, beyond which, sanction has to be obtained from the higher authorities.

11.4.3.1 On receipt of the items back from loanee, CRV action will be taken by CRDS as per Chapter 6. The CRV will be enfaced ‘for loan ledger action’. The ledger section will post the CRV in the appropriate ledger.
and the Loan Ledger in addition to cross-referring the CRV with the EIV by which the item was sent on loan.

11.4.3.2 Any stores issued to firms for repair/rework are to be treated as Loan Issues and necessary EIV action is required to be taken. Necessary Bank Guarantee is to be insisted from the firm for the cost of the item sent for repair. Wherever requested by the firm, CFA may accord approval for acceptance of Indemnity Bond with Insurance Cover in lieu of Bank Guarantee. However, depending on the merit of the case, CFA may waive off the requirement of such BG/IB.

11.5 External Issue Procedure (Payment Issue – Book Debit)

11.4.3 Payment issues to Non-defence departments: For issues to Departments like Railways, Police or other Departments of Central and State Government, 8 copies of EIV will be prepared and controlled by MMG. 4 copies will be sent to LAO for pricing and return to the Consignor MMG before dispatch of stores. LAO will give particulars of the relevant Head of the account. The disposal of 8 copies of EIV is as under:

a) 2 unpriced copies to the Consignee establishment along with the consignment, of which Consignee will return one to Consignor duly receipted. The receipt of this copy is to be watched and followed up by MMG of Consignor unit.

b) 2 unpriced copies to be used for Ledger action by Ledger section of Consignor.

c) 1 copy to be forwarded to LAO for ledger audit and other copy will be retained by Ledger Section.

d) 1 priced copy to CDA (R&D) through LAO as advance intimation.

e) 3 priced copies to the Consignee by post, of which Consignee will return 2 copies to the Consignor duly accepted. One of the two accepted copies will be forwarded to LAO for onward transmission to CDA (R&D) for raising necessary debit against the Consignee department concerned. Other accepted copy will be retained by Consignor MMG.

11.6 Payment issues to Defence departments: For issues on payment to other DRDO Lab/Estt, Army, Navy, Air Force, Ordnance Factories and other Defence Establishments, 9 copies of EIV will be prepared by MMG. 5 copies will be sent to LAO for pricing and return to the Consignor MMG before despatch of stores. LAO will give particulars of the relevant Head of the account. The disposal of 9 copies of EIV is as under:
a) 2 unpriced copies to the Consignee establishment along with the consignment, of which Consignee will return one to Consignor duly receipted. The receipt of this copy is to be watched and followed up by MMG of Consignor unit.

b) 2 unpriced copies and 1 priced copy to be used for Ledger action by Ledger section of Consignor. 1 priced and 1 unpriced copy to be forwarded to LAO. Unpriced copy will be used by LAO for ledger audit and the priced copy will be sent by LAO to the Consignee LAO for credit verification. Remaining unpriced copy will be retained by Ledger Section.

c) 1 priced copy to CDA (R&D) through LAO as advance intimation.

d) 3 priced copies to the Consignee by post, of which Consignee will return 2 copies to the Consignor duly accepted. One of the two accepted copies will be forwarded to LAO for onward transmission to CDA (R&D) for raising necessary debit against the Consignee department concerned. Other accepted copy will be retained by Consignor MMG.

11.7 External Issue Procedure (Payment Issue – Advance Payment)
Payment issues to Civil institutions and private bodies: For issues to PSUs, academic institutions, private firms, etc., 5 copies of EIV will be prepared by MMG, sent to LAO for pricing and return. LAO will give particulars of the relevant Head of the account. The disposal of 5 copies of EIV after receipt from LAO are as under:

a) 1 copy to the Consignee under a covering letter asking them to deposit the money in treasury and forward the treasury receipt to Consignor MMG before despatch of the item.

b) 2 copies will be sent to the Consignee along with the consignment of which Consignee will return one to Consignor duly receipted. The receipt of this copy is to be watched and followed up by MMG of Consignor unit.

c) 2 copies to be used for Ledger action by Ledger section of Consignor. 1 copy to be forwarded to LAO along with original treasury receipt for ledger audit and other copy will be retained by Ledger Section.

11.8 Material Gate Pass

11.8.1 Returnable Material Gate Pass (RMGP) as per format DRDO.SM 18 (pink colour) shall be used for the stores required to be taken out on temporary/loan basis. RMGP books will be centrally printed and
controlled by MMG and issued to Officers authorised by Director for signing RMGP. RMGP book issue register will be maintained by Head MMG. It shall be raised in triplicate by the Issuing officer. Original and duplicate will be accompanying the stores, of which original will be retained by Security Section after making the necessary entries in the Material Out Register. The duplicate copy will accompany the stores till it is brought back. Security Section will monitor return of items within the probable date of return. Security Officer is to forward list of items over due for more than 30 days to the Director of Lab/Estt in the beginning of every month. On return of the stores, Security Section will make corresponding entries in the Material Out Register and also in the original and duplicate copies of the RMGP. The duplicate copy will be filed by the Inventory Control Officer in a separate folder for records.

11.8.2 Non-Returnable Material Gate Pass (NRMGP) as per format DRDO.SM 19 (yellow colour) shall be used for the stores required to be taken out on permanent basis on EIV. NRMGP books will be centrally printed and controlled by MMG. It shall be raised in triplicate by authorised Officer of MMG. Original and duplicate will be accompanying the stores, of which original will be retained by Security Section. EIV and Material Gate Pass shall be cross-referred to each other. Security Section will maintain separate Material Out Control Registers for RMGP and NRMGP.

11.9 Trial Stores Issue Procedure

O l/c Trial team will prepare a list of items required for conducting the trials inside/outside the Lab/Estt for approval by the Director of Lab/Estt.

11.9.1 Items required for trials inside the Lab/Estt, the normal internal issue/loan procedure should be followed.

11.9.2 For trials conducted outside, two copies of the approved list will be forwarded to MMG for raising Trial Stores Gate Pass (TSGP) (DRDO.SM.20) for taking out Trial Stores from the concerned inventories. TSGP books will be centrally printed and controlled by MMG. TSGP shall be raised in triplicate by MMG and signed by concerned Inventory Holder and authorised Officer of MMG.

   a) Original and duplicate will be accompanying the stores, of which original will be retained by Security Section.

   b) One copy of the approved list is to be attached with the original copy of TSGP.
11.9.2 After completion of the trials, OI/c Trial team will fill-up the ‘Qty. In’ column of the duplicate copy of TSGP and get the necessary entries done in Security Section. Security Section will maintain a separate register for controlling TSGP. O I/c Trial Team will render a statement showing consumption of Consumable items, which shall be approved by Director of Lab/Estt. Subsidiary register will be actioned by the Inventory Holder based on this approved statement. Any non-expendable items, which are damaged during trials and are unfit for further use, shall be disposed off as per procedure given in Chapter-20 for disposal of stores.

11.10 Despatch of Materials

11.10.1 The DRDO Labs / Estt., are required to undertake despatch of material mainly for transportation of equipment for outstation trials of returning the rejected / defective consignments to the contractors for replacements / repairs /defect rectifications or sending stores against fabrication / development contractors or backloading of stores to salvage depots and to cover inter Labs / Estt transportation.

11.10.2 The mode of transportation will be decided based on the urgency, economy, size / volume and weight of the consignment, nature of materials etc., and the normal modes available are by goods / passenger train, by road transport and by air parcels. The suitable transportation mode will be chosen as considered expedient on merit of each case.

11.10.3 When road transportation mode is considered suitable, the labs / Estt., will make use of the running transport contracts, wherever the same have been concluded.

11.10.4 Octroi Charges: DRDO Labs / Estts are exempted from payment of octroi charges, for which necessary octroi exemption certificates will be issued to the Carrier for handing over to the octroi authorities at the check posts. A letter also will be given by the Director of the Lab / Estt., stating that the stores carried by the carrier belongs to Govt. of India and the Carrier is authorised to carry the stores. If due to any reason, the octroi charge is paid, the CRDS will initiate appropriate action for getting refund from Octroi Authorities.
CHAPTER - 12
INVENTORY MANAGEMENT

12.1 Definition

Inventory is defined as the quantity of any material/stores/goods available in the Warehouse with the user group of a DRDO Lab.

12.2 Introduction

Inventory, the term as it is used in industry, is taken as the quantity of goods available in the warehouse lying idle and awaiting its use. Although inventory means unproductive resource, it is essential to keep some inventory, as there always exists a gap between demand and supply. Inventory is held to avoid any blackouts/stockouts thus affecting production.

The general practice followed by industry in applying Inventory Control viz., Economic Order Quantity, Minimum stock, Maximum stock, Minimum Reorder Level, Inventory Control by using ABC, FSN etc., analysis are less applicable to majority of Labs in DRDO. DRDO Labs/Estts are following Inventory control to a limited extent to achieve effective use of resources. It is needless to emphasise the need for adequate accountability of very valuable inventory.

DRDO Estts/Labs undertake various R&D projects and are not production agencies. They develop prototypes only for trial, evaluation and acceptance and transfer the technology to production agencies. Labs should endeavor to practice concepts like Always Before Time (ABT) to ensure that projects do not suffer due to lack of material. Inventory Control helps the Project Directors to take timely procurement action for ensuring ABT. DRDO Labs shall apply Inventory Management (IM) technique at two different levels, one at user group level and the other at central stock level with MMG.

The detailed methodology of these two levels of IM is explained in succeeding paragraphs.

12.3 Inventory Holder

The two-tier inventory control for DRDO Labs/Estts needs inventory holders for implementation. At MMG, the Central Stock will be held by the Stock Holders, number of which will be decided by Head MMG depending on the volume and variety of stock to be held. At user and service groups, the group heads may nominate the inventory holders of appropriate rank, decided by the group head depending on the strength of personnel
available. The inventory holder’s tenure shall be for a period of two years and their names to be published in D.O.Part I.

12.3.1 Duties and responsibilities of Inventory Holder at MMG
Inventory Holder shall:

a) Be thorough with the store accounting procedure.
b) Maintain inventory register/bin cards.
c) Initiate demand for ensuring adequate stock level.
d) Receive demands from the user group.
e) Issue the items to the users and ensure suitable voucher action.
f) Receive the items from the user groups and complete appropriate voucher action.
g) Carry out percentage check of bin card balances against the physical stock periodically and maintain record of the same in a Bin Card check register. This register is to be put up to Head MMG once in a quarter.

12.3.2 Duties and responsibilities of Inventory Holder at User Group:
Inventory Holder shall:

a) Demand, receive, issue, return and maintain custody of the inventory items and be thorough with the procedures thereof.
b) Maintain inventory register.
c) Initiate demand for ensuring adequate stock level.
d) Carry out and ensure inventory checks as listed in Para 12.10 of this chapter.

12.4 Types of Inventory

DRDO Labs/Estt shall maintain following two types of inventories:

a) Central Stores
b) User Group Inventories

12.4.1 Central Stores: These stores shall be controlled by MMG and may include following types of items:

a) Raw Materials
b) Stationery
c) Conservancy items
d) Liveries and Uniforms
e) Protective Clothing  
f) Prototypes, forgings and finished items  
g) Contingency items  
h) Tools and Hardware  
i) Spares  
j) Cyber consumables  
k) Perishable and shelf life items  
l) Obsolete/Surplus  
m) Scrap and Salvage, etc.

12.4.2 **User Group Inventories**: These inventories shall be held at User / Project Groups and may include items such as:

a) Plant, Machineries and related spares  
b) Tools, Jigs and Fixtures  
c) Furniture  
d) Measuring Instruments and Equipment  
e) Test Rigs and associated spares  
f) Special materials  
g) Armament and Explosives  
h) Cyber items  
i) Communication Equipments, etc.  
j) Spare parts  
k) Vehicles and spares  
l) Fitment items, etc.

The above list is illustrative but not exhaustive. Further, it is important that separate inventory/inventories be maintained for fitment items.

12.5 **Opening of Inventory**

Inventories have to be opened for various User Groups in the Lab/Estt. One User Group may have more than one inventory depending upon number of Projects and type of items held. The central stock inventory can be divided into number of inventories as per the type of items and storage accommodation available. The central stock inventory will be reflected by the ledger balances.

The format of User Group inventory sheet is as per **DRDO.SM.09 & DRDO.SM.10** While opening the inventory, the following points are to be complied with:

a) Two copies of the inventories are to be maintained, the original by MMG and the duplicate by Inventory holder. Page No. is to be allotted serially for each sheet in the inventory.
b) One sheet is to be used for one item only. All the sheets to be maintained in a loose-leaf folder. Index sheet can be attached on inside front cover of this folder as is done for docket sheet of the files. Continuation sheet of the index can be attached subsequently on as and when required basis. These index sheets will be serially numbered.

c) Record of inventories is to be maintained by MMG in a register as per the format DRDO.SM.11. At the time of opening MMG will allocate the inventory number and sign the pages with date in the space provided for this purpose. While new items are to be added to the inventory, MMG will authenticate the relevant page.

d) The inventory holders detailed initially will prepare the inventory from the records of MMG and tally with the copy to be maintained by MMG.

12.6 **Operation of Inventories:**

Inventory control can be carried out through computerized ledgers or manual ledgers at Central Ledger Section at MMG and through computerized / manual, bin card/ Visadex Cardex system. DRDO Labs will ultimately introduce Computerised Material Management Software package, which includes inventory control. Till the Labs introduce and get used to the computerised inventory management, manual inventory control may be followed.

12.6.1 **Action by O i/c Ledger Section:** O i/c Ledger Section is to ensure that all transactions i.e., receipt and issues for NC and NCF items are recorded in the original copy of the respective inventory. The entries should reflect IV/RV numbers and the quantity transacted clearly in the inventory.

12.6.2 **Action by Inventory Holder:** The Inventory Holder, after every transaction, has to enter IV/RV particulars along with description and the quantity of the item transacted in the duplicate copy (Inventory holder’s copy) of the inventory.

12.7 **Modification of Inventory Item**

During the testing, should the need arise to modify any inventory item; the same will be given a new nomenclature/description. Inventory has to be updated by raising a CV (Conversion Voucher). One copy of Conversion Voucher is to be forwarded to MMG for updating the original inventory. Such CVs will be endorsed “Not for ledger action, for inventory action only”.
12.8 **Change of Inventory Holder**

The Inventory Holder’s tenure shall be of two years only. However, should the need arise due to administrative reasons, a new Inventory Holder of appropriate rank to be nominated by the concerned Group Head. Proper handing/taking over of inventory will be carried out as per the laid down procedure and the suitable entry to this effect will be published in the D.O. Part-I. The incumbent will carry out a thorough physical check of stores reflected in the inventory and the incoming and outgoing inventory holders will sign the pages of inventory to this effect in the column provided for this purpose.

12.9 **Issues within Group/Division**

Where item recorded on an inventory is in continual use by an individual the inventory holder is to arrange for the item to be issued on loan to the individual concerned. Such loans will be recorded on the Inventory Loan Register (DRDO.SM.13) maintained for this purpose.

A separate page may be maintained for each person holding equipment on loan from the inventory holder and a signature will be obtained against each entry at the time of issue of item. These register pages should be serially numbered and the transcription certificate of the register to be signed by the Group Head. The return of an item by a person will be recorded on his Inventory Loan Register and the return entry to be signed by the Inventory Holder in the presence of the person returning the item.

12.10 **Stocktaking of Inventory**

All Inventory Holders in charge of public equipment are to keep their inventories corrected to date. They are to ensure that all surpluses are declared and brought on charge in the inventory. Such entry in the inventory will not have a corresponding voucher number and will be supported by a statement endorsed at the bottom of the sheet. In case, any deficiencies or losses are observed in the inventory, immediate action has to be initiated by the Group Head to intimate the Lab/Estt Director, who in turn will arrange actions as per Chapter-20 of this Manual. Following mandatory checks are to be carried out for the inventory items of the Lab/Estt:

a) Annual Independent Checks
b) Periodical Checks
c) Handing / Taking over Checks

12.10.1 **Annual Independent Checks**: Director of Lab/Estt to order an independent check of all articles held on the charge of each inventory
at least once a year. For this purpose, different checking officers are
to be nominated to distribute the workload evenly and realistically so
as to ensure sincere physical checks are carried out. This
independent check is to be carried out by an officer not below the rank
of Scientist ‘B’. Normally, each checking officer is not to be given
more than 7 days to complete the checking of the
inventory/inventories assigned to him/her.

12.10.2 **Periodical Checks:** A periodical check is to be carried out by the
inventory holder at intervals not exceeding 3 months from the date of
last independent check or any handing over check subsequent to that
date.

12.10.3 **Handing/Taking Over Checks:** This check is carried out at the time
when the inventory holders are changed. Handing over checks may
be regarded as periodical or independent checks only if they occur at
the time when either of these checks would normally fall due;
otherwise they are to be regarded as additional checks. While
confirming to R&D Headquarters about the completion of annual stock
taking in the main store, a confirmation to the effect that the
independent checks of all inventories have also been conducted
within the prescribed time limits and surpluses / deficiencies revealed
during the checks regularised, is to be forwarded under intimation to
CDA (R&D).

Following procedure will be followed while carrying out the above-
mentioned checks:

- Prior to Independent / Periodical / Handing over / Taking over
  checks, inventory will be submitted by the inventory holder to O I/c
  Ledger Section. The transactions, which have taken place since
  the last check, are to be listed and submitted to Ledger Section by
  the Inventory Holder.

- O i/c Ledger Section will verify the contents of inventory with the
  original copy of the inventory held by him/her with reference to the
  list of transactions submitted by the inventory holder and hand over
  the Inventory Holder’s copy (both sheet Nos.1 and 2) to the
  Checking Officer. Any discrepancy noticed by the Ledger Section
  is to be intimated to the Checking Officer under intimation to the
  Inventory Holder and the Group Head of Inventory Holder.

- Before any checks of equipment with the inventory is undertaken,
  the checker is to ensure that the correct No. of sheets (pages) are
  included in the sheet No.2 of the inventory in accordance with
  sheet No.1
Inventory Holder is responsible to produce the items listed in the inventory sheet No.2 to the independent checker /taking over Inventory Holder for physical check including the items issued on loan register. Under no circumstances the loan register can be accepted as proof that the items are available.

The physical quantity found during the check is to be entered in the physical quantity column of sheet No.2 and signed with date by the Independent checker in a case of Independent check and by Taking over Inventory holder in case of Handing/Taking over check. In case of periodical check physical accounting of the items quoting of physical quantities in the inventory and signing with date is to be done by the Inventory Holder himself.

On completion of the check, the discrepancies in physical balances have to be regularized. After regularization of the deficiencies, the duplicate inventory will be forwarded to O i/c Ledger Section.

O i/c Ledger Section will update the original copy of the Inventory and certify to this effect.

12.11 **Issues between Group / Division**

Any transfer of item to or from a running project inventory has to be carried out through MMG only, i.e., item has to be returned to Central Stock Inventory by a return voucher and then issued to the receiving inventory. Transfer between non-project inventories can be carried out by conversion vouchers, which will be endorsed as “Not for Ledger action, for action of inventory numbers……... and........ only”. The conversion voucher will be raised in 3 copies by the Inventory Holder who is transferring the item. The voucher will have the details of the item/items to be transferred and the serial number of the inventory affected by the transfer. This voucher has to be signed by both the Inventory holders and countersigned by the Group Heads of the Inventory holders. One copy each will be retained by both the Inventory holders for actioning respective duplicate inventories. The original copy of this voucher will be forwarded to MMG where the Conversion Voucher number will be allotted to the voucher and original inventories will be updated by quoting the Conversion Voucher number.

12.12 **Condemnation of inventory items**

As and when the items are rendered unserviceable, the Inventory holder will accumulate such items and once in three months present a list containing these items countersigned by the Group Head to the Standing Conditioning
Board as laid down in Chapter-20 of this Manual. Based on the recommendations of the Conditioning Board and approval of the Director of Lab/Estt., the items, which have been approved for condemnation, will be returned to MMG on conversion voucher by converting into appropriate category. After the vouchers have been allocated CV numbers by MMG, the triplicate copy will be brought back by the Inventory holder for actioning duplicate copy of inventory. MMG will action the original inventory accordingly.

12.13 Nil Balance in Inventory

If a NIL balance on a particular inventory sheet is created due to condemnation / transfer and there is no transaction on the same page for next three years, the relevant page can be removed from the loose-leaf folder and to be forwarded under a covering letter to MMG. O I/c Ledger Section will ensure this page to be endorsed in ‘red ink’ as “page removed from duplicate inventory No……………on date…………..” and sign for it. This page will be attached to the same page number of the original inventory and retained for record purpose. The index sheet of original inventory will be endorsed against the relevant page number as “page in duplicate inventory closed”. Inventory holder will delete the relevant entry in the index sheets by scoring out with red ink and put his/her signature against the entry.

12.14 Closure of Inventory

If an inventory is to be closed, all items existing in the inventory will be returned to Central Stock and after endorsing the RV numbers in the duplicate inventory and reducing the balances to NIL, the inventory holder will return duplicate inventory under a covering letter to MMG. O I/c Ledger Section will verify the correctness of all entries in the duplicate inventory against the original copy of the inventory. Discrepancies, if any, will be intimated to the Group Head under intimation to Inventory holder who will take necessary reconciliation action. After reconciling both the copies of the inventories, the same will be retained for a minimum period of three years, after which the same can be destroyed and a certificate to be rendered by Head MMG in the register for record of inventories (DRDO.SM 11) in the remarks column against the corresponding inventory number and sign for it.
CHAPTER 13
FUEL, OIL, AND LUBRICANTS

13.1 Introduction

In Defence Environment FOL is a commonly used term for addressing the issues related to Fuel, Oil and Lubricants. FOL products are obtained from crude petroleum by a process of fractional distillation. Those commonly used in DRDO Laboratories are:

MT GASOLINE: It includes unleaded petrol, and diesel. (DHPP)

LUBRICANTING OILS: Such as Engine Oil, Gear box Oil, etc.

HYDRAULIC FLUIDS: Such as break fluids, etc.

GREASES: These are semi-solid masses containing Mineral or Lubricating oil and fatty acids/soaps of sodium, Aluminum, Calcium, Barium Lithium and Strontium.

13.2 Source Of Supply

13.2.1 FOL products can be procured by DRDO laboratories from the following sources:

From ASC supply depots on which the Lab may be depended.
Directly from OIL Companies like IOC, through Local purchase.
Directly from the outlets of OIL Companies through Local purchase.

13.2.2 The responsibility for the delivery of FOL to the Lab/Estt is as follows:

a) From the ASC supply depot

When the ASC Depot is situated more than 40 Kms away from the consignee Lab/Estt, ASC is responsible for the delivery to a rail head mutually agreed by the Lab/Estt and the Depot concerned. The Railhead must be within 40Kms of the Consignee Lab.

When the consignee Lab/Estt is within 40 Kms of the ASC Depot, the Lab is responsible for the collection of its supplies of FOL.
b) When the fuel has to be supplied by Oil Companies in bulk it is the responsibility of the Oil Companies to deliver it in Road Tankers.

When the procurement is from the outlets of the Oil Companies, Lab/Estt is responsible for arranging collection in its own vehicle.

13.3 **Mode of Supplies**

13.3.1 Supplies may be delivered to Lab/Estt by:
- Bulk in Road Tankers.
- Bulk in Rail Tankers.
- Packed in containers like barrels, drums and tanks, which may be conveyed, by Rail or Road.

13.4 **Demand for FOL from ASC**

13.4.1 Demand for FOL is to be submitted on IAF (Z) 2184B prepared in 6 copies. If however, the ASC supplying raises IAFZ 2255 it should be cross-referred to IAF (Z) on which the Lab/Estt placed the demand.

13.4.2 The Store Officer shall submit the demands in such a way as to ensure continuous supply. He has to calculate the average delivery period and arrange his demands accordingly so that stocks are never allowed to fall below 2 months requirements.

13.5 **Responsibility for Losses**

13.5.1 Once FOL is dispatched from ASC to Lab/Estt; responsibility of adjusting transit losses will be that of the Lab/Estt.

13.5.2 Lab will continue to be responsible for losses due to down gradation if any on return from Lab to ASC.

13.6 **Receipt of FOL**

13.6.1 When the fuel is received by Rail tankers or Road tankers, Stores Officer or his representative shall ensure that the domes and the discharge points are intact, and that there is no sign of leakage. They are also to draw a small quantity of fuel form each discharge point into glass receptacles to ensure correctness of the color of the fuel and absence of rust particle and water. If the seals are broken, first report is to be made to Railways/Oil Companies/ASC Depots and fuel is to be decanted in the presence of a Board of Officers consisting of ASC
representative, provided Board of Officers is in a position to certify that the fuel is free from contamination.

13.6.2 If the wagon is found to be leaking, fuel is to be transferred immediately after inspection and the matter shall be reported to ASC by phone/Telegram.

13.6.3 Before the transfer of fuel to the bulk installation/barrels, the quantity of fuel in the wagon/Road tankers is to be ascertained by opening the dome at the top and using the loading bar/dip rod. Water searching test may be followed if considered necessary. In case of wagon, if the level is within 1” of the loading bar, the quantity shown on the gallon-age capacity plate outside the wagon is to be accepted as the quantity of fuel in the wagon. If the contents are not in conformity in quantity and grade mentioned, the matter shall be referred to ASC.

13.6.4 The quantity of fuel actually decanted from the wagon found leaking is assessed by reference to dip reading of the bulk installation or the capacity of barrels filled. The receipt vouchers are to be adjusted accordingly and initiated by ASC representative. The deficiency is to be adjusted as per para 15.17. ASC vouchers fuel at standard temperature. Hence quantity at the normal temperature is to be converted to quantity at Standard temperature to ascertain deficiency if any. The fuel is to be accounted for at standard temperature.

13.6.5 When the fuel is received in road tankers, the vehicle is to be driven at the level platform before decanting and is to be allowed to remain stationary for minimum 30 minutes before the dip check for quantity is done. Water searching test may follow if considered necessary. The master control valves for different compartments of the tankers are to be ensured to be in open position at the time of decanting. After the fuel stops flowing out, the discharge points are to be closed, the transfer hose to be disconnected and the tanker be driven for atleast 200 yards and brought back to the level platform. The transfer hose is to be reconnected and the valves at the discharge points are reopened. Once fuel again stops flowing out, the representative may climb up the tanker and physically ensure by opening the top dome lids of every compartments that no fuel left in the tank.

13.6.7 After the receipt relevant dip readings of bulk installations or the receipt quantity in the containers (barrels) is to be recorded in the FOL issue and receipt voucher.

13.7 Receipt of Lubricating Oils and grease
13.7.1 The procedure to be adopted for such receipts is that they are always received and transported in containers.

13.8 Procedure for procuring fuel from Oil companies

13.8.1 Following accounting procedure shall be followed by Labs/Estts where IOC or other Oil Companies are responsible for supply of MT Gasoline.

13.8.2 Labs/Estts shall send their requirement to the Station Manager of the depot of the company in letterform and obtain Proforma Invoice from the Company. The proforma invoice is to be supported with contingent bill and forwarded to CDA or cash section as the case maybe. Cash Section / CDA shall hand over the cheque to stores representative of the Lab/Estt. The cheque is to be prepared for 100% value of the proforma invoice.

13.8.3 The cheque under a covering letter will be forwarded to IOC depot / OIL company and the receipt is obtained.

13.8.4 The OIL company effects supply in their road tankers along with trade challan raised in 6 copies. The refueling section or the stores representative of the Lab/Estt shall sign all copies of the trade challan in ink.

13.8.5 The Trade Challan must

   a) Be made out of ink or be printed legibly
   b) Have the ‘Original’ copy marked at the top with words ‘Accounts Copy’ over the full signature of the person signing the receipts at the bottom thereof, the remaining copies are to be marked duplicate, triplicate etc.
   c) Show the details of fuel lifted from the Oil Company.
   d) Show the quantity lifted in words as well as in figures.
   e) Show the packing material supplied if any.
   f) Show the place and date of drawing.
   g) Show the Name, Rank, Identity No. and Designation of the person drawing.

13.8.6 Distribution and disposal of the completed trade challan is as follows: Copy No.1,2 and 3 will be retained by the Lab/Estt out of which copy No.1and 2 will be sent to the Ledger Section of stores and copy No.3 will remain at the refueling section. The ledger section will take the ledger action by allotting copy No.1 and 2 the CRV No. and posting it in Ledger. Copy No.2 is to be forwarded to CDA along with CRV copy and copy No.1 is to be retained by ledger section. Copy No.4 and 5
will be retained by Oil Company and copy No.6 will be despatched by the oil company to the CDA of concerned Lab.

13.8.7 The stores will then raise internal receipt and issue voucher for the entire quantity of fuel and the same will be issued to refueling section. The ledger in stores will, thus, always show NIL balance on any given day.

13.9 **Storage of Fuel – Bulk Installation**

13.9.1 Instructions and diagrams concerning BPI (Bulk Petroleum Installation) shall be displayed conspicuously for the guidance of the personnel concerned. Suitable warning, notices such as ‘Petroleum,. “Highly inflammable’ ‘No smoking’, Danger, etc. are displayed prominently at places in and around the installations. The Store Officer is to instruct personnel employed in BPI’s to ensure that:

   a) No naked lights shall be carried. Flame proofed lamps or torches are to be used and electrical fittings shall be flame proof.
   
   b) Boots and Shoes without ferrous metal riveting or studs are only to be used.
   
   c) Sufficient sand containers with sand are to be available at all times. Suitable fire appliances shall be maintained in serviceable condition all times.
   
   d) Cotton rags and cloth pieces used for cleaning should be removed from the vicinity immediately after use.
   
   e) Special types of tools of Non-Ferrous metals shall only be taken into the fuel installations, if required.
   
   f) The area of 50 Ft. in all directions from the perimeter of the bulk tank and dump is to be declared as ‘Danger Area’.
   
   g) These buildings are not to be nearer than 100 Ft,. to workshops where welding, cutting, forging, etc are carried out. These buildings are not to be heated by Coal, Coke, Stove or any other form of open fire.
   
   h) Unauthorised persons shall not be allowed near installation.
   
   i) Bungs and Caps are to be secured tightly and no leakage shall be allowed. Whenever such leakages are traced, containers are to be changed.
   
   j) Engines of the vehicles shall not be kept running during refueling/decanting.
   
   k) Main switch of the installation should be kept off while not in use.
   
   l) Matches, Lighters or other means of ignition in any form shall not be carried by any one entering the installation.
   
   m) In the general fire scheme of the Lab/Estt the IC fire section is to inspect the installation weekly and record of such inspection to be maintained in fire section as well as in the fuel installation.
n) Grass and Weeds are to be cut periodically and removed from the Danger Area to reduce fire risk.

o) In all those rooms where inflammable liquids, i.e., greases and lubricants and Hydraulic fluids etc., are stored and handled, good ventilation must be ensured.

13.10 **Operation of Petrol Installations**

13.10.1 Following additional precautions must be observed while operating Petrol Installations:

Spilling and overflow, if noticed, all operations shall be seized and the matter reported to GE who is to satisfy himself and Lab/Estt Director of the soundness of the plant.

Tank manhole covers must be bolted down tightly with all bolts in position.

Valves except those required for the immediate operation must be tightly closed.

Dip hole covers and sampling Orifice cover must be replaced and screwed down tightly.

All sand hole pits and tank pits must be kept free of petrol and water.

Emergency suction outlets fitted to bulk installation must be maintained in constant state of readiness.

13.11 **Care In Storage And Handling Stock of Fuel in Containers**

13.11.1 Storage of fuel in barrels and other containers is to be carried out with the following consideration.

Increasing the life of containers.

Avoiding the contents of barrels being contaminated with water or rust.

13.11.2 Containers are not to be handled carelessly dropped or stacked in such a way as to cause possible leakage from springing of scams.

13.12 **Barrels are to be stacked as follows**

13.12.1 Empty barrels will always be stacked on their sides with bungs in either at 10 ‘O’ Clock or 2 ‘O’ Clock position.

13.12.2 Filled barrels are to be stacked on proper donnage and stacked bailey-wise with bung in 2'O’ Clock or 10 ‘O’ Clock position and in such a way that each and every barrel can be periodically inspected for leakage, breakage of seals, or other damages. Barrels are not to be stacked more than 3 high.
13.12.3 Smaller drums i.e., 100 Ltrs. And below and cans are to be stacked at their ends not more than 4 high. Kerosene type tins are however, to be stacked not more than 3 high.

13.12.4 Bungs and caps are to be removed/tightened only by the use of bung keys or wrenches, as appropriate.

13.12.5 Whenever stocks have been held 6 month or more from the date of filling without being turned over, samples are to taken for test as per procedures for taking the samples. Such fuel is not to be used until its fitness for use has been established.

13.13 Daily Stock Check

13.13.1 Daily stock check of fuel by IC Refueling section in bulk installation is to be carried out in the early hours preferably before 8.30 A.M. and the result recorded on the FOL Stock Sheet, DRDO.SM 26 raised in single copy. In addition the Store Officer is to personally check the stock once a week and the results recorded on this voucher.

13.13.2 The readings of temperature and quantities of fuel in bulk storage are to be recorded in FOL transaction voucher.

13.13.3 If the discrepancies recorded in daily stock check exceed 1% of the turnover in the bulk installation, the same is to be adjusted immediately other wise no immediate adjustment is necessary.

13.14 Water Test

13.14.1 A test of presence of water is to be carried out by smearing the dip rod with water searching paste and using it in the fuel storage tanks at BPI’s as follows:

Beginning of the week, i.e., 1st working day of the week immediately after rains.

Whenever there is a reason for such water contamination.

The paste changes color on contact with water. The quantity of water is to be recorded on fuel transaction voucher.

The Director of the Lab/Estt should detail a technical officer making him responsible for water test. Water when detected is to be immediately drained and the same is to be recorded in a manuscript
register maintained for this purpose. This is to be signed by Stores officer (MT) and Head MMG.

13.15 Turnover

13.15.1 Turnover for the given period is calculated on the basis of actual receipts plus actual issues during the period. Where, however, there is no movement of stock or the sum of Receipts and Issues is less than the Operating Stocks, the Opening is to be considered as turnover.

13.16 Waste Oil

13.16.1 Oil drained from MT vehicles or generators is to be regarded as waste oil and it is to be returned to stores on internal Receipt Vouchers. It is used for anti Malarial or dust prevention purposes or for such other purpose as the Lab/Estt Director may direct.

13.17 Expansions and Contraction of Fuel

13.17.1 Fuel expands and contracts in response to variation in the temperature. The standard temperature for accounting purpose is 30 C. Hence the fuel stock measured at temperature other than 30 C is to be reduced to Standard temperature by applying the correction for expansion/contraction depending upon whether the temperature Is more/less than the standard temperature. For calculation purpose the co-efficient of expansion of fuel per liter per C is:

Petrol NL 0.0011
Diesel HPP/LPP 0.0007

Example:
If the volume of petrol measure 20,000 liter At 20 C. What is the volume at standard Temperature?
The raise in temperature will be 30-20=10 C.
The expansion per 1 liter per 1 C is=0.0011.
The expansion per 1 liter per 10 C is =0.011
The expansion per 20,000 liter/10 C is =20,000x0.011=220
Therefore the volume at Standard Temperature of 30 C=20,000+220=20,220 liters.
13.18 Accounting for Surpluses and Deficiencies

13.18.1 Surpluses/Deficiencies of FOL arising from evaporation or other normal working conditions are not to be adjusted as and when revealed, but are to be carried forwarded from day to day during the month till the end of the month, provided that the accumulated discrepancy does not at any time exceed the following authorised percentage of evaporation/spillage during the month under review. The evaporation/spillage is authorised only for petrol and not for diesel.

1% of the Turn Over for fuel in bulk storage.
1.5% of the Turn Over for packed stocks under cover.
2.5% of the Turn Over for packed stocked stored in the open.

All Losses except where the Quantity falls within the authorised percentage mentioned above are to be reported to the higher authority. At the end of the month stocktaking has to be carried out of the FOL stock by an independent Officer detailed by the Director and the surpluses and deficiencies are to be adjusted by CRV or Loss Statement.

Adjusting voucher as necessary is to be prepared by the Store Office and posted to the ledger. Loss statement should have the following information enclosed.

a) Stock at the beginning of the month - Say 10,000 Ltrs.

Receipts during the month - Say 20,000 Ltrs.

Total 30,000 Ltrs.

b) Issued during the month - Say 19,450 Ltrs.

Actual Stock at the end of the month - Say 10,500 Ltrs.

Total 29,950 Ltrs.

Loss 50 Ltrs.

“Certified that by posting this voucher, Stock record balance at the end of the month agree with the actual physical stock held as shown above.”

Signature of Store Officer

A court of enquiry if held with date.
Nature of storage, for eg. Bulk Storage, packed stock covered packed stock uncovered.
Percentage of loss on Turn Over.
The month and year during which the losses occurred.
13.19 **Disposal of Loss Statement**

13.19.1 In case the loss is within the authorised percentage, the CFA for the loss statement will be the Director of the Lab/Estt irrespective of the value of the loss. In such a case two copies of loss statement duly signed by the Director of the Lab is to be forwarded to LAO for their information and purpose only. In case the loss exceeds the authorised percentage limit, the CFA for the loss will be as per Chapter 19.

13.20 **Issues from Re-Fueling Section**

13.20.1 FOL will issue in bulk to re-fueling section on internal demand and issue voucher. Re-fueling section will maintain a pad of FOL transaction voucher. The bulk received from stores will be shown in the Serial No.7 and on completion of issues for the day refueling section should endorse such issues in the counterfoil held. Issues to vehicles or to some user section are to be recorded on 1st and 2nd copies of FOL transaction voucher, a separate sheet being used for each user section. The user section, say MT will use 2nd copy for completing Log Books/Mileage card action. The user section must sign 1st copy while collecting the 2nd copy. Refueling section has to maintain manuscript register where all the entries of the FOL transaction voucher to be recorded date and section wise. The IC refueling section is to sign the register as well as both copies and the counterfoil of FOL transaction voucher at the end of the day. The 1st copy of the voucher is to be forward to the Ledger section for record purpose.

13.21 **Issue of Fuel To MT Vehicle direct from ASC**

13.21.1 In case of emergency driver of a Lab/Estt vehicle may obtain MT fuel from ASC. The driver is to sign 2 Copies of RV issue voucher in acknowledgement of receipt of fuel. The quantity so received is to be recorded on MT requisition form. On return to unit, driver is to inform the MTO who will make provisional entry in the VDRA, Form IAFZ 2212 on receipt of 2nd copy of Army Issue Voucher the Store Officer is being on charge the quantity by CRV and obtain supporting receipt and issue voucher from MTO to strike off the fuel on charge. The army issue voucher is to be attached to the CRV.
CHAPTER-14
ARMAMENTS, AMMUNITIONS & EXPLOSIVE STORES

14.1 Introduction

Many Labs/Estts in DRDO Design, Develop and Manufacture Armament, Ammunition and Explosive stores for various Research and Development Projects. They also procure and receive these stores from Ordnance Depots, Ordnance Factories, Services and trade. These stores are also issued to Factories and services for assembly and trial purposes. Considering the sensitive and classified nature of these stores, its accounting, handling, storage and transportation are separately given in this chapter. The safety regulations and precautions to be taken for transportation, handling and storage of explosive stores are given in the Storage and Transportation Explosives Committee (STEC) Pamphlets issued by one of the DRDO Labs, Centre for Fire Explosive & Environment Safety (CFEES), New Delhi.

14.2 Receipt of Stores

14.2.1 The Explosives, Propellants and Ammunition stores received from various sources are directly taken to the Central Storage Magazines (CSM). The Officer–in-Charge of the CSM will verify the packages and make necessary endorsement on the delivery challan or issue vouchers. The endorsed copy of the challan/voucher will be immediately handed over to CRDS for further action. The CSM shall be an independent division.

14.2.2 The consignment of Small Arms received are to be off loaded either at the Armoury, if any, at the Lab/Estt or at a suitable CSM. They will be immediately unpacked and checked by the Armament Officer / Security Officer, O I/c CSM and the User Division representative.

14.2.3 The Armaments other than Small Arms will be taken to the User division after making necessary endorsement at the Security Gate and also at CRDS. The delivery challan/voucher will be duly receipted by the User division officers and immediately handed over to CRDS for further action. The User division officer will unpack the consignment in the presence of O i/c CRDS of MMG and Security Officer to verify the contents as per packing list and submit a verification report to MMG duly countersigned by the Head of the Division/Group within 2 days from the receipt of the consignment.

14.3 Accounting of Stores
14.3.1 After inspection and acceptance of stores by the User Groups, necessary Receipt Vouchers will be prepared and ledger actions taken for entering in the separate Central Armaments Ledger (CAL) maintained at MMG for taking the stores on charge of the Lab/Estt. The format for CAL is per Ledger sheet DRDO.SM 07.

14.3.2 The User Divisions shall maintain separate Armaments Subsidiary Control Register (ASCR) for entering the required details as per DRDO.SM 21.

As these stores are sensitive and controlled. The consumption and usage of stores for trials are to be properly recorded in the ASCR, quoting the authority numbers and the ledger should be countersigned by the Division Heads for any transaction involved. Once the ammunitions or explosives are consumed in trials, necessary expendable vouchers are to be raised by the User Divisions duly signed by the trial officer and countersigned by the Division/Group Head. These Expense Vouchers are required to be supported by trial report indicating the number of rounds fired, empty shells, mis-fired rounds etc. ASCR is an auditable document and shall be presented to Safety Committee, CEES inspection team or to audit authorities whenever demanded for verification.

14.3.3 The Armaments and Ammunition developed by the Lab/Estt shall also be taken on charge in the CAL using the Conversion Vouchers and re-issued to the User Division for entering in ASCR.

14.4 Accounting of Armaments

All types of Armaments including Small Arms, Mortars, Guns, Rocket Launchers etc., shall be accounted in CAL. These items are issued to the User Division against IDIV DRDO.SM 15 and taken on charge in their respective ASCR. These items when not required or obsolete shall be returned to MMG against IRRV DRDO.SM 17 and taken on charge in CAL for returning back to the concerned Army Units/Depots, if these items are on loan basis. All unserviceable armaments which are free from explosives shall be sent to Army Salvage Depots or disposed off as per Chapter-20 of this Manual based on the recommendations of the conditioning Boards.

14.5 Accounting Of Complete Rounds Of Ammunition / Explosives

Complete rounds of ammunition when packed as such in a box will be accounted for when received or issued, as complete rounds and not separately by their components and packages. Ammunition, which is received, packed as complete rounds in one box, but vouchered in components, will be taken on charge as separate components.
In the case of ammunition, which is not packed as complete rounds in a box, the procedure of accounting for individual components will be done. The components will, however, be brought on charge `boxed' in the same manner as the ammunition.

These items are accounted in CAL. These stores are issued to User Divisions against IDIV DRDO.SM 15 and charged off from the ledger. These items are taken on charge ASCR of User Division.

14.6 Accounting of Packing Cases And Containers Of Ammunition

a) Packages of ammunition, containers/cylinders or any components normally packed and supplied as such with packed complete rounds will not be accounted for separately. However, any such items that have been priced and indicated separately in the issue voucher, they are to be taken on charge in the respective ledgers.

b) Empty ammunition packages received from any sources for packing purpose, including those received from units will be accounted for in the ledgers.

All ammunition packages will be shown in by full nomenclature on all issue vouchers as given in Ledgers. This is necessary to enable the receiving units to account for them as vouchered to them.

The metallic and FRP containers of the Ammunition and Explosive, which can be reused or recycled, are to be taken on charge separately after the firing of the rounds. Empty containers can be returned back to the original suppliers / manufacturers or Ordnance / Salvage Depots. If this is not feasible, the containers can be disposed off as per the procedure given in Chapter 20.

14.7 Accounting of Empty Cartridge Cases Of Ammunition

a) The empty cartridge cases of Ammunitions after firing will be disposed off at the trial site itself after defacing them, if the quantity involved are negligible and not cost effective to bring back to the Lab/Estt. If the quantity is more, they can be transported back to the Lab/Estt and disposed off as per procedure in Chapter-20.

b) Empty cartridges of small arms ammunitions shall be returned back to the concerned User Division and accounted in ASCR. Necessary certificate accounting the fired rounds and empty cartridges shall be rendered by the Trial team to meet safety and accounting requirements. They are disposed off as per procedure in Chapter-20.

14.8 Storage and Handling of Armaments
The Armaments like Guns, Barrels, Weapons are to be stored in safe custody of the concerned user division. They are to be regularly inspected and maintained to keep them in good condition. All receipts, loans and issues are to be controlled and recorded in the ASCR maintained at the concerned user division. The stock verification of the Armaments are to be carried out quarterly by a standing board of officers appointed by Director on Annual basis. The board will physically check the stock, verify the ASCR for their receipts and issue and submit the proceedings to Director of the Lab/Estt on every first week of each quarter.

14.9 Storage and Handling of Ammunitions and Explosives

Taking into consideration of the hazardous nature of these stores, they are always stored in suitable magazines duly segregated as per their class within the permissible limits specified by CFEES and STEC regulations. The CSM are to be under control of an independent section of MMG. The O i/c CSM shall directly report to Head MMG. Suitable technical officers and staff with experience and knowledge in handling explosives are to be posted in this magazine. In case suitable staff with experience and knowledge in handling explosives are not available in Lab/Estt, the individuals being posted to CSM shall be trained prior to posting.

The Ammunition Stock Verification Committee constituted by Director of Lab/Estt on annual basis shall inspect and verify the stock position quarterly and submit the proceedings to Director. The user groups also should periodically inspect the magazines to verify the balance quantity at the magazine as per their ASCR. If there is any discrepancy found, the same should be immediately brought to the notice of higher authorities. The safety and security precautions taken in the Storage Magazines are to be monitored as per the Standing Orders Issued by the Safety Committees Labs/Estts.

These stores are to be handled and transported for assembly/trials strictly as per the STEC regulations. Some of the possible Ammunition Hazards and Explosive fires and preventive measures are highlighted in the subsequent paragraph.

14.10 Ammunition Hazards

Ammunition fires are among the most feared hazard because of their potential destructive possibilities by detonation. Where ammunition is involved, fire prevention is doubly important, since many of the fires involving explosives and ammunition are preventable. It is the duty of fire-protection personnel and personnel handling ammunition to study the causes of fire so they will know the safety precautions, which must be taken to pre-vent fires. The common causes of Ammunition fires are given below:
a) **Heat:** A great hazard in and around explosives is heat. Some explosives ignite at temperatures substantially lower than those required to ignite wood, paper, or fabrics. The ignition of explosives frequently results in violent reactions. Every effort must be made to maintain normal temperatures around ammunition and explosives. Heat Fires in ammunition dump areas may be due to a number of causes. The following are most common: dry grass, leaves, and underbrush ignited by sparks from electrical installations and automobiles, carelessly discarded cigarettes, campfires, or unprotected smokestacks.

b) **Deterioration:** Deterioration of explosives and ammunition normally occurs at such a slow rate that most of them remain serviceable for many years. Under unfavorable conditions, explosives and ammunition, which are deteriorating, pick up heat so fast that it cannot be dissipated, and the explosives and ammunition may burst into flames as a result. An explosion or detonation may also result when deteriorating explosive or ammunition is confined too closely. A definite safety hazard results when repacking, renovation, and salvage operations are not properly supervised and conducted in accordance with recognized standards.

14.11 **Common Safety Violations**

Among the more common sources of fire hazards are excessive quantities of powder and loose explosives, accumulation of wastepaper, broken boxes, unauthorized use of spark-producing tools, defective machinery, faulty electrical equipment, and failure to provide the proper barricades and firebreaks necessary to prevent the spread of fire from one operation to another.

Lack of training and violations of instructions or written regulations are frequently responsible for serious consequences. The most common violations include smoking, carrying matches in forbidden areas or buildings, and tampering with explosives or ammunition, particularly grenades or fuses.

Failure to understand and carefully observe the safety precautions prescribed for destroying ammunition and explosives might cause grass fires or explode nearby ammunition piles, which are awaiting destruction. The most frequent cause of these troubles is flying fragments released upon detonation.

**Sparks.** Sparks may be created by striking iron or steel nails or metal containers against iron or steel tools, or by nails in shoes striking flint,
pebbles, sand grains, or nails in the floor. Such sparks, small as they are, have caused disastrous explosions of black powder and have exploded the dust from other easily ignited powders. This hazard is the prime reason for requirement to use tools of brass, copper, or other non-sparking materials. It is recommended that mud or dirt be cleaned from shoes before entering magazines that contain exposed explosives. Also sparks from a faulty car or truck muffler may cause an explosion.

**Static Electricity:** Charges of static electricity can be accumulated on a person and on explosive material such as smokeless powder. The discharge of static electricity is a serious hazard in the presence of certain exposed explosives, dust and air mixtures, and flammable vapor-air mixtures. Processing equipment for such materials subject to static discharge should be electrically grounded; benches and flooring should be covered with electrically grounded conductive material, and personnel should be provided with safety shoes of an authorized type. Cushioned / wooden chairs should not be used in locations where explosives or highly flammable materials are present. The failure to control safely the use of heat and flame-producing equipment offers a constant hazard.

**Lightning:** Lightning may strike buildings, trees, or other objects in or near explosive areas. Buildings and structures in storage areas should have complete lightning protection where conditions permit.

**Transmission Lines:** Electric transmission lines are often blown down on or come in contact with combustible material. These lines should be periodically checked for condition and security of installation. When it is necessary to install power transmission and service lines in the vicinity of the buildings containing explosives, the distance from the lines to the buildings must be greater than the distance between the poles which support the lines. This precaution is necessary to prevent falling wires from coming in contact with the building. Overhead transmission lines must not pass within 50 feet (15 meters) of the building. In future installations power lines and services, which enter buildings containing explosives, must be placed underground within 50 feet (15 meters) of the building.

**Vegetation:** Vegetation (such as grass, under-growth, weeds, etc.), which is or may become a fire hazard, should be controlled by using a chemical weed killer, by mowing, plowing, cutting, live-stock grazing, or, in calm weather and with the proper control, by burning. Chemical weed killers should not contain chlorates or other substances, which may ignite spontaneously under hot, dry conditions or by friction.

**Cleaning Fluids:** Gasoline or other highly flammable liquids should never be used for cleaning.
Smoking: Fire prevention regulations state that matches or other flame or spark producing devices are not permitted in any magazine or explosive area except by written authority of the commanding officer. Smoking is prohibited in any magazine or magazine area, or in the vicinity of cars, wagons, motor trucks, or boats in which there are explosives or ammunition.

14.12 Preventive Measures

Below is a brief list of some of the preventive measures that can be taken to avoid fires.

a) Only permanently installed electric lights of approved types may be used in the building.

b) Portable fire extinguishers, sandboxes, and water barrels with buckets must be furnished as required for each room or building.

c) Persons wearing clothing contaminated with explosives or other hazardous materials will not be permitted in such areas.

d) Automobile parking should be regulated so that vehicles will not be parked within 25 feet (7.7 meters) of fire hydrants and should use designated areas only.

e) All flashlights or storage-battery lamps used in buildings containing explosives or flammable stores must be safety-approved types for that specific type of exposure.

f) Ordnance safety requirements must be complied with if gasoline- or electric-powered lift trucks are used for transporting/handling ammunition or explosives.

Stacking: Ammunition boxes, containers, dunnage, and lumber must be stacked in an orderly manner when in the vicinity of explosive handling or storage operations. Stacks of such combustible materials must be limited to small areas between firebreaks. Additional factors to consider in limiting the spread of fire are the available space for combustibles, the availability of fire-extinguishing facilities, and the probability of fire.

Portable Extinguishers: A fire involving explosives or ammunition produces a conflagration (major fire) or explosion very quickly; therefore, means for attacking the first small blaze detected are vitally important. Immediate use must be made of portable extinguishers and other hand equipment. In addition to organized permanent facilities, barrels and buckets filled with water should be placed at each magazine. This type of fire protection, when properly maintained and utilized, may be extremely valuable in explosive storage areas having open storage pads or combustible storage magazines. During hot weather the barrel must be refilled frequently; in freezing weather calcium chloride or salt must be added. Buckets deteriorate rapidly unless they are frequently painted or protected from the weather. They may be blown about by windstorms if they are not securely fastened in place.
Fastening devices must be easily releasable. Boxes and buckets filled with sand (with shovels located nearby) are useful in isolating, checking, or extinguishing beginning fires. To combat grass or forest fires in or near the magazine areas, an adequate supply of gunnysacks, brooms, rakes, shoes, or other similar equipment must be maintained at suitable locations.

**Water Distribution System:** The water distribution system should be protected by sectional control valves so that damaged sections of the main can be cut off without impairing the operation of the remainder of the system. Fire hydrants should be connected to a looped grid system to provide a supply from more than one direction.

**Fire-Protection Personnel:** The duties of fire-fighters, guards, military personnel, and others should be arranged so that an adequate firefighting force is available at all times. Fire drills and fire prevention inspections should be carefully conducted to ensure that fire-fighting forces understand their specific duties and that firefighting equipment functions dependably under actual working conditions.

14.13 **Issue of Armaments, Ammunitions and Explosive Stores**

These items are in the custody of User Division accounted in ASCR. All issues and returns on loan within the Lab/Estt and to other trial units/teams are to be entered and controlled in the ASCR by the concerned divisions. The vouchers for issue of this store are as per format IDIV DRDO.SM 15.

14.14 **Transportation of Explosives / Ammunition**

Explosives / ammunition should invariably be transported in explosive vans having locking facility. Such consignments will be accompanied by the Government armed escort, who would keep the keys of the lock in his custody and will ensure safety during the journey. The escort should have sound technical/ scientific background and rudimentary knowledge of handling explosives/ ammunition and firefighting. The escort shall be provided with necessary mobile communication facilities. Lab/Estt shall confirm that the following documents are held in cases where such vans are hired to obviate unnecessary halts and the need for change of vehicles at various interstate borders:

(a) Valid Fitness certificate, RC book of the vehicle.
(b) Valid Inter State/National permit for carrying explosives.
(c) Valid driving license of the driver.
(d) Valid Insurance of the vehicle.
(e) Police verification report of the Driver/Cleaner.
The safety officer of the Lab/Estt or Armament and Explosive Specialist Officer is to certify the explosive stores for its being safe for transportation before they are loaded on to the vehicle.

The van will be loaded in presence of the escort and security. En-route halts, if necessitated shall be made in the premises of State Government rest houses/police stations on the highway, specifically during night time. Vehicles should have complete tool kit and first aid box. Delay caused by non-availability of proper documents will be charged as liquidated damages recoverable from the transport contractor. The driver, cleaner and the escort will be forbidden to consume any intoxicants during their journey. In case, return fare is borne by the Government, the vehicle will not be allowed to carry any thing excepting Government stores during the return journey with escort and shall report to the Main Gate Security Office on arrival. Authorisation letter/ documents will be given to the escort for production to state/police authorities for help in cases of emergency. The driver and cleaner of the private transport company will not be allowed unauthorised entry to the firing range/trial site in the interest of their personal safety and security.

Despatch advice for each consignment will be sent promptly only by fax or signal to the Consignee with original RR / LR / AC note etc., as the case may be, for all impending despatches of explosives / ammunition consignments transported by explosive vans indicating their likely date of arrival.

14.15 **Disposal of Ammunitions and Explosive Stores**

Refer to Chapter-20 of this Manual.
15. 1  Introduction

Projects emanating from long-term R & D programmes form the core activity in the DRDO and majority of materials procured by Labs/Establishments are utilised in various projects. Therefore, the procedures to be followed in procurement and accounting of stores in project mode are of paramount importance. These projects range from very small value projects costing a few lacs of rupees to mega programmes costing crores of rupees. Some of these programmes have also been delegated special administrative and financial powers to ensure that the objectives set out in these programmes are achieved in the prescribed time and cost.

15.1.1  It is appropriate that a proper system for project/programme-wise accounting is instituted for accounting of issues and returns. This system should provide an up to date data on the expenditure of materials utilized for each project and help confining the same within the restrictive boundaries of sanctioned cost, PDC and yearly budget allocation. Precise financial estimate of the expenditure on materials is essential to work out total projects expenditure. This will enable the Labs/Estts to assess the cost of the end product, hardware/ system developed, technology evolved or upgradation cost of an existing system or weapon as applicable.

15.1.2  With a large number of issues that have to be frequently made by the inventory holders each day for a number of projects, it will be preferable that PC based software packages, suiting specific requirements of each Lab/Estt, are developed for this purpose. All issue and return vouchers will bear identification number of the projects and the same will be fed to this PC system for aggregating day-to-day expenditure/credits.

15.2  Scope of Sanctions

15.2.1  Project sanctions are normally based on the estimated expenditure and additional manpower or transport requirements as approved by Govt. Sanctioned cost specifies the upper ceiling of expenditure, which if expected to exceed after satisfactory progress of the project, will require amendment to the sanctioned cost by the Govt/Competent authority. Main elements of expenditure under the sanctioned cost would include material & equipment, foreign exchange content, development/fabrication contracts, consultancy services required for
design development, travel/training in India and abroad, contingent funds to meet stationery/office equipment, cost of MT vehicles for projects, scientific and non-scientific man-power specially recruited for duration of the project and expenditure on outstation trials and number of prototypes, if required for trials.

15.2.2 It will be ensured that the expenditure is kept within the sanctioned prescribed ceiling and Annual budgetary allocations.

15.3 Project Register

On receipt of the sanction, the project information indicating project title and sanction letter number and date, sanctioned cost of the project, project number as allocated by R & D HQrs (Technical Director), PDC etc will be entered in the Project Register by the project group. This data will be updated with any subsequent revisions in scope, cost and PDC, alongwith the authority approving such revisions. This register will be kept up-to-date and produced to audit, if and when required. Computer-based option may be used to maintain such record/register.

15.4 Control on Expenditure

15.4.1 Control on expenditure should begin at the demand initiation stage itself. An upto date account of expenditure incurred on materials will be maintained for each project. Before commencing procurement action it must be ensured by the MMG of the Lab/Estt that funds are available in the project and also in the current financial year's budget allocation.

15.4.2 The chronological record of each of the issue and return vouchers, indicating cost details, will be entered into the project account record preferably through computer-based system, in addition to manual record. Cost of items in foreign exchange will be suitably indicated. Financial commitments on materials will not be shown as expenditure till the payment is made. These records will be subject to scrutiny of the audit, if and when required.

All issue vouchers will be routed through the person maintaining record of control over expenditure, who will confirm availability of funds before issues are made. Similarly, all the return vouchers will also be routed through this section for crediting of cost of stores returned, to the project account. For assessing the availability of funds against projects, the financial transactions on account of issue and return of materials at different work centers of major projects, will also be entered into the project records/data at the central project
accounting section of the co-ordinating Lab/Estt. All issues will be made well in time before the PDC of the project.

15.5 **Budgeting and Procurement**

For provision of funds, procurement of indigenous or imported stores/materials and release of foreign exchange, the procedure as laid down in chapters 2, 7 and 8 of the “Purchase Management Procedure in DRDO”, will be followed. A copy of stores budget allocation against specific project and any amendments thereto will be made available to CDA authority for regulating payments.

15.6 **Consumable Stores**

The consumable stores required for projects will be drawn from central/divisional stores on ESIV (**DRDO.SM 15**). To aid project accounting, each issue voucher will distinctly bear the project number for which the stores are drawn. The issue voucher will be controlled by numbering them serially for each financial year. The details of stores issued for projects through above issue vouchers, will be entered into the project expenditure records/data by the Project Accounting Section.

15.7 **Subsidiary Registers**

The project officers-in-charge may maintain subsidiary registers to record the receipt/issue transactions for the stores drawn in bulk, which are not meant for immediate consumption e.g. for items like chemicals in sealed containers and other packaged components/stores. The items to be accounted for in the subsidiary registers will be decided in consultation with the LAO. As and when the items are consumed, even in part quantities, these will be charged off from the subsidiary registers at least once in a fortnight, through ESIV (**DRDO.SM 15**) Items of small value need not be accounted for in the subsidiary registers even if those are drawn in bulk against issue vouchers. Note: - Items of trivial nature upto a value of Rs.500/- each will be taken as of small value.

15.8 **Non-Consumable Stores**

15.8.1 All non-consumable stores, such as equipment, tools etc. will be drawn on IDIV (**DRDO.SM 16**) indicating the project number. Nominal IDIVs will indicate value of the equipment, tools etc for debiting the cost to the project. Non-consumable stores will not be charged off from main ledger but the distribution will be indicated at the back of
main ledger sheets. All non-consumable stores will be reflected in the project inventories to be maintained by the project office. It will be distinctly written, preferably in red ink, on the top of ledger folios maintained by central ledger section that item is non-consumable.

An expenditure record/card for non-consumable stores will be maintained separately for each project by Project Accounting Section. The items though of non-consumable in nature, which are incorporated in the project as components, if not dismantled and recovered after the close of the project, will be charged off through an Internal Return and receipt Voucher (DRDO.SM 17). The cost of such items utilized in the projects, will be debited against the project concerned.

15.9 **Return of Stores after Completion of the Project**

15.9.1 All stores consumable and non-consumable, remaining unused on completion of the project, will be returned to the central stores on IRR voucher. The cost of consumable items will be credited to the project account. Suitable entries in the subsidiary registers will be made to record such return of stores, wherever applicable.

15.9.2 The capital assets such as machinery, equipment, facilities including M.T. vehicles, which have useful residual life on completion of the project, will either be transferred to other projects or build up of the Lab/ Estt through central ledger. No credit will be allowed to the project expenditure on account of re-appropriation of such items.

15.9.3 The surplus and unserviceable stores will be disposed off in the usual manner, as per the laid down procedure in the Chapter-20.

15.10 **Issue of Developed Items**

15.10.1 As soon as the project is completed the developed item will be taken on charge by CRV. After development, items required for user trials, will be issued as per Chapter - 11.

15.10.2 The developed proto-types/trial models of an equipment, if required to be retained by the services for prolonged trials or for training purposes, will be charged off through EIV (DRDO.SM 16)  

15.10.3 Proto-types developed against projects and subjected to rigorous environmental tests/trials may lose their further utility and will thus be branded as “yellow banded models”. These items will be struck off charge by means of a Conversion Voucher (DRDO.SM 27) and disposed off as per normal disposal procedure on completion of the project.
15.11 **Losses during Field Trials**

15.11.1 Losses/damage of trials stores incurred during field trials due to unavoidable reasons such as hostile terrain, accidental losses, high sea state conditions etc., will be viewed as unavoidable loss and charged off and regularised as loss not due to theft, fraud or neglect in terms with Chapter 19.
CHAPTER – 16
SPECIAL MATERIALS

Radio Isotopes, Hazardous / Poisonous Chemicals and Biological Agents

16.1 Introduction

A few DRDO Labs/Estts deals with Radio isotopes, Hazardous/ Poisonous Chemicals and Biological Agents for developing protective equipment, clothing, etc. Their procurement, receipt, storage, issue and disposal requires special treatment. This chapter deals with store accounting procedure for such materials.

16.2 Radio Isotopes

When created by BARC by the process of neutron bombardment, Radio isotopes start emitting radiation. The radiation strength is measured in curies. These isotopes can exist in the form of pencils, liquid or gas. The isotopes are not taken into account as number of pencils or weight of liquid or volume of gas. They are accounted based on their strength in curies.

16.2.1 Each radioisotope has a half-life i.e., its original strength in curies decreases to 50% value over a period of time called half-life. This is due to decay as radioisotope continuously emits radiation whether it is used or not. Thus the strength of radioisotope goes on decreasing with time.

16.2.2 Board of Radiation and Isotopes Technology (BRIT) gives a chart for some isotopes giving the reduction in strength (in percentage) for each month of time elapsed from the release of isotopes. BRIT also gives a decay formula for calculating the reduction in strength for isotopes if the chart is not available. This is applicable for pencils.

16.2.3 For liquids and gases, one more aspect is to be taken into account. While handling the liquid isotope some amount may spill on to any object while doing experiment. That amount of liquid isotope and corresponding strength in Curies has to be treated as lost. Radiation Safety Officer (RSO) will determine the new reduced strength of the liquid isotope. Based on which expense voucher will be prepared and the ledger balance reduced. The material affected by spillage has to be abandoned and destroyed by burying it as laid down by BARC.

16.2.4 The gases will permeate from the container and escape over a period of time. So its strength gets reduced on two counts. One based on reduction and decay formula and other due to reduction in volume due
to escape of gases. The actual strength at any time has to be
determined based on actual measurement only.

16.3 **Role of Radiation Safety Officer (RSO)**

For dealing with radioactive materials, Radiation Safety Officers are
appointed in the DRDO Labs/Estt dealing with radioactive materials. RSO
has the total responsibility to regulate the procurement, receipt and abidance
of all safety precautions regarding use of radioactive materials. In brief he
has to ensure maximum benefits with minimum risks to the DRDO Lab/Estt
in dealing with radioactive materials.

16.3.1 RSOs are graded at three levels. Level-I RSO undergoes two weeks
training at BARC, Mumbai. Level-II RSO undergoes two months
certificate course at BARC. Level-III RSO should have undergone
one-year diploma course at BARC. Level-I and level-II RSOs work
under the supervision of level-III RSO.

16.3.2 These RSOs are regular employees of DRDO. However, they come
under direct functional control of BARC. They are accredited by
BARC.

16.3.3 RSO has to take complete responsibility for implementing all safety
procedures laid down by BARC and they directly report to BARC.

11.4.3 If BARC is not satisfied with the performance of any RSO it can
withdraw the accreditation granted to him and he ceases to be RSO.
BARC in consultation with the Lab/Estt Director may give accreditation
to another Scientist of the same Lab/Estt.

16.4 **Procurement**

At present, Board of Radiation and Isotope Technology (BRIT) is the only
authorized agency to supply radio isotopes to DRDO. Procurement of
isotopes will be done on single tender with PAC basis. Isotopes not available
through BRIT are procured from foreign sources following the procedure laid
down in PM-2003.

16.5 **Receipt of Material**

The isotopes are received in the form of pencils, liquids or gas. The material
is dispatched by BRIT to the Lab in the name of RSO, who will directly
receive the material. No store personnel from MMG are permitted to handle
or receive the material. It is directly taken to the place of use by RSO.
However all paper formalities for receipt and taking on charge will be
completed by MMG. RSO will ensure and certify that the material received is as per the requirement given in the supply order.

16.6 **Issue of Radio-Isotopes**

The stores are directly delivered to the user division by RSO. Store personnel are not allowed to handle the packages as it may endanger their life. The inspection and acceptance report will be rendered by RSO. On receipt of the same, the Demand cum Issue Voucher action will be completed by the User division and MMG. The Isotopes will be accounted as consumable item. However, a separate Subsidiary Control Register to be maintained to record the strength on monthly basis. The usage of the isotopes is also to be recorded meticulously in this register. The entries in the register are to be certified by RSO by 5th of every month. This register is to be presented to inspecting and audit authorities whenever required.

16.7 **Annual Consumption Report**

Annual consumption report is to be raised by the user division to reflect receipt, usage, decay and balance duly reconciled for each financial year. The report shall be certified by RSO confirming that the reduction in strength is due natural decay within permissible limits and countersigned by the Director.

16.8 **Accounting the reduction**

The user Officer will give an expense voucher for each radioisotope based on the report submitted by RSO as given in the following paras:

The expense voucher should clearly mention the amount of strength in curies reduced due to decay and escape (in case of gases).

RSO will also sign on the expense voucher to confirm the correctness of the figures.

Based on the expense voucher the Ledger section will make an entry in the ledger page and reduce the original strength by the amount given in the expense voucher.

After this entry, based on the expense voucher, the ledger will reflect the reduced strength.

Based on the formula/advice from BRIT, the price mentioned in the ledger page will be reduced for the amount of strength reduced.
16.9 **Surprise Checks**

Director may order surprise checks to ensure that the radioisotopes are safe and intact as these are highly dangerous and sensitive items. The surprise check will be conducted by RSOs only. RSO should render a report to Director. In case any isotopes are found missing, top priority action should be taken by Director to locate the missing isotopes failing which Director shall convene a court of enquiry. The matter should be intimated simultaneously to the local police authorities and BARC.

16.10 **Replenishment of strength**

16.10.1 Whenever required the replenishment can be carried out in following two ways:

In the first case more number of pencil sources will be added to increase the strength.

In the second case the existing pencil sources will be replaced with new pencil sources with the full charge.

16.11 **Disposal of used sources**

When radio isotope reaches a stage of energy level which, in the opinion of user group head, cannot be used further, he will put up a note to the Director recommending disposal of the material. After getting Director’s approval, the note will send to head MMG.

User group inventory holder will make necessary entries in subsidiary control register to remove the item from his charge. The source will be handed over to RSO for disposal action. RSO will despatch the source to BRIT under External Issue Voucher issued by MMG. This external issue voucher will be endorsed as “Not For Ledger Action”.

The source will be despatched through non – returnable gate pass.

RSO will ensure that all safety precautions/ procedure laid down are followed.
BRIT will hand over the source to BARC for disposal action. BRIT will charge the Lab/Estt an amount as prescribed by them for carrying out disposal action.

So disposal of radio isotope source will not bring any revenue but entails expenditure.

16.12 Contamination due to radioactive isotopes

Owing to prolonged exposure or contact with radioactive material, some items may get contaminated/damaged. Such items, if not removed from the Laboratory may prove to be hazardous to the personnel working there. On suspicion of such contamination, RSO has to immediately examine the contaminated/affected items/equipment and recommend its disposal. In case, it is recommended to be disposed off, the same will be buried as per the existing instructions from BARC under the supervision of RSO. The accounting action has to be completed as under:

a) IRRV will be prepared by the Inventory Holder and submitted to MMG for return action.

The physical transfer of item to MMG will not be called for. MMG will raise EIV which will be endorsed with a certificate from RSO duly countersigned by Director of Lab/Estt to strike off the item from ledger charge. In the consignee column of EIV, the word ‘CERTIFICATE’ will be written and this EIV will serve the purpose of Certificate Issue Voucher. EIV will be cross referred with the loss statement.

Loss statement procedure will be followed as per Chapter-19. The CFA for regularisation of losses due to radioactive contamination will be Director of Lab/Estt irrespective of the value.

16.13 Protective Clothing

All users of radioactive materials and involved in radiographic processes like X-Ray, etc will have to follow safety rules related to occupational health aspects and will have to wear ‘Thermo Luminescence Detectors (TLD) - personal monitoring badges and neutron monitoring badges’. These badges are available on payment basis at address given below. These badges will be required to be changed after every three months. The badges are used by occupational workers and returned by RSO to BARC and new ones issued. Dose records obtained from BARC will be communicated to the individual by RSO.
Address:
Head
Personal Monitoring Section,
BARC, CTCRS Building,
Anushakti Nagar, Mumbai- 400 094.

Further, present BRIT address (Year 2002) for obtaining the radioisotopes is given below,

General Manager
Board of Radiation & Isotope Technology (DAE)
Government of India, V.N. Purav Marg, Mumbai – 400 094

16.14 Gaseous Sources

Gas filled Tritium sources etc. will also be obtained from BRIT through RSO. User as for radioactive materials will do accounting of these sealed gaseous sources.

16.15 Chemicals – Handling, Storage And Disposal

Many of the DRDO Labs/Estts deal with a few to large numbers of chemicals for research and development activities. These chemicals frequently used in the laboratory may be inherently hazardous in different degrees. Improper storage and handling can lead to personal injury. Such accidents may be caused by chemicals or their fumes coming in contact with the body or through inhalation or swallowing. Such injuries are called “toxic” or “chemical” injuries because the living organism is damaged by chemical action. This is in contrast to injuries caused by physical forces: mechanical blows, external radiation and heat.

Different substances possess this property of toxicity in different degrees. Not only some are more potent than others, but also, different materials produce different types of injury. For example, one may injure the liver or kidneys, whereas another may act upon the brain, with negligible effect on the other organs.

Most of the fine chemicals used in research work are available commercially such as Aldrich, Fluka, Sigma, Lancaster, Across, Ranbaxy, Merck, and Qualigens etc. These are chemicals, which are not available, but are synthesized in the laboratory on requirement using commercially available chemicals.

16.16 Handling And Storage
Provision of separate place for handling the hazardous materials should be provided. For example, a separate room-preferably flameproof with additional ventilation and adequate emergency exits in case of fire-should be set aside. Similarly, for handling the hazardous gases like hydrogen sulphide, a separate room with a manifold exhaust system is recommended. Appropriate caution labels should be provided at the storage and handling places for immediate warning about hazardous materials.

Fume cupboards are often used for the storage of highly flammable or other volatile chemicals, which can evolve toxic vapours. It is dangerous to mix the storage of oxidative, corrosive chemicals such as fuming nitric acid with that of organic material such as petroleum. The provision of separate, well-ventilated storage cupboards for each is essential and experiments should not be carried out in fume cupboards used for storage.

16.17 General Safety Precautions

It is generally recognised today that every laboratory or group of laboratories should have a set of safety rules, which are appropriate to their particular type of chemicals used. No set of rules is of any value unless they are fully understood by those concerned and are recognised as being designed for their protection. Safety training must therefore play a major part in ensuring freedom from serious accidents due to chemicals in any laboratory. Everyone working in laboratory needs to be made aware about the characteristics of the various chemicals used.

16.18 Gas Cylinders

The use of a wide range of compressed chemical gases in cylinders is common practice in chemical laboratories. These may range from the flammable such as hydrogen, propane and acetylene to the toxic such as carbon monoxide and chlorine. Wherever possible cylinders of any gases should be installed out side the laboratory building and a permanent pipe system arranged to deliver the gas, at the required operating pressure, to the point in the laboratory where is needed. All cylinders should be securely shut-off at the valve on the cylinders when not in use and always at the end of the working day. As a safety measure filled gas cylinders, when not in use, should be stored in vertical position only. At the time of loading/off loading and transportation of the cylinders of compressed gases, the protective cap on the valve must be placed securely.

16.19 Protection

Chemical laboratories should have special protective clothing and equipment readily available for emergency and for secondary protection for personnel working with hazardous materials.
Following protective gears can be used in the laboratory depending on the type of work and chemical to be handled:

<table>
<thead>
<tr>
<th>S.NO</th>
<th>TYPE OF CHEMICAL TO BEHandled</th>
<th>TYPE OF PROTECTIVE GEARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ordinary laboratory chemical like acids, alkalies and organic solvents</td>
<td>White apron shoes and gloves</td>
</tr>
<tr>
<td>2</td>
<td>Fuming off chemicals and moderately toxic gases</td>
<td>Apron, shoes, facelet and safety glasses</td>
</tr>
<tr>
<td>3</td>
<td>Toxic chemicals</td>
<td>Apron, shoes, facemask with canister and gloves</td>
</tr>
<tr>
<td>4</td>
<td>Extremely toxic chemicals</td>
<td>Permeable protective clothing, protective shoes, protective gloves gas mask with canister</td>
</tr>
</tbody>
</table>

All protective equipment should be readily available in each laboratory and should be kept in a specific place set apart for the purpose—such as a glass-fronted cupboard painted green—which is known to all persons working in the laboratory. First aid equipment should also be provided nearby. After use the equipment should be washed and dried and returned to the cupboard ready for the next user.

16.20 Handling Of Cryogenic Fluids

All the materials used for handling cryogenic fluids must be carefully selected not only for their compatibility with the fluid but for their low temperature properties. Adequate ventilation should be provided if the gases generated by evaporation of the fluids are discharged into the laboratory. Instructions for their safe handling should be laid down in detail in the laboratory code of practice.

16.21 Decontamination

There are various decontaminating agents available for different types of chemicals. In general, water can be used as decontaminating agent for all the general chemicals (except a few) available in the research laboratories. The decontamination method for individual chemical is available in the MSDS of it, which should be followed.

16.22 Disposal Of Chemical Wastes

It is advisable to consider what steps should be taken to dispose of waste hazardous chemicals. Care should be taken that no untoward reaction between waste materials occurs in the drains with the generation of noxious or toxic gases. The chemical waste can be buried or incinerated after complete decontamination with decontaminating agents.
CHAPTER – 17
STOCK VERIFICATION OF STORES

17.1 Introduction

DRDO Lab/Estt procures lot of equipment for various projects and related activities. Stock of the Central Store has to be checked and discrepancies reconciled once a year. Items held in Group/Division inventories will, however, be checked by Independent checks as described in Chapter-12 of this Manual. Stocktaking needs to be carried out with full sincerity and utmost care. Fictitious stock taking, if proved, is an offence and is to be dealt with accordingly.

17.2 Responsibility

17.2.1 Directors of the Lab / Estt / Projects are responsible that the items held on the charge of the Central Stores of the Lab/Estt and of the Groups/Divisions are checked once during each financial year. Further, it is to be ensured that during stock taking of Central Store, no transactions are carried out.

17.3 Nature of Stock Taking of Central Store

17.3.1 It is on the discretion of the Director Lab/Estt to choose the type of stock taking to be adopted in the Lab/Estt, i.e., either fixed or continuous. However, it is to be noted that fixed stock taking is preferably adopted for Lab/Estt having not more than 100 types of items in the Central Store. Continuous stocktaking is to be adopted for Lab/Estt where Central Stores stocks more than 100 types of items. The option of adopting fixed or continuous stock taking is to be exercised at the beginning of a calendar year. Once option is exercised, it should not be changed for a minimum period of two years. However, if need arises to change the type of stock taking after completion of one year, permission should be sought from Director with full justification for the change.

17.4 Fixed Stock Taking

Fixed stocktaking is carried out during a fixed period in the financial year; the commencement/completion of which are required to be published in DO Part-I. On completion of stocktaking, the report is to be submitted to Director and a copy of the certificate as given in Appendix ‘B’ is to be furnished to CDA (R&D) / JCDA (R&D) / DCDA (R&D) concerned.
17.5 Continuous Stock Taking

17.5.1 Continuous stocking is spread over the stock taking cycle and has to be commenced and completed within the financial year. In case of continuous stocktaking, a programme is to be drawn up prior to the commencement of the stock taking cycle so as to complete stocktaking of entire range of items held within the cycle. The stocktaking programme should be prepared by 31st December of the previous year for the stock taking cycle, which begins 1st April of the next year. The programme of stocktaking is to be drawn ledger folio number wise. This programme is to be duly approved by the Director. The approved programme is to be published in DO Part-I. Programme once finalised is to be adhered to and deviations, if any, are to be intimated to the Director with reasons and justification.

17.6 Procedure for Stocktaking

17.6.1 Annual Stock Taking Board (ASTB): To ensure that the verification of stock is carried out satisfactorily, an independent stock taking team having adequate number of officers and staff is detailed by the Director of Lab/Estt/Project. Subject to the condition that the verification is not entrusted to a person

(i) Who is the custodian, the Ledger –keeper or the Accountant of the stores to be verified, or who is a nominee of, or is employed under the custodian, the Ledger-keeper or the Accountant; or

(ii) Who is not conversant with the classification, nomenclature and technique of the particular classes of stores to be verified.

(iii) The verification shall never be left to low paid subordinates and in the case of large and important stores, it shall be, as far as possible, entrusted to a responsible officer who is independent of the subordinate authority in charge of the stores.

The CHAIR PERSON of the ASTB should preferably be not less than a Scientist ‘E’ or equivalent. The constitution of ASTB shall be published in DO Part-I.

17.6.1(a) In making a physical verification, the following instructions shall invariably be observed:-
17.6.2 Raising of Stock Sheet: Stock Sheets for items to be stock taken are to be raised in duplicate (DRDO.SM 12) by MMG (Ledger Section) without mentioning the quantity on charge of the ledger. Each sheet is to be numbered consecutively. The stock sheets so prepared are to be handed over to ASTB under a covering letter that in turn will pass on the Stock sheets to the Stockholder only for annotation of location of the items.

17.6.3 Personal employed for stock taking duties are not to obtain any information from the ledger until the completion of stock check. Every care is to be taken to guard against recounting of the items. All the transactions are required to be stopped for the range of items for which stock taking is in vogue. Urgent issues if any are to be carried out in the presence of the stock taker and vouchers marked “After stock taking” or “Before Stock taking” as the case may be. The ASTB is to then proceed to verify the items physically.

17.6.4 Actual counting, weighing, measuring etc., should be limited to loose items. Cartons and pre-packed containers are not to be opened unless there is a sign of damage or tampering.

17.6.5 Small articles held in large quantities are to be measured by weight and then converted into numbers.

17.6.6 Stock taking team is to ensure that any item recently received and not BOC has not been counted in the stock taking figures.

17.6.7 Items, which cannot be identified, are to be submitted to specialist officer for identification and categorization.

17.6.8 All outstanding vouchers should be posted and Ledger ruled across in Red Ink leaving sufficient space for posting of adjusting vouchers. In the case of computerised Ledgers balances are to be accordingly frozen.
17.6.9 Sheets are to be serially numbered in respect of each Godown and each sheet is to indicate the total number of sheets used for that particular Godown. Each set of sheets is to be allotted an RV number prefixed by letters SS (Representing ‘Stock Sheet’) in red ink from voucher control register separately maintained by ASTB.

17.6.10 In case, no stock is found in respect of any item for which a ledger exists, the particulars are to be entered as nil in stock along with the ledger balance.

17.6.11 Total quantities in stock as per stock sheets are to be posted on the ledger below the ledger lines.

17.6.12 In case the physical stock agrees with the ledger balance the ledger is to be stamped as “physical balance agrees with ledger balance and stock correct”. The RV number of the stock sheet is to be quoted against stamped endorsement and initialed by a senior member of the ASTB.

17.6.13 A certificate of verification of stores with its results shall be recorded in the list inventory, or account, as the case may be, where such verification is carried out.

17.7 Adjustment of Discrepancies

17.7.1 Before final adjustment action is taken the CHAIR PERSON of ASTB is to verify by further check, if any discrepancy exist in recording of quantities during the stock taking.

17.7.2 Surpluses may be set off against the deficiencies of item under the same generic heading by conversion voucher as follows:

Surplus of serviceable items against the deficiency of serviceable item.

Repairable surplus against repairable deficiency.
Serviceable surplus against repairable deficiency.

NOTE: Surplus of repairable items cannot be adjusted against deficiency of serviceable item.

17.8 Submission of Report

17.8.1 The CHAIR PERSON, ASTB is required to submit a report to the Director through Head MMG regarding completion of stock taking together with details of deficiencies and surpluses. The report is
required to be rendered after completion in case of fixed stock taking and at the end of every month in case of continuous stock taking in addition to final report at completion.

17.8.2 Certificate of stock taking is required to be submitted by the Head MMG at the end of each financial year to CDA (R&D).
CHAPTER- 18
ACCOUNTING OF STORES PROCURED THROUGH CASH PURCHASE

18.1 Introduction

The cash purchase procedure is covered under chapter-6 in Purchase Management (PM–2003). This chapter deals with accounting of stores purchased through Cash Purchase.

18.2 Accounting Procedure

A single point contact will be maintained at MMG nominating a Senior Store Keeper / Store Officer for controlling the Cash Purchase Vouchers. **DRDO.MM.10** in duplicate alongwith IDIV in triplicate will be brought by Purchasing Officer or his rep. to MMG. MMG will maintain separate series of IV & RV Numbers called as CPIV and CPRV Numbers respectively for cash purchased items.

The single point contact person in MMG will enter the cash purchase items in the CPRV Control Register (**DRDO.SM.30**) and enface **DRDO.MM.10** with the CPRV Number and sign for it. The control number of CPIV Control Register (**DRDO.SM.31**) will be allotted to the IDIV.

The purchasing officer or his rep. will take back one copy of **DRDO.MM.10** alongwith one copy of IDIV for settlement action as per PM-2003.

MMG will prepare CRV in the usual manner from the second copy of **DRDO.MM.10** and allot the same CPRV Number to it which was put on relevant **DRDO.MM.10**. IDIV and CRV will be forwarded to ledger section for further action as per Chapters 6 & 11. The CPRV Control Register will also function as the SIR for cash purchase items. No BIN action will be required for cash purchase items except for the items purchased for stock purpose in central store. For items purchased for central store CPIV No. will not be applicable, instead IDIV No. will be taken as per Chapter 11.
CHAPTER 19
LOSSES AND REGULARISATION

19.1 Introduction

The rules outlined below regarding regularization of losses are subject to the general provisions of FR Part 1 Chapter VII.

19.2 Definitions

(a) Write-off: The terms only to be applied where the posting of an issue in the ledger is in respect of a loss.

(b) Write-down: The Accounting procedure for reducing the category of the item (i.e. lessening its value).

(c) Strike-off: The terms applied to the entry of an issue of stores in ledger when the issue is not in respect of loss.

19.3 Financial Powers

The Financial Powers of various Competent Financial Authorities (CFA's) to regularise loss or damage are given in Schedule of Powers, as amended from time to time.

19.4 Classification of Loss

All cases of losses or damage to stores may be classified as under :-

(a) Losses/damages not due to theft, fraud or gross neglect
   (Holding of Court of Enquiry in such cases will be discretionary)

(b) Losses/damages due to theft, fraud or gross neglect
   (Holding of Court of Enquiry may, at the discretion of CFA be dispensed with where the reported loss is less than Rs.10,000/-)

19.5 Definition of Gross Neglect

Only those losses, which have resulted from gross neglect on the part of individual(s) responsible for the lost item i.e. the holder of the item, should be classified as due to neglect and dealt with as such. Apparent losses of stores resulting from wrong identification, incorrect entries in ledger, omission to prepare vouchers for stores disposed off, or other errors committed by ignorant or inexperienced staff on account of circumstances beyond their control need not be viewed as coming under the category of “gross neglect” unless it is proved otherwise by facts.
19.6 **Loss**

Due to following causes will not be categorised under losses due to theft, fraud or gross neglect.

(a) Fire, unless otherwise proved to be with intention of sabotage.
(b) Rain, storm or flood, earthquake or other natural calamities.
(c) In transit –
   - Between Depots and Lab/Estt
   - Between DRDO Labs/Estts
   - Between manufacturing establishments and the Lab

19.7 **Investigation of Losses**

All cases of losses of stores shall be investigated by a superior officer of the individual in charge of the stores lost. If the investigation shows that the loss is due to theft, fraud or gross neglect, he shall submit the case to Director of the Lab/Estt, who shall arrange for the assembly of the board of enquiry to investigate the reported loss. The results of board of enquiry are to be communicated to the CFA for necessary action together with the relevant loss statement. If the Director waives off the board of enquiry under his discretionary powers, an endorsement to this effect is to be made by him on the body of the loss statement.

19.8 **Pricing of Loss Statements**

Pricing of loss statements has to be done carefully so as to include total cost of the loss i.e., in case of total loss of a particular item, the cost of the item including procurement cost viz. freight charges, bank charges, if any, etc. are to be included. Pricing of a loss in case of imported equipment shall be supported with cost memo from the bank and the freight bill of the air consolidator.

19.8.1 In case there is damage to equipment to the extent that it can be repaired and put into use, cost of repair should be assessed through the repair agencies/manufacturer and the loss statement should be raised only for the estimated cost of repair.

19.8.2 In case of total loss, financial additional guidelines are to be adhered to depending on the category of equipment prior to the loss.

   a) Cat ‘A’ (New and unused) – full cost of procurement.
   b) Cat ‘B’ (used but fully serviceable) – 80% of the cost of procurement.
   c) Cat ‘C’ (serviceability status not known) – 70% of the cost of procurement.
d) Cat ‘D’ (repairable) – 50% of the cost of procurement.

e) Cat ‘E’ (condemned) – 10% of the cost of procurement.

19.9 **Initiation And Processing Of Loss Statement**

19.9.1 As soon as the loss is noticed, Provisional Loss Statement has to be prepared by MMG on Loss statement form **DRDO.SM 23** to be raised in four copies, giving complete detail of the loss. This should be immediately controlled by giving a Provisional LS/IV No. This action is to be completed within five working days of noticing the loss. In the case of a total loss, LS/IV No. is to be posted in the ledger to write off the lost item from charge. In case the loss is in respect with lowering of category of the item, i.e. it is in respect of damage to equipment or finding the item to be defective rendering the equipment repairable, the Provisional Loss Statement is to be supported with a Transfer Voucher bearing T.V. No. and the T.V. is to be posted in the ledger for transferring the item from serviceable to defective ledger. Both the Loss Statement and the Transfer Voucher are to be cross-referred.

19.9.2 Investigation/board of enquiry should generally be completed within 60 days of noticing the loss. In case the delay is more that 60 days, a DELAY MEMO justifying the delay needs to be attached to the loss statement. A statement of case giving full history of the case including all correspondence made with consignor and/or other agencies to make good the loss and also details of the claims on carriers, if any, should be prepared and duly countersigned by the Director of the Lab/Estt. The Provisional Loss Statement alongwith SOC, Delay Memo, if applicable and copies of all relevant correspondence and vouchers is to be sent to CDA (R&D) in two sets for rendering audit report and onward submission to R&D HQrs.

19.9.3 The CDA (R&D) should not take more than 15 working days for rendering audit report or for returning to the Lab/Estt with observations, if any. With the audit report, CDA (R&D) is to forward one set of Loss Statement to R&D HQrs for obtaining CFA sanction under intimation to the concerned Lab/Estt.

19.9.4 The remaining 2 copies of Loss Statement in the Lab/Estt are disposed as follows:

   a) One copy alongwith all relevant papers will remain in the case file.

   b) One copy will remain with the Ledger Section after ledger action.
19.10 **Action after CFA Sanction**

After the CFA sanction is accorded, the provisional loss statement is to be converted into a formal loss statement and all the connected documents and vouchers are to be endorsed accordingly with suitable cross linking. Xerox copy of loss statement along with original copy of CFA sanction is to be sent to CDA to enable to endorse their copies also.

19.11 **Loss Due to Theft Fraud or Neglect**

In cases of loss due to theft, fraud, gross neglect on the part of any Govt servant, responsibility should be fixed and losses made good. Holding of board inquiry is mandatory where the loss is more than Rs.10,000/-. In case, penal deduction is to be awarded to the guilty person, or group of persons, Rule 160 of FR Part I shall be followed for awarding penal deduction and disciplinary action. In cases of loss due to theft or fraud, FIR is to be lodged with Police Authority promptly and follow up action taken by the Police Authority on the FIR is to be regularly monitored. All relevant information /evidences are to be quickly furnished to the Police Authority to help them to take recourse to appropriate legal action.

19.12 **Checklist for submitting the Loss Statement to CDA(R&D)**

a) Loss statement submitted in two sets of papers.

b) Court of enquiry proceedings/waiver certificate attached, and details of FIR lodged with Policy authority in case of loss due to theft or fraud.

c) Statement of Case attached

d) Delay Memo, if applicable, attached

e) Copies of all correspondences related to the loss attached

f) Copy of the claim attached

g) Copies of the documents like Cost Memo from Bank or Estimate of the repair cost from repair agency or manufacturer, which support the pricing of the Loss Statement attached.
20.1 Introduction

DRDO is progressing projects in the advanced high-tech areas. For carrying out Research & Development Projects, DRDO scientists procure many hi-tech scientific & testing equipment, machineries, computers, instruments etc. Due to fast obsolescence of these scientific equipment and machineries especially the computers and electronic instruments and also due to the wear and tear of these types of equipment, it is necessary to replace them with new ones after their useful life. Some of the equipment also get damaged due to trial conditions, environmental testing, dynamic simulation tests, transportation, accidental damage due to natural hazards etc. Also the tools, dies, moulds, gauges etc. procured for manufacture and inspection of trial stores loose their utility due to wear and tear and also due to modification in the design of the components. The above phenomenon generates considerable quantity of obsolete/surplus materials, which occupy enormous storage space and gives erroneous inflated picture of holdings resulting in wastage of resources in terms of effort and money. It is, therefore, imperative to constantly review the holdings of Labs/Estts to identify disposable items which may include Dies, Jigs, Fixtures, Moulds etc rendered obsolete within a short period after acquisition and having no further utility. In addition, unserviceable stores (BER) and scrap generated from various processes within the Lab/Estt and against development/fabrication contracts, also add to the disposable category of stores. Packing materials/cases made of wood, metal, plastic etc. may also be required to be scrapped if recycling is uneconomical.

To prevent huge accumulation, regular review is required to be undertaken to recommend their disposal. As the above items unnecessarily occupy useful space and do not serve any purpose for retaining them, these machineries, equipment and instruments, which have lost their utility, are required to be conditioned/condemned and disposed off in such a manner that serves the best interest of the State. This chapter describes the procedure for condemnation / conditioning of the stores, necessary ledger action required and the procedure for disposal of stores.

20.2 Categories of Stores for disposal

The disposable materials can generally be classified under the following three categories.
20.2.1 Serviceable items that have become surplus/obsolete from Research & Development point of view but are still useful to industry and academic institutions.

i) Items/equipment/instruments/machineries rendered obsolete for which spares and maintenance support are not available.
ii) Surplus and non-moving stores for which requirement does neither exist at present nor any future utility is foreseen in the Lab/Estt.
iii) Dies, Jigs, Fixtures, Moulds, special purpose Tools etc, which have no further utility due to the change in the design/modifications of the prototypes.
iv) Shelf-life items, which are surplus to requirement and no utility, is visualized before the expiry of shelf life.

20.2.2 Unserviceable items

i) Items/equipment/instruments/machineries or their components/parts rendered unserviceable due to wear and tear and out of their usable life.
ii) Dies, Jigs, Fixtures, Moulds, Tools, Tyres, Tubes, Batteries etc, which have worn out and become useless.
iii) Damaged equipment/stores, which are Beyond Economical Repairs (BER). These may result from rigorous trial conditions, environmental testing such as shock/bump/vibration/temperature/cycling/humidity/submergence rain simulation tests or accidental damage due to natural hazards, transportation, during trials etc. In such cases the usable parts will be cannibalised for alternative use.
iv) MT vehicles beyond their useful life of specified number of years and kilometerage as given in the “Transport Policy” issued by Directorate of Management Services, DRDO HQrs and are Beyond Economical Repairs (BER).

20.2.3 Scrap / Swarf

i) Scrap/Swarf generated from machining or repeated rework.
ii) Used cartridge cases of ammunitions having metal parts with resale value.
iii) All types of Packing cases including metallic containers, cable drums, etc., which are declared unfit for further use and not economical for recycling.
iv) Remnants of clothing and perishable food materials, which are generated after any processing.
v) Waste generated from any type of processing.
vi) Shelf life expired items like medicines, chemicals, oils, grease, resins, adhesives, rubber products, grinding wheels, batteries etc., for which further extension of life is not possible.

20.3 **Initiation of Conditioning & Disposal Action**

Heads of Divisions, Groups, Workshops, Central Stores, Testing Laboratories, Projects & Programmes will periodically examine the holdings in their respective divisions/groups to identify and demark the stores which are obsolete, not serving useful purpose and BER and send a list of such stores to Materials Management Group for forwarding to suitable Conditioning / Condemnation Boards. It is necessary to send separate lists for each category of items such as machineries, electronic equipment, computers, machine tools, metallic moulds & gauges, FRP moulds/components etc. so that separate lists can be prepared for convenient disposal of items through MSTC, Ordnance Depots, Local Tendering etc. The list of items are to be submitted to MMG in the specified format (DRDO. SM 22) giving the details such as Category of Items, Ledger No, Page No, Full Nomenclature of items, Accounting Unit, Cost of items at the time of procurement, Date/Year of Procurement, No. of years of its useful service, No. of years of its non utilization, Reason for its disposal etc.

20.4 **Constitution of Standing Conditioning Boards**

Director of the Lab/Estt will constitute one or more Standing Board(s) of Officers preferably for each broad category or specialization of items to physically examine the stores projected by the divisions/groups for conditioning/condemnation & disposal and offers their recommendations in the format specified. The constitution of the Board will be as under:

a) Chairman : Officer of the rank of Scientist ‘E’ or equivalent  
b) Member : Expert Scientist from the respective specialization  
c) Member (MMG) : Representative of MMG or Stores Officer of the Lab/Estt  
d) Members : Representative(s) from the user divisions(s) /group(s)

20.4.1 The Chairman may co-opt any other member(s) from the same or other sister Lab/Estt or an outside expert if considered necessary.
20.4.2 The standing Board(s) will be in force for a minimum period of two year from the date of its constitution or till the next standing Board is constituted by the Director.

20.4.3 The Board will assemble at least once in three months and examine the list submitted by users through MMG. The Board shall submit its proceedings and recommendations in the specified format within a period of one month from the date of assembly of Board.

20.4.4 MMG will maintain a register and computer database for formation and assembly of conditioning Boards indicating the Conditioning Board No. (unique serial No. of the Board), Date of formation, names of chairman & members, names of the concerned groups/divisions, Date of submission of proceedings etc. This will help monitoring of the formation and action taken on the Conditioning Boards. In all the future correspondences and the Board proceedings, the Conditioning Board No will be mentioned for easy reference and linking of the actions taken.

20.5 Terms of reference of the Conditioning Board

The Chairman and members of the Conditioning Board, while conducting the proceedings will keep in mind that Conditioning of Govt. stores for disposal action is done in such a manner that serves best interest of the State.

20.5.1 To critically examine/ inspect/ evaluate the stores proposed to be conditioned as serviceable, non-serviceable or scrap as defined in Para-22.2 of this chapter, with a view to their upgradation or modification for further use. The Board shall draw a list of surplus/obsolete/unserviceable stores, which can be disposed off. The suitable criteria, which can be employed for identification of surplus stores, would be to isolate such stores, which though are serviceable but are non-moving and no future requirement is envisaged in Lab/Estt. To examine possibility of cannibalisation of serviceable items/sub-assemblies from stores/ equipment/ instruments/ systems put up for conditioning, for alternative use within the Lab/Estt.

20.5.2 The Board will ensure that the items recommended for disposal are suitably identified and properly marked for easy identification at the time of disposal.

20.5.3 The Board will also recommend the nature and approximate quantity of salvage items /scrap generated out of condemned items for taking them on charge as salvage items/ scrap.

20.5.4 The Board will submit separate lists of items declared as obsolete / scrap recommended for disposal action in the specified format and put
up the Board proceedings for approval of Director within one month from the date of its assembly.

20.6 **Action by the User Group/Division**

20.6.1 The concerned divisions/groups will segregate and keep the stores/items as per the list submitted by them separately for physical inspection/ examination/ evaluation. Once the items have been inspected by the Conditioning Board, the items will be marked / labeled / tagged properly indicating the details of the Ledger No, page No., Nomenclature, Accounting Unit, Conditioning Board No., Board date etc. Once the conditioning Board has inspected and recommended for disposal, no components/parts will be removed or replaced from the instruments/ equipment/ machineries.

The divisions will store the items in a covered and closed area and offer them to MMG for disposal action whenever it is demanded. If the items are smaller in size and do not have any resale value, they can be shifted by the concerned division to the storage space / scrap yard of the MMG/Central Stores after obtaining the necessary clearance from MMG/Central Stores. The heavy machineries/ equipment/ items are to be kept in the concerned division itself and offered for disposal ‘as is where’ condition.

Segregation of costly scrap like copper, brass, aluminum, other special alloys etc will be done and these will be stored in enclosed scrap yards at MMG/Central Stores. Empties of ammunition rounds/armament stores will be de-shaped/mutilated and converted into scrap and deposited in the scrap yard duly certified by competent technical officers of the concerned group/division that these are free from live explosive materials.

The concerned divisions will initiate necessary Conversion Vouchers to strike them off from the concerned ledgers and take them on charge as salvage items or scrap in the concerned salvage / scrap ledger based on the recommendations of the Board. It will be the responsibility of the concerned Inventory holders to initiate necessary voucher action immediately so that there is no discrepancy during stock verification.

20.7 **Storage of unserviceable Items and Scrap By MMG**

20.7.1 For the purpose of collection and storage of scrap generated by obsolete/surplus assets, unserviceable/worn out stores/materials, scrap arising from workshops or empty containers/drums, a separate covered and uncovered scrap yard, situated at a convenient location will be set up. This scrap yard will have direct approach road to allow movement of vehicles for transportation of the scrap and to enable outsiders (prospective contractors) to inspect the materials. If
necessary, help of Indian Institute of Material Management may be taken for designing the suitable scrap yard for the Lab/Estt. Perimeter walls or suitable fencing are essential for safety and security of the scrap yard.

Scrap materials will be deposited in the scrap yards with care and stacked properly in the area earmarked for the purpose. Heavy equipment/machinery intended for disposal may continue to be held by the concerned division till their final removal.

Used oils, solvents etc., will be collected in drums at convenient locations, away from the scrap yard and will not be stored along with other scrap items. Adequate fire protection measures will be taken and suitable fire fighting equipment will be positioned and periodically examined by the in-charge of Central stores.

Head MMG should ensure that adequate separations are maintained between different types of scrap viz., ferrous, non-ferrous, plastic, rubber, oil and chemicals etc.

20.8 **Disposal action by MMG**

20.8.1 Disposal action as given below in the following paragraphs will be taken by the MMG after the approval of the Board proceedings by the Director of the Lab/Estt. The procedure given below is based on the procedure and guidelines specified in the Ministry of Defence letter No. DP&RM/CPO/89501/D(R&D) dated 02 March 1993 as amended from time to time regarding “Authorisation to Heads of Labs/Estts for disposal of Surplus/Obsolete stores”. Timely disposal of the Conditioned items is essential to relieve the floor area occupied by these items and to generate the money through disposal. Before taking disposal action, MMG Accounting section will strike off the items from concerned ledgers and take them on charge as salvage / scrap items in the salvage / scrap ledger after receiving the necessary vouchers from the concerned divisions/groups.

Head MMG will circulate the list of surplus/obsolete stores to other DRDO Labs/Estts, likely users in the inter-service organisations such as ordnance factories, DGQA, DTD &P (Air) etc and Govt aided educational institutions like IITs, Regional Engineering colleges, Universities etc; to ascertain their requirements. If any of these units/institutions intimate their requirements, the stores in question will be issued on payment, at book value taking into account the depreciation, with prior approval of the competent authority. Issue/transfer of surplus/obsolete items to Govt aided educational institutions could be considered for free gifting after getting the necessary approval of the competent authority. In the event of non-receipt of any response within 60 days or on receipt of NIL requirements, alternative disposal methods as given here under will be adapted.
If the direct disposal of such stores is considered more prudent, the same will be resorted to bearing in mind the following points:
(a) A Tender Committee will assess the Reserve Guide Price (RGP) keeping in mind the market conditions, condition of the stores etc.
(b) Government auctioneer will be approached for auction.
(c) If auction is not feasible; limited/open tender system will be adopted after fixing the reserve price.
(d) Disposal by "Negotiation" will be processed where public auction or tendering system have failed to yield response.

When Labs/Estts do not have adequate manpower to carry out direct tendering or auctioning for disposal, services of Metal Scrap Trading Corporation (MSTC) or Ordnance Salvage Depots. will be availed to dispose off the stores.

20.9  **Formation of Tender Committee for disposal**

20.9.1  The Directors of Labs/Estts will constitute a Tender Committee consisting of the following members for disposal through MSTC or through a tendering system.

<table>
<thead>
<tr>
<th>Role</th>
<th>Member Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chairman</td>
<td>Scientist ‘F’/ equal level or above</td>
</tr>
<tr>
<td>Member (Fin)</td>
<td>JCDA(R&amp;D) or his Rep</td>
</tr>
<tr>
<td>Members (Tech)</td>
<td>One or Two Scientists from the Lab/Estt or from sister Lab/Estt familiar with the stores</td>
</tr>
<tr>
<td>Member (MMG)</td>
<td>Head MMG or his Rep</td>
</tr>
<tr>
<td>Associate member from DRDO HQrs for disposable purpose or from DBFA</td>
<td>for items / a lot of items or materials costing above Rs.5.0 Lakh at the time of purchase.</td>
</tr>
</tbody>
</table>

20.9.2  The terms of reference and broad tasks of the tender committee for disposal required to perform are:

<table>
<thead>
<tr>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Ascertaining the present status identified by the conditioning Boards for disposal through physical examination if required</td>
</tr>
<tr>
<td>b) Segregation of stores as per their category</td>
</tr>
<tr>
<td>c) To fix Reserve Guiding Price (RGP) for sale and disposal of stores. The broad guidelines for fixing the RGP are given in the subsequent Para.</td>
</tr>
<tr>
<td>d) List out the broad specifications of the instruments/ equipment/ machineries and any specific terms and conditions for tender document.</td>
</tr>
</tbody>
</table>
20.9.3 For direct sale of disposable items, it is an essential pre-requisite to fix their reserve prices. Reserve price is the pragmatic estimate of the cost of item and is the minimum price below which the goods will not be normally sold. The Tender Committees of Labs/Estts will fix this RGP shortly before the date/time of opening of tenders which should not be more than "a day" earlier to the due date of opening and kept in a sealed cover by the chairman or Head MMG duly signed by all members of the tender committee and approved by Director. The reserve price will be kept confidential from the bidders/auctioneers and will be opened only after the tenders have been received. Factors which guide fixation of reserve price are:
(a) Age/date of purchase and condition of equipment including its residual life.
(b) Make and model whether indigenous or imported.
(c) Exchange rate of imported stores and Customs Duty Exemption (if any) availed at the time of import.
(d) Present condition and utilization of equipment / machinery
(e) Whether obsolete or surplus.
(f) Availability of spares.
(g) Original Purchase price.
(h) Marketability of the stores.
(i) Book value taking into accounts the depreciation.
(j) Present market value, if applicable, taking into account the general price escalation.
(k) Estimated scrap value in weight and kind.

20.9.4 Depreciation

a) Depreciation is a measure of wearing out, loss of value arising from use, effluxion of time or obsolescence through technology or market changes.

b) Depreciation is estimated so as to charge a fair proportion of the depreciable amount in each accounting period during the expected useful life of assets. While fixing depreciated value, the operational factors (hours of use) and technology changes will also be taken into

e) Fixation of Reserve Guiding Price (RGP)
f) Opening of the tenders received on the time and date of opening specified and scrutinizes the tenders opened for their consideration.

To make appropriate disposable decisions as per the guidelines given in the Govt letter and highlighted in para 20.12. Recommendations to Director for his approval for acceptance of the tender and along with the RGP fixed by the committee will be put up by the Tender Committee.
account. A straight-line method or Written Down Value method may be used for calculating the depreciation.

20.10 **Guidelines for Tendering**

20.10.1 The Labs/Estts will prepare a Tender document giving the details and specifications of each stores recommended for disposal. The tender document will be issued normally free of cost to various vendors who will approach the Lab/Estt in response to an advertisement in the leading National and Local Newspapers, Trade journals through DAVP. The tender documents may be forwarded to Chamber of Commerce for circulating the information to their members to give wide publicity for getting the best offer.

20.10.2 **Receipt of Tenders:** A date and time will be fixed for the issue and receipt of tenders. These tenders will be opened on the opening date and time mentioned in the tender document in the presence of desiring vendors. It will be ensured that:

a) The tenders received before the due date and time of opening is considered for acceptance. Late/delayed tenders will be rejected.

b) The tenders not submitted on the tender documents issued by the Labs/Estts, will be rejected.

c) The tendering parties deposit Earnest Money equivalent to 10% of the price to be quoted by the tenderer by way of a bank draft from a nationalised bank, drawn in favour of the Director of the Lab/Estt. No interest will be payable on the earnest money so deposited.

d) The earnest money deposit is refunded within one month from the date of opening of the tender, in case the tender is not accepted.

e) The tenders received without earnest money deposit are not considered.

20.10.3 **Terms and Conditions**

General Terms and Conditions of Tendering are given in Annexure-I to Govt Letter No. DPRM/CPO/89501/D(R&D) dt. 02 March 1993. These terms and conditions will be given along with the tender document to all vendors collecting the tender document. Following guidelines may be kept in mind while tendering and some of them may be included as specific terms and conditions in the tender document if applicable.
20.10.3.1 The successful tenderer will pay the offered amount by demand draft to the MMG, within seven days of the date of the intimation of acceptance of the tender. The stores officer will issue the delivery order on receipt of the full amount by DD within the specified time frame and the acceptance of tender have been approved by the Director of the Lab/Estt.

20.10.3.2 In case any part deliveries have been agreed to on the basis of part payments, the earnest money will not be refunded to the purchaser till such time all the payment have been cleared by the purchaser.

20.10.3.3 The purchaser will take delivery of material within seven days from the date of payment of full amount with regard to the acceptance of his offer, else the earnest money deposit will be forfeited and offer of the sale of store stand cancelled.

20.10.3.4 Inadvertent deviation of nomenclature under the same generic heading or approximation in quantity will not invalidate a sale. Proportionate refund will be made to the purchaser when weight or number delivered is less than the quantity paid for.

20.10.3.5 The weighment or counting and loading will be done in the presence of the purchaser or his authorised representative. The weighment will be done at the Lab’s premises or at an Govt authorized Weigh bridge. The arrangement for loading and transportation will be made by the purchaser.

20.10.3.6 No weighment or counting will be permitted for resale among the purchasers themselves.

20.10.3.7 Mere payment of the purchase money will not tantamount to completion of purchase and the material will become property of the purchaser only after the sale has been completed and the stores have been physically removed from the Lab/Estt premises.

20.10.3.8 If due to any compelling circumstances, it is not possible on the part of the Lab/Estt to complete delivery after payment has been received, a refund of the value of undelivered goods will be made to the purchaser, who will have no claim for further compensation.

20.10.3.9 If any additional quantity is observed during weighment, the purchaser will be asked to submit the additional payment required by Demand Draft immediately to MMG officer before taking the material out.
20.10.3.10 The ground rent, as considered appropriate, will be charged for delayed lifting due to default of the contractor when such delay is acceptable to the Lab/Estt.

20.10.3.11 The person authorised by the purchaser to take delivery etc. must carry with him a power of attorney to represent the purchaser.

20.10.3.12 The delivery will be made on "as is where is" basis. No picking or choosing or sorting will be allowed in the Lab/Estt premises.

20.10.3.13 Sales tax and other duty leviable will be payable by the purchaser. The EMD will be refunded after the purchaser submits the sales tax receipts and after lifting away all the materials and clearing the area fully.

20.10.3.14 The purchaser shall make his own arrangements for lifting the materials from the site immediately after the delivery order has been given to him. The Lab/Estt will not be responsible for loss, destruction, damage or deterioration to the material due to any cause whatsoever thereafter.

20.10.3.15 The Director of the Lab/Estt reserves the right of withdrawing from sale any material at any stage without assigning any reason thereof.

20.10.4 The address given in the tender shall be deemed to be purchaser's address and correspondence sent on that shall be considered to have been delivered to the purchaser.

20.10.5 Preferably, the time of closing/opening of tenders will be scheduled in the afternoons on weekdays (other than following the public holidays) to enable fixation of reserve prices and to accommodate postal delays, if any.

20.10.6 The tenderer quoting the highest price will be accepted except in rare cases where there are valid reasons for rejecting such an offer, which will be recorded in the tender opening register and signed by all members of the tender committee.

20.11 **Tender Documents**

20.11.1 While inviting tenders for sale of disposable stores, the following important points will be noted

   a) The tender notice will be issued in leading newspapers including the local papers.
b) The tender notice will give clear and complete particulars including specifications of the materials to be sold, quantities and probable date of sale. A definite time and date will be prescribed for receipt of tenders and their opening.

c) Tender forms containing terms and conditions of sale will be carefully drawn up and issued to intending tenderers free of cost or at a nominal price (non-refundable) as fixed by Lab/Estt. Tender forms will be duly numbered and kept in safe custody with the MMG officer for issue against payment.

d) The MMG officer will indicate the date of sale of the tender with his full signatures in the box on the top right side of the first page of the tender documents as given below:
   i. Serial No............... ………
   ii. Cost................... ………
   iii. Date of Sale................ ………
   iv. Signature of Officer........ ………

20.12 Processing of Tenders

20.12.1 The procedure for processing of tenders is outlined below:

a) Sale of tenders forms will cease at specified time and date as published in the tender notices, a day preceding the due date of opening.

b) All tenders whether received by post or delivered by hand shall be put into the tender box which will be cleared at specified time (as published in the tender notice) on the due date by stores officer in the presence of two members of the tender committee for disposal of stores.

c) Tender opening will commence at the specified time (as published in the tender notice) in the presence of tender committee and the tenderers or their authorised representatives desiring to be present.

d) Tender or modification to tenders received after the clearance from the tender box will not be accepted.

e) Tenders will be numbered serially on opening. All pages of the tenders will be initialed and dated by the officers present indicating the serial number as numerator and total number of tenders received as denominator e.g. in case there are total number of eight tenders received and marking on the tender
opened first will be 1/8, second tender opened will be marked as 2/8 and so on.

f) If tenderer omit to fill in any details, a cross in red ink will be put in the blank space. Any alteration in the tenders will be initialed legibly by the officers present. In the event of any doubt about the price quoted, the same will not be considered and the fact will be noted on the tender. Late tenders even if posted before the due date of opening, will not be opened/considered.

h) Unsigned tenders will not be considered.

i) Unsolicited offers will not be considered.

20.13 **Disposal Decisions**

20.13.1 Subject to the realization of RGP, the disposable decisions will be made in favor of the highest tenderer who will be required to make balance payment within a period of 20 days from the date of communication.

20.13.2 In the event the bids being less than the RGP fixed, the heads of Labs/Estts may resort to negotiation with the selected tenderers, who can be short listed from the total list based on their quoted price and other conditions, with a view to achieve the best price. The Tender Committee constituted already for fixing the RGP and for finalizing the tender document as given in para 20.8 will take decisions on the bids and put up to Director for his approval.

20.13.3 If the bids/revised bids from the selected tenderers are also less than the RGP fixed, then the various levels at which decisions will be taken, will be as follows. While submitting the proposal to the next higher competent authorities, sufficient justification will have to be provided by the heads of the Labs/Estts.

a) Upto 15% less than RGP: Heads of Labs/Estts in association with JCDA.

b) Upto 15-30% less than RGP: CCR&D (R) (in association with Integrated Finance)

c) Upto 30-50% less than RGP: SA to RM (in association with Integrated Finance)

d) Below 50% of RGP: Tender Committee will have to review the RGP
20.14 Disposal by Auction

20.14.1 Whenever the mode of disposal by auction is selected, the auction will be conducted by Lab/Estt through a Govt auctioneer. Proposals to sell the stores by auction will widely be advertised so as to attract response from a large number of buyers. The stores officer will intimate to the auctioneer, the pertinent details of stores to be auctioned at least 15 days before the date of auction. The standard conditions of auction sale will be drawn up before any action for sale is initiated as per the guidelines given for disposal of stores by inviting tenders. The following points will be kept in view while dealing with the disposal by auction:

a) The auctioneer will be treated as only an agent of the Lab/Estt and will have no authority to add or alter the conditions of sale.

b) The auction will be witnessed and supervised by a team of officers including an Accounts Officer of the Lab/Estt. The team of officers detailed to supervise the auction will be the same who were vested with the responsibility of fixing the reserve price.

c) The material will be handed over only on production of the delivery order issued by the auctioneer, after making full payment including sales tax, as applicable.

d) On completion of auction, the auctioneer will submit completion report giving full particulars.

e) Generally, the highest bid will be accepted unless it has failed to reach the reserve price. If any lower price is accepted for any valid reason, the same will be recorded and approved by the Director of Lab/Estt.

f) Reserve price for the lot/lots will be fixed by the committee on the day of auction and will be kept confidential.

g) The attempts of bidders forming a ring by collusive bidding will be frustrated and in such cases the lot/lots may be withdrawn from the auction.

h) Cash/Draft payment of not less than 25% of amount of the accepted bid will be collected by the auctioneer as earnest money on fall of the hammer. The auctioneer may, however, without assigning any reason, demand as earnest money, and a higher percentage up to the full amount of the bid immediately
after the lot is knocked down. In doing so, he will in all cases act in accordance with the direction given by the officer supervising the auction sale.

i) A proper register of sale account affected in the auction will be maintained and the sale proceeds credited to the Government.

20.14.2 **General terms and conditions of sale by auction**

The general terms and conditions of sale by auction are given below for guidance:

a) The highest bidder for each lot will, subject to the conditions hereinafter stated, be the purchaser, thereof, and in the event of any dispute arising out of or relating to any bid, the lot in respect of which the dispute arises, shall be put up for sale again, immediately, at the last undisputed bidding.

b) The bids made by the bidders will be irrevocable and remain open for acceptance for a period of three days from the date of auction.

c) The highest bidder will on the fall of hammer, give his name and correct address to the auctioneer and pay to the Director of the Lab/Estt, through the auctioneer or the representative of the Director Lab/Estt supervising the auction, 25% of the bid money in cash by way of security, for the due performance of the stipulation to keep the bid open. The said security money will be liable to forfeiture if the bidder does not keep his offer open for a period of three days from the date of auction, it being understood that the auction documents have been sold/issued to him and he is permitted to bid in consideration of his agreement to these stipulations. The security money will on acceptance of the bid by the Lab/Estt, be treated as part payment of the purchase price.

d) Property rights of goods or materials will not, however, are deemed to pass to the concerned bidder unless and until the acceptance of the bid by the Lab/Estt has been conveyed to the bidders and the balance of sale proceeds are deposited by him.

e) The Lab/Estt may not accept any bid without assigning any reason and in the event of a bid being not accepted by the Lab/Estt, the security money deposited by the concerned bidder will be refunded to him without payment of any interest thereon.
f) The auctioneer with the approval of the officer conducting the auction will be entitled to withdraw any lot from the auction or refuse to accept the offer made by any bidder without assigning any reason.

g) If the purchaser makes default in complying with any of the conditions aforesaid, the lot or lots in respect of which such default is/are made, may, if the auctioneer thinks fit, be immediately put up again for sale and in such an event, if a lower price is offered and accepted for the said lot, the difference in price thereof shall be debt due from the purchaser in default, to the Lab/Estt. Alternatively, the Lab/Estt will be entitled to sue the purchaser in default for the price of said lot and the purchaser will have no right to claim that the said lot must be sold again and the difference between the offer made by him and resale price of the lot above will be recovered from him.

h) The balance of the bid money will be paid by the purchaser to the Lab/Estt through the auctioneer or direct within the stipulated period of seven days of the sale or of the intimation to him that the Lab/Estt has accepted the bid. A receipt of the payment will be furnished to the purchaser duly signed by the MMG officer of the Lab/Estt.

i) The goods sold will be removed from the premises only on production of the said receipt and a delivery order from the auctioneer to the stores officer of the Lab/Estt.

j) No delivery, of goods or materials sold, will be given on Sundays, Gazetted holidays or other holidays observed by the Lab/Estt. Delivery of goods may be affected from the stores of Lab/Estt on weekdays between fixed timings and loading must cease by a given time.

k) Goods or materials sold will be removed by the purchaser within seven days, after issue to him, of the receipt for the balance of the price paid by him. Goods or materials not removed within the said period shall remain at purchaser’s risk until removed and the Lab/Estt will be entitled to charge the purchaser, ground rent for the godown or stores room in which the goods are stored which may be recovered by the Lab/Estt from the purchaser before removal of the said goods and in the event of default in payment thereof, the Lab/Estt, at its discretion will be entitled to order resale of the said goods and forfeit the bid money or the price, if any, by the purchaser.

l) Goods in lot will be sold on "as is where is" basis and no warranty is given as regards to size, quality, weight, description and the like. The description of any lot, in the particulars of sale, are given by way of identification thereof only, and the use of such description shall not
constitute the sale and shall be invalid by reason of any defect or fault in any lot or on account of any lot being incorrectly described and/or on account of the weight being incorrectly stated and the purchaser will not be entitled to claim any damages or compensation whatsoever, on account of such fault, error or description of weight or the like.

m) Delivery of lots bought by any one purchaser will be taken at a time or one lot at a time and removal of all lots sold to him completed within the period specified in para (k) above.

n) No picking or sorting or materials sold will be permitted.

o) The lots will be loaded and removed by the purchasers under their own arrangements providing own bags, boxes, cases or other receptacles for removal of the goods.

p) The stores officer will not enter into any direct communication with the purchaser and will deal with them through the auctioneer.

q) The stores officer, acting as a conducting officer of the auction, will have the right to withdraw upto the actual time of sale, any lot or items advertised for sale without assigning any reason and to refuse acceptance of any bid considered unsatisfactory.

r) All statutory levies/taxes in respect of the articles sold under any lot will be payable by the purchaser in addition to the sale price.

s) No interest will be paid to the purchaser on the amount paid or deposited by him and subsequently found refundable to him under any of the conditions mentioned herein.

t) Delivery of the lot will be affected to the purchaser or his representative on the power of attorney duly attested by the auctioneer.

20.14.3 Supervision/conduct of auction

The auction will be supervised/conducted by a Tender committee approved by the Director of the Lab/Estt. The chairman of this committee will be the supervising officer and stores officer will act as the conducting officer. The other members of the committee will act as observers.

20.14.4 Duties of supervising officer/observers
The supervising officer/observers will ensure that:

a) The stores officer has prepared the final list of the lots to be auctioned after withdrawal of any lot or change of any quantities therein and the approval of the competent authority has been obtained.

b) Proper segregation and sorting out of stores, neatly arranging and marking the lot numbers has been completed before commencement of auction.

c) All the terms and conditions of sale as printed in the auction notice/advertisement are not only announced by the auctioneer prior to the commencement of the auction, but are also being observed and that the stores are not being sold at obviously low prices.

d) All amendments in quantity and nomenclature of stores, if any, are announced by the auctioneer before commencement of the auction.

e) The reserve price is not disclosed to the auctioneers or the bidders.

f) All doubts and misunderstandings in respect of stores and mode of payment by the prospective buyers, are cleared.

g) The auction is being conducted on correct lines without any irregularity.

h) The earnest money of 25% of the accepted bid is collected by the auctioneer on the fall of hammer. In case a higher percentage of earnest money of a lot is desired to be collected the supervising officer may direct the auctioneer accordingly.

20.14.5 The supervising officer/observers will use their discretion in regard to acceptance or rejection of bids received from the buyers and will jointly settle with auctioneers/bidders all disputes arising during the course of auction. This will subsequently be submitted to the Director for ratification.

20.14.6 Duties of conducting/stores officer

The conducting officer/stores officer will ensure that:

a) The auction was advertised with requisite publicity and adequate notice was given.

b) The auction is conducted properly, smoothly and according to the terms and conditions laid down in the auction advertisement / notice.
c) All arrangements in respect of marking of lots, segregation stores class-wise, preparation of list etc. are made before commencement of the auction.

d) Bidding is keen and competitive and rings are not formed collusively among the bidders.

e) Close liaison and consultation are maintained with the supervising officers in the event of any dispute or difficulty.

f) The auctioneer does not attempt to knock down the lot rapidly in favour of bidders.

g) Auction sale bid sheet, is correctly prepared by the auctioneer and 25% earnest money for each bid is recovered from the purchaser on the spot.

h) Bids below the reserve price are not accepted without the concurrence of the supervising officer. The reasons for such acceptance will be recorded and ex-post-facto approval of the Director obtained.

i) Deliveries of the auctioned lots are made in his presence, after full payment has been made by the purchaser and the delivery order has been received from the auctioneer.

j) Deliveries are expedited/affected according to the terms and conditions of the sale or such other specific or general instructions issued in this regard.

k) The sale accounts are prepared and necessary formalities after the auction e.g. processing the file for sanction of the competent authority for disposal of stores are completed.

20.14.7 Delivery of materials to Purchaser: The purchaser will present to the stores officer a delivery order made out by the auctioneer and the cash receipt for the amount deposited, for affecting delivery. The delivery order will indicate the following particulars:

a) Lot No.
b) Description of Material.
c) Purchaser's Name and Address.
d) Approximate Quantity in lot.
e) Price at which Sold.
f) Amount received and the Taxes paid.
g) Cash/DD Receipt Number and Date.
h) Amount of ground Rent, if any.
i) All material sold will be measured, weighed or counted before 
delivery in presence of the purchaser, auctioneer, stores 
officers or their authorised representatives.

j) A gate pass for outgoing materials will be prepared and 
signatures of the purchaser obtained thereupon.

20.14.8 Completion report of auction

On completion of the delivery of materials sold in auction, a report 
containing the following information will be made out for record:

(a) Date of auction sale.
(b) Lot Nos.
(c) Description of stores.
(d) Quantity offered in auction.
(e) Quantity actually delivered.
(f) Value received.
(g) Ground rent recovered, if any.
(h) Auctioneer's Commission.
(j) Gate pass number and date.
(k) Remarks, if any.

20.14.8.1 The report will be signed by the supervising officer, 
observing officers and conducting officer/stores officer.

20.15 Disposal by Negotiation

20.15.1 Disposal by negotiation may be resorted to after failure of response to 
sale by public auction/invitation of sealed tenders, with the prior 
approval of the Director of Lab/Estt. In such cases, the reserve price 
fixed before hand by the Committee constituted for the purpose, will 
be the guiding factor for negotiation. On finalization of sale, the 
payment receipt/delivery procedure will be on similar lines as 

20.16 Adjustment of Stock Ledgers

20.16.1 After the disposal of lots in the auction/direct sale, covering External 
Issue Voucher (EIV) as per form DRDO.SM 16 for all the stores, as 
per relevant ledger folios of the stock ledger for unserviceable stores, 
will be prepared to strike off and a certificate to that effect will also be 
recorded under the signature of the stores officer that the materials as 
per the ledger balances have been sold by auction/direct sale on this 
particular date. The necessary sale order particulars including the
number, date, amount, name of the Vendor etc., will be mentioned on
the concerned ledger pages of each item disposed.

20.16.2 Disposal of Scrap Arising at Trial Site

The transportation of scrap arising from trial locations back to Lab/Estt
is neither economical nor convenient. It is, therefore, necessary that
special method of disposal of the scrap is followed. A few trial
locations are having DRDO Lab/Estt near to trial site. In such cases,
the scrap generated is to be assessed and categorised by the O i/c of
the Trial team in consultation with representative from neighbouring
Lab/Estt. A report will be prepared to state the categories of the scrap
and their respective quantity generated and will be signed by O i/c
Trial team and representative of neighbouring Lab/Estt. This report
will be prepared in four copies. One copy will be left with the
neighbouring Lab/Estt. Three copies will be brought back by O i/c Trial
team to his/her parent Lab/Estt where necessary conversion voucher
will be prepared and submitted to MMG along with both the copies of
the report. After ledger/inventory action, external issue voucher will be
raised for issuing the scrap to the Lab/Estt near the trial site. This
issue voucher along with one copy of the report will be forwarded to
the consignee Lab/Estt, which will BOC the scrap. One copy of the
report will accompany the CDA (R&D) copy of EIV (DRDO.SM 16) for
their retention and necessary action.

20.16.3 Action by neighboring Lab/Estt

Since the quantity of scrap generated during trials is not very large
and the expected revenue by disposal is also not high, following the
procedure of advertisement in the newspapers and auctioning through
MSTC may not be economically viable, it is advisable that a simplified
procedure adopted for disposal of scrap arising of trials. Neighbouring
Lab/Estt will follow limited tender method for inviting bids for the
disposal.
CHAPTER-21
ACCOUNTING OF SPECIAL VEHICLES / EQUIPMENT FROM SERVICES

21.1 Introduction

DRDO requires Special Vehicles like AFVs, Hybrid vehicles, Aircraft, Ships, Equipment like Radars, Gun systems, Aero Engines, Marine Engines, Torpedo etc. for study, design, fabrication, modification, upgradation and accelerated testing, apart from using them as targets for related weapon trials. In the process of R&D work, some sub systems or, at times, complete vehicles / equipment are rendered liable to be discarded well before completion of expected / stipulated life / mileage. Also, in the course of study, some vehicles / equipment undergo such major, irreversible modifications that they cannot be reused for its original purpose by services.

The process of modifications / R&D work may take unavoidably long time and system may become obsolescent to the extent that their usage for even training purposes may become impossible due to non-availability of spares and experienced technicians. However, some of their sub assemblies and weapons remain serviceable and must be retrieved and put to best possible use. Further, the classified nature of the main equipment or part thereof may lead to retrieval of classified items before disposal by Salvage Depots / agencies for security reasons. The procedures and policies for issue, accounting, down gradation and disposal of Special Vehicles or Equipment from services used for R&D work is covered in this chapter.

21.2 Types of vehicles / equipment received from Services

DRDO is holding vehicles / equipment received from services that fall under two types viz. Permanent Issue and Loan Issue Vehicles depending on the mode of transfer from Services either on Permanent transfer or on Loan basis.

Permanent Issue vehicles / equipment

Most of the vehicles / equipment that are used for R&D work are purchased (on book debit / SWOD) from services using the funds that have been formally sanctioned for specific / major R&D projects. Such vehicles / equipment that have been purchased from project funds shall hereafter be referred to as "Project Vehicles / equipment". In addition, some vehicles may be procured from services to complete the PE on book debit basis. Such vehicles will be called as “PE Vehicles”
Loan Vehicles / Equipment

Some of these vehicles / equipment are issued on loan to DRDO for a specified period, for projects that are initiated / proposed / sponsored by the General Staff branch of Army HQ. These vehicles / equipment are to be eventually returned to the Army and are therefore referred to as "Loan Vehicles / equipment".

21.3 Receipt, Initial Inspection and Taking Vehicles / Equipment on charge

The procedure given in succeeding paras constitutes the guideline for receipt, initial inspection and taking vehicles / equipment (of all categories) on charge and it shall apply similarly to RE Vehicles / equipment, Project Vehicles / equipment and Loan Vehicles / equipment. Generally it is the responsibility of the Lab / Estt concerned to arrange collection of the vehicles / equipment from service sources. The collection party will ensure that all documents pertaining to the vehicles / equipment, viz. Vehicle / Equipment Log Book, Vehicle Kit List (VKL), Vehicle Guide List (VGL), Form 1670 (Standard list of Wireless equipment), MT Discrepancy Card, etc. as the case may be. These documents are briefly explained below in respect of vehicles:

a) Vehicle Guide List (VGL)

VGL is a list of items fitted on the vehicle, which are essential for Mechanical completeness or running of the vehicle.

b) Vehicle Kit List (VKL)

VKL lays down the scale of kit authorised for a vehicle.

Form 1670 (Standard list of Wireless Equipment)

A separate inventory Form 1670 is prepared in respect of the specialist items in the case of Radio Vehicles. It is also used as the authority for obtaining all the items shown therein as the initial equipment or as spares to be held for maintenance. It is also used as a checking list.

Log Book – Form IAFZ 2197

A Log Book in respect of each vehicle irrespective of category or type is to be raised and maintained by the laboratory. Entries in the Log Book are to be made in accordance with the instructions contained therein. The Log Book is regarded as a part of the vehicle and on transfer or condemnation
the authority for the same is recorded therein. It is also to show MT maintenance records.

MT Discrepancy Card

In the case of the vehicles received from army vehicle ordinance depot the vehicle is accompanied with MT discrepancy card and will constitute authority for demand and return on non-consumable stores pertaining to the vehicle VDRA (Vehicle Daily Running Account) – IAFZ 2212 is to be maintained in respect of each vehicle.

21.3.1 Action by MMG

On arrival in the Lab/Estt, the I/c Collection & Escort Party will report to MMG. He will handover the vouchers to MMG (CRDS Section). To verify condition and correctness of the equipment, it will be inspected jointly by representatives of CRDS Section and User Group / Division. For Loan Vehicles / equipment and Project Vehicles / equipment, representative(s) of the concerned Design Group(s) will also be associated with the inspection. Discrepancies, if any, may not be referable to services as the vehicle/equipment are collected under escort provided by Lab/Estt. The same will have to be made good locally and loss if any will be regularised in accordance with Chapter 19. MMG will prepare CRV to take the vehicle / equipment on ledger charge. The CRV will also be used for ‘In Loan Ledger’ action when the vehicle/equipment has been received on loan from services. The vehicle / equipment will be transferred to User Group / Division on Internal Demand and Issue Voucher. Subsequent transfer of vehicle to project group within the Lab/Estt will be made on Conversion Voucher.

21.3.2 Accounting by Holding User Division / Groups.

Vehicles and Equipment Registers are to be maintained separately as per IAFZ 2186 by the concerned inventory holder of the user group. Corresponding entries of the receipt will be made in the Vehicles / Equipment Register. All small arms will be removed and transferred to Armoury on CV after proper documentation. All ‘valuable and attractive items’ that are not required for project activity / display, and delicate items that are not required to remain with the vehicle / equipment, will be dismantled and kept in User Group / Division in safe custody. Requisite entries will also be made in the logbook and related documents of the vehicle / equipment.

21.4 Removal / Installation of Assemblies and Their Accounting
Many times, assemblies / parts are removed from the Vehicles/Equipment, for varying durations, to meet different requirements such as replacement, improvement or study. Removal/ installation of assemblies/items must be recorded in Log Book and associated documents. The removed Assemblies / Items must be taken on register charge by the inventory holder who is to ensure safe custody of the same. Alternatively, such items/assemblies can be returned to Central Store after attaching a identification label indicating name of the item/assembly, Part No./ Sl. No., Serviceability status, name and BA No. of the vehicle/equipment to which it belongs to (in absence of BA No., Engine and Chassis (Hull) No. of the vehicle to be mentioned) on IRRV as per Chapter 6.

21.5 Obsolescence and Damage of Parts / Accessories

21.5.1 With the advent of progressive prototypes, some parts/accessories may be rendered obsolete in quick succession. Many such damaged / worn out / obsolete items may be discarded and necessary Log Book entries may be made. All disposals of such parts / accessories will be routed through User Group / Division who will also record it in respective vehicle / equipment files.

21.5.2 During trials and accelerated testing, a damaged part/accessory may be cannibalized from one vehicle / equipment and fitted on another. In such cases, entries must be made in logbooks / registers of both vehicles / equipment.

21.5.3 The damaged / worn out item will be replaced with the new one at the earliest. An emergent indent must be placed for the item on concerned Ordnance Depot. The damaged / worn out item will be returned to the custodian of its parent vehicle / equipment, to be accounted as ‘consumed in trials’.

21.6 Accounting / Disposal of Vehicles / Equipment after Completion of Project

During the project activities the vehicle / equipment may be subjected to many modifications/cannibalisation, to the extent that it may lose its original utility and may become unacceptable to Services. The vehicle in which no modification has been carried out to its hull will be accounted for as the ‘Original Vehicle’. Where, however, even the hull has undergone modification, it will have to be accounted for as ‘Fabricated Vehicle’.
21.6.1 **Transfer of Vehicles / equipment to User Group / Division**

On completion of requirement / project, the original vehicle / equipment (whether modified / cannibalised) will be transferred on CV to User Group / Division along with its tools, accessories, technical literature and its documents (duly completed).

21.6.2 **Return of Loan Vehicle / Equipment**

The vehicles / equipment must be returned back to services before the expiry of loan period in original condition. Necessary loan period extension sanction, if required, shall be obtained from Competent Authority before the expiry of loan period. The procedure laid down in Para 6.2 and Para 11.4.1 will be followed in addition to action in ‘In Loan Register’.

Whenever a Loan Vehicle / Equipment is found to be unacceptable by services, Army HQ is to be approached through DRDO HQ for permanent transfer of the vehicle / equipment to the concerned Lab/Estt and necessary book debit action is to be taken. The book debit action must be completed before Financial Closure of the Project to ensure correctness in the Project expenditure. In case, such action is not completed in time, necessary condonation sanction will have to be obtained from Competent Authority.

On permanent transfer of vehicle / equipment, the same has to be converted into its present condition, which may lead to breaking down of the original vehicle/equipment into number of subsystems/assemblies by a Conversion Voucher. A Board of Officer is to be convened to identify useful parts/assemblies/sub systems which might be required for future purposes including training. The Board of Officer will also recommend condemnation of non utilizable parts / assemblies / sub systems. While doing so the classified nature of any such part must be borne in mind. Director of the Lab/Estt is the Competent Authority to accept and approve recommendation of the Board.

Further disposal of the said parts/assemblies/sub systems will be through MMG as per Chapter 20.
CHAPTER 22
HANDING / TAKING OVER OF DUTIES AND RESPONSIBILITIES IN RESPECT OF STORES

22.1 Introduction

The necessity of handing /taking over is to understand and realise the responsibility of the designated post which some one is assuming, who gets full briefing about the nature of the job involved and to act upon.

22.2 Objective

To understand the procedure for handing over and taking over of responsibilities between individuals relating to store, equipment and document.

22.3 Occasions

Handing / Taking over relating to stores, equipment and accounting documents arises on the following occasions:

a) When a Director takes over from another
b) When a Group Head of Material Management takes over from another
c) When a Store Officer takes over from another
d) When a Stores in-charge takes over from another
e) When an Inventory Holder takes over from another

22.3.1 Handing over / Taking over by Directors

When outgoing Director hands over to incoming Director, it will normally be impracticable for the later to carry out proper verification of stores, equipment and accounting documents to ensure satisfaction before assuming the charge.

a) The incoming Director shall ensure that Group Head, MMG furnishes a certificate to confirm the following points:

i. The equipment in store is properly stored as per Stores manual.
ii. Adequate fire appliances are available in the storehouses, petrol and oil installations and other sensitive locations.

iii. Transactions are recorded in corresponding records and necessary records of equipment are maintained.

iv. The equipment in use is recorded in inventory and held by inventory holders.

v. The necessary equipment accounting records prescribed in the regulations are being maintained by the concerned and are up to date.

vi. All objections and observations raised by audit have been answered.

b) The outgoing Director shall ensure that:

i. The last stock taking was carried out in accordance with the regulations and satisfied for the accuracy of balances after such discrepancy as revealed at the stock taking, had been adjusted.

ii. The last periodical and independent checks of inventories as prescribed by the regulations were carried out.

iii. The inspection of equipment accounting records are carried out from time to time and found satisfactory.

iv. All vouchers are posted upto date and all audit objections have been dealt with.

v. On receipt of the certificate by the incoming Director, the handing over certificate as per Appendix-'C' is to be completed in quadruplicate and distributed as follows.

One copy – Outgoing Director
One copy - Incoming Director
One copy - DRDO HQrs New Delhi
One copy – Director’s Office

c) Temporary Change of Office

In the case of a temporary change of Office, where outgoing Director will normally return and resume responsibility, the
outgoing Director need not hand over formally or render the relevant certificates. In this circumstance, Director is responsible to give full instructions to his temporary relief to ensure proper accounting and safe guarding of equipment during absence and confirm the correctness after resuming the responsibility. In the event of the Director not returning for any reason after the stipulated period, the reliever is responsible for taking over and rendering certificate as per Appendix-'D' as soon as possible.

22.3.2 **Handing/Taking over by Group Heads (Material Management)**

The incoming Group Head while taking over is to enquire and satisfy on the following points:

a) Obtain the certificate of correctness from officers directly responsible for the custody of store/group.

b) 100% check of high value and attractive items

c) 100% check of FOL Stock, if held by MMG

d) Independent checks of inventories in the Group/divisions have been carried out as per the programme and that healthy inventory control exists.

e) In addition the following points are also to be checked

f) Storage and binning arrangements are satisfactory.

g) Equipment administration and procedure are in accordance with regulations.

h) Stock records are properly maintained and there are no undue large arrears of work.

i) The last stock taking in accordance with programme is completed and findings available.

j) Select a number of items and check the quantity actually in stock with the stock records.

k) All the store audit observations/objections of the last audit have been replied.

l) All claims on Carriers, losses, and court cases pertaining to stores are being dealt with adequate care and follow-up.
m) Details of long outstanding vouchers awaiting clearance to Equipment Accounting Section. This is to be listed and attached to the Handing over and Taking over certificate.

n) The certificate (as per Appendix-'D’) shall be signed by outgoing and incoming Group Head (MM) and to be countersigned by Director.

- One copy - Outgoing GH, MMG
- One copy - Incoming GH, MMG
- One copy – To be retained in Group Director (MMG) s office file
- One copy - Director Office

The process of Handing/Taking over is to be completed within 7 working days. However, it may be extended at the discretion of Director of Lab/Estt.

22.3.3 Handing / Taking over by Stores Officer

When a Store Officer takes over from another immediately responsible for the custody of equipment, the incoming Stores Officer is to carry out complete stock taking of stores / equipment held under the direct custody of outgoing officer. In addition, the following points are to be checked and satisfied:

- Storage and binning of stores/equipment are satisfactory.
- Adequate storage and security arrangements exist for valuable and attractive stores.
- The Stores Officers are to endorse a certificate in the form Appendix 'D’.

The Handing/Taking over certificate Appendix ’D’ shall be raised in triplicate. This will be signed by the Stores Officers TO and HO and countersigned by Group Head (MM). The distribution of copy will be as follows:

a) Handing Over Officer.
b) Taking Over Officer
c) GH, MMG Office

In the case of discrepancies being noticed at the time of taking over, the Handing / Taking over is to be withheld until the approval of CFA till the discrepancies are reconciled. In the event of incoming officer being dissatisfied with the result of selective checks, the incoming Officer has to submit a report to Group Head for further necessary
remedial action. Under any circumstances, Handing/Taking over between Store Officer should be completed within 14 days, failing which Head MMG has to submit a justification for the delay in writing to Director of Lab/Estt.

22.3.4 Stock Holder In MMG

In the event Stockholder being changed, 100% check of the stock held under his/her charge will be carried out by the incoming incharge group. In case of temporary absence of stockholder, percentage check may be allowed by the Stockholder temporarily.

The outgoing Stockholder will hand over the stores by raising stock sheet. A comprehensive certificate as per Appendix 'E' will be submitted to the Stores Officer by the incoming Stock holder, signed by handing / taking over Stores incharge. The certificate will be countersigned by the Stores Officer / concerned Officer. A list of discrepancy, if any, will be enclosed to the Certificate. Necessary regularisation action will be initiated separately.

Under any circumstances, Handing/Taking over between Stockholders should be completed within 14 days, failing which Stores Officer incharge has to submit a justification for the delay in writing to Head MMG.

22.3.5 Inventory Holder

When an inventory holder takes over from another of the responsibility of a division or section, the division or section inventory ledgers are to be returned to Ledger Section for updating the inventory. Thereafter, the section inventory is to be handed over to the relieving inventory holder who is to check the equipment and loan records for holding the responsibility. The outgoing inventory holder should be present at the time of check. The division head is to ensure that the check is thorough and complete. The discrepancies are promptly notified to Divisional Head and the reconciliation action shall be taken accordingly.

After checking, the Taking Over inventory holder will sign in both the copies of inventory ledgers and certificate for assuming the responsibility for the articles enumerated subject to discrepancy recorded on the discrepancy statement. The section/division inventory ledger is returned to the new inventory holder for custody.
Under any circumstances, Handing/Taking over between Inventory holders should be completed within 14 days, failing which Stores Officer incharge has to submit a justification for the delay in writing to Head MMG.

22.4 Clearance Certificate

A standard clearance certificate is to be used when an employee leaves a Lab/Estt. The clearance certificate is to be issued by the Admin section. The purpose of leaving the Establishment is to be endorsed in "Red Ink" on top of the clearance form.

22.4.1 General Instructions

Director Lab/Estt is to ensure that:

a) No employee leaves the Establishment on posting transfer or discharge without having previously obtained complete clearance. No clearance certificate is, however, required before proceeding on leave.

b) In the event of death of an employee who was responsible for Government property or an employee admitted in a hospital for a period of more than 3 months, a Board may be constituted to take stock of stores which were in the custody of the deceased or the individual in the hospital and a list of the items held be prepared. The list is to be submitted to MMG for initiating reconciliation action/write-off action as recommended by the Board and approved by the Director of Lab/Estt.

c) In case an Inventory Holder abstains from duty, without prior intimation, for a long period, i.e., more than one month, similar Board has to be constituted for taking stock of the relevant inventory and reconciliation action. After the reconciliation action, concerned Group Head will detail another inventory holder to take charge of the inventory duly reconciled.

22.4.2 Preparation and Disposal of Clearance Certificate

The clearance certificate is to be prepared by Admin division as per the requirement of the Lab/Estt and disposed as follows:

a) Raised in triplicate in respect of persons posted within India or outside India.
   One copy to individual.
   One copy to Accounts Officer
b) Raised in triplicate in respect of persons discharged from service:
   One copy to individual.
   One copy to Accounts Officer
   One copy in record file.
   On the basis of Clearance Certificate, Admin will forward a certificate and pension papers to CDA/JCDA (R&D).

c) In the case of personnel who dies or reported missing, Clearance is obtained by publishing the information in Office Order. On the basis of certificate received from different Divisions/Sections, the Admin will initiate Clearance action.

22.4.3 Clearance Authority

The clearance certificate is to be signed as follows

a) GH/DH will sign the clearance certificate in the first instance. Before signing, GH/DH shall ensure that no charges are pending against the individual.

b) The certificate to be signed further by different divisions as per format.

c) The completed clearance Certificate is then taken to Accounts Officer who will make cash recovery before handing over relieving order from Estt/Lab.
CHAPTER 23
CODIFICATION & STANDARDISATION

23.1 Introduction

Codification is the pre-requisite for any computerisation activity. Codification leads to standardisation, which improves the traceability, sharing of information and avoids duplication of entries. For any Material Management Group activity it is essential to have codification in the following main areas:

a) Item Codification
b) Vendor Codification
c) Employee Codification

23.2 Item Codification: The item codification is to ensure unique identification of an item so that any information/data is easily traceable. In respect of computerised stores accounting, the item code automatically traces the corresponding ledger folio. It also eliminates the possibility of multiple ledger folio for the same item as well as the possibility of posting of transactions pertaining to different items in the same folio.

The code shall uniquely represent every item with a broad specification and meet the following objectives.

The field length of item code shall be minimum but adequate

It shall be modular in structure

There shall be adequate scope for future additions.

The item code shall be alphanumeric.

23.3 Item Categories

Items shall be categorised into Major, Sub, Sub-Sub Categories as per requirement. A few examples of major general categories are given below:

Mechanical
Electrical
Electronics
Automobiles
Arms & Ammunitions
Machineries
Explosives
Radio-Active
Stationery
Paints and Chemicals
Biological
Tools & Hardware
Food & Agriculture
Plastics & Rubber
Textiles
Office Equipments
Cyber items
Communication
Medical
Raw Materials
Miscellaneous

23.4 **Coding Scheme**

The codification scheme shall be common for all DRDO Labs/Estts and once evolved, shall be implemented by all Labs/Estts. This scheme should cater for linking items with corresponding suppliers, such that one could get the list of vendors for a given item and vice versa.

23.5 **Item Codification Cell**

Each Lab/Estt shall have a separate Item Codification Cell with dedicated team with technical acumen and should be fully conversant with the codification scheme of DRDO. The authority and responsibility to codify a new item shall rest with this cell only.

23.6 **Vendor Codification**

It will be appropriate if the suppliers are codified based on Item codification. It is not feasible to identify the supplier fully based on only with the item code number as some of the suppliers are dealing with number of items under different categories. Hence, logic of vendor codification shall link to the item codification.

The Lab/Estt is required to identify all types of categories for vendor codification to meet the above requirements. Vendor codification should assist in vendor evaluation and their ratings.

23.7 **Employee Codification**

For effective Integrated Material Management system in the Lab/Estt, all employees are allotted a unique code for linking to all related MM activities.
24.1 Introduction

Material Management Group is responsible for Planning, Co-Ordinating, Sourcing, Purchasing, Transporting, Storing, Controlling, Accounting and disposing unwanted Materials of the Organisation. Purchase of right item in right quantity at right price from right vendor in right time depends upon collective actions and co-operation amongst the users, Material Management group and Finance departments.

DRDO Labs. are procuring and holding stores in large quantity and varied in nature, which includes both indigenous and imported items. It is therefore, imperative that management of stores is carried out with utmost care with minimum errors. This is possible if only, the entire stores management is computerised. This facilitates powerful interaction amongst various Groups.

This requires complete study of requirements followed by identification of various modules to be developed, input data, necessary infrastructure build up, desired output data formats etc. as per Standard procedures laid down in Purchase Management Document released by R&D Hqrs. dated 21 Aug '2003.

24.2 Various modules of the stores management are identified and discussed under the following topics:

24.2.1 Budget Management

Basically budget preparation, allocation and maintenance form an important aspect of planning. Expenditure of allocated fund should as far as possible is evenly spread out throughout the year in a planned manner.

24.2.2 Item Code Management

Deciding on the right type of item coding and its standardisation forms essential part of stores management. Number of digits chosen for coding scheme would be sufficient to cover all possible items transacted by the Establishment and also accommodate check digits for error handling. The coding also helps in handling inventory and brings out various reports pertaining to inventory.

24.2.3 Vendor Management
Vendor development is one of the important functions of stores management. This comprises of deciding aspects of coding for vendors. Evaluation and selection of vendor in terms of Quality Rating, Delivery Rating, Price Rating and Service Rating forms part of this section. Vendor rating in this direction assists the user, in choosing right vendor for any product without any waste of valuable time.

24.2.4 **Purchase Management**

This forms the centre stage in the stores management. From rising of the demand to inventory control forms different organs of purchase management. Basic modules comprising purchase management are:

a) Allocation of file number  
b) Demand Processing  
c) Item Codification  
d) Vendor Codification  
e) Tender Enquiry  
f) Evaluation of tenders  
g) Allocation of order number  
h) Placement of Order / Contracts  
i) Monitor Order  
j) Amendment to Order  
k) Cancellation of Order  
l) Receipt and Despatch  
m) Billing and Payments  
n) Inventory Control

24.2.5 **Purchase Monitoring**

It is not sufficient if only stores procurement is made. Purchase activity requires elaborate monitoring of file movements, bank guarantees etc. This module should be so designed to cover all the management and queries from Hqrs. and bring out all possible reports enabling management to take quick and correct decisions in time.

It must be possible to carryout age analysis for monitoring, control of purchases between identified events like:

Demand initiation date to Demand approval by CFA  
Demand receipt by MMG to date of floating RFQ  
Floating of RFQ to date of receipt of quote on due date  
RFQ due date to preparation of CST  
CST Date to Placement of supply order  
Release of supply order date to its materialisation
Stores Acceptance date to release of payment by MMG

Release of bill by MMG to its materialisation by CDA.
Ledger Accounting
Condemnation

24.3 **Infrastructure Requirement**

Before any Lab/Estt decides on the computerisation, issues like Hardware infrastructure, Software Platforms and Manpower training must be taken into consideration.
REPORT ON FAILURE OR DEFECT IN DRDO EQPT

A. **REFERENCE**
   - Estts/Labs______________________Divisions________Incident________Report (if any)
   - Reference__________________________________________________
   - Defect registration No_________________________________________

B. **IDENTIFICATION OF DEFECTIVE PART**
   - Main equipment/type/mark_________________________________________
   - Defective component nomenclature__________________________________
   - Item code number__________________________________________________
   - Manufacture of Defective item_______________________________________
   - Date of manufacture______________________________________________

C. **INSTALLATION DETAILS**
   - Date of Installation of main Assy_________________________________
   - Hours run since last_______________________________________________
   - Date of overhaul___________________________________________________
   - Any other relevant information______________________________________
   - Probable cause of defect___________________________________________

D. **HISTORY OF DEFECTIVE COMPONENT**
   - Date of Installation_________________________Hours run_______________
   - Date of defect_____________________________________________________
   - Nature of defect___________________________________________________
   - Circumstances in which defect occurred or was discovered_____________
   - Probable cause of defect____________________________________________

E. **DEFECT ITEMS HELD IN STORE**
   - Description of the item_____________________________________________
   - Date of purchase____________________Qty_____________________________
   - Defect noticed on__________________________________________________
   - Defect reported on__________________________________________________
   - Nature of defect____________________________________________________

Remarks________of________Divisional________Head______________________________
CERTIFICATE OF STOCK TAKING

NAME OF THE LAB/ESTT:

Certified that the Annual Stock Verification in respect of all items of stock which were required to be verified during the year 200 - 200 has been completed.

1. Total number of items checked during the financial year:

2. a) No. of items if any which stock could not be verified:

   Time expected to complete stock taking of items mentioned at 2(a) above :

3. Surplus found in stocktaking:

   a) No. of items in which surpluses were detected :

   Details of items where the value of surplus is more than Rs. 1,000/- (Attach a separate sheet, if required)

   i) Item :
   ii) Value :

4. Deficiencies found in stock taking
   (Attach a separate sheet, if required)

   No. of items in which deficiencies were detected :

   Details of items where the value of deficiencies is Rs.1,000/- and above.
HANDING/TAKING OVER CERTIFICATE BY DIRECTOR OF LAB/ESTT

We certify that we have jointly verified the records, stores in personal charge of _____________________________________________________
(Name of person or Establishment)
and with the exception stated in the accompanying detail they are completely correct and in good and serviceable condition.

The balance returns of Stock/Tools and Plants in personal charge of subordinate holders for the year ending 31 March 200_ are on record and together with books and records have been checked by an Officer in accordance with the existing orders on the subject.

We further certify that secret and other classified documents in charge have been properly handed and taken over.

Signed _______________  Signed _____________
Rank _______________  Rank _____________
(Director, Handing over)  (Director, Taking over)
Date _____________  Date _____________
Station _____________
Handing / Taking over certificate (by Group Head MMG / Stores Officer)

“Certified that the independent inventory check / stock taking has been correctly carried out as per schedule (and is subject to approval by the competent financial authority for adjusting action)*. I assume responsibility for the quantities recorded on the stock record cards as adjusted by the stock sheets”.

The details of long outstanding vouchers already registered but not yet passed to Ledger Section together with reasons for non-clearance are enclosed.

Signature Officer Handing Over
Date :

Signature Officer Taking Over
Date :

COUNTERSIGNED BY

Signature : Group Head (MMG)* *
Date :

* Strike out as applicable

** To be signed by Directorate Head in case of Handing / Taking over between GH, MMG
Handing / Taking over certificate (by Stock Holder)

Certified that 100% physical checks of the stores have been carried out and the physical balances agree with ledger balances except the discrepancy as shown in stock sheet attached herewith. I have been fully briefed about the day-to-day job and there are no undue arrears of work pending.

The details of long outstanding vouchers already registered but not yet passed to Ledger Section together with reasons for non-clearance are enclosed.

“Certified that the stock taking has been correctly carried out and is subject to approval by the competent financial authority for adjusting action. I assume responsibility for the quantities recorded in the ledger as adjusted by the stock sheets”.

The following documents have been handed over to me:
1.
2.
3.
4.
5.

Signature       Signature
Incharge Handing Over     Incharge Taking Over
Date :       Date :

COUNTERSIGNED BY

Signature : 
Stores Officer : 
Date : 
# ABBREVIATIONS

<table>
<thead>
<tr>
<th>No.</th>
<th>Abbreviation</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>A/c No</td>
<td>Account Number</td>
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<tr>
<td>2.</td>
<td>A/U</td>
<td>Accounting Unit</td>
</tr>
<tr>
<td>3.</td>
<td>ABT</td>
<td>Always Before Time</td>
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<td>4.</td>
<td>ACA</td>
<td>Air Consolidation Agency</td>
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<td>5.</td>
<td>ACDA</td>
<td>Assistant Controller of Defence Accounts</td>
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<td>6.</td>
<td>AD</td>
<td>Acknowledgement Due</td>
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<td>7.</td>
<td>ADA</td>
<td>Aeronautical Development Agency</td>
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<tr>
<td>8.</td>
<td>Addl FA</td>
<td>Additional Financial Advisor</td>
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<td>9.</td>
<td>Addl FA&amp;JS</td>
<td>Additional Financial Advisor &amp; Joint Secretary</td>
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<td>10.</td>
<td>AFMSD</td>
<td>Armed Forces Medical Stores Depot</td>
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<td>11.</td>
<td>AOTR</td>
<td>Anticipated Out Turn Report</td>
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<td>12.</td>
<td>APP</td>
<td>Air Post Parcel</td>
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<td>13.</td>
<td>AS</td>
<td>Additional Secretary</td>
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<td>14.</td>
<td>ASC</td>
<td>Army Supply Corps</td>
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<td>15.</td>
<td>ASCR</td>
<td>Armament Subsidiary Control Register</td>
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<tr>
<td>16.</td>
<td>ATF</td>
<td>Aviation Turbine Fuel</td>
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<td>17.</td>
<td>AWB</td>
<td>Air Way Bill</td>
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<td>18.</td>
<td>B/E</td>
<td>Bill of Entry</td>
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<td>19.</td>
<td>B/L</td>
<td>Bill of Lading</td>
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<td>20.</td>
<td>BARC</td>
<td>Bhabha Atomic Research Centre</td>
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<td>21.</td>
<td>BER</td>
<td>Beyond Economic Repairs</td>
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<td>22.</td>
<td>BG</td>
<td>Bank Guarantee</td>
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<td>23.</td>
<td>BIS</td>
<td>Bureau of Indian Standards</td>
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<td>24.</td>
<td>BOC</td>
<td>Brought On Charge</td>
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<td>25.</td>
<td>BRIT</td>
<td>Board of Radiation &amp; Isotopes Technology</td>
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<td>26.</td>
<td>C</td>
<td>Consumable</td>
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<td>27.</td>
<td>CAL</td>
<td>Central Armament Ledger</td>
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<td>28.</td>
<td>CAS</td>
<td>Chief of the Air Staff</td>
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<td>29.</td>
<td>CCPA</td>
<td>Cabinet Committee for Political Affairs</td>
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<td>30.</td>
<td>CCR&amp;D</td>
<td>Chief Controller Research &amp; Development</td>
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<td>31.</td>
<td>CDA</td>
<td>Controller of Defence Accounts</td>
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<td>32.</td>
<td>CDA(R&amp;D)</td>
<td>Controller of Defence Accounts (Research &amp; Development)</td>
</tr>
<tr>
<td>33.</td>
<td>CDEC</td>
<td>Customs Duty Exemption Certificate</td>
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<td>34.</td>
<td>CEDEC</td>
<td>Central Excise Duty Exemption Certificate</td>
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<td>35.</td>
<td>CEES</td>
<td>Centre for Explosive &amp; Environmental Safety</td>
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<td>36.</td>
<td>CEGAT</td>
<td>Central Excise &amp; Gold (Control) Appellate Tribunal</td>
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<td>37.</td>
<td>CFA</td>
<td>Competent Financial Authority</td>
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<td>38.</td>
<td>CGDA</td>
<td>Controller General Defence Accounts</td>
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<td>39.</td>
<td>CIF</td>
<td>Cost, Insurance and Freight</td>
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<td>40.</td>
<td>CIP</td>
<td>Carriage and Insurance Paid</td>
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<td>41.</td>
<td>CMC</td>
<td>Computer Maintenance Corporation</td>
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<td>42.</td>
<td>CNS</td>
<td>Chief of Naval Staff</td>
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<td>43.</td>
<td>COAS</td>
<td>Chief of Army Staff</td>
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<td>CPIV</td>
<td>Cash Purchase Issue Voucher</td>
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<td>45.</td>
<td>CPRV</td>
<td>Cash Purchase Receipt Voucher</td>
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<td>CRDS</td>
<td>Central Receipt &amp; Despatch Section</td>
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<td>CRV</td>
<td>Certificate Receipt Voucher</td>
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<td>48.</td>
<td>CSD</td>
<td>Canteen Stores Department</td>
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<td>49.</td>
<td>CSIR</td>
<td>Council of Scientific and Industrial Research</td>
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<td>50.</td>
<td>CSM</td>
<td>Central Storage Magazine</td>
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<td>51.</td>
<td>CST</td>
<td>Comparative Statement of Tenders</td>
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<td>52.</td>
<td>CVC</td>
<td>Central Vigilance Commission</td>
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<td>53.</td>
<td>DACSA</td>
<td>Directorate of Advance Computing &amp; System Analysis</td>
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<td>54.</td>
<td>DARL</td>
<td>Defence Agriculture Research Laboratory</td>
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<td>55.</td>
<td>DAVP</td>
<td>Director of Advertising and Visual Publicity</td>
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<td>56.</td>
<td>DBFA</td>
<td>Directorate of Budget Finance and Accounts</td>
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<td>Delivery Challan</td>
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<td>DCDA</td>
<td>Deputy Controller of Defence Accounts</td>
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<td>DD</td>
<td>Demand Draft</td>
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<td>60.</td>
<td>DDO</td>
<td>Direct Demanding Officer</td>
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<td>DEF</td>
<td>Defence</td>
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<td>DFA</td>
<td>Deputy Financial Advisor</td>
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<td>DFRL</td>
<td>Defence Food Research Laboratory</td>
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<td>64.</td>
<td>DG</td>
<td>Director General</td>
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<td>DGQA</td>
<td>Director General Quality Assurance</td>
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<td>DGS&amp;D</td>
<td>Director General Supplies and Disposals</td>
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<td>DMM</td>
<td>Directorate of Materials Management</td>
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<td>DMR&amp;F</td>
<td>Director Military Regulations &amp; Forms</td>
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<td>DP</td>
<td>Delivery Period</td>
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<td>70.</td>
<td>DRDO</td>
<td>Defence Research &amp; Development Organisation</td>
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<td>71.</td>
<td>DRL</td>
<td>Defence Research Laboratory</td>
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<td>DTD&amp;P (Air)</td>
<td>Directorate of Technical Development &amp; Production (Air)</td>
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<td>73.</td>
<td>DV</td>
<td>Debit Voucher</td>
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<td>74.</td>
<td>ECIL</td>
<td>Electronics Corporation of India Limited</td>
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<tr>
<td>No.</td>
<td>Abbreviation</td>
<td>Description</td>
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<td>Establishment</td>
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<td>FIN</td>
<td>Finance</td>
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<td>FMS</td>
<td>Factory Manufactured Stores</td>
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