COMMAND AND STAFF TRAINING INSTITUTE

BANGLADESH AIR FORCE

Individual Staff Studies Programme (ISSP)

PROFESSIONAL SUBJECT-2 : LOGISTICS
PHASE-16 : PART-II

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PHASE-16 : PART-II

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Note:

- Each Period Comprises 40 Min.
- Total Time 08 Weeks.
- Per Week 10 Period.
- Rest 10 Periods for Revision and TAE Writing.

INTRODUCTION TO THE PHASE

1. In this phase, the topics are selected to suit the experience of officers of Logistic Branch and impart useful knowledge for discharging their duties in BAF.

2. The syllabus is divided into different topics to make the study systematic and easier for young officers. Self-assessed exercises have been included at the end of the chapter so that you can progressively check your knowledge and understanding of material. The self-assessed exercises will enable you and your tutor to measure the degree of success in achieving the objectives.

TOPIC - 1

DUTIES & RESPONSIBILITIES OF LOGISTIC OFFICER

1. Logistic officer on a station is the advisor to the Commanding Officer on all supply matters. He is responsible to ensure that the right type of equipment is made available to the right people at the right time and place. He plays an important role in keeping the Air Force combat ready by providing spare support as and when required in most effectively and economical way. The spare support must be in a way smooth and regular at all times as no period of grace would be provided in a war by enemy to mobilize our resources and prepare for the conflict. To meet this requirement the Logistic Officer is to obtain advance information on plans and projects to enable him to take timely action to produce the necessary equipment required. He is responsible for implementing equipment policy and the efficient organization and function of equipment section. He is responsible for the correct interpretation of equipment regulations and to bring it to Officer Commanding any serious deviation from procedure. He is to maintain a close liaison with the user activities to assist them to anticipate their requirements to ensure smooth and efficient working. The important matters which required his personal attention are given below:

2. Matters Requiring Constant Supervision

a. Regular review of establishments and submission of replenishment demands to raise stock to maximum establishment.

b. Prompt disposal of surplus equipment.

c. Provision and up to date amendments of all publications and scales of equipment.

d. Careful vetting of all internal demands to control consumption.

e. Initiation of progress action for clearance of priority demands.

f. Safe guarding of all equipment, specially V & A items.

g. Ensure that any loss or damage to equipment is dealt with promptly as per regulations.

h. Safe custody of MC Notes and other classified documents.

j. Arranging OJT lectures and practical instruction for log staff.

k. Investigation and prompt disposal of audit objections.

l. Fire precautions and security of building particularly for POL.

m. Quick disposal of salvage in accordance with current instruction

3. **Matters Requiring Personal Attention Periodically**

a. Daily.

(1) Scrutiny and supervision of incoming and outgoing correspondence.

(2) Submission of returns.

(3) Maintenance of graphs and statistics to show progress of work load etc.

(4) Progress of action on receipts, demands and vouchers and prevention of any back log in this respect.

(5) Ensure that all equipment is properly labeled, binned and stores in accordance with current regulations.

(6) Contract with consumers to ensure prompt and accurate satisfaction of their legitimate requirements.

(7) To bring to the notice of the CO any AFI or AFO of important nature relating to equipment.

(8) Verification of quantities of equipment delivered to or dispatched from his unit.

(9) To ensure that all transactions are supported with a proper voucher correctly prepared and required copies are sent to EAS in time.

(10) To ensure that all the equipment in his custody is duly BOC and any surplus and unrecorded equipment when discovered is BOC by necessary certificate vouchers.

(11) He is to make no issue of equipment on loan other than as authorized by Air Headquarters and is to ensure that the articles are returned in time or charged for.

(12) He is to bring to the notice of the CO any case where an item returned by a flight or section has deteriorated otherwise than by fair wear and tear.

(13) He will be responsible that the equipment dispatched from the unit by rail, road or sea, is securely packed and marked and consigned in accordance with the regulations.

b. Weekly.

(1) Weekly check of bulk POL stocks.

(2) Snap checks of items including V&A items.

(3) Snap check of establishments.

c. Monthly.

(1) Review of stock taking program.

(2) Inspection of equipment copies of all voucher registers.

(3) Monthly check of POL stocks.

d. Quarterly. Stock taking of all V&A items at a station.

e. Six Monthly. Stock taking of all V&A items at a depot.

f. Yearly. Completion of stock taking and final adjustment of discrepancies at station store.

g. Two Yearly. Completion of stock taking and final adjustment of discrepancies at equipment depot.

Questions

1. What are the main duties of a logistic officer which need his constant supervision?

2. What action should a logistic officer take when an item returned by a flight is considered to have deteriorated by misuse or neglect?

3. How frequent a logistic officer must check bulk POL stock?

Answers

1. The main duties of a logistic officer which need his constant supervision are given below:

a. Regular review of establishments and submission of replenishment demands to raise stock to maximum establishment.

b. Prompt disposal of surplus equipment.

c. Provision and up to date amendments of all publications and scales of equipment.

d. Careful vetting of all internal demands to control consumption.

e. Initiation of progress action for clearance of priority demands.

f. Safe guarding of all equipment, specially V & A items.

g. Ensure that any loss or damage to equipment is dealt with promptly as per regulations.

h. Safe custody of MC Notes and other classified documents.

j. Arranging OJT lectures and practical instruction for log staff.

k. Investigation and prompt disposal of audit objections.

l. Fire precautions and security of building particularly for POL.

m. Quick disposal of salvage in accordance with current instructions.

2. The log offr is to bring to the notice of the CO any case where an item returned by a flight or section has deteriorated otherwise than by fair wear and tear.

3. A log officer must check bulk POL stock weekly to ensure quality and quantity of bulk POL stocks.

Ref: AP 830 Vol - 1 Part - I L/L A 5/1.

TOPIC - 2

LOGISTIC PUBLICATIONS

1. To ensure that all Units/Bases of the BAF follow the standard system of administration and accounting, following principal publications and instructions are to be held in every logistic section and equipment depot.

2. **AP 830 (Logistic Regulations BAF)**. This book has got the following volumes:

(a) **AP 830 Vol- I.** Logistic Regulations, Administration and Accounting of BAF. This book is divided into chapters, sections and paras and each chapter is set with particular subject to deal with the different aspect of administration and accounting matters. This book is quoted as an authority. This book is divided into 4 parts and each part is in a leaflet form and identified by alphabet as under:

(i) Part– I. Equipment organization, principles of accounting and several procedure identified by alphabet ‘A’.

(ii) Part– II. Consumer unit procedures identified by alphabet ‘B’.

(iii) Part– III. Equipment depot procedure identified by alphabet ‘C’.

(iv) Part– IV. Bulk provisioning procedure and identified by alphabet ‘D’.

(b) **AP 830 Vol- II.** Equipment regulations, storage and packing of air force equipment. It contains full instructions, storage and packing unless instructions issued to the country.

(c) **AP 830 Vol-III.** Scale of BAF equipment.

3. **AP 1086 Vocabulary of BAF Equipment**. AP 1086 comprises of 18 Books. A table of contents for each book, a vocabulary of section and alphabetical index of stores for all Books are given in book No-1. This AP classifies the list of all equipment in use in BAF, except the following:

(1) Item of BASE supply.

(2) Items of MES supply.

(3) Airframe and Aereo Engine spares subject to different schedule.

(4) Medical stores and equipment.

(5) Forms, Stationery, Publications and Office equipment (other than type writers and duplicators).

(6) MAP Items.

(7) NIV Items.

4. **AP 3150 Manual of Movement**. Contains procedures related to the movement by air, sea and land of defence and Air Ministry personnel and their families and department of defence equipment, local instructions or orders should conform as per as possible with this manual.

5. **AP 3160 Manual of Fuel and Lubricants**. This manual deals with the origin, refinery treatment, property provisioning, distribution, contamination and deterioration of POL products.

6. **AP 2608A Explosive Regulation for BAF**. This is an explosive manual and contains instruction and maintenance of armament depot and magazines. Regulations for stores, packing / un-packing and the instructions for disposal of unserviceable and un-serviceable explosives are also explained in this manual.

7. **Equipment Staff Instructions (ESI**). These instructions are issued by the Directorate of Supply, Air Headquarters with the concurrence of FC (air) to regulate certain equipment procedures which are in force. These ESIs are then replaced gradually by AFOs.

Questions

1. Write down the names of volumes and parts of AP 830 (Logistics Regulations BAF)?

2. What is Equipment Staff Instructions (ESI)?

TOPIC - 3

GENERAL PRINCIPLES OF STORAGE, PACKAGING AND PRESERVATION

Introduction

1. For successful functioning of the Air Force or for successful execution of any project, it is important that correct stores and equipment are provided at the correct place and time and in correct quality and condition. Otherwise the operation may fail and may involve loss of life and risk to national security.

2. It is important that personnel dealing with the storage, handling and transportation of store and equipment should know the causes of deterioration and damage, and be able to effectively carryout/supervise store preservation measures and simple packaging techniques.

Importance of Preservation and Packaging

3. Air Force handle a large range of items from a sewing needle to a tank or aircraft; perishable items like foodstuffs, hardware; very delicate electronic equipment; fragile glass-ware/crockery and machinery items chemicals both corrosive and poisonous; drugs, pharmaceuticals and so on. These stores and equipment are made of materials, some of which for the nature undergo deterioration, some others which are sensitive to biological agencies like insects and micro-organisms or by physic-chemical agencies like light, heat, pressure, corrosive gases etc. As a consequence of the inter-action of the basic materials with above agencies, the stores undergo deterioration. Since the entire aim of the procurement policy is to ensure that the stores and equipment are available in 100% serviceable condition as and when they are required, it becomes necessary that the various stores and equipment stocked by the Defense Services are protected from the various agencies described above and ensure that they do not undergo deterioration and deterioration rate is kept to the minimum. Thus preservation and proper storage of the defense stores and equipment are very important to ensure that the various items of stores and equipment which are procured at great cost and labour are available at any time by the Defense service in a fully serviceable and usable condition.

4. Bangladesh is located in the tropical zone where the climatic conditions are more favorable for the growth of insects and micro-organisms. In a country like Bangladesh we come across extreme climates, such as hot dry, cold-humid and cold-dry. Stores produced in one place having a particular climatic condition may have to be moved and stored in any of the above climatic conditions. It must be ensured that such stores are capable of withstanding such changes in the climatic conditions during its storage and transportation. Here proper and timely preservation plays an important role as well.

5. Transportation involves handling at different stages. It may also involve transshipment from one gauge of rail to another. It may also involve transportation by rail, by steamer or river craft, by road in MT vehicles and even on human backs. Sometimes stores are to be carried by Air Force and may be dropped as air-dropping. All these methods of transportation and handling expose the stores to various physical hazards like shock due to drops, vibrations, and compressions. Stores and equipment have to be properly packed to ensure that they are able to withstand all the physical hazards encountered by the package during the transportation and reach the destination in a serviceable condition. A proper packaging, therefore, is very important.

6. Thus it will be seen that preservation and packaging play an important role in ensuring that the stores and equipment procured at higher cost and labor remain in serviceable and usable condition until these are issued to the users.

Condition of Storage

7. **Store House**. The ideal store house is a building of permanent construction providing adequate cover and security, firm level flooring, spacious doorways; and when appropriate, of sufficient floor and roof height to enable mechanical handling equipment to be used. Except where otherwise specified, adequate lighting is essential, but provision must also be made for the exclusion of strong sunlight when necessary. Door must be easily movable so that they may be quickly and securely closed in damp and dusty conditions and roofs and windows must be water tight. Adequate heating and ventilation systems should be installed in order that suitable atmospheric conditions both for storage and working can be maintained.

8. **Atmosphere**. A dry atmosphere is ideal for all stores. Except where otherwise specified temperature between 45º to 50º Fahrenheit are ideal and every endeavor is to be made to maintain such temperature. Humidity must be controlled as far as possible by ventilation and heating as necessary.

9. **Cleanliness.** Accumulation of dirt and waste material cause equipment to deteriorate, increase fire risk and encourage vermin. Such accumulation must be prevented. Floor areas are to be frequently swept, after being lightly dampened with a disinfectant solution or sprinkled with damp sawdust.

10. **Outside Storage**. Sometimes it is found necessary to store equipment in the open for reasons such as lack of permanent covered accommodation. In that case, it is to be raised clear off the ground and suitably covered by tarpaulins, covers and etc, and care being taken to leave space between stacks and covers so as to permit overall air circulation. Where it is not possible to contrive supports and the covers are placed directly on the stacks, advantage is to be taken of very available opportunity to remove the covers and permit the evaporation of any condensed moisture.

11. **Storage Planning**. Sound planning is essential if the objects outlined are to be achieved. The two principal factors, influencing the lay out of storage space as per nature of the equipment to be stored and the characteristics of the storage area are to be considered.

Storage layout plans should be prepared and kept up to date with regular amendment for each shed in use.

12. **Characteristics of the Equipment to be Stored**. In considering the nature of the equipment to be stored the following points should particularly be borne in mind:

a. Activity.

b. Quantity.

c. Size, weight and shape

d. Nature of equipment.

13. **Physical Characteristics of the Storage Area**. Among the physical features of the storage area to be considered are the type, position, number and sizes of doors, the location of lights and light switches, the capacity and location of overhead cranes, loading ramps and so on. The following rules should be applied to secure the best location of equipment in regard to the physical characteristics of storage area:

a. Use doorways to determine the layout of gangways.

b. Use pillars to the best advantage in locating gangways.

c. Utilize lighting facilities advantageously.

d. Apply fire prevention rules when locating fire fighting equipment and fire lanes.

e. Observe floor load capacities.

f. Determine the width of gangways to accommodate mechanical handling equipment.

g. Separate the 'Receipts' and 'Issues' bays and plan the layout of bays to avoid traffic congestion and blockages in the gangways.

h. Consideration should be given to the use of mobile racking to observe space and to avoid over crowding of equipment.

Stacking, Racking and Binning

14. The method to be adopted will depend upon the nature of the equipment to be stored and the size of the holdings. The balance remaining in store is to be repacked in the best manner possible. The following facilities are used to store the equipment:

a. **At Equipment Depots**. As per as possible and whenever practicable, equipment should be stacked using suitable pallets in conjunction with forklift/trucks. Shelves of racks may be adjusted and can be arranged to accommodate a wide variety of equipment. When erecting racks consideration is to be given to the weight likely to be borne and they are to be placed accordingly. Heavy items are to be placed on the lower shelves. Straight lengths of equipment are to be laid flat on shelves and other items which are liable to distortion must be suitably supported. The erection, servicing inspection, alteration and dismantling of all storage racking is the responsibility of the Senior Technical Officer. Equipment personnel are not

permitted to carry out such work without the required technical supervision. Valuable and attractive items are kept in the cupboards.

b. **At Consumer Units**. Equipment is to be stored on the same principles as those applicable to Equipment Depots. Suitable dunnage should be used to raise stack clear off the ground.

15. **Identification of Stores:**

a. Items differing in conditions are to be stored separately from each other.

b. Contents of stacks, racks, bins and cupboards are to be identified by stencil markings or attachment of label showing:

(1) Section/reference/part number.

(2) Description.

(3) Quantity.

(4) Denomination of quantity.

16. **Stock Locating**: A bin location card F-10289 is to be raised for each reference number to locate the item quickly and efficiently for storage, issue, stock taking and inspection. It will bear the following information:

a. Section/Reference/Part number.

b. Description/Denomination of qty.

c. Locations.

d. Quantity.

17. **General Instructions**:

a. As a general rule 80% of the holding of an item should be stacked in bulk and the remaining 20% should be stored in racks or bins.

b. Stock should be placed 3 feet away from walls.

c. Sufficient space should be left between each stack for easy access.

NB: The principles of storage outlines above are applicable to both depots and consumer units.

Questions

1. What are the points should particularly be borne in mind while equipment to be stored?

2. What are the rules should be applied to secure the best location of equipment in regard to the physical characteristics of storage area?

3. Write down the general instructions on storage and preservation.

4. What is a bin location card?

Answers

1 In considering the nature of the equipment to be stored the following points should particularly be borne in mind:

a. Activity.

b. Quantity.

c. Size, weight and shape

d. Nature of equipment.

2. The following rules should be applied to secure the best location of equipment in regard to the physical characteristics of storage area:

a. Use doorways to determine the layout of gangways.

b. Use pillars to the best advantage in locating gangways.

c. Utilize lighting facilities advantageously.

d. Apply fire prevention rules when locating fire fighting equipment and fire lanes.

e. Observe floor load capacities.

f. Determine the width of gangways to accommodate mechanical handling equipment.

g. Separate the 'Receipts' and 'Issues' bays and plan the layout of bays to avoid traffic congestion and blockages in the gangways.

h. Consideration should be given to the use of mobile racking to observe space and to avoid over crowding of equipment.

3. **General Instructions**:

a. As a general rule 80% of the holding of an item should be stacked in bulk and the remaining 20% should be stored in racks or bins.

b. Stock should be placed 3 feet away from walls.

c. Sufficient space should be left between each stack for easy access.

4. A bin location card F-10289 is used for each reference number to locate the item quickly and efficiently for storage, issue, stock taking and inspection. It will bear the following information:

a. Section/Reference/Part number.

b. Description/Denomination of qty.

c. Locations.

d. Quantity.

Ref: AP 830 Vol-II, Chapter - II.

TOPIC - 4

STORAGE & PRESERVATION OF RUBBERIZED MATERIALS, TENT, TEXTILE AND FLYING CLOTHINGS

Storage of Rubberized Materials

1. **General**

a. **Conditions**. Rubber equipment is to be stored in a cool, dry, ventilated and shaded place. A temperature between 50º and 60^0 F is convenient, but it is more important to maintain a low temperature in order to reduce deterioration of rubber stocks. Where possible, a separate room should be set aside for this purpose. Where, however, a separate room is not available for storage, light is to be obscured by the figment of drop-curtains to racks etc. Rubber equipment is to be stored away from heated pipes etc.

b. **Precautions**. Rubber is never to be exposed to the direct rays of the sun while in storage. Where rubber is stored in metal containers, it is to be prevented from the actual contact therewith. Copper containers are on no account to be used for storage of rubber. In storing articles made from a rubber in conjunction with fabric, care is to be taken to ensure that fabric is not allowed to become damp, as this would cause rapid deterioration.

c. **Treatment.** Rubber equipment, except belting is to be treated with Chalk French, while in storage but care is to be taken to ensure that fire orifices, capillary tube etc of equipment, such as tubing used in oxygen breathing apparatus, do not become blocked by excessive application of the chalk. Rubber belting is to be wrapped in grease resisting paper. The ends of rubber covered wire and of rubber tubing in which fabric is incorporated are to be sealed by dipping in molten wax, paraffin special.

d. **Holdings**. Rubber stocks are to be limited to the absolute minimum stocks and to be limited to the absolute minimum consistent with immediate requirements. Oldest stocks are to be issued first, unless otherwise specified.

2. **Specific**

a. **Tubing**. As far as possible, rubber tubing is to be stored in straight lengths on shelves. When rubber tubing is coiled, the outside of each turn of the coil is in slight tension and this can lead to “Exposure Cracking” with consequent un-serviceability.

b. **Sheet.** Rubber sheets are to be stored flat one sheet on another with Chalk French between each sheet so as to prevent sticking of the sheets. Sheet which as supplied in rolls is to be unrolled and stored flat with identifying marks upper most.

Inspection

3. Rubber equipment containing rubber in store is to be inspected periodically for signs of ageing perishing. In case of rubber tubing or sheeting, the items should be examined under slight tension in order to expose surface cracks or other signs of deterioration. Where doubt exists as to the items' serviceability, it may be necessary to submit samples for laboratory test. The frequency at which inspection is to be carried out will depend largely on the storage conditions. The inspection of the rubber and rubber equipment should be made at least every 12 months except where the period is otherwise specified.

Ref: AP 830, Vol II

Questions

1. What is the storage temperature for rubber equipment?

2. What is the time limit for inspection of rubber items/eqpt?

Answers

1. Rubber equipment is to be stored in a cool, dry, ventilated and shaded place. A temperature between 50º and 60^0 F is convenient, but it is more important to maintain a low temperature in order to reduce deterioration of rubber stocks.

2. Rubber equipment containing rubber in store is to be inspected periodically for signs of ageing perishing. The frequency at which inspection is to be carried out will depend largely on the storage conditions. The inspection of the rubber and rubber equipment should be made at least every 12 months except where the period is otherwise specified.

Storage and Preservation of Tent

4. **Storage**

a. Tents are to be stored in a dry, well ventilated storehouse having either a concrete or wooden floor.

b. Canvas coverings should be stored in valises if provided, or otherwise baled in Hessian.

c. Before baling the tents for storage, it should be ensured that tents are not damp or dirty.

d. Metal parts are treated with appropriate protective measures before storage.

5. **Inspection**. Tents are to be inspected at six monthly periods to ensure that:

a. Timber to free from infestation by beetle or worm.

b. Textile is not affected by mildew due to dampness cause by moist climate.

c. Metallic fittings are free from corrosion.

Questions

1. How is tent stored?

2. How are the tents inspected?

Storage and Preservation of Textile

General

6. a. If textile remains in a damp condition, mildew and rot will quickly develop, so they are to be thoroughly dried before being placed in storage.

b. Textiles are to be stored clear off floor and walls and so arranged as to permit free circulation of air around the stored material.

c. As far as possible, clothing and necessaries are to be stored in packages and kept clean and dry.

d. Oldest stocks are issued first. If improved pattern stocks are received, they will only be issued when stocks of obsolete items are exhausted.

e. Where garments remain un-issued for sometimes, they are to be wrapped in sealed unbroken wrapping paper as a safeguard against fading and attack by the moth, “Woolly Bear” etc.

f. Care is to be taken to prevent any dust and dirt in clothing store as this provides the best breeding ground for moths and pests.

Flying Clothing

7. The following procedure is adopted for storage of flying clothing:

a. **Clothing.** This is to be stored in the same manner as other clothing. However, care is to be taken with items of flying clothing which embodied with wool, sheep skin, and fur or wool fabrics against moth. No undue weight is to be placed on items of flying clothing containing sliding fasteners, stud or electrical wiring.

b. **Goggles and Glasses.** These are to be wrapped in tissue paper and quantities are to be kept to minimum.

c. **Boots and Shoes**. They are to be stored dry, well ventilated building in which a temperature of 60^0 F is maintained. Heat causes the leather to dry which considerably reduced the life of foot wear.

Questions

1. Write down the procedure adopted for storage of flying clothing.

Refs:

a. AP 830 Vol- II, L/L B-2.

b. Air HQ/1605313/1/Supp (A) V-7/100A Dt. 15 Oct 96.

TOPIC - 5

DISCREPANCIES IN CONSIGNMENT

Introduction

1. Whenever BAF Equipment is received short, surplus or in condition other than vouched, the receiving unit raises discrepancy report for action by the consignor unit.

Condition for Raising DR

2. DR is prepared by consignee on F594 in triplicate under the following circumstances:

a. When discrepancy is attributable to known or suspected theft, fraud or some gross carelessness on the part of consignor.

b. When the amount of discrepancy is greater than 5% of the total value of the consignment.

c. At the discretion of the commanding officer, when the value of the lost or damaged item on one issue voucher is TK. 20.00 or less.

d. The discrepancy is one of the series of losses from the same source.

e. When it indicates clear responsibility of consignor.

f. When serviceable equipment becomes U/S in transit due to bad packing by consignor.

g. The discrepancy is of a nature which in the opinion of the consignee would be brought to the notice of the consignor.

3. If discrepancy exists in nomenclature or reference number only and which can be legitimately converted to the items received, DR need not be raised. The consignee is told endorse on both station and acknowledgement copy of F 10238 with correct nomenclature and reference number.

4. **DR Registers**. The following registers are to be maintained by each supply squadron of self- accounting units/bases:

a. **DR Out Register F 4143.** This register is maintained to keep the record of all out going DRs.

b. **DR in Register F 4144.** This register is maintained to keep the record of all incoming DRs.

Procedure

5. **Preparation of F 594**. The F 594 is prepared by LO in 3 copies within 7 days of receipt of consignment. The items are BOC as received and no alteration is made to consignor's figure. The station copy of F 10238 is endorsed by the LO "Brought on Charge Qty ..... So discrepancy report No ..... date ..... attached". The information mentioned in AP 830 Vol-1, Part-I, leaflet A-12/1 is given on F 594 to help the consignor in investigation.

6. F 10238 (station copy) together with the F 594 in triplicate is passed to AO who is to endorse the relevant acknowledgement of F 10238 as above and forward it together with the original and duplicate of F 594 to the consignor. The triplicate copy along with station copy is kept in DR awaiting file.

7. **Action by Consignor**. On receipt of two copies of DR the consignor will enter the DR in number and investigate the matter keeping the following points in view:

a. Stock Record Card balance and physical holding.

b. System of packing in case of damage.

c. All possible efforts to admit the DR and to take preventive measures to avoid similar occurrences.

8. After investigation, if the physical stock is found surplus / deficient which is corresponding to the quantity reported on DR, CRV/CIV is raised by consignor. A filled copy of CRV/CIV is dispatched with original copy of DR after endorsing necessary information in the remark's column of DR.

9. If the physical stock and SRC balance are in agreement, both the copies of DR are returned by consignor as not admitted to consignee.

10. **Remarks by Consignor**. One of the following remarks is given by consignor and signed by LO:

a. **DR Admitted**. DR admitted and adjusted by means CRV/CIV No..... Date ..... .

b. **DR not Admitted**. Physical and SRC balance checked and found correct.

11. **Action by Consignee**. On receipt of reply from consignor the consignee is to take the following action:

a. In case the DR is admitted, the consignee does not require to take any action. Original copies of DR is filed with station copy of F 10283.

b. In case the DR is not admitted for the items received deficient by consignee, then the consignee is to raise F 34 to adjust the loss. This loss is to be written off or down as the case may be against the public fund in a/w AP 830 Vol 1 Part-1 LA 14 and AFI (B) 16/58.

12. **Adjustment of Minor Discrepancies**. When the loss or damage is valued Tk 20.00 or less and a DR is not raised. The LO is to SOC the items as received and endorse the station copy or CRV. The discrepancy of less than Tk 20.00 is adjusted in a/w AP-830 Vol-1 Part-I LA 12/1. Acknowledgement copy is also amended by AO who is further to certify as "The loss has been recorded in the loss register." Then both copies of F 10238 are to be submitted to CO for counter signature in approval. Acknowledgement copy is then to be dispatched to consignor.

13. **Final Disposal**.

a. Original copy VCS consignee.

b. Duplicate copy VCS consignor.

c. Triplicate VCS consignee.

Ref : AP 830 Vol-1, Part-I, leaflet A-12/2

Self Assessed Exercise

Q 1. Mention two important circumstances under which discrepancy report is raised.

Q 2. How a minor discrepancy is adjusted by the consignee without raising a DR ?

Answer to the Self Assessed Exercise

A 1. A discrepancy report is normally raised in the following circumstances:

a. When the discrepancy is attributable to known or suspected theft, fraud or gross carelessness of consignor.

b. When the amount of discrepancy is greater than 5% of the total value of the consignment.

A 2. The minor discrepancy after thorough scrutiny and investigation is normally adjusted by endorsing a certificate on the face of the issue voucher (Stn copy) or CRV (as the case may be). The discrepancy of less than Tk 20.00 is adjusted in accordance with AP 830 Vol-I Part-I L A12/1".

TOPIC – 6

LOSS OF OR DAMAGE TO BAF EQUIPMENT

Introduction

1. Any loss or damage to BAF equipment is to be reported to the CO immediately after it is discovered. The CO is at once to take appropriate security measure, arrange for investigation of the facts and such remedy or measures as are indicated by the investigation. Accounting records are to be adjusted as soon as possible. Financial recovery from individuals is subject to general provision and limitations laid down in the Air Force Act Sections 90, 91, 94 and 95.

Recovery for Loss or Damage

2. Loss or damage to general equipment (except machines and related equipment) is to be dealt with under one or more of the following procedures:

a. By charging an individual or individuals.

b. By making a collective charge within the terms of BAF Act.

c. By charging an individual for part of the value and remainder may be charged against public fund.

3. The financial powers of commanding officers in respect of write off of Air Force equipment are laid down in Financial Regulations, Part-I as amended by AFIs from time to time. All cases in which the amount of loss is beyond the powers of write-off of the officer commanding the unit or formation are to be submitted to competent financial authority. All cases in which the loss is due to theft, fraud neglect or deterioration are to be submitted to the COAS for decision. The gross value of a loss or damage will determine the competent officer to deal with occurrences. The gross value is the total value of the loss or damage, irrespective of any recovery that may be made from responsible individuals.

Assessment of Charge

4. Commanding officers are responsible that losses and damages are charged for at a just rate and that all cases of loss or damage are dealt with immediately.

5. The basis of assessing losses which involve recovery from an individual and individuals is as follows:

a. **Textile Articles**. When an item has been lost, consideration is to be given to the estimated life of the article and the time that it has been in use before the loss occurred. The charge against the individual in default, in no case, is to be less than 25 percent of the vocabulary rate of the articles when new.

b. **Non-textile Articles**. Articles which were serviceable before loss the full vocabulary rate is to be charged. If the article had become unserviceable before loss, otherwise than by the fault of the individual or had deteriorated in use through fair, wear and tear a depreciated rate of not less than 3/5th of the full value is to be charged.

6. In all the above cases departmental charges referred to in appropriate instructions are to be added. The arms and associated equipment prices are to be assessed under special rules contained in FRI.

Charging an Individual for Loss

7. **Action by Flight or Section Commander**. When the circumstances attending a loss of equipment have been investigated and it has been decided by the appropriate authority that an individual is to be charged, the officer-in-charge of the flight or section in which the individual is serving is to prepare and sign F-664B in duplicate.

8. **Action by Logistic Officer**. The equipment officer is to allot the IV number to the F-664B, cross referring it where necessary, to the F-675. Where F-675 has been raised, the F-664B is to be given the same receipt voucher number as the F-675.

9. F-664B is to be priced by the equipment officer taking into consideration the recommendation of the flight or section commander, signed and posted to stock record card from the original and the forms are then to be returned to the flight or section commander.

10. **Action by Flight or Section Commander**. The flight or section commander is to obtain the signature of the individual on the original copy of the 664B and signature on both copies from the commanding officer that the charge is approved.

11. **Action by Equipment Account Section**. The original and duplicate copies of the F-664B are received from flight or section commander and the equipment account section is to take A-in-U ledger action on the original and pass both copies of F-664B to the account officer or imprest holder.

12. **Action by Account Officer or Imprest Holder**. Recovery of the charges is to be affected in cash and both copies of the F-664B certified accordingly and appropriate public account reference quoted. The original copy of F-664B will then be returned to the equipment account section for filing, the duplicate being retained to support the entry in the public fund account.

Charging an Individual for Damage

13. Where, after investigation, in accordance with Financial Regulations, Part-I, Para-13 and such other rules and regulations as may be applicable, it is decided by the appropriate authority that an individual may be permitted to make good the value of damage to the Air Force equipment. F-664B is to be prepared as laid down in Para-7 & 8.

14. If the article is so damaged as to necessitate its return to store, it is to be vouched on F-675 to which F-664B in duplicate is to be attached. The F-664B is to be given the same RV number as found in the F-675 and it will support the return voucher. The equipment officer is to endorse the form conspicuously “Not for equipment account section”.

15. The appropriate accounts are to be adjusted from the F-675, a copy of F-664B being attached thereto. The F-664B is to be dealt with as in the case of loss.

Collective Charges

16. Collective charges in respect of Air Force equipment can be made only in accordance with Section 90,91, 94 & 95 of BAF Act. Such charges are to be dealt with in a manner similar to that for charging individuals and F-664B is to be used.

17. The name, of the unit, flight, section or party of airmen to be charged is to be entered against “name” at the head of the 2nd page of the F-664B. The amount of the charges in respect of the various items is to be inserted in the appropriate space.

18. Further action is to be taken in accordance with the procedure indicated for charging an individual for loss or damage.

Loss of Damage Charged Against Public Funds

19. When it is decided that the value of equipment lost or damaged while in BAF custody is to be charged against public funds, write off action is to be taken except in instances where damaged equipment can be repaired economically.

20. When an item is not damaged beyond economical repair but the estimated cost of repair is beyond the delegated financial power of the CO, the circumstances are to be reported to the higher authority with a request for approval for repair to be undertaken as a charge against public funds.

Procedure for a Charge against Public Funds

21. When circumstances of loss or damages are such that recovery is not considered appropriate under para 2(a) or (b) and write off action is to be taken, the equipment officer is to prepare F-34 in triplicate to which an internal issue voucher number is to be allotted. If a court of inquiry has been held, the F-34 is to accompany the proceeding to the competent financial authority.

22. Form 34 for losses which do not involve recovery is to be priced according to the conditions of the articles at the time of loss in the following manner:

a. Serviceable - Full vocabulary rate

b. Repairable - 50% of full value

c. Unserviceable - 10% of full value

23. Whenever an amount has been recovered from an officer or airman in connection with any loss of or damage to air force equipment, the amount recovered is to be stated on the F-34 on which the value of the loss or cost of repair is shown. If no recovery has been made, or an application has been made for, a court martial to be assembled in connection with the loss or damage an endorsement to that effect is to be made on the form 34. In the Remarks and Recommendations column of F-34, the circumstances of the loss and the signature of the officer investigating the loss are to be included. The following information is also to be inserted and signed by the competent financial authority on the reverse of the form:

a. His opinion as to the reasons for the loss.

b. The steps taken to avoid recurrence of similar losses in future.

c. The individuals (if any) responsible for loss.

24. The original copy of the F-34 is to be used to adjust the equipment accounting records as necessary and thereafter filed two copies of the F-34 are to be passed to the accountant officer who is to record his opinion of the loss on F-34. If the matter is for final decision by the CO, the particulars of the loss in the “Losses Register under Investigation” on F-73-S are to be recorded.

25. When the value of the loss is within the financial power delegated to the CO and he decides to write-off, both copies are to be returned to EAS for filing. When the circumstances or value of the loss necessitate reference to higher authority, F-34 is to be raised in quadruplicate. If the authority to write-off the whole or part of the loss is received, two copies of F-34 are to be filed.

Strike-off & Write-off of Class “A” & “B” Equipment

26. Class ‘A’ and ‘B’ equipment which is totally expended, lost or wholly destroyed by fair wear and tear is to be struck off charge by certificate issue voucher without being recorded as a formal loss. Target which are used in connection with air firing practice and which are short away and unavoidably lost are to be treated as unavoidable losses and struck off charge by certificate issue voucher.

27. F-34 is to be submitted to the competent financial authority, for write-off action, in respect of equipment lost through enemy action.

Adjustment of Deficiencies of Clothing and other Equipment of Casualties

28. The value of any deficiency in, or damage (Other than through fair wear and tear) to public property, entrusted to an officer or airman who dies, is reported missing or is certified insane is only to be charged to his non-effective account if the deficiency or damage has

arisen and there is definite evidence that he had admitted responsibility for it before the casualty occurred. Otherwise, write-off action is to be taken.

Self Assessed Exercise

Q 1. What is the basis of assessing losses which involve recovery from an individual or individuals ?

Q 2. What is the procedure of charging an individual for loss ?

Answer to The Self Assessed Exercise

A 1. The basis of assessing losses which involve recovery from an individual or individuals is as follows:

a. **Textile Articles**. When an item has been lost, consideration is to be given to the estimated life of the article and the time that it has been in use before the loss occurred. The charge against the individual in default, in no case, is to be less than 25 percent of the vocabulary rate of the articles when new.

b. **Non-Textile Articles**. Articles which were serviceable before loss the full vocabulary rate is to be charged. If the article had become unserviceable before loss, otherwise than by the fault of the individual or had deteriorated in use through fair, wear and tear, a depreciated rate of not less than 3/5th of the full value is to be charged.

A 2. The procedure of charging an individual for loss is described below:

a. **Action by Flight or Section Commander**. When the circumstances attending a loss of equipment have been investigated and it has been decided by the appropriate authority that an individual is to be charged, the officer-in-charge of the flight or section in which the individual is serving is to prepare and sign F-664B in duplicate.

b. In preparing F-664B the flight or section commander is to certify on both copies of the voucher his opinion of the condition of the equipment when lost and to give his recommendation as to the proportionate assessment to be charged when full value is not recoverable.

c. **Action by Equipment Officer**. The equipment officer is to allot the IV number to the F-664B, cross referring it where necessary, to the F-674. Where F-674 has been raised, the F-664B is to be given the same receipt voucher number as the F-675.

d. F-664B is to be priced by the equipment officer taking into consideration the recommendation of the flight or section commander, signed and posted to stock record card from the original and the forms are then to be returned to the flight or section commander.

e. **Further Action by Flight or Section Commander**. The flight or section commander is to obtain the signature of the individual on the original copy of the

664B and signature on both copies from the commanding officer that the charge is approved.

f. **Action by Equipment Account Section**. The original and duplicate copies of the F-664B are received from flight or section commander and the equipment account section is to take A-in-U ledger action on the original and pass both copies of F-664B to the account officer or imprest holder.

g. **Action by Account Officer or Imprest Holder**. Recovery of the charges is to be effected in cash and both copies of the F-664B certified accordingly and appropriate public account reference to be quoted. The original copy of F-664B will then be returned to the equipment account section for filing, the duplicate being retained to support the entry in the public fund account. Where, in exceptional circumstances recovery cannot be effected locally in cash, recovery will be effected through the Central Account Office in accordance with existing instructions.

Ref: AP 830 Vol-1, Part-I, leaflet A-14/1

TOPIC -7

STRIKE-OFF AND WRITE-OFF OF AC

General

1. The term “Flying Accident” covers all accidents involving damage to ac, except those caused by or assumed to have been directly caused by the enemy action. It includes not only accidents occurring in flight but also in following cases:

a. In starting ac for its flight including propeller accident.

b. In taking off.

c. In taxing.

d. In hoisting an ac into or out of a ship and securing it on board.

e. In pushing, towing or man-handling the ac.

f. When the ac is stationery on the ground, on water or in the hanger including when it is pocketed or moored.

g. When severe damage is found on routine inspection requiring a major replacement

2. Whenever there is a flying accident, the case for strike-off or write-off is initiated by the unit for the following categories of equipment:

a. An airframe/engine lost or so damaged for repair.

b. The loss or damage of an item of serviceable equipment listed in the airframe checking list and not worth of repair.

c. Loss or damage of any item of unit equipment or airframe/engine that might have been in the ac when the flight commenced. OC’s certificate is required in this case.

d. An airframe of any item of transferable equipment of an airframe so deteriorated owing to fair wear and tear and not worth the cost of repair.

3. The case for strike-off/write-off is put up to Air HQ’s in the shape of F-515 which is prepared in quadruplicate, where court of inquiry is held an extra copy of F-515 will be

prepared. One copy is retained and the remaining copies along with proceedings of court of inquiry, where held, are forwarded to Air HQ.

4. Chief of Air Staff BAF on the basis of the evidence, so provided will authorize strike-off or write-off action. If the loss or damage is due to the flying accident and there is no evidence of contributory negligence or other culpable default it will be a strike-off, otherwise it will be a write-off. The decision is notified through a copy of F-515 that is returned to unit.

5. A case of negligence or culpable default will be considered to have been established if an officer or airman has been convicted by a court martial.

6. There will be no question of a conviction if the flying accident has caused death of personnel who may have been in default. Under such circumstances write-off will only be authorized, if the cause of accident is so patent as to have no reasonable doubt as to the existence of culpable default.

Strike-off Airframe

7. When Chief of Air Staff authorized strike-off giving disposal instructions which necessitate the dismantling of airframe, unit is to salve all recoverable equipment. Any item of equipment that is listed in Airframe checking list and might be held in store and the fuel saved are to be returned to store along with other saved items. Return voucher must show the serial No of ac. F-464 is also to be adjusted.

8. The flight copy of F-464 is to be passed to EAS who will compare this copy with their own which is brought up-to-date from return vouchers.

9. F-21 is to be raised to strike-off the Airframe with an endorsement, “As per Airframe checking list and F-464”. The resultant produce is to be BOC by the same voucher, should there be no produce the voucher is to be endorsed accordingly. For items mentioned in para-2(c) & (d) the CIV is to be raised.

10. If the airframe is to be repaired, the damaged item may be repaired or exchanged on the authority of CO of the unit without being recorded as a formal loss provided the flying accident was not due to negligence or culpable default. For deficient items, however, replacement is to be authorized by Air HQ. Deficiencies will be SOC by CIV.

Write-off Airframe

11. When write-off is authorized, the same procedure as for strike-off is followed except that F-34 will be raised and loss recorded in F-73-s. F-34 is to be cross-referred to other adjusting vouchers. The value for write-off on F-34 will be the cost of airframe loss minus the cost of item salved. It will be treated as a formal loss.

Write-off, Strike-off Aero-engine

12. The procedure for write-off and strike-off of aero-engines is similar to that of airframe.

Loss of Airframe/Aero-engine Through Enemy Action

13. Same procedure as in case of strike-off is to be followed. If however, the ac is lost in enemy territory it is to be SOC by means of CIV raised in duplicate. One copy is to be forwarded to Air HQ. CIV should bear the certificate to the effect that the ac was lost in enemy territory and no recovery could be made. The certificate is to be signed by CO.

Ref : BAP 830, Vol-I, Part-I, Leaflet “A” 14/2.

SELF ASSESSED EXERCISE

Q 1. What do you understand by the term “Flying Accident?

ANSWER TO THE SELF ASSESSED EXERCISE

A 1. The term “Flying Accident” covers all accidents involving damage to ac, except those caused by or assumed to have been directly caused by the enemy action. It includes not only accidents occurring in flight but also in following cases:

a. In starting ac for its flight including propeller accident.

b. In taking off.

c. In taxing.

d. In hoisting an ac into or out of a ship and securing it on board.

e. In pushing, towing or man-handling the ac.

f. When the ac is stationery on the ground, on water or in the hanger including when it is pocketed or moored.

g. When severe damage is found on routine inspection requiring a major replacement

TOPIC – 8
AUDIT OBJECTION

Definition of Audit Objection

1. Broadly speaking audit is an intelligent and critical scrutiny of the book of accounts with the supporting documents and voucher.

Aim of Audit

2. The broad aim of audit is:

   a. To safeguard the financial interest of the tax paper and

   b. To assist the parliament/ state /union territory legislatures in exercising financial control over the execution.

Functions of Audit

3. It is the function of the executive (Government) to make financial rules and orders and that of the subordinates of the executive Government to apply those rules and orders.

4. It is the functions of audit to verify that rules and orders are properly applied. It is not the function of audit to prescribe what such rules and orders shall be.

Cardinal Principal of Audit

"THE CARDINAL PRINCIPAL OF AUDIT IS THAT "AN AUDITOR IS A WATCH DOG AND NOT A BLOOD HOUND"

Purpose of Audit

5. The purposes of audit are:

   a. An intelligent and critical scrutiny of books of accts is known as audit.

   b. To verify the accuracy of complete books of accounts under proper head.

c. To detect errors which may be of two broad categories:

(1) Clerical Errors

(2) Errors of principal.

d. To detect fraud, if any.

e. To safeguard against extravagance, carelessness and wastage.

Object of Audit

6. Object of Audit:

a. To verify the accuracy and completeness of accounts.

b. To ensure that all revenue and receipts are brought to account under proper head.

c. To see that all expenditure and issues are duly authorized voucher and classified.

Spirit of Audit

7. The Fundamental Object of an Audit Department is to secure value for the Tax payer's money by seeing that expenditure is not irregularly and wastefully incurred.

8. An auditor's normal attitude is the critical one but the duty of criticism must not be developed to exclude constrictive help. Avoid undue insistence on trifling errors and technical irregularities and investigate really important and substantial irregularities.

Audit of Accounts

9. All accounting and related administrative records maintained by BAF Bases/Units are subject to audit by the controller of accounts, Air Force. The Air Commanding Officers are to make available all auditable records to local audit officer.

10. Officer Commanding Bases/Units is responsible for clearance of audit objection / observations. Normally the audit objections / observation are progressed as given here under:

a. Observations/objections which could not be settled on the spot after discussion with flights/sections commanders passed to Base accountant officer who records them in audit objection register and send the relevant objections/observations to the section concerned.

b. The section after entering the statement in the register will take appropriate action within 14 days and then return the same to accountant officer.

c. The accountant officer will scrutinize the replies before sending them to LAO if in his opinion any reply is not satisfactory, will report the matter to commanding officer.

d. If the LAO does not agree with the replies and uphold his views, the matter will be refereed to higher authorities for necessary advice / decision.

e. Monthly conferences are also to be held with LAO to review outstanding objections.

f. Objections remaining unsettled even after the conference will be submitted to Air Headquarter with full explanations.

Questions

1. What is the purpose of the audits carried out?

2. What is the spirit of the audit?

Answers

1. The purposes of the audit are:

   a. An intelligent and critical scrutiny of books of accts is known as audit.

   b. To verify the accuracy of complete books of accounts under proper head.

   c. To detect errors that may be of two broad categories:

      (1) Clerical Errors

      (2) Errors of principal.

   d. To detect fraud if any.

   e. To safeguard against extravagance, carelessness and wastage.

2. The Fundamental object of an audit department is to secure value for the tax payer’s money by seeing that expenditure is not irregularly and wastefully incurred. An auditor's normal attitude is the critical one but the duty of criticism must not be developed to exclude constrictive help. Avoid undue insistence on trifling errors and technical irregularities and investigate really important and substantial irregularities.

Ref : AP 830 Vol-1, Part-1, Leaflet A 6/7.

TOPIC - 9

AVIATION FUEL HANDLING AND QUALITY CONTROL

1. **Receiving of Jet Fuel from Road Vehicles**

a. Ensure that the vehicles are parked in the correct places. Ensure that the brakes of vehicle have been applied.

b. On arrival a check should be made that seals are intact and that correct grade plates are fitted. Release or advice notes should also be checked to ensure that all the required information is given.

c. Before discharge, draw 5 ltr sample from the drain connection of each compartment to check for water, cleanliness, colour and density.

d. The corrected density should be compared with that quoted on the release or advice notes.

e. Water finding paste must be used for checking water accumulation in tanks of the road vehicle. In addition water checks must be supplemented by the use of Shell Detector.

f. If the colour of the product is unusual the product should not be discharged into airfield storage tanks.

Quality Control of Aviation Fuel While in Storage Tank

2. **Tank Cleaning**. Tank cleaning records should be maintained for each tank. Tanks should be inspected and or cleaned at a frequency which a study of the tank cleaning reports indicates to be necessary. The period between cleaning should not normally exceed 3 years.

3. **Settling**. Before withdrawing product from airfield tanks the following minimum settling periods must have been allowed since the last receipt:

	Horizontal Tanks	**Vertical Tanks**
Aviation Gasoline and Jet Fuel	1 Hour	2 Hours

4. **Water Checks.** All aviation fuel tanks must be checked routinely for water at the low point as follows:

a. After filling and settling.

b. Once in a day , preferably at the start of the morning shift.

c. After heavy rainfall.

5. **Product Release**. Before the content of any tank is released for service it should be rechecked for water and checked for density. A bottom sample must be drawn for visual inspection and in the case of Jet fuels it should be tested with the Shell Detector for suspended water..

6. **Element Changes**. Routine element changes should be made when the recommended maximum pressure differential or the specified element use life (time) limit is reached. The following limits should not be exceeded:

Filler Type	Life Limit (from date elements installed)	Pressure (kg/cm^2)	Differential Limit (lbf/in^2)
Micro-filter	3 Years	1.5	22.0
Filter/Separator	3 Years	1.0	15.0
Filter/Monitor	3 Years	1.5	22.0

Aviation Fuel Checks and Tests

7. To ensure that satisfactory product is delivered to aircraft, the condition of aviation fuel at various points must be established. The routine checking, testing and sampling procedures devised for this purpose must be regularly and closely followed, and the result obtained must be recorded.

8. **Types of Checks and Tests**. The standard checks and tests are as follows:

a. **Visual Checks (Clear and Bright Check**). Fuel samples are checked visually for the presence of water or solid contaminants and colour. They may be taken from low points, or sumps of tanks, fuellers, abridgers, hydrant lines, filter/separators, micro filters, gauze filters, fuel monitors etc

b. **Shell Water Detector(SWD) Test**. The Shell water detector test is used to determine the presence in Jet fuels of finely dispersed undissolved water in concentrations lower than those normally detectable by visual examination. The method and application of the test are described in Appendix 02.01.02 of Shell Airport Operational Manual.

c. **Relative Density Check**. The relative density check consists of determination of relative density and temperature, correction of the relative density to standard temperature and comparison with expected relative density as described in 02.03.00 of Shell Airport Operational Manual

d. **Millipore Test**. The Millipore test is used to check the cleanness of jet fuel passing various points in the system, by determining the level of solid contamination by colorimetric or gravimetric means. The apparatus and method of carrying out the test are described in appendix 02.01.01. Poor Millipore results may indicate malfunction of filtration equipment.

e. **Conductivity Check.** A conductivity improver additive (ASA-3) is included frequently in jet fuel in order to minimize the hazard of static electricity. The effectiveness of the additive is checked by measuring the electrical conductivity of

the fuel in airport storage tanks by means of a suitable conductivity meter. The conductivity of the fuel in the airport tanks should be between 50 and 450 pico Siemens/metre. The Maihak and Emcee meters are suitable for this purpose and details of their use are given in Appendices 02.01.03 and 02.01.05 of Shell Airport Operational Manual respectively.

f. **Laboratory Analysis**. Laboratory testing for some or all of its specification properties may be necessary to confirm that a fuel meets the appropriate specification requirement and that its properties have not changed due to contamination, painting, ageing or deterioration.

g. **Bonding.** There is always a fire hazard in jet fuel due to static discharges when fuel is pumped into a vehicle. This danger is reduced by ensuring that the vehicle is properly bonded to the loading facilities before any filling connection is made. The fuelling unit should be bonded to the aircraft properly.

Sampling of P.O.L

9. The only inspection of POL which can normally be done at BAF supply units is the visual examination of colour, the detection of solid matter and the presence of water. All other inspections require the submission of samples for laboratory tests.

10. Samples of POL for inspection and test are to be submitted in the following circumstances:

a. When contamination of stocks is suspected.

b. When stocks are suspected as being off specification or when POL stocks have remained in refuellers, aircraft, tanks etc for a considerable time and are suspected to have become weathered or otherwise unfit for use.

c. In the case of fuel held in bulk installation when at least 90% of the contents of the tank have not been consumed during a period of three months.

d. When a specific consignment is ordered to be consumed within a certain period or by a certain date and some of it has not been consumed.

e. When there has been no receipt into a tank for a period of 3 months.

f. Fuel in packed stocks is to be sampled at six months from the date of filling marked on the container and subsequently at intervals of three months.

g. Aero-engine lubricating oils and greases are to be tested initially after twelve months (from date of filling stenciled on containers) and subsequently after every six months.

h. Hydraulic fluids are to be tested initially after twelve months (from date of filling stenciled on containers) and subsequently after every three months.

11. **Types of sample**

a. **Average**. An average sample is one taken so as to contain parts from all sections of the container in proportion to the volume of each part.

b. **Top**. A top sample is a sample taken at a point 10% of the depth below liquid level.

c. **Middle**. A middle sample is a sample taken at a level equal to half the depth of the liquid level.

d. **Bottom.** A bottom sample is a sample taken at a point 90% of depth below the liquid level.

e. **Composite.** A composite sample is a mixture of samples in proportion of volumes of the materials represented by the respective sample. In the case of an individual tank a composite sample is a mixture of top middle and bottom sample containing volume proportional to the volumes of the material at these levels as follows:

Type of samples	Composite sample proportion	
	Uniform Cross Sectional Vessel	Horizontal Cylindrical Tanks
Top Sample	1 Part	1 Part
Middle Sample	3 Parts	8 Parts
Bottom Sample	1 Part	1 Part

Sampling Procedure- General Precautions

12. **Cleanliness of Containers**. All items of sampling equipment such as bottles, thieves, and sample containers (including corks) should be scrupulously clean and dry before use. They should first be rinsed with unleaded gasoline arid allowed to dry by blowing a stream of dry air through them. They should finally be rinsed with the material to be sampled prior to use.

13. **Types of sample Containers**. Sample containers for gasoline should always be of metal. Care should be taken to ensure that they have been properly cleaned as their cleanliness cannot be thoroughly checked by visual examination. The practice of using clear glass bottles is not be resorted to because gasoline being sensitive to light will be affected. Glass bottles, however, may be used for sampling stores other than gasoline. Metal containers are preferred for fuel samples to distant laboratories.

Retention of Duplicate Samples

14. In all cases where samples are submitted to a laboratory for test duplicate samples are to be retained by the sender until test verdict is received.

Reference:

Questions

1. Describe the procedures to be followed prior to receiving of Jet Fuel from Road Vehicles.

2. Write down the names of Checks and Tests being followed for ensuring quality control of jet fuel.

3. What do you understand by composite sample and Millipore Test?

Answers

1. Procedure for Receiving of Jet Fuel from Road Vehicles:

   a. Ensure that the vehicles are parked in the correct places. Ensure that the brakes of vehicle have been applied.

   b. On arrival a check should be made that seals are intact and that correct grade plates are fitted. Release or advice notes should also be checked to ensure that all the required information is given.

   c. Before discharge, draw 5 ltr sample from the drain connection of each compartment to check for water, cleanliness, colour and density.

   d. The corrected density should be compared with that quoted on the release or advice notes.

   e. Water finding paste must be used for checking water accumulation in tanks of the road vehicle. In addition water checks must be supplemented by the use of Shell Detector.

   f. If the colour of the product is unusual the product should not be discharged into airfield storage tanks.

2. **Checks and Tests are**:

   a. Visual Checks (Clear and Bright Check).

   b. Shell Water Detector(SWD) Test.

   c. Relative Density Check.

   d. Millipore Test.

e. Conductivity Check.

f. Laboratory Analysis.

g. Bonding.

TOPIC - 10

FIRE AND FIRE CONTROL

Definition of Fire

1. Fire is a chemical process known as combustion (a burning). The basic requirements of creating fire are air (Oxygen), burnable material (Solid, Liquid or Gas) and ignition temperature of the material (heat).

Types of Fire

2. Fire is classified into three categories :

a. **Solid Fire**. Fire which occurs as a result of combination of vegetable materials such as wood, paper, cotton, grass, coal etc.

b. **Liquid Fire**. Fire which involves materials such as petroleum, oil, greases, alcohol, rubber, tar, wax etc is known as liquid fire.

c. **Electric Fire**. It is that fire which involves electrically operated instruments and appliances is known as electric fire.

Types of Appliances and Their Uses

3. The following are the First Aid Fire Fighting appliances used in BAF :

Types of Appliances	Used On
a. Buckets with sand & water	Solid Fire
b. 2 Gallons soda Acid	Solid Fire
c. 2 Gallons foam extinguisher	Liquid Fire
d. Carbon Tetrachloride (CTC)	Electric Fire
e. 25 Lbs and 5 Lbs Dry Chemical Extinguisher	Liquid Fire. These are substituted for foam type extinguisher and these can also be used on electric fire.
f. Methyl Bromide Fire Extinguisher	All types of liquid fire. It is very effective on alcohol fire. It is also to be used on electric fire up to 25000 volts
g. Carbon-Di-Oxide (CO_2) Gas Extinguisher.	All types of fire, especially on liquid and electric fire, up to 25000 volts. It is most effective on air craft fire.

Method of Operation

4. It is essential that all the personnel occupying buildings, offices etc having first aid fire fighting appliances are thoroughly familiar with their uses and method of operation. Each type of appliance has its own process or device of operation. One can generally be acquainted with the method of operation of such appliances through fire lecture and practical demonstration which are arranged quarterly by fire section in a Base/Units.

Method of Control on Out Break of Fire

5. Following actions are to be taken by a person discovering a fire :

a. Try to put it out with the help of first aid fire appliances available.

b. First put the main switch off in case of electric fire.

c. Shout out for assistance at the top of voice.

d. Inform telephone exchange by giving Fire Sector No, type of fire and his particulars.

e. If the fire is extinguished, inform telephone exchange that he discovered a fire and has extinguished it.

Ref : AFM 92-1, Vol-1, Manual of Fire Services.

SELF ASSESSED EXERCISE – 10

Q1. What are the different types of Fire?

Q2. Describe the method of operation of fire fighting appliances.

ANSWER TO THE SELF ASSESSED EXERCISE – 10

A1. There are three different types of fire. These are :

a. Solid fire.

b. Liquid fire.

c. Electric fire.

A2. Personnel having first aid fire fighting appliances should thoroughly be familiar with their use and method of operation. One can generally be acquainted with the method of operation of such appliances through fire lecture and practical demonstration which are arranged quarterly by fire section in a Base/Unit.

TOPIC -11

DGDP AND DIRECT PROCUREMENT BY AIR HQ

1. Directorate General of Defense Purchase is an inter service procurement organization which is called DGDP in short. The bulk i.e annual purchases of Army, Navy and Air Force are carried out in the DGDP. Every year, few hundred contracts are concluded through DGDP against the indents of Air HQs. The types of these purchases are:

a. Procurement of major eqpt of new induction like aircraft, hel, radar etc.

b. Planned annual procurement of different spares of ac, hel, radar etc; and clothing, barrack items & flying gears.

c. Procurement against priority indent.

d. Repair/ overhaul of aircraft, hel and its major eqpt

Organizations/Establishments involved in Procurement System.

2. DGDP is not the only organisation which involves in the procurement process. There are many agencies or organisations those are also associated in this process. These are:

a. Bangladesh Bank.

b. Sadharan Bima Corporation (SBC).

c. Inter Services Public Relations (ISPR)

d. Indentors (Air HQ).

e. AFD.

f. SFC (DP).

g. Surveyors Agencies.

h. Embarkation Unit/Air freight section.

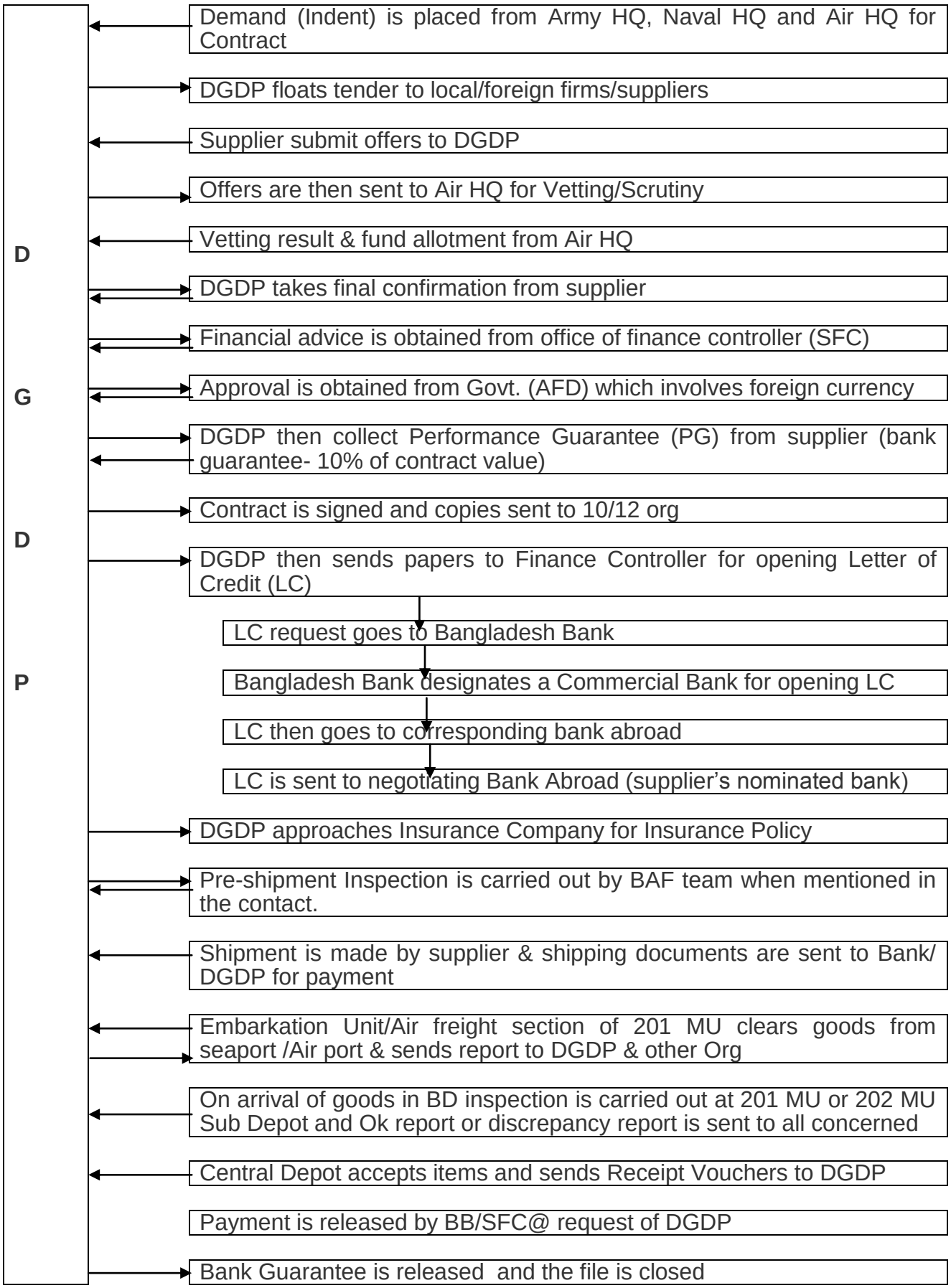
j. Air Freight section of 201 MU

k. DGFI

l. 202 MU

3. Procurement is always a complicated and time consuming process. It takes about 7/8 months to conclude contract in foreign currency and 6 months to conclude contract in local currency. Due to lengthy process foreign principals at times found to be reluctant to participate in the tender.

4. **Steps Taken At DGDP Original Foreign Currency Indent**



5. **Payment term for DGDP contract :** Payment terms are made depending on the nature, volume and amount of the procurement. However, for DGDP contract the following payment terms are usually followed:

a. Generally, 80% payment is made by bank when the supplier ship the items. Rest 20% payment is made when BAF receives the items satisfactorily.

b. 100% payment is made after satisfactory receipt of items by BAF.

c. For major procurement, about 50% to 70% payment is made on shipment. Rest payment is made after satisfactory receipt of items by BAF. An amount of 5% to 10% payment is sometimes paid after 12/18 months warranty period.

6. **Purchase by Air HQ :** To meet urgent requirement, direct purchases are made by Air HQ for ac/hel/radar spares and other eqpt. Such direct purchase orders are given to different firms abroad. For giving a direct order the fol actions are to be taken:

a. Priority requirement from the user.

b. Tender floated and offers received from foreign suppliers.

c. Technical vetting of offer by Splt Dte.

d. Obtaining advice from Senior Finance Controller (DP).

e. Obtaining approval of Competent Financial Authority (CFA).

f. Obtaining approval of AFD in case of procurement more than Tk. 1.00 crore.

g. Placing formal order.

h. Placing of fund to concerned BD Embassy abroad.

j. Payment by BD Embassy after the items is satisfactorily received by BAF.

7. **Payment terms for Direct Purchase by Air HQ :** Usually 100% payment is made on satisfactory acceptance of items by BAF.

(a). For purchase of spares or equipment from Russian suppliers and other suppliers where BD embassy is not available, payment is made directly to the account of the supplier after satisfactory receipt of items by BAF.

(b). For other cases money is sent to BD Embassies abroad while giving purchase order. This payment is made when item is satisfactorily received by BAF.

Questions

Q1. List the names of the organisations which involves in the procurement process with DGDP.

Q2. Explain the payment term for DGDP contract.

Q3. What are the actions to be taken for foreign purchase of an item by Air HQ?

Answers

A1. DGDP is not the only organisation involves in the procurement process. There are many agencies or organisations those are also associated in this process. These are:

a. Bangladesh Bank.

b. Sadharan Bima Corporation (SBC).

c. Inter Services Public Relations (ISPR)

d. Indentors.

e. AFD.

f. FCDP.

g. Surveyors Agencies.

h. Embarkation Unit/Air freight section

j. Air Freight section of 201 MU

k. DGFI

l. 202 MU

A2. For DGDP contract the following payment terms is usually being maintained:

a. Generally, 80% payment is made by bank when the suppliers ship the items. Rest 20% payment is made when BAF receives the items satisfactorily.

b. 100% payment is made after satisfactory receipt of items by BAF. This type of case is rare. The supplier's do not take interest in this type of payment terms.

c. For major procurement, about 50% to 70% payment is made on shipment. Rest payment is made after satisfactory receipt of items by BAF. An amount of 5% to 10% payment is sometimes paid after 12/18months warranty period.

A3. For foreign purchase by Air HQ, the fol actions are to be taken:

a. Priority requirement from the user.

b. Tender from foreign suppliers.

c. Technical vetting of offer by Splt Dte.

d. Obtaining advice from Finance Controller.

e. Obtaining approval of Competent Financial Authority (CFA).

f. Placing formal order.

g. Placing of fund to concerned BD Embassy abroad.

h. Payment by BD Embassy after the items is satisfactorily received by BAF.

TOPIC -12

ORGANISATION AND FUNCTION OF AN EQUIPMENT DEPOT

Introduction

1 The functions of an equipment depot are to carry out the duties outlined in leaflet C-2 of AP 830 Vol 1 Part 3 for these vocabulary ranges which have been allocated in to it.

2 In addition to normal storage and supply duties a depot is responsible for the following aspects in respect of those ranges for which it undertakes specialist responsibilities.

a. Receipt of Unit returns of all serviceable equipment and all repairable equipment which has to pass through supply organization.

b. Assembly, storage and issue of modification kits.

c. Receipt, storage and issue of all controlled items.

d. Issue of all tasks authorized by Air Headquarters.

e. Approval of packing specifications for specialist holdings of equipment and issue of relative packaging instruction.

3 The duties of the principal officers on the functional side of a Maintenance unit are outlined as follows:

a. **Chief Equipment Officer, 2nd in Command.** The CEO is responsible for the efficient working of the functional side of the depot in accordance with policy instructions laid down by higher authority. He has under him supply officers responsible to him for the supervision of the warehouse, sub-warehouse, and sections allotted to them..

b. **OIC PAB**

(i) OIC PAB is responsible for the recording and accounting for all transactions affecting the functional stocks of the depot at which it is located.

(ii) In addition to the stock record cards maintained in the PAB. Forms 4209 (Bin stock and location card) are maintained on each warehouse. Both the records show the stock position.

c. **Unit Technical Officer, The UTO is responsible for :**

(i) Advice to the CEO on the technical aspects of storage and packaging.

(ii) Approval of drawings raised as part of a packaging specification.

(iii) Organization and control of the unit technical personnel and resource (other than those allocated to the clo).

(iv) Servicing of technical equipment in use.

(v) Manufacture and repair of packing cases.

d. **Inspection & Research Officer.** The IRO is responsible to the Chief Equipment Officer for the planning of and advice on all inspections and quality matters. He arranges the inspections of all items, submitted on F-87. He inspects the equipment repaired or modified by the unit technical officer and contractors working parties before being passed of functional stocks or issue.

e. **The Packaging Officer.** The Packaging officer is responsible to the chief equipment officer for the implementation of packaging policy at his depot. The packaging officer is to act as adviser to warehouse and section on all matters affecting packaging. He is also to investigate defective packaging reports. On the technical aspects of preservation and packaging he is advised by the appropriate technical officers.

f. **OIC MFB.** The OIC MFB is responsible to the Chief Equipment Officer for the efficient and economic administration and control of his warehouse. He will exercise the following main duties:

(i) Investigation of all discrepancies reveled by stock taking.

(ii) Active and close liaison with PAB, UTO and IRO.

(iii) Implementation of the programmed of periodic inspection of equipment

(iv) Planning for utilization of storage space within the warehouses.

(v) Ensuring economic use of bin locations and periodic snap checks of stock locations against records.

(vi) Supervisions of warehouse records including snap checks of physical stocks against stock records.

(vii) Safe custody of V&A items.

(viii) Supervision of the packing particularly in respect of priority and quality of packing.

(ix) Investigation of all irregularities and losses and reporting the circumstances to his CEO.

(x) Investigation of Discrepancy Reports and defective Packing reports in conjunction with the UTO.

Ref : AP 830 Vol-1, Part-3, leaflet C 2/1

Questions

Q1. Explain the duties and responsibilities of CEO of 201 MU.

Q2. Who is responsible for preparation of F 87 and how?

Answers

A1. The CEO is responsible for the efficient working of the functional side of the depot in accordance with policy instructions laid down by higher authority. He has under him supply officers responsible to him for the supervision of the warehouse, sub-warehouse, and sections allotted to them

A2. The IRO is responsible to the Chief Equipment Officer for the planning of and advice on all inspection and quality matters. He arranges for the inspection of all items, submitted on F-87. He inspects the equipment repaired or modified by the unit technical officer and contractors working parties before being passed of functional stocks or issue.

TOPIC - 13

STORAGE AND ISSUE/RECEIPT OF EXPLOSIVE

Terms

1. The terms commonly used in connection with handling of explosives are explained below:

a. **Ammunition.** An enclosed explosive substance designed to produce an explosive effect.

b. **Black list.** A record of unsafe and inefficient explosive and dangerous goods, and the authority for their disposal.

c. **Blind.** A prepared explosive store/ammo which, though initiated, has failed to function.

d. **Danger building**. A building, dump or underground chamber, authorized for use by a competent authority, in which explosive are dealt with in any way or are stored.

e. **Detonation**. The very rapid (of the order of 3000 to 9000 meters per second) chemical change of a mass explosive pressures with an intense local shattering effect is called detonation.

f. **Dump**. A defined area for the storage of explosive.

g. **Explosive**. All substances used to produce an explosion, incendiary or pyrotechnic effect, whether in bulk, in missiles pyrotechnics or in components.

h. **Hang Fire**. An explosive capable of being detonated.

j. **Inside Safety Distance**. The distance between a building or stock containing explosives and other such buildings or stacks which will prevent the direct propagation of explosion or fire one to the other by miscible, flame or blast.

k. **Magazine**. A danger building, authorised for use by a competent authority and maintained under “Clean Conditions”, in which explosive liable to function by spark or friction are stored.

l. **Outside Safety Distance**. The distance between a building or stock containing explosives, and other building/railway/water ways, and main roads, at which the ignition or explosion of the explosives will not cause severe structural damage to the building, etc or serious toxic effect to persons.

m. **Prohibited Articles**. Matches, lighters, smoking materials and articles, tobacco in any form, alcoholic beverages etc as so defined in local orders.

n. **Proof.** The functional testing and assessment of the performance of an explosive to ascertain its condition.

p. **Pyrotechnic.** An explosive store, generally containing combustible materials for the production of fire, light, smoke or sound.

q. **Red Card**. A form to indicate suspect or obsolete explosives and associated non explosive.

r. **Sentence**. A written decision as to the condition of explosive etc as the result of an inspection. The authorized sentences are :

(1) Serviceable (designed for) = Fit for all purpose for which the items.

(2) Repairable Ⓡ = Capable of being made serviceable by repair.

(3) Unserviceable (+) = Unfit for use and beyond repair.

(4) Unclassified (U/C) = Needing further inspection before classification as "Needing", "R" or "+" or awaiting final classification either as " ↑ " or "R" under a new stores reference number.

s. **Small Arms Ammunition**. Ammunition fired from weapons below 25 mm caliber.

t. **Traverse**. A natural or artificial barrier, the purpose of which is to localize the effects of an external explosion.

u. **Yellow Card**. A form to indicate explosives and associated non-explosives stores which are due for or are undergoing inspection.

Questions

a. What is sentence? Define the various sentences.

b. What is the deference between Red card and Yellow card ?

c. What do you understand by detonation and explosive?

Reference: AP 2608A, 2nd Edition.

2. **Provisioning.** The provisioning of explosives is based on the war reserve and training requirement for BAF. Assistant Director of Supply (Admin) is responsible for provisioning of explosives and ammunitions under two main heading.

a. Air stores.

b. Ground stores.

3. **Depot Action.** Explosives and ammunitions received at Ammunition Depot from source of Supply against indent/contract are to be BOC by means of CRV. Depot is to

issue those to Bases/Units according to the authorized listing circulated by Air Headquarters (Dte of Supply and Dte of Arms & Weapons) in a shape of RCN.

4. **Action at Base/Unit.** On receipt of stores, Base/Unit Armament Officer is to BOC them first by means of red copy of F.10238. Every internal issue is to be made on F.674 in normal manner. Details of receipts and issue are to be submitted to Air Headquarters, and depot in the shape of RCN monthly. Armament officer is also to maintain the following documents and BSO is to allot blocks of receipt issue and conversion voucher number as required :

a. SIB (F.605)

b. SOB (F.607)

c. RV Registers (f.611a & 611B).

d. IV Registers (F.612a & 612B).

e. CV Registers (F.614a).

f. SRC for explosives (F.101E)

g. SRC Register (F.519S).

h. Explosive loan Book (F.1165).

j. Bin stock card (F.2891).

Ref : AP 830 Vol-1, Part-II L/L B 15/1 & 2

SELF ASSESSED EXERCISE

Q1. Who is responsible for provisioning of explosive in BAF ?

ANSWER TO THE SELF ASSESSED EXERCISE

A1. Assistant Director of Supply (Admin) is responsible for provisioning of Explosives and Ammunitions.

Storage and Handling of Explosives

5. **Packed Explosives**

a. **General.** The improved design of packages, with resultant higher cost in production, makes it necessary for packaged items to be stored under ideal conditions. The aim is to preserve not only the contents but the packages themselves. Firm level surfaces are a fundamental necessity for the storage of packed items.

b. **Stacking.** The principle of stacking is designed to achieve efficiency in storage, accounting, and handling and as an aid to implementing safety regulations.

c. **Method of Stacking**

(1) Packed explosives are to be stacked in such a manner as to permit free circulation of air around each packages.

(2) Packages are to be stacked on battens.

(3) A sufficient space is to be left between stacks and walls of building and between each stack.

(4) Gangways are to be wide enough for easy handling of packages and pallets.

(5) Item of same sec/Ref is to be stacked in one stack. If required, it is to be stacked in 2 or 3 stacks side by side.

(6) Packages are to be stacked in a manner (as far as possible) that the identification markings can be easily seen with out disturbing the stack.

d. **Stacking Height**. Stacking height may vary to suit local conditions but they are not to exceed those given below:

(1) A maximum stacking height of 12 feet is permissible for packed explosives with the exception:

(a) Packages of Detonators - max . height 6 feet .

(b) ,, Guncotton- ,, ,, 6 ,,

(c) Flares 7 inch- to be stored vertically, lid upper most, in single tiers.

(2). Packed non- explosives maximum stacking height of 12 feet is permitted except for cylindrical tail unit containers which are to be as follows :-

(a) Vertically (on their bases) not more than 6 tiers high.

(b) Horizontally (cradle stack) not more than 4 tiers high.

6. **Unpacked Explosive**

a. **General**. The most of the instructions mentioned in para 5 b& c above are also applicable to unpacked explosives.

b. **Method of Storage**

(1) Vertically (except for clusters) resting on transit bases.

(2) Horizontally, cradle-stacked in tiers, with- the bottom tire secured with scotches and raised off the floor on battens.

c. **Precautions in Stacking**

(1) The stores are to be so arranged in stacks that no weight bears on their suspension lugs or other protruding portions.

(2) Clusters are not to be stored more than one tier high if they are deficient of their required transit fittings .

d. **Stacking Height.** Subject to the nature and condition of the floor of the ground and the stability of the stacks, unpacked explosives may be stacked to a maximum height of 10 feet except :

(1) 8” photoflashes all types are not to be stacked more than 5 tiers high.

(2) TI bombs are not to be stacked more than 6 tiers high.

(3) To ensure reasonable stability, the stacking height of shells, H E is not normally to exceed 5 feet .

Questions

1. Explain the method of stacking of packed explosives?

2. What are the precautions to be observed while staking of unpacked explosive?

Packing and Unpacking of Explosive

7. Packing. Explosives are to be packed in their authorized packages as detailed in AP 1086 vocabulary of BAF equipment. These are normally packed for transportation and storage in packages designed to minimize danger, damage and deterioration. If the explosive is not in a self- sealed container, as is the high explosive in a bomb, the explosive stores are usually packed in and inner air- tight container, such as a metal cylinder closed by a lid with a soldered tear- off band, or aliening with a soldered lid.

8. **Unpacking of Explosives**. Packages containing explosives are, on no account, to be opened for any purpose except as follows:-

a. To make authorized issues.

b. To verify the contents when the packages are received with broken or damaged seals.

c. When required by an inspector of explosives.

d To carry out authorized repairs or modifications.

Questions

1. What are the conditions of unpacking of explosives?

2. What AP is to be consulted for packing of explosives?

Answers

1 Packages containing explosives are, on no account, to be opened for any purpose except as follows:-

a. To make authorized issues.

b. To verify the contents when the packages are received with broken or damaged seals.

c. When required by an inspector of explosives.

d To carry out authorized repairs or modifications.

2. Explosives are to be packed in their authorized packages as detailed in AP 1086 vocabulary of BAF equipment. These are normally packed for transportation and storage in packages designed to minimize danger, damage and deterioration.

Ref: AP 2608A, PT - 3 L/ L B-2

TOPIC - 14
BAF PRINTING PRESS

Introduction

1. BAF Printing press is established for printing of all publications, manuals, pamphlets, charts, inspection cards, AFOs, AFIs, maps, periodicals, forms, note pad etc.

Task of BAF Printing Press

2. To achieve smooth functioning of BAF Printing Press, printing job of any kind sought to be done in the BAF Press must specifically fall within the different categories against different fund heads referred as under :

a. **Stationery Items : Supply/Stores Fund**. All items under this fund as given below will be done at service cost :

(1) Printing of BAF standard forms.

(2) Printing of BAF non-standard forms.

(3) Printing of service publications like APs, AFMs, AFLs, AFOs & TOS etc.

(4) Visit programme materials of all outgoing and incoming Air Force dignitaries.

(5) DO Envelopes and other normal service envelopes.

(6) Binding/Rebinding of service publications like APs, TOS etc.

(7) Printing of visiting cards, invitation cards & greeting cards only for the COAS will be unique and same will not be used for the PSOs & Base Cdrs.

(8) Printing of Note pads of the following appointments :

(a) **Air HQ**. COAS, PS to COAS, ADC to COAS, Air secy, JAG, PM, ACAS (O&T), ACAS (M), ACAS (A), Directors, Deputy Directors and Dte & Sectt pad (without any specific appointment e.g. Air Ops Dte, COAS Sectt etc).

(b) **Base/Unit**. Base Cdr, Base Ops Offr, Base Maint Offr, Security Offr, OC Unit, OC Sqn, (No Sqn), OC Ops Wg, OC Maint Wg of BAF Bases.

(c) **MTG Fund & Other Grants**. All items under this head and as referred below will be done in the press on payment of materials including cost of blocks etc but no charge will be made for use of machine & manpower except when men are engaged beyond working hours for which overtime payment is to be made from MTG or other grants as appropriate :

(1) Biman Sena - Magazine

(2) Blue Angel - “

(3) Academy Review - “

(4) All Trg Aid materials (rough khata, precis, examination answer scripts, folder etc), passing out parade and other official functions materials etc connected with trg.

(5) Printing job in connection with sports activities for which the expenditure are to be met from sports game grant.

(d) **Other Funds Covering Miscellaneous Items & Jobs.** All miscellaneous items & jobs which do not fall under any specific head as shown in para-1& sub-para 1a & 1b, above are to be done in the press on payment basis. Examples of such items/jobs are given below :

(1) Meena Bazar of all Bases and BAFWA's job.

(2) Shaheen School Job.

(3) Officers' Mess job.

(4) Non-Public fund printing and binding job.

(5) Any other job not covered in the above heads.

3. All normal printing jobs of all BAF Bases/Units which fall under sub-para 'a' above are to be done directly from BAF Printing press instead of routing those through Air HQ (Supply Directorate). Printing jobs which fall under sub-para 'b' & 'c' are to be processed through supply Dte at Air HQ for obtaining approval and authority.

4. BAF printing press is strictly prohibited to print any private job.

Questions

1. What are the purposes for which BAF printing was established?

2. Who are authorized to print visiting cards and greeting cards?

Answers

1. BAF Printing press was established for printing of all publications, manuals, pamphlets, charts, inspection cards, AFOs, AFIs, maps, periodicals, forms, note pad etc.

2. Printing of visiting cards, invitation cards & greeting cards are only authorised by the following appointments holders:

(a) COAS

(b) ACAS (O & T)

(c) ACAS (M)

(d) ACAS (A)

(e) Base Cdrs

Reference: Letter No Air HQ/16053/Sup(Admin) dt 20 Oct 85.

TOPIC - 15

BAF EMBARKATION UNIT AND PROCEDURE

Introduction

1. The work connected with receipt of defence stores from abroad as well as dispatch of equipment abroad is the responsibility of Embarkation Unit.

2. All the sections shown below are functioning independently within their respective spheres. It is imperative that all ranks working in any/all of these sections should have the maximum team spirit and co-operation amongst themselves. Because any delay or mistake made or committed by any of the section will result delay and huge financial loss to the state.

Duties and responsibilities

3. Duties and responsibilities of different sections for import and export are given below:

a. **Import Section**

(1) Receipt and accounting of document from abroad and issue of discharge instruction.

(2) Passing of details of stores to wharf branch and jetty office for arranging rolling stock and escorts.

(3) Preparation of import documents getting those documents passed from customs, authorities and obtaining of delivery order from the shipping agents.

b. **Export Section**

(1) Receipt of shipping requisitions from consignors.

(2) Arranging of shipping space.

(3) Receipt from consignor and despatch of all stores.

(4) Preparation of all exports documents.

c. **Jetty Section**

(1). On receipt of documents from shipping branch, preparation of jetty challans, payment of port charges.

(2). Taking delivery of stores from port, loading dispatch to consignee and submission of despatch documents to wharf section.

(3). Recording of short landed stores in the N F R and informing wharf branch.

(4). Arranging survey for damage stores and obtaining survey reports.

(5) Submission of daily progress and ship completion reports to wharf section.

d. **Wharf section**

(1) On receipt of dispatch documents, their dispatch and notification to consignees concerned.

(2) On receipt of ship completion report, submission of FOTR to all concerned.

(3) On receipt of details of short landed stores, submission of formal claim.

(4) Obtaining of SLC from the T M. Ctg. port trust and value from the consignees for short landed stores.

e. **Claim Section**

(1) Receipt of survey reports from jetty section, obtaining prices for damaged/missing stores from consignees.

(2) On receipt of SLC and value of stores from wharf section, submission of final claims and their settlement.

f. **Bill Section**

(1) Payment of all port/Jetty charges, rivers dues and freight bill.

(2) Payment of labor/contractors bills.

4. **Terms Used in Embarkation**

a. **Shipping Cable/Sailing Advice**. An advance information regarding despatch of defence stores from the port of shipment i,e. name of ship and date of sailing, no. of packages and weight and type of stores.

b. **Carting Order/Calling Forwarded of Stores**. Dates of loading in to ship are obtained from agents/ship authorities and carting order issued for calling forward the stores; name of ship, date of sailing, berth no, date and time, loading the stores in to the ship, no. of packages, weight and measurement (CFT) of stores, case markings etc.

c. **Short Landings/Not Found Register**. Any package/Packages which are not traceable within the free time are recorded as short landed in the “Not Found Register” of the shed concerned in the port.

d. **Mate Receipt**. On completion of loading, mate’s receipt is obtained from the ship concerned and forwarded to shipping Branch for further action.

e. **Shut Out Stores**. It may happen some times that the stores whether in full or part there of, are shut out from loading in to ship due to lack of time or some technical reasons. In this event, the stores concerned are either to take local delivery immediately or shipping documents amended for shipment by another ship within 24 hours of the departure of the first ship.

f. **Final Out Turn Report**. As soon as clearance of stores from ship is completed final out turn report is prepared based on convey notes, tally sheets and the actual manifested quantities in quadruplicate for consignee/consignees concerned to acknowledge about consignments.

g. **Bill of Lading**. The bill of lading is a document on which the master of vessel or agent of the company acknowledges the receipt of the stores on board the ship shown on the form, Which are to be conveyed and delivered under conditions specified in the charter party or other agreement. The bill of lading also the legal instruments by which the consignee establishes his claim for the stores shipped.

h. **FOB (Free on Board)**. In this case supplier becomes responsible for supply out the shipment is arranged by Embassies/Missions through freight forwarders as the Govt assumes responsibility of the shipper.

j. **CIF (Cost Insurance and Freight**). Procurement insurance and shipment becomes the responsibility of the suppliers.

k. **CFR (Cost and Freight**). Procurement and shipment is the responsibility of the suppliers.

l. **FOS (Free Alongside Ship**). Consignment is shipped on the basis of requisition from the suppliers on co-ordination after allocation of shipping space. All port dues and sea freight charges are paid by the Govt.

m. **Free Space**. The unused space in the holds of the vessel caused by the low stowage factor of the cargo or insufficient cargo to fill the space available is known as a free space.

n. **Full & Down**. This is all available cubic capacity has been utilized (full) and sufficient weight is on board to submerge the vessel to her legal load line ((down).

n. **Delivery Order (DO**). This is issued by the shipping agents to the Jetty Superintendent at the port of discharge on production of bill of lading, invoice, bill of entry by the clearing and forwarding agent of the consignee for delivery of consignment.

Questions

Q1. Explain the following term :

a. Shipping cable/sailing advice.

b. Mate receipt.

c. Bill of lading.

d. Shut out store.

e. Delivery order.

f. FOB

g. CIF

2. Who will obtain survey report for damaged items ?

3. Describe the duties and responsibilities of Wharf section.

Answers

A1. a. **Shipping Cable/Sailing Advice.** An advance information regarding despatch of defence stores from the port of shipment ie Name of ship and date of sailing, No of packages and weight and type of stores.

b. **Mate Receipt.** On completion of loading, mate's receipt is obtained from the ship concerned and forwarded to shipping branch for further action.

c. **Bill of Lading.** The bill of lading is a document on which the master of vessel or agent of the company acknowledges the receipt of the stores on board the ship shown on the form, which are to be conveyed and delivered under conditions specified in the charter party or other agreement.

d. **Shut Out Stores**. It may happen some times that the stores whether in full or part there of, are sheet out from loading into ship due to lack of time or some technical reasons. In this event, the stores concerned are either to take local delivery immediately or shipping documents amended for shipment by another ship within 24 hours of the departure of the first ship.

e. **Delivery Order**. This is issued by the shipping agents to the jetty superintendent at the port of discharge on production of bill of lading, invoice, bill of entry by the clearing and forwarding agent of the consignee for delivery of consignment.

f. **FOB (Free on Board).** In this case suppliers become responsible for supply out the shipment is arranged by Embassies/Missions through freight forwarders as the Govt assumes responsibility of the shipper.

g. **CIF (Cost Insurance and Freight).** Procurement, insurance and shipment become the responsibility of the suppliers.

A 2. Jetty Section will arrange survey for damage stores and obtain survey reports.

A3. Duties and responsibilities of Wharf section are explained below:

(1) On receipt of dispatch documents, their dispatch and notification to consignees concerned.

(2) On receipt of ship completion report, submission of FOTR to all concerned.

(3) On receipt of details of short landed stores, submission of formal claim.

(4) Obtaining of SLC from the T M. Ctg. port trust and value from the consignees for short landed stores.

TOPIC - 16

EXPORT AND IMPORT PROCEDURE

Export Procedure

1. **Shipping Requisition**. Consignor intending to export stores by ship is to submit shipping requisition in 4 copies along with shipping Advice Note in 6 copies to Emb HQ duly completed as below :

a. **Shipping Requisition Contains**:

(1) Name & Address of consignee.

(2) Total No of Packages.

(3) General description of stores.

(4) Dead weight (Gross weight) and volume of package.

(5) Name of consignor (Unit/Depot).

b. **Shipping Advice Note**. It contains the same information as mentioned in para (a) above. In addition, detail description of packages and their contents and marks are also to be mentioned.

2. **Arrangement of Shipping Space**. The Assistant Controller of shipping is approached for allocation of shipping space for the stores giving the following information:

a. Types of stores.

b. No. of packages.

c. Total weight.

d. Total Cft.

3. **Action on Allocation of Shipping Space.** The following documents are prepared.

a. Shipping Bill.

b. Carting Order/Calling Forward of Stores

c. Issue of Shipping Cable

d. Summary of Loading.

e. **Preparation of Bill of Lading.** It is prepared in 7 copies and disposed off as under:

(1) All the copies are signed and completed in the freight column by ship agents who retain 2 copies.

(2) Original and other 2 copies are sent to embarkation/clearing agents at port of discharge.

(3) One copy along with freight bill is sent to C M A.

(4) One copy is retained in file as record copy.

Import Procedure

4. **General.** A separate case/File is opened and maintained for each ship bringing in defence stores. This starts with the receipt of carting order followed by shipping cable/sailing advices from the port of shipment.

5. **Shipping Cable/Sailing Advice**. This is an advance information regarding despatch of defence stores from the port of shipment. It contains the following information:

a. Name of the ship and date of sailing.

b. Total number of packages of defence stores and their weights.

c. Break down of above into various services giving number of packages and weights.

d. Type of stores ie ammunition, medical stores, ordnance stores etc and whether inflammable or otherwise.

6. **Action on Receipt of Shipping Cable/Sailing Advice**. On receipt of shipping cable/sailing advice the following action is taken:

a. Inform ultimate consignees in case of Ammunition, Medical inflammable stores, Arms etc by signal about the impending arrival of the ship giving its ETA and details of such stores and ask for provision of escorts where necessary.

b. Expedite dispatching authorities of the port of shipment for the dispatching authorities of the port of shipment for the dispatch of summary of loading if it is not received a day or two prior to the ETA of the ship.

c. Show it to OIC wharf branch for his advance information and if necessary, passing on the details to jetty branch for placing demands for wagons etc.

Summary of Loading

7. Shipping Cable/Sailing advice is closely followed by the receipt of summary of loading. As the name denotes, this contains summary of all the stores shipped in much greater detail than those contained in the shipping cable/sailing advice. It contains the following additional information:

a. Tonnage and volume of the consignment by Arms/Services.

b. Ultimate consignees of various stores.

c. Markings of all packages by Arms/Services.

Action on Receipt of Summary of Loading

8. The following action is taken on receipt of Summary of Loading from the port of shipment:

a. Issues Discharge Instruction

b. Preparation of Bill of Entry in 6 copies

c. Passing Bill of Entry by Custom House

d. Obtain Delivery Order and Issue of Letter of Guarantee when Necessary.

e. Passing Bill of Entry by Chittagong Port Trust

f. Disposal of Bill of Entry & Delivery Order

g. Payment of River Dues – Bills.

Questions :

Q1. What document are prepared on allocation of shipping space, explain?

Q2. To whom shipping requisition is submitted and how?

Q3. What action is to be taken on receipt of shipping cable/sailing advice?

Answer

A1. The following documents are prepared on allocation of shipping space:

a. Shipping Bill.

b. Carting Order/Calling Forward of Stores

c. Issue of Shipping Cable

d. Summary of Loading.

e. Preparation of Bill of Lading.

A2. **Shipping Requisition** Consignor intending to export stores by ship is to submit shipping requisition in 4 copies along with shipping Advice Note in 6 copies to Emb HQ duly completed as below :

a. **Shipping Requisition Contains**:

(1) Name & Address of consignee.

(2) Total No of Packages.

(3) General description of stores.

(4) Dead weight (Gross weight) and volume of package.

(5) Name of consignor (Unit/Depot).

b. **Shipping Advice Note**. It contains the same information as mentioned in para (a) above. In addition, detail description of packages and their contents and marks are also to be mentioned.

A3. On receipt of shipping cable/sailing advice the following action is taken:

a. Inform ultimate consignees in case of Ammunition, Medical inflammable stores, Arms etc by signal about the impending arrival of the ship giving its ETA and details of such stores and ask for provision of escorts where necessary.

b. Expedite dispatching authorities of the port of shipment for the dispatch of summary of loading if it is not received a day or two prior to the ETA of the ship.

c. Show it to OIC Wharf branch for his advance information and if necessary, passing on the details to jetty branch for placing demands for wagons etc.

TOPIC – 17

INVENTORY CONTROL – BASIC CONCEPTS

Introduction

1. Materials Management is basically concerned with controlling inventories and reducing costs. We have seen that large percentages of the total expenditure of both Defence and civil organisation are used up in purchasing and stocking materials. Even small saving in materials expenditure can contribute to increased profits or enhanced effectiveness of the organisation. However, inventory control remains the core of Materials Management.

What is Inventory?

2. If everything that an organisation needs could be purchased immediately there would be no need to carry any stock. In all ideal situations, whatever materials are required for production or consumption could be purchased as the need arose. Items purchased and used immediately do not constitute inventory.

3. The word 'Inventory' immediately brings to one's mind a stock of some kind of physical commodity. An idle resource of any kind provided that such resource has economic value may be termed as an inventory.

Classification of Inventories

4. One of the convenient classifications of inventories is as follows:

   a. **Production Inventories**. These include raw material parts, components etc which are required to be replaced/reused during operations/maintenance/overhaul of capital equipment like vehicles, aircraft, ships etc.

   b. **MRO Inventories**. This includes maintenance, repair and operating supplies which are consumed/used in the production, or in our contest operations/repairs/overhaul process, but they do not become part of the product/capital equipment eg lubricating oils, soaps, polishing materials, tools, test equipment etc.

   c. **In Process Inventories**. These are semi-finished product found at various stages in the production operations.

   d. **Finished Goods Inventories**. These are completed products ready for shipment/sale. In our context items of personnel clothing/necessaries in Air Force Logistics Section/QM stores/Clothing/Naval stores which are kept for sale/free or payment issue could be considered to fall in this category.

Thus it will be seen that all the above classification of inventories except c. are applicable to the services. In fact a proper correct and realistic understanding of the concept of inventory as discussed at para 3 above, would enable more effective use of resources by adopting various inventory control techniques.

The Need for Inventory

5. The entire process of procurement and holding of inventories is fraught with literally hundreds of uncertainties both external and internal to the organisation. Internally, uncertainty exists :

a. With top management whose decision affects procurement.

b. With materials personnel who have to deal with unreliable suppliers, unpredictable demands, long lead time, failures in supply and rejections due to poor quality.

c. With the users, who indulge in hoarding, inflate demands mainly due to lack of confidence in the materials organisation.

d. With labour force who affect smooth and regulated production.

e. With the machines and equipment used which are subject to breakdowns and shutdowns.

f. and a host of other reasons.

6. Externally, uncertainties exist in the form of government regulations, quotas licenses, taxes, availability of materials within and outside the country, with technological infrastructure of the country, political and socio-economic factors, labour unrest, railway strikes, natural calamities, international relation – the list is endless.

7. In our Service context, we do not need to keep any inventory of items readily and certainly available on a regular basis. For example we do not keep any inventory of fresh rations like vegetables, meat, fruits, milk, ice etc. We do of course stock some tinned vegetables/fruit/milk for emergencies, which is more in the nature of an insurance or safety stocks which we shall discuss later. So is the case in the Air Force of commonly available items like soaps, soda cleaning materials etc which are readily available in local market for which no inventory is kept. On the other hand, spares for aircraft ships, vehicles, tanks, and radars etc which are not readily available for purchase need inventories to be held.

8. All the above factors affect the procurement of materials either directly or indirectly and more or less dictate that organizations keep inventories. As these factors affect the build-up or depletion rate of inventory, the efforts of inventory control are directed towards achieving the ideal optimum inventory for highest profit, minimum cost or maximum effectiveness of the organization. This situation has led some people to call inventory as a necessary evil, necessary because of its decoupling function, an evil because of the attendant cost.

Inventory Costs

9. Various types of costs are associated with holding inventories. These can be divided into two broad categories. The cost associated with holding inventory and the cost of not having inventory. Holding inventory means capital tied up which is not available for other more productive uses. Also cost of storage space cost of effort involved in stocking, (accounting, preservation, security) the cost of deterred ration, damage, pilferage and obsolescence whilst in storage etc are to be incurred. Not holding inventory involves the risk of a stock out. What could be the cost of a stock-out of a particular item? Stock-outs add to costs in terms of production slippage, rescheduling and overtime work to meet sales deadlines. In the defence environment stocks-outs may mean inadequate training, ill maintained equipment, inadequately equipped manpower and thus inability to wage war and perhaps a lost battle.

10. An invisible cost of stock-outs is the loss of confidence of users in the efficiency of the materials organization resulting in hoarding and inflated demands which further add to costs. It is the task of inventory control to balance these costs.

The Need for Inventory Control

11. Increased specialization and sophisticated technology have brought with them a larger materials requirement. The larger the range the greater the complexity and problems of inventory-problems of investment, procurement including imports, lead time storage, handling, accounting shortages, stock-outs, deterioration and obsolescence. Besides, in large organisations, each department looks at inventory from its own point of view. The production department wants sufficient inventory at all time to enable long and continuous production runs for achieving high rate of production at lower costs. The sales department wants a good stock of finished products for ensuring maximum customer service. The finance department may feel that inventories are locking up capital which should be earning a return. Thus each department, although conscious of its own cost, may be unable to see the total cost. In our current tend of logistic activities, we frequently face stock-out situation. Simultaneously we have done over stocking of many items which will be of no use for years to come.

12. It is, therefore, apparent that an integrated approach for control of inventory is essential. Without proper control the inventories have tendency to grow beyond economic limits, tie-up funds and increase the cost of maintenance or the carrying cost. At the same time non-availability of inventory involves the cost of stock-outs, reordering cost and other additional costs. The central core of materials management is Inventory Control. Inventory control is a planned method of determining what is to indent, when to indent, how much to indent and how much to stock, so that purchasing and storing costs are the lowest possible without affecting production, distribution, functional effectiveness or operational preparedness.

Conclusion

13. The basic concepts of inventory control may be summarised as follows:

a. There appears to be no alternative to holding Inventory.

b. Holding inventory involves substantial costs.

c. The dilemma of materials management is to balance the costs between holding and not holding inventory.

d. An integrated and coordinated effort of all concerned is necessary to control inventories.

14. Inventory control in the past was a function which was performed in a routine manner by clerks. More recently, this function has acquired considerable sophistication with far reaching effects on company profits or reduced service costs. Business faces a continuing freeze on profits while Services face more and more tight budgets. At the same time, development of analytical techniques and computer capability now permit more sophisticated analysis of inventory cost problem. These two phenomena have combined to transform inventory control into a critical function requiring professional/managerial skill/techniques. Some of the techniques used for inventory control are :

a. Selective Control.

b. Economic order quantities.

c. Safety Stocks

d. Standardization and Codification.

e. Value Analysis.

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Questions

1. What do you understand by the word "Inventory" ?

2. Why do we need to control the inventory?

Answer

1. The word ‘Inventory’ immediately brings to one’s mind a stock of some kind of physical commodity. An idle resource of any kind provided that such resource has economic value may be termed as an inventory. Items purchased and used immediately do not constitute inventory.