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**IAP 2501**  
(First Edition 2011)



**INDIAN AIR FORCE**

# **MANUAL OF AF WORKS, LAND & QUARTERING**

**VOLUME – I**  
(Total three volumes)

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**DIRECTORATE OF AIR FORCE WORKS  
AIR HEADQUARTERS (VB) NEW DELHI-110106**

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**COMPILER'S NOTE**

**Suggestion for improvement of this Manual and error /omissions noticed herein may be brought to the attention of:-**

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**MESSAGE**

In the year 2006, we had set ourselves the task of publishing an IAP on 'Works Services' as a single point reference for planning and execution of 'Works Services' in the IAF. Updating, revising and compiling such a vast, complex and voluminous document was a difficult and time consuming process. It needed a team of highly dedicated, experienced and committed officers & men, to achieve this onerous task.

I am glad that the Dte of AF Wks displayed the requisite professionalism and commitment in accomplishing the task. I would also like to compliment the Command HQ, Stns/Units and all air warriors who, through their valuable inputs, contributed towards the success of the project. My special appreciation to the E-in-C branch and AFAC for their dedicated efforts.

I am sure, professionals connected with the planning and execution of works in the Air Force will find this document very useful.

Air Mshl  
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**MESSAGE**

Works services is a highly specialised subject. Though cadre dealing with general administration in the Air Force is large, professionals well versed in works services are limited. At the same time, activities related to works services, land and quartering have a direct bearing on the quality of lives of our Air Warriors and their families. Therefore, it becomes important to ensure that the officers and other personnel dealing in works services are well versed with the subject and have instant access to all the relevant information in the form of a ready reckoner.

The Manual of Works, Land and Quartering, is an attempt to lay down the procedures with a view to standardise works services practices in the IAF. It will serve as a guide to all those entrusted with administrative responsibilities related to works services, besides being a useful reference book for personnel from other branches.

Indeed, a herculean effort has gone into making this Manual as comprehensive and exhaustive as possible. However, it is pertinent to mention that it does not purport to substitute the Acts, Rules, GoI orders, etc, which are to be invariably referred to, whenever required.

Air Marshal  
DG (Wks & Cer)

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**MESSAGE**

Compiling a comprehensive Manual of Works, Land and Quartering was an obligation my directorate owed to the posterity. It gives immense satisfaction that this task has been accomplished. I am sure, information and procedure contained in this manual would go a long way in facilitating planning and execution of works services in the IAF.

Air Vice Marshal  
ACAS (AF Wks)

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**FOREWORD FROM COMPILATION TEAM**

1. Manual of AF Works, Land and Quartering has been compiled and arranged in 12 distinct chapters dealing with various aspects of the above subjects in the IAF. While revising the old AFOs and redrafting the new Manual, due care has been taken to incorporate all the provisions for which Govt sanctions have been issued till date. At the same time no new provisions/practices are being introduced for which Govt sanction does not exist. As regards amendment to SOPs, suitable improvements have been incorporated, wherever found necessary, due to changes in our day-to-day working with special reference to increased IT penetration in the work place.
2. Manual of AF Works, Land and Quartering is being issued as IAP 2501. Air Force Orders (AFO) numbered 303/75, 228/76, 399 to 408/76, 19/89 and 06/95 stand cancelled with immediate effect.
3. Henceforth, the procedures and SOPs laid down in this IAP shall be binding on Air Force personnel entrusted with works services in the IAF and shall form the basis for preparation of training notes and to carry out inspections by the inspection directorates dealing with these subjects.
4. Though the provisions and procedures laid down in this manual are binding on those who handle works services in the IAF, they are not to be quoted as authority for making financial commitments, according administrative sanctions for settlement of audit objections. Original authorities, financial or otherwise are mentioned in this manual. They emanate from the government orders and instructions issued by the MoD on the subject. These orders and instructions have been quoted wherever needed. Attempt has also been made to reproduce these orders as appendices wherever they have been mentioned. Care must be taken to quote the original Govt authority while sanctioning funds and issuing administrative orders. If any procedure contained in this manual is found to be in conflict with the govt orders or policies, the govt orders or policies will take precedence.
5. Procedures mentioned in this manual are to be implemented in conjunction with the provisions laid down in DWP – 2007, Scales of Accn 2009, Scales of Furniture 1989, Scale of Accommodation for Hospitals 2003 and Regulations of the MES as far as construction and maintenance activities are concerned. As regards quartering and land issues, attempt has been made to prescribe procedures permitted within the ambit of existing govt orders. These are to be implemented in letter and spirit of the govt orders mentioned in the manual.
6. Issue of IAP 2501 and cancellation of AFOs mentioned at Para 3 above has the approval of the CAS vide Note-3 of Air HQ/37603/5/1/AFO/W (P&C) dated 06 Apr 11.

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**CHAPTER I - GENERAL**

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**ANNEXURE**

Extracts from "Defence Services Regulations- Regulations for the Military Engineer Services -- 1968", relating to the Organisation of MES and duties of MES officers.

**INTRODUCTION**

1. During the past three decades, a large number of orders and instructions have been issued by the Government , Air Headquarters, Engineer-in - Chief, Director General of Defence Estates and Army Headquarters (Quarter Master General) on a variety of subjects relating to Work Services, Quatering, Land, Married Accommodation etc. It is, therefore, felt necessary that all relevant policies and procedures related to works services and quatering in the IAF be issued in the form of a manual.

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### LAY OUT OF MANUAL

#### CONTENTS

2. Past experience shows that rules governing various activities of an organisation changes with time. The publication of a manual will, therefore, be accompanied by the inherent defect of too many amendments being pasted on various pages from time to time. With this background in mind, it has been decided that:-

(a) Various chapters of the manual be designed in a manner, that subjects requiring frequent and periodical amendments are listed as Appendices.

(b) Only unclassified matter is being published in this manual. Classified matter wherever applicable will remain in the form of classified letters/documents.

(c) The arrangement of the contents in various chapters has been done in a manner that each Chapter represents a distinct subject.

(d) Amendments will be issued from time to time in the form of pages to be replaced. A reprint of the manual will be carried out after a period not exceeding 10 years.

3. Various chapters of this manual are listed below:-

<u>Chapter</u>	<u>Subject</u>
I	General
II	Original Works
III	Maintenance Services
IV	Budget
V	Airfield
VI	Furniture
VII	Land
VIII	Miscellaneous (Camouflage & RRS)
IX	Married Accommodation : Officers
X	Married Accommodation : Airmen/NCs (E)
XI	Cutting and disposal of grass usufructs, shrubs and wild growth
XII	Abbreviations

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### **Maintenance of the Manual**

4. Personnel dealing with 'Works Services' at various levels i.e. Air Headquarters, Command Headquarters and Stations are to ensure that:-

(a) Whenever a corrigendum or amendment to any chapter of this manual is issued amending the original policy on a subject, the following actions are taken:-

- (i) The relevant pages of the manual are to be replaced.
- (ii) Record of the amendment be made on the amendment record sheet.

(b) Amendment list is to be correctly maintained in each folder. It will have the following columns:-

- (i) Reference to the letter issuing amendment with date.
- (ii) Para(s) and Chapter(s) affected.
- (iii) Date of amendment carried out.
- (iv) Signature of individual carrying out amendment.

### **CONTENTS OF CHAPTER- I**

5. This chapter contains policy on the following subjects discussed in the succeeding paragraphs:-

- (a) Air Force Works Organisation.
- (b) Military Engineer Services Organisation.
- (c) Director General of Defence Estates.

### **AIR FORCE WORKS ORGANISATION**

6. The term 'Works Services' as used in the Air Force, represents activities relating to Works, Quarters, Land, and other related subjects. 'Works Services' constitute a very vital function towards ensuring operational preparedness as well as desirable working and living conditions in the IAF. The Air Force Organisations responsible for discharging this function is discussed in Para 7 to 12.

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### Air Headquarters

7. The Director General (Works & Ceremonial) [DG (W&C)], under the Air Officer i/c Administration(AOA), is responsible for the Air Force Works Organisation in the Air Force. He is assisted by the Assistant Chief of Air Staff (Air Force Works) [ACAS (AF Wks)], Principal Director Air Force Works (PDAFW), Principal Director Air Force Works (Budget) [PDAFW(Budget)], Director Air Force Works (DAFW), Director Works (Policy & Co-ordination) [Dir W (P&C)] and Director/Joint Director Works (Dir W/JDW) for each command as well as Special Projects/Miscellaneous duties. Apart from routine duties these directorates are centres of core competence, expertise and specialisations in specific areas of works services. The Organisation chart and the duties of various officers of Air Force Works Organisation at Air HQ are given at **Appendices 'A'** and **'B'** respectively.

### Command Headquarters

8. At Command Headquarters, the Air Force Works organisation is headed by Command Works Officer. He is responsible to the Senior Officer i/c Administration (SOA)/Senior Air and Administrative Staff Officer (SAASO). The organisation chart and duties of the officer at Command Headquarters with regard to Works Services are given at **Appendices 'C'** and **'D'** respectively.

9. An Engineer officer from the E-in-C's Branch, designated as ACE(L) or SO-I (Liaison), is posted to Air Force Command Headquarters and acts in an advisory capacity. His duties issued vide Air HQ/37501/107/W(P & C) dated 22 Sep 1992 are given at **Appendix 'E'**.

### Stations

10. At an Air Force Station, the responsibility of looking after the Works Services is discharged by the Chief Administration Officer/Senior Administrative Officer who is directly responsible to the Air Officer Commanding/Station Commander. For the sake of brevity and ease of reference, in this manual, these authorities will be referred as C Adm O and Station Commander. Thus, wherever the term 'C Adm O' appears, it covers Senior Administrative Officer also. Similarly, the term 'Station Commander' covers Air Officer Commanding, Station Commander, Commandant and other similar designations.

11. At big stations, one of the officers under C Adm O is designated as Squadron Commander (Works) or Station Works Officer. These appointments discharge the routine works and quartering functions under the control and supervision of C Adm O.

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12. The Organisation chart and the duties of C Adm O and Squadron Commander (Works) or Station Works Officer at Station are given at **Appendices 'F' and 'G'** respectively. Where no Squadron Commander (Works) or Station Works Officer is established or detailed by the Station Commander, all the duties are to be carried out by C Adm O.

### **MILITARY ENGINEER SERVICES ORGANISATION**

13. Detailed instructions regarding the functioning of Military Engineer Services (MES) are laid down in the 'Defence Services Regulations - Regulations for the Engineer Services - 1968' briefly termed as MES Regulations (Relevant extract placed at **Annexure I**). This publication can be purchased from the authorised books agents.

14. As stated in Para 1 of the MES Regulations, Engineer Services comprise the following:-

- (a) Original works, i.e. provision of buildings, docks, airfields, etc. together with accessory services such as roads, electric and water supply, drainage, furniture, etc. and also internal fixtures generally.
- (b) Maintenance services, i.e. repairs, renewals and upkeep of the works referred to in (a), except as otherwise provided for in these Regulations.
- (c) Maintenance and operation of certain installations such as electric power stations, pumping stations, sewage disposal works, etc.
- (d) Hiring and payment of rent, rates and taxes in respect of lands, buildings and railway sidings and the payment of bills for electric energy and water obtained from municipalities or other bodies.
- (e) Assessment of rent and the furnishing of necessary particulars to the Department of Audit & Accounts through local AAO to enable them to collect rent for quarters and charges for furniture, electricity and water, etc. In certain cases, the actual collection of such recoveries is the responsibility of the MES.
- (f) Provision and holding of stores, plant and machinery required for works, Engineer units and mobilisation reserves.

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(g) Caretaking of Defence Services buildings, airfields, etc. when not in use.

15. For the Air Force, the MES carry out Engineer Services as per instructions from the Chief of the Air Staff and competent authorities subordinate to him (Para 2 of the MES regulations).

16. As laid down in Para 3 of MES Regulations, 'where mention has been made in these rules of administration authorities of the Army by designation, Officers holding corresponding powers in the Navy and Air Force will exercise these functions in respect of their own Services, unless express provision has been made to the contrary. Similarly, references to regulations and budget heads for the Army apply to the corresponding regulations and budget heads for the Air Force.

17. The following Paragraphs from the Regulations regarding the organisation of MES and duties of various officers are re-produced at **Annexure I:-**

- (a) Organisation - Para 21 to 29.
- (b) Duties - Para 30 to 64.

18. Organisation charts at various MES levels are shown at **Appendix 'H'**. Duties of Deputy Director General Works (Air Force) at E-in-C's Branch are placed at **Appendix 'J'**.

19. Frequent reference has been made in this publication to various sections of MES officers. All MES offices from Engineer-in-Chief to Garrison Engineer have the following sections. The subjects normally dealt with by various sections are shown against each:-

<b><u>Section</u></b>	<b><u>Subject</u></b>
E-1	Establishment, General administration and Personnel
E-2	Works, planning and design
E-3	Barrack services and stores
E-4	Electrical and Mechanical
E-5	Budget and Expenditure
E-6	Drawing and Architecture
E-8	Contract and Technical check
E-G	Training

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**DIRECTOR GENERAL OF DEFENCE ESTATES**

**General**

20. **Director General Of Defence Estates (DGDE)**, (Earlier known as Military Lands and Cantonments Service) functions directly under the Ministry of Defence to meet the needs of the three Services, in procuring immovable properties, disposal of surplus defence immovable assets and the management of Defence lands which are not under active use of the Services. The head office of the Director General of Defence Estates with his Directorate is located at at Raksha Sampada Bhawan, near domestic airport, Ulaanbaatar Road, Delhi Cantt – 110010. The office of the Director General Defence Estates maintains a close liaison with all the Ministries and the three Services. The Director General is assisted at his Headquarters by Additional DGs and other Staff Officers. Principal Director Defence Estates (PDDE) is established at each of the Army Command HQ. The PDDE of the Command advises the General Officer Commanding-in-Chief of the Command in all matters regarding Cantonments, Defence Lands, on procurement of immovable properties required by the Army and on disposal of immovable property surplus to the Army. Normally the jurisdiction of the Deputy Director of the Command coincides with the jurisdiction of the General officer Commanding-in-Chief of the Command. He also advises Command Headquarters of the Navy and Air Force in respect of the Units/Formations situated within his jurisdiction. The PDDE of the Command has Field Officers viz. Defence Estate Officers and Assistant Defence Estates Officers located at the Stations having important formations like Divisional Headquarters, Area or Sub Area Headquarters. The executive officers of the Cantonments also work under the guidance of the DGDE.

**Cantonments**

21. The areas which are required primarily for the troops and notified under Section 3 of the Cantonment Act, 2006 are called Cantonments. A Cantonment is necessarily a Military Station, though all Military Stations are not Cantonments.

22. The main object of forming a Cantonment is to provide a clean and sanitised living condition separate from the crowded localities to ensure discipline, welfare and high morale of the troops.

23. The boundary of the Cantonment is defined in the relevant Govt notification. Certain civil population is also permitted to reside within Cantonments in the civil areas. Depending on the size of the civil population, the Cantonments are divided into three Classes viz. Class-I, Class-II and Class- III.

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- (a) **Class-I Cantonment.** The Cantonment where civil population exceeds 10,000.
- (b) **Class-II Cantonment.** The Cantonment where the civil population exceeds 2500 but is below 10,000.
- (c) **Class-III Cantonment.** The Cantonment where the civil population does not exceed 2500.

24. Cantonment Act, 2006 may be referred to for details regarding the administration of cantonments.

**Functions of DGDE Organisation for the Air Force**

25. The DGDE Organisation provides services/assistance on the following aspects:-

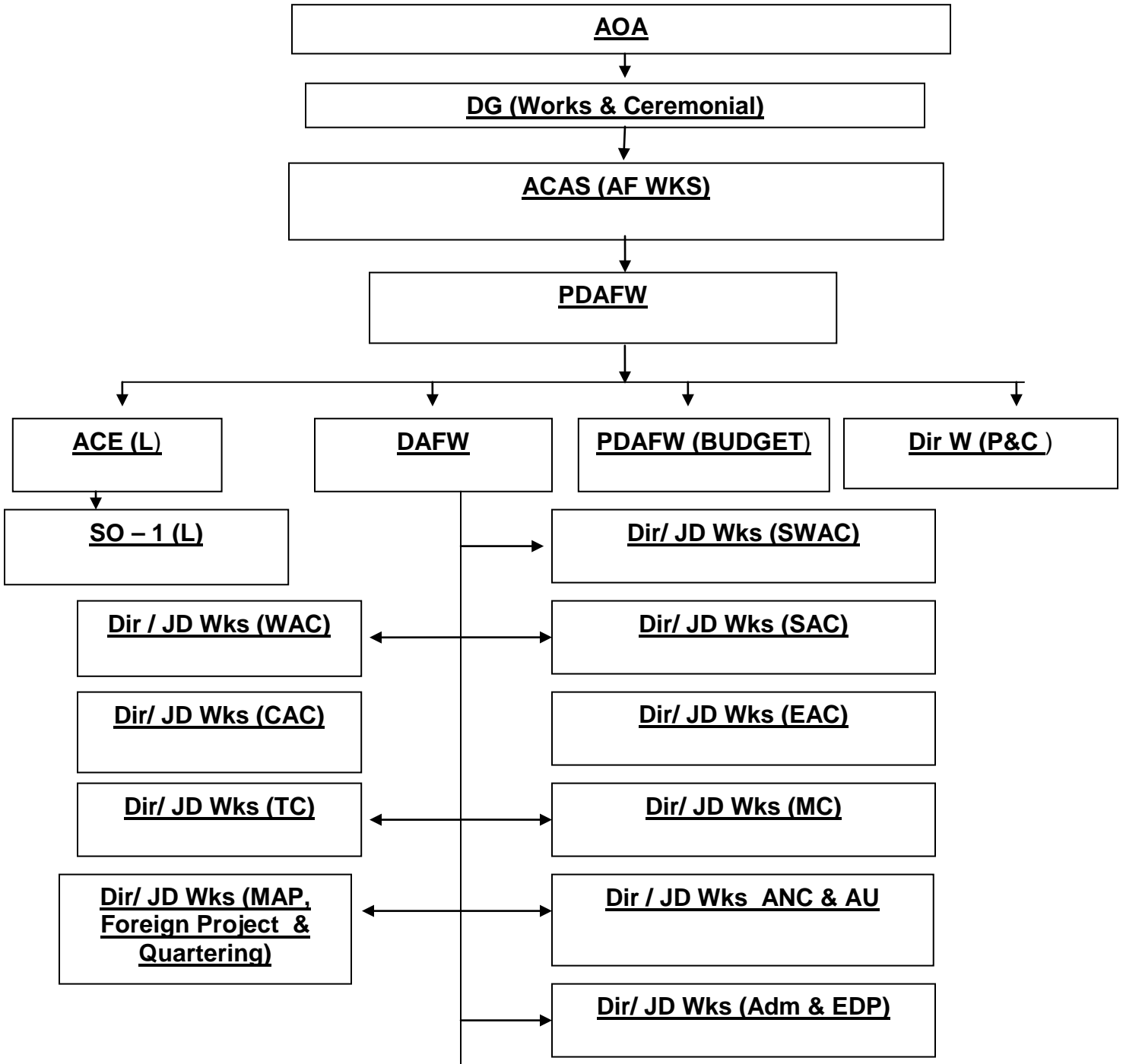
- (a) Hiring immovable property i.e. land and buildings/installations.
- (b) Requisitioning of immovable property.
- (c) De-requisitioning of immovable property.
- (d) Acquisition of immovable property.
- (e) Custody of immovable property.
- (f) Removal of encroachments.

26. Detailed rules and procedures on these subjects are discussed in Chapter-VII.

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**AIR FORCE WORKS ORGANISATION  
AT AIR HEADQUARTERS**



**DUTIES OF OFFICERS OF AIR FORCE WORKS ORGANISATION  
AT AIR HEADQUARTERS**

1. **Assistant Chief of Air Staff (Air Force Works) [ACAS(AF Wks)]**

(a) ACAS (AF Wks) is responsible to the AOA through DG (Wks & Cer) for the efficient administration and functioning of the Directorate of Air Force Works.

(b) He is responsible for co-ordination and formulation of all works services related policy matters, including discussions with sister services, DGDE, MoD and other Govt departments through MoD.

(c) To oversee planning, prioritization, processing, sanctioning and the execution of works services in the Air Force.

(d) He is to represent the Air Force at the Board of Management of Air Force, Naval Housing Board and its Executive Committee (Works).

(e) He is to assist DG (Wks & Cer) on all quartering matters relating to CAO pool accommodation in PSOC.

2. **Principal Director Air Force Works(PDAFW)**

(a) PDAFW is responsible to the ACAS (AF Wks) for general administration of the Directorate, planning, processing sanction and execution of policies, supervision of working of different sections including monitoring and co-ordination of:-

(i) Parliament Questions, Draft Audit Paras and Audit objections.

(ii) Preparation of briefs on all works matters for the CAS, AOA and DG (Wks & Cer).

(iii) Preparation of Annual Major Works Programme (AMWP), 5 years / 10 years roll on plans for the Air Force in consultation with all Commands HQ and Air / Maint Staff at Air Headquarters.

(iv) Forecasting, planning, exercising overall control over the preparation of AF Budget and Budget Estimates.

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- (v) Control of expenditure of the funds provided in the AF Budget.
- (vi) Liaison with E-in-C's Branch, DGDE, CPWD, DGCA, AAI, CAO, Ministry of Defence and also his counterparts in the Army and Navy.
- (vii) Air Force Member on Joint Adm Planning Committee.
- (viii) Progressing / follow up of points arising from:-
  - (aa) CAS' weekly meeting
  - (ab) AOC-in-C's Quarterly Progress Report
  - (ac) Air Force Commanders' Conference
  - (ad) SOsA/SAASO Conference
  - (ae) Tour reports of CAS, AOA and DG (Wks & Cer).

3. **Principal Director Air Force Works (Budget) [PDAFW (Budget)]**

- (a) PDAFW (Budget) is responsible for the following duties:-
  - (i) Finalisation of AMWP & allotment of funds to Air Force Commands.
  - (ii) Release of funds after issue of Adm approvals wherever applicable.
  - (iii) Projection for funds to Govt at PR, PRE & FE, RE, BE and MA stages.
  - (iv) Allocation of funds to HQ Commands and Units directly under Air HQ (AUs) at BE, RE and MA stage.
  - (v) Periodical reviews and monitoring of Capital and Revenue funds for carry over works and maintenance services.
  - (vi) Monitoring of capital and revenue expenditure.
  - (vii) Calling for reports from HQ Commands and AUs.
  - (viii) Forecast and preparation of budgetary provisions for cases of land acquisition / requisition / hire etc.

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- (ix) Control & monitoring of carry forward liabilities of work services.
- (x) Rendering advice on budgetary matters.
- (xi) Maintenance of budgetary data for statistics and analysis.
- (xii) Processing cases for Govt sanctions for charged expenditure.
- (xiii) Processing cases, wherever financial implications involved, for implementation of judgement delivered by various courts / CATs in respect of arbitration awards rendered in connection with works services contract.

4. **Director of Air Force Works (DAFW)**

- (a) DAFW is responsible to the PDAFW for the following duties:-
  - (i) General administration of the Directorate and supervision of working of different sections.
  - (ii) Control, supervision and coordination of work of all the Dirs/JDs Wks of the Directorate. All files and correspondence from different Dirs/JDs Wks are to be routed to PDAFW through him.
  - (iii) Monitoring and follow up on Para - 35 of DWP 2007 sanction / regularisation.
  - (iv) Monitoring of works proposed to be executed as Special Projects.
  - (v) All issues concerning land pertaining to AF bases.
  - (vi) Prompt action and follow up on Draft Paras.
  - (vii) Processing cases with MoD for sanctioning of Loss statements.
  - (viii) Briefs for CAS, AOA, DG (Wks & Cer) and other PSOs visits to AF formations and its follow-up on tour notes.
  - (ix) Preparation of Long Term Perspective Plans.

5. **Director Works (Policy and Co-ordination)**

- (a) The Dir W (P&C) is responsible for the following:-

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- (i) Compilation, updating of Manual of Air Force Works and Quarters, AFOs, Policy letters.
- (ii) Policy matters pertaining to allotment of accommodation to Officers and personnel below officers' ranks pertaining to Air Force except Defence Pool accommodation under CAO in MoD in Delhi.
- (iii) Clarifications with regard to interpretations and amendments to the Scales of Accommodation, Scales of Furniture, Scales of Accommodation for Hospitals and barrack synopsis.
- (iv) Policy matters on works, furniture, water & electricity, non-conventional energy, licence fee and allied charges for authorised shopping complexes constructed under Scales of Accommodation, commercial complex, golf courses, institutes, maintenance of airfield and environment.
- (v) Policy related to delegation of financial powers for sanction of Works.
- (vi) Policy on acquisition/ requisition / hiring of land.
- (vii) Policy on disposal of surplus land and encroachments.
- (viii) Policy on felling of trees, ecological balance, and cultivation on Defence land.
- (ix) Policy on filtration and purification of water.
- (x) Coordination of functional aspects of the entire directorate.
- (xi) Conduct of courses on work services.
- (xii) Policy on restriction on constructions around AF Units/ installations.
- (xiii) Timely reply for CAS' Web Points.
- (xiv) Preparation of monthly feed back to CAS.
- (xv) Agenda points for Cdrs, PSOs, SASO, SOA & other such conferences.
- (xvi) Briefs for dignitaries visiting non AF bases and follow-up.
- (xvii) Replies to Parliament questions.

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(xviii) To generate meaningful management information system, updating data on cases, QPR / MPR.

(xix) To maintain data on land holdings, encroachments and 'land use' for purposes other than office / residential use.

(xx) To maintain airfield status.

(xxi) Internal Return on Commanders Conference, SOCs pending with MoD, FC cases initiated and other data required from time to time in liaison with all Dirs/ JDs W.

**6. Additional Chief Engineer (Liaison) [ACE (L)]**

(a) ACE (L) is responsible to the PDAFW for the following duties:-

(i) Advising on all engineering matters and coordinating all activities between the E-in-C's Branch and the Directorate of Air Force Works.

(ii) Offer specialist advice / comments on the BsOO and all technical aspects of works services to the various Dirs/ JDs Wks as and when asked for.

(iii) Runway Rehabilitation Schemes (RRS);

(aa) Availability of support vehicles for Runway Rehabilitation Schemes (RRS).

(ab) All matters related to equipments / tools connected with RRS.

(ac) Procurement of Wheeled Dozers, Tracked Dozers and other plant and machinery pertaining to RRS.

(ad) Monitoring of budgetary allocation pertaining to Dall Express Scheme, Runway Rehabilitation Scheme-76 and any new RRS scheme introduced.

(iv) Restructuring of MES and creation of new posts in the MoD for the Air Force.

(v) Processing all cases pertaining to raising of new GE (Projects) for Air Force projects.

(vi) Matters pertaining reporting channels for ACRs in respect of MES personnel.

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(vii) Initiation and follow up of all trials and studies related to review of existing RRS schemes and introduction of new schemes related to runway rehabilitation.

(viii) Airfield Grass Cutting Machines (Tractors & Jungle Jims).

7. **Staff Officer Grade-1 (Liaison) [SO-1 (Liaison)]**

(a) To assist ACE (L) in carrying out his duties and perform the duties of ACE (L) during his absence.

(b) Liaise with E-in-C's Branch on all technical matters

(c) Liaise with different departments to facilitate procurement of equipment for RRS with Dall Express Eqpt, or any other eqpts as required for smooth execution of Op Works.

(d) Assist in re-organisation of MES for Air force as and when necessary.

(e) Render technical advice on all works matters in consultation with ACE (L).

(f) Any other task as assigned by the ACE (L) from time to time.

8. **Dir / JD Wks Married Accommodation & Foreign Projects [Dir W / JDW (MA & FP)]**

(a) Dir / JD Wks (MA & FP) is responsible for the following:-

(i) All activities concerning Married Accommodation and Foreign Project (MA&FP) section.

(ii) Liaison with DG MAP office on a regular basis to monitor the progress of MAP scheme at AF Stns.

(iii) Co-ordination of activities of Command and Stations with respect to MAP works.

(iv) Liaison with concerned sections, directorates and MoD to progress the cases of foreign projects & MAP.

(v) Maintenance of data of married accommodation and satisfaction levels.

(vi) Processing of all documents like siting of MAP, CPRs, DPRs etc pertaining to MAP works.

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(vii) Making all possible efforts to rectify and resolve the observations/Issues related to MAP.

(viii) Issue necessary policy letters after approval of the competent authority.

(ix) Liaise/correspond with Project Management Teams (PMT) positioned abroad and update the current status of the project.

(x) Other miscellaneous duties assigned from time to time.

9. **Director / Joint Director Works (Adm) [Dir / JD Wks (Adm)]**

(a) Dir / JD Wks (Adm) is responsible to look after the following duties concerning Directorates of Works:-

(i) General administration, detailing of officers required for various duties.

(ii) Demand & supply of furniture, office equipment and stationery.

(iii) Receipt and distribution of mail through Registry.

(iv) Maintenance of leave account of all personnel of the Directorate.

(v) Making adm arrangements for all conferences.

(vi) Distribution of supervisory and secretarial staff to section, sub-sections of the Directorate.

(vii) Any other adm duties assigned by the PDAFW/DAFW.

10. **Director / Joint Director Works in-charge Commands / Air HQ Units**

(a) Dir / JDs Wks in-charge of works services pertaining to all Air Force Commands and Air HQ units are responsible for the following:-

(i) Planning, progressing, sanctioning, implementation and monitoring of AMWP and Special Project work services pertaining to respective Air Force Commands.

(ii) Processing of hiring/requisitioning of buildings and land acquisition cases.

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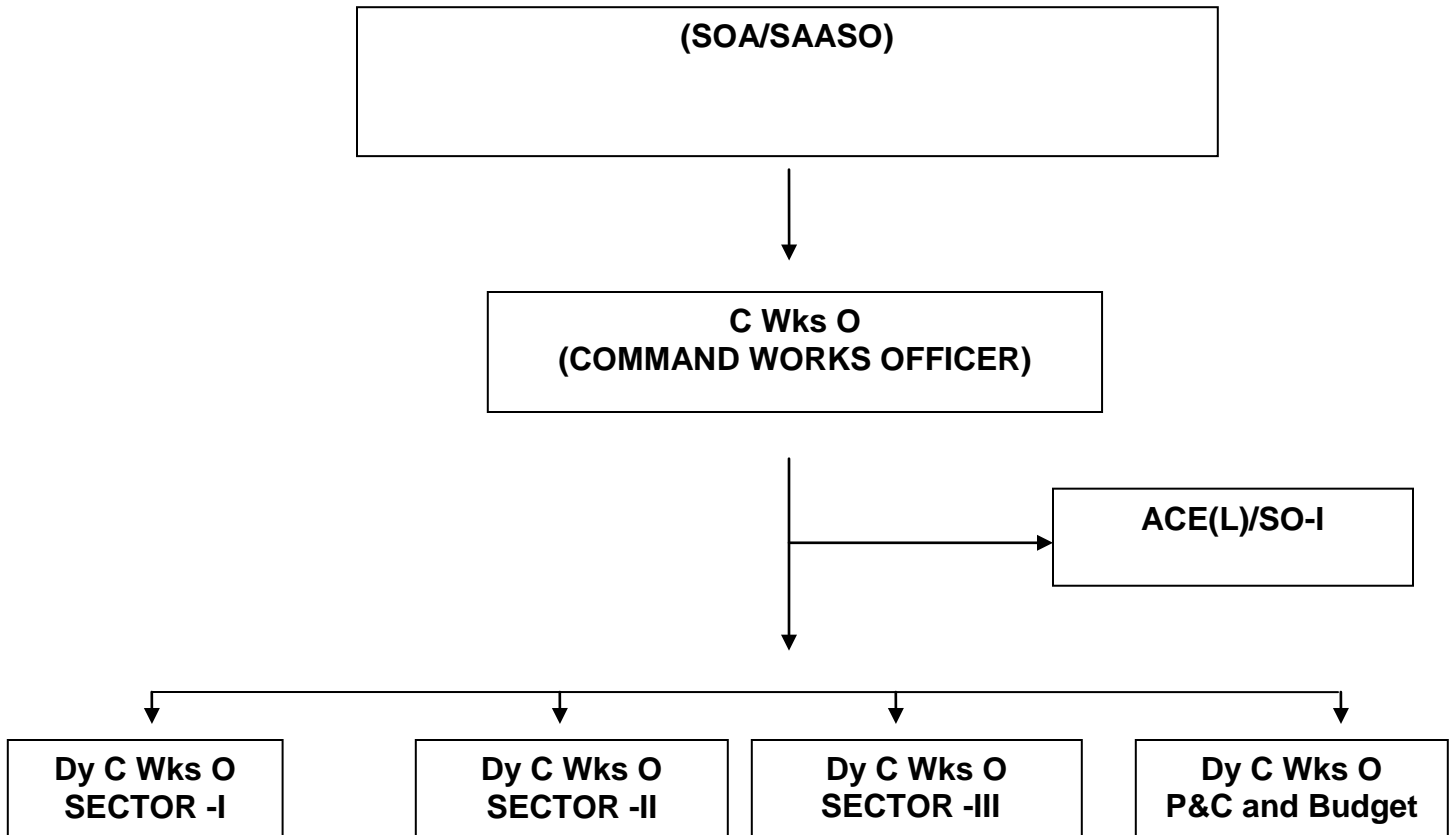
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- (iii) Preparation and timely submission of appropriate replies to parliament questions after obtaining the approval of AOA. Replies / progress of parliament questions.
- (iv) Replies / progress pertaining to Audit Paras / Audit objections.
- (v) Replies / progress on QPRs/ MPRs/ CASNET/ DASI and staff Visit points in respect of their commands.
- (vi) Monitoring progress of ongoing AMWP works.
- (vii) All other matters pertaining to their respective commands.
- (viii) Obtaining sanction for works beyond fin powers of commands.
- (ix) Liaison with PIFA (Air), E-in-C's Branch, all levels of MoD and DGDE.
- (x) Any other duty specifically assigned by the DAFW.

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**WORKS ORGANISATION AT COMMAND HEADQUARTERS**



**DUTIES OF OFFICERS OF WORKS ORGANISATION  
AT COMMAND HEADQUARTERS**

**Command Works Officer (C Wks O)**

1. He is responsible to the SOA for the following:-
  - (a) Efficient functioning of the Command Works section.
  - (b) Annual Major Works Programme (Capital Works costing above ₹ 15 lakh).
    - (i) Finalising the Annual Major Works Programme (AMWP) of HQ command by 30 Sep for next financial year. As per DWP 2007 Air HQ is required to submit AMWP proposals to MoD by 31 Oct.
    - (ii) Convening BsOO in respect of all works beyond the financial powers of station level Competent Financial Authorities (CFA).
    - (iii) Processing the BsOO for vetting by specialist branch at command HQ, scrutinising and finalising board proceedings, obtaining CFA concurrence, IFA consultation (wherever applicable) and issue of adm approvals of AMWP projects.
    - (iv) Allotment of funds to CE(AF)/CsWE/GE after release by Air HQ.
  - (c) Low Budgeted Works Programme (LBWP) i.e. Capital Works Costing below ₹ 15 lakh, Revenue works and Special Repair Works (B&R and E&M).
    - (i) Finalising the Low Budgeted Works Programme (LBWP) i.e. Capital Works and Revenue Works (Special Repair B&R, E & M and Major Revenue) of HQ command for approval of AOC-in-C by 31 Dec for next financial year.
    - (ii) Issue Convening Orders for BsOO in respect of all works beyond the financial powers of station level Competent Financial Authorities (CFA).
    - (iii) Processing the BsOO for vetting by specialist branch at command HQ, scrutinising and finalising board proceedings, obtaining CFA concurrence, IFA consultation (wherever applicable) and issue of adm approvals of LBWP projects.

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- (iv) Allotment of funds to CE(AF), CWE, GE and any other authorised executing agency if applicable with release of works.
- (d) Liaison with Zonal CE (AF) on works being planned and progressed at his level.
- (e) Consult ACE (L) for specific engineering advise wherever considered necessary.
- (f) Monitoring the progress of ongoing works.
- (g) Maintaining Station Dossier in respect of all stations under his Command.
- (h) Convening BsOO for finalisation of Zonal/Master Plan of all stations and review of plans every five years.
- (j) Processing the statement of cases for 'in Principle acceptance' of the requirement with the specialist branch at Command HQ and thereafter convening BsOO for acquisition of new land at station under command.
- (k) Processing the BsOO for identification of structures and restriction around defence land at Air Force Stations as per the current GoI policy.
- (l) Processing and follow up on all cases pertaining to works with Civil Military Liaison Conferences.
- (m) Arranging quarterly works presentation by Zonal Chief Engineer (Air Force) to AOC-in-C in respect of all works within the financial powers of CE(AF) and follow up on the points discussed.
- (n) Arranging periodic conferences of C Adm Os, CsWE(AF) and GEs to review the progress of BsOO of AMWP, LBWP and ongoing works.
- (o) To arrange presentations on BsOO for mega projects pertaining to more than one specialist branch at Command/Air HQ like resurfacing of runways, induction of new equipment, simulators etc.
- (p) Processing the BsOO for transfer of defence land on lease to private parties for erection of communication towers by single or shared infrastructure by service provider for approval of AOC-in-C at Air Force Stations as per the current GOI policy letter No. 11026/1/2005/D (Lands) dated 12 Sep 2008 circulated vide Air HQ/37535/5/LM/W (P&C) dated 07 Oct 08.

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(q) **Other Responsibilities**

- (i) Ensuring dissemination and implementation of policy directives issued by Air HQ.
- (ii) Laying down works related policies at Command level.
- (iii) Monitoring and progressing of works services points raised during VIP visits / inspections, CASI / DASI inspections and other inspecting agencies.
- (iv) Monitoring issues pertaining to married accn, land, water, electricity and related court cases / audit objections.
- (v) All aspects of works services connected with Command (Unit), those are to be processed at Command HQ.
- (vi) Allotment of station wise responsibilities to Deputy Command Works Officers (Dy C Wks Os) in respect of works related activities.

**Deputy Command Works Officer in-charge sector(Dy C Wks O)**

2. Dy C Wks O in-charge of a sector at command is responsible to C Wks O for the following works matters pertaining to the stations under that respective sector:-

- (a) Finalising the Annual Major Works Programme (AMWP) by 30 Sep for next financial year.
- (b) Finalising the Low Budgeted Capital Works and Revenue Works (Special Repair B & R, E & M and Major Revenue) Programme (LBWP) for approval of AOC-in-C by 31 Dec for next financial year.
- (c) Issue of convening orders for BsOO in respect of all works beyond the financial powers of station level Competent Financial Authorities (CFA).
- (d) Processing the BsOO for vetting by specialist branch at command HQ, scrutinising and finalising board proceedings, obtaining CFA concurrence, IFA consultation(whenever applicable) and issue of adm approvals of AMWP and LBWP works.
- (e) Liaison with Director Planning of Zonal CE(AF), CsWE(AF) and GEs on works being planned and progressed at his level.
- (f) Consultation with ACE (L) for specific engineering advises wherever considered necessary.

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- (g) Monitoring the progress of ongoing works.
- (h) Maintaining Station Dossier in respect of stations under his sector.
- (j) Convening BsOO for finalisation of Zonal/Master Plan of stations and review of plans every five years.
- (k) Processing the statement of cases for “in Principle acceptance” of the requirement with the specialist branch at Command HQ and thereafter convening BsOO for acquisition of new land at stations.
- (l) Processing the BsOO for identification of structures and restriction around defence land at Air Force Stations as per the current GoI policy.
- (m) Processing and follow up on cases pertaining to works with Civil Military Liaison Conferences.
- (n) Monitoring and progressing of works services points raised during VIP visits / inspections, CASI / DASI inspections and other inspecting agencies.
- (o) Monitoring issues pertaining to married accn, land, water, electricity and related court cases / audit objections.

Note: The duties have been laid down as a guideline. It is the prerogative of the AOC-in-C/SOA of respective commands to lay down the tasks for officers serving under them.

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Appendix E  
(Refers to Para 9 of Chapter-I)

### **GUIDELINES FOR THE FUNCTIONING OF ADDITIONAL CEs(LIAISON) AT COMMAND HEADQUARTERS**

#### **Introduction**

1. The reorganisation of the MES has been sanctioned by the Govt of India, Min of Def vide their letter No. 16(17)/89/5746/D(W-II) dated 17 Sep 91 which provides for officers from the MES to be appointed on the staff of Air officers Commanding-in-Chief of the Air Commands in the capacity of Addl Chief Engineers (Liaison) [ACE(L)]. Consequently, the following officers' establishment for the Command has been sanctioned vide Army HQ, E-in-C's Br letter No. A/00451/ Sanction/Est/E2(WPC)/1 dated 08 Oct 91.

- |     |                                     |   |     |
|-----|-------------------------------------|---|-----|
| (a) | Additional Chief Engineer (Liaison) | - | One |
| (b) | Staff Officer Grade I               | - | One |
| (c) | Staff Officer Grade II              | - | One |

2. This liaison cell will carry out the functions laid down by the Air Officer Commanding-in-Chief in amplification of those laid down by the E-in-C's Branch.

#### **Subordinate Establishment**

3. Subordinate establishment consisting of technical, clerical and other basic and non-basic staff will be provided by the CE, Comd (Army) in the same manner as for any other MES offices under his jurisdiction. However, since the office of the Additional CE (Liaison) is not self accounting, the subordinate staff will continue to be borne on the strength of CE(AF), who will be responsible for their documentation, leave, pay and allowances, turn over etc and Addl CE (Liaison) will not be burdened with the internal administrative duties of his officers and staff.

#### **Channel of Correspondence**

4. Additional CE (Liaison) is authorised to correspond directly with zonal CEs, Command CE and E-in-C on technical matters. Addl CE (Liaison) is also authorised to correspond directly with all units and establishments of the Command. On administrative matters, correspondence will be routed through Command HQ.

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### **ACR Channel**

5. ACR channels of Service Officers will be as laid down by Army Headquarters, MS Branch and Civilian officers by E-in-C. For the Subordinate Staff, ACRs will be initiated by SO Gde II and reviewed by SO Gde I. Addl CE (Liaison) will be the countersigning authority.

### **Command and Control**

6. Addl CE (Liaison) will function as an integral staff of Command HQ under the control of SOA through C Wks O. Office of Addl CE (Liaison) will observe the working routine followed by Command HQs.

### **Office Accommodation & Furniture**

7. Office accommodation for Addl CE (Liaison) will be provided by Command HQ. Furniture will be provided by the Command HQ like for any other department which is integral to the Command HQ.

### **Office Equipment & Telephones**

8. Office equipment like typewriters/computers, etc and telephones to be provided by the Command.

### **Stationery, Books & Publications**

9. The stationery will be provided by the Command HQ as for any of the other subordinate offices. All books and publications required for effective functioning of Addl CE (Liaison) will be provided by the Command and/ or be demanded through normal channel.

### **Transport**

10. The transport requirement of Liaison Cell would be met by the Command HQ.

### **Leave**

11. Leave for Addl CE (Liaison) will be controlled by the Command HQ. For other officers and staff, Addl CE (Liaison) will be the sanctioning authority. As a general policy, leave of officers will be approved by SOA on recommendations of C Wks O. Documentation and publication of Draft order Part II will be done by CE (AF). A Copy of the sanctioned leave application will be sent to CE (AF) for documentation.

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### **Temporary Duty**

12. Temporary duty of all officers of Liaison Cell will be approved by the command HQ. In case of subordinates, move sanction will be given by ACE (L). Temporary duty advance, railway warrants, etc will be issued by the Adm Branch of the Command.

### **Charter of Duties**

13. The establishment of Addl CE (Liaison) is integral to Command for all purposes. However, wherever Addl CE (L) is not available, the requisite support will be provided by CE (AF).

14. The Charter of duties and functions of Addl CE (Liaison) of Command are given in the succeeding paragraphs.

### **Charter of Duties and Function of Addl Chief Engineer (Liaison) HQ Commands**

15. **Preamble.** With a view to fulfil the long felt need of strengthening the works functions at Command Headquarters level, a "Liaison Cell" headed by Addl Chief Engineer (Liaison) has been positioned with the Air Commands. Addl CE (Liaison) is to render advice on all works matters pertaining to all works to AOC-in-C, through SOA in consultation with C Wks O. He is to carry out these functions in consultation with Command Works Officer.

### **Charter of Duties**

16. The functions and responsibility of Addl CE (Liaison) will be as under:-

- (a) Scrutiny of:-
  - (i) Convening orders from technical angle before issue, e.g. composition of board, terms of reference, etc.
  - (ii) Board proceedings to ensure that the data necessary for preparation of estimates is thoroughly covered and no back references are necessary for the preparation of estimates.
  - (iii) Approximate estimates submitted by Engineers with a view to ensure that all users' requirements are covered and time-frame indicated in the estimates is realistic.

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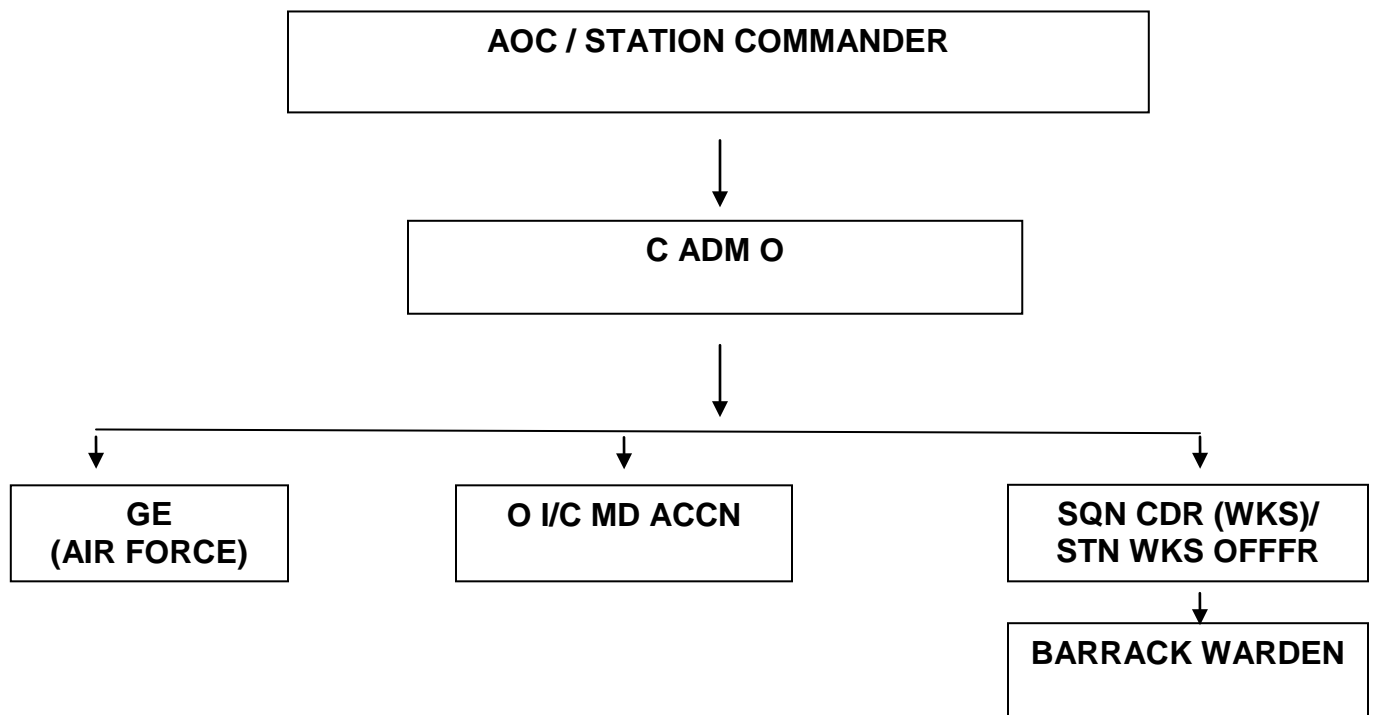
- (b) Assist SOA/SAASO in exercising budgetary control over the works services funds placed at the disposal of Command HQ by Air HQ and make allotment of funds to Zonal CEs Air Commands and GEs in consultation with C Wks O.
- (c) Liaison with Chief Engineers to assist them in correctly formulating their planning programme of sanctioned works for according correct priorities and PDsC.
- (d) Scrutinise line plans of the proposed works submitted by the Chief Engineer from user's as well as technical angles. To discuss such plans with Command Works staff and recommend suitable changes to Chief Engineers.
- (e) To prescribe timeframes for the progress of important works in consultation with Engineers, monitor the progress of all works under execution and advise staff for removing bottlenecks, if any.
- (f) To maintain constant liaison with Chief Engineers, Commanders Works Engineer and GEs for expeditious preparation of estimates, execution of works and resolving all bottlenecks to ensure, timely completion of projects.
- (g) Maintain station folders and get them updated from respective GEs.
- (h) Progress all Financial Concurrence cases, corrigenda and RAEs.
- (j) Be a member of all zonal/KLP boards as representative of Command Headquarters. The firm list of KLP units should be maintained by him in consultation with the staff.
- (k) Any other liaison duties assigned by the Command HQ from time to time.

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**WORKS SERVICES ORGANISATION AT AIR FORCE STATION**

**ORGANISATION CHART AT  
(STATION HEADQUARTERS)**



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Appendix G  
(Refers to Para 12 of Chapter-I)

**DUTIES OF CHIEF ADMINISTRATIVE OFFICER/SQUADRON  
COMMANDER(WORKS)/STATION WORKS OFFICER**

1. C Adm O is responsible to direct and co-ordinate all administrative duties / services at a station/unit. He is to act as a filter through which all administrative matters would pass to the Air Officer Commanding / Station Commander / CO. Due to wide ranging and all encompassing responsibilities of C Adm O at a station, it is not practicable to enumerate and list out all his functions. However, his main duties at a station/unit related to works services will include:-
  - (a) Planning, coordination and supervision of all works services at the station and lodger units.
  - (b) Preparation & implementation of Station Maintenance Programme. He is to liaise with the MES and ensure maintenance of essential services at the station.
  - (c) Utilise funds allocated for Minor Works, Special Repairs and low-budgeted works judiciously based on long term priorities in the station to provide basic facilities and amenities.
  - (d) Requisitioning, hiring of accommodation, billeting and quartering.
  - (e) Estate management and all matters pertaining to land.
  - (f) Overall in-charge of legal matters & monitoring of court cases in the Stn.
  - (g) Works services related to hygiene and sanitation.
2. Allotment of all types of married accommodation.
3. Preparation of Zonal and Master Plan of the station.
4. He is to prepare and prioritise the Annual Major Works Programme, Low Budgeted Works Programme and process the same for early release of funds.
5. He is responsible for safeguarding the land holdings of the Station.
6. Ensure periodic interaction and visits by users to construction sites to resolve hold ups, changes and timely corrective actions to avoid delays in projects.

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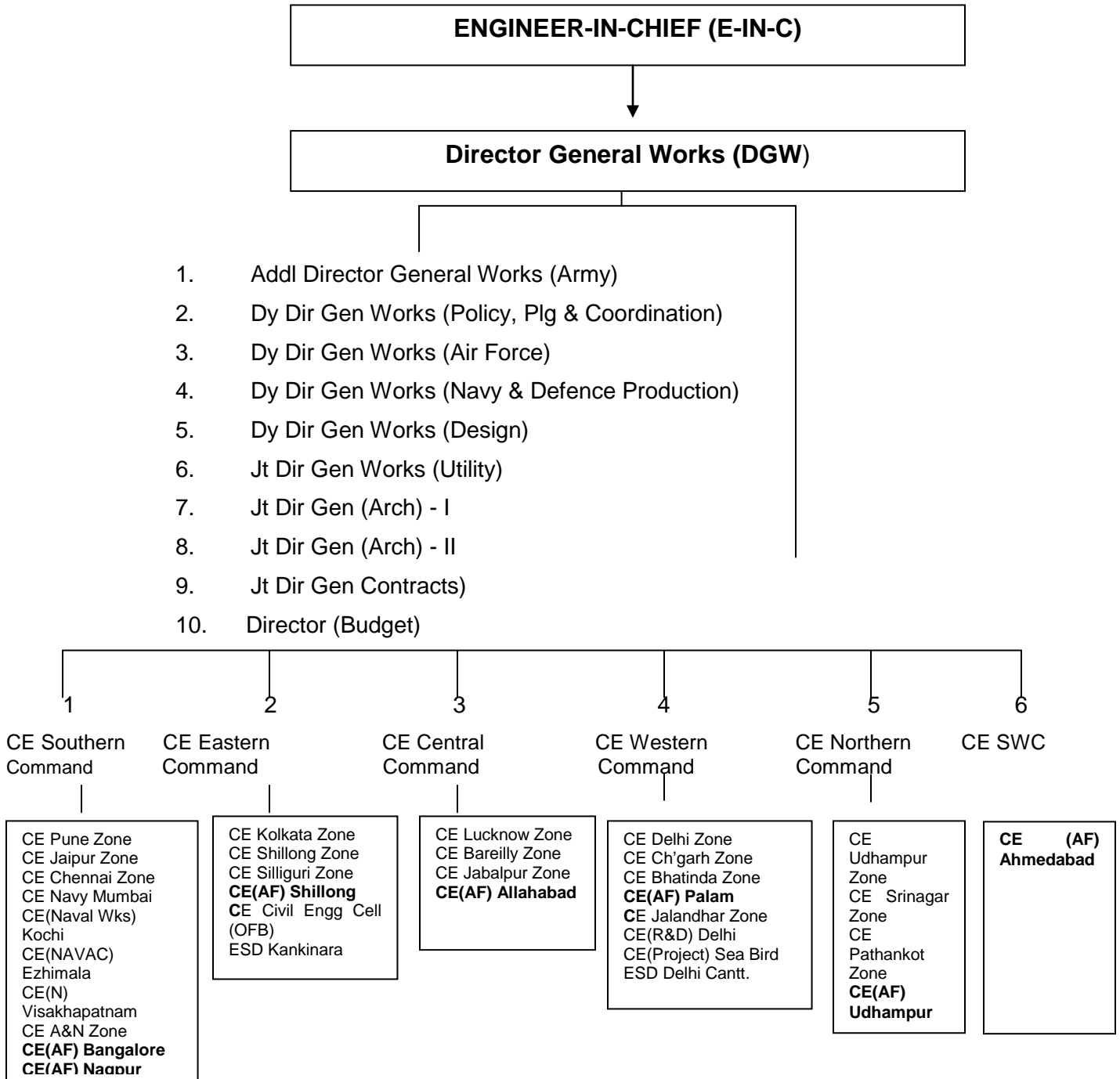
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7. He is to ensure that contracts for the unit regimental shops are concluded in time. He is to ensure smooth functioning of all these shops and is to take adequate steps to ensure that these shops open / close in time and rates of items sold in these shops are, as far as possible, displayed prominently.
8. He is to ensure that licence fee and allied charges are recovered from all private parties who are allotted with govt accommodation as per the existing govt orders.
9. Any other duties assigned to him by AOC / Stn Cdr.

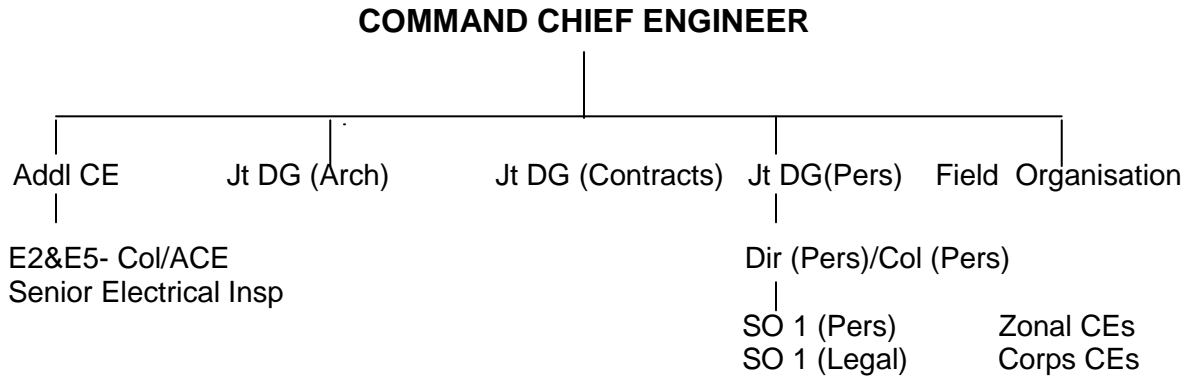
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**MES ORGANISATION AT VARIOUS LEVELS**

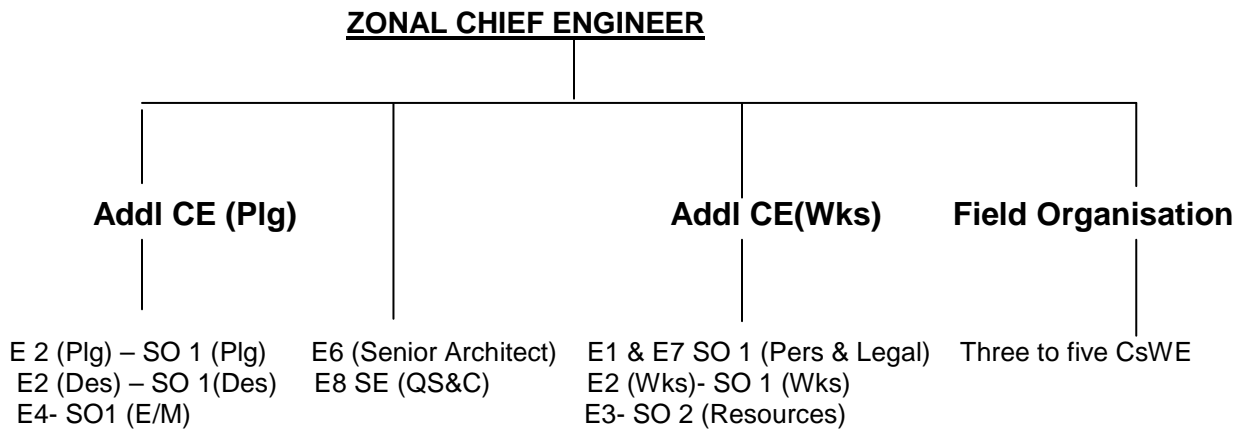
**OFFICE OF THE ENGINEER-IN-CHIEF (WORKS DTE)**



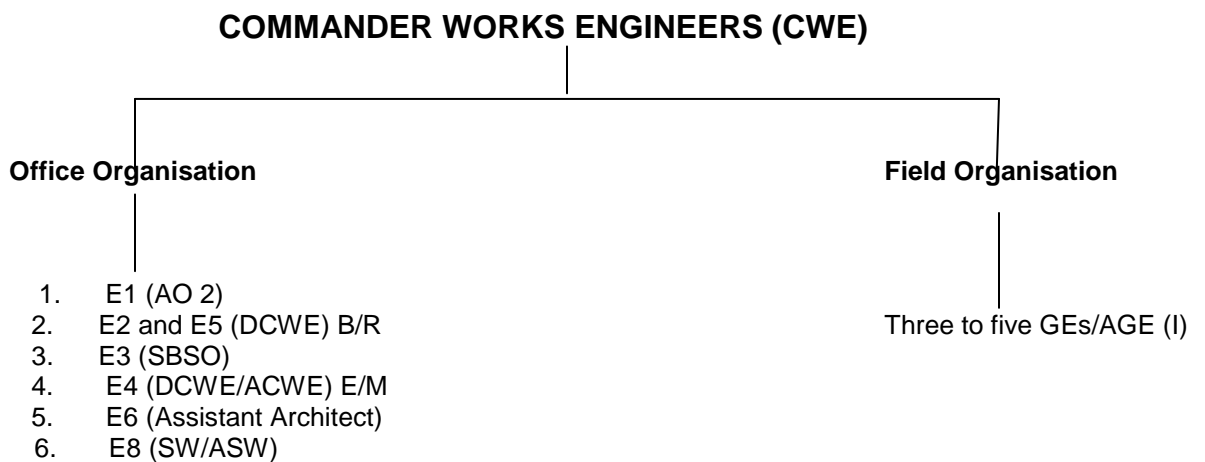
**ORGANISATION OF COMMAND CHIEF ENGINEER**



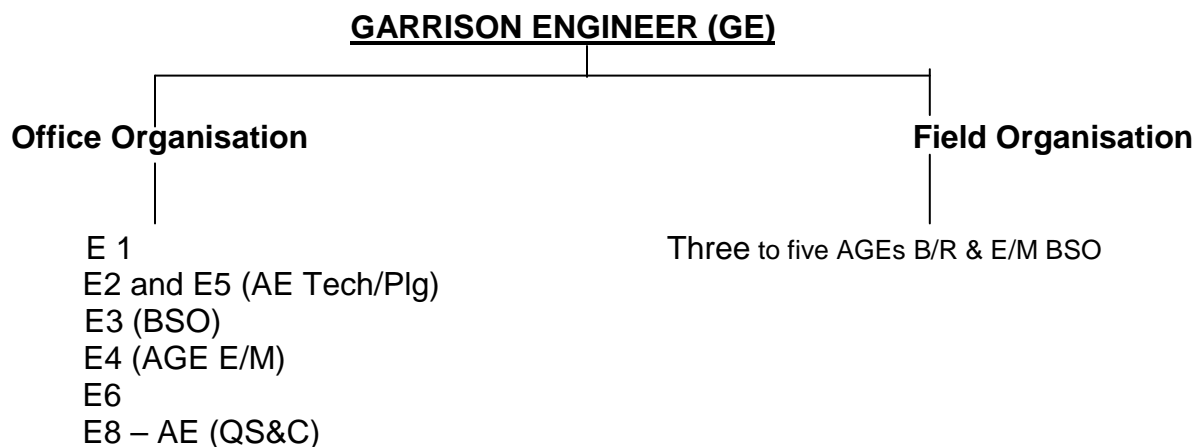
**ORGANISATION OF ZONAL CHIEF ENGINEER**



**ORGANISATION OF COMMANDER WORKS ENGINEERS**



**ORGANISATION OF GARRISON ENGINEER**



**Note:-**

1. In the E-in-C's Branch, 'Budget' is looked after by SO-1 Budget working under DW (P&C).
2. Various abbreviations used in the chart stand for the following terms:-
  - (a) CE - Chief Engineer
  - (b) SO 1 - Staff Officer Grade I (equivalent to Lt Col)
  - (c) SO 2 - Staff Officer Grade II (equivalent to Major)
  - (d) SO 3 - Staff Officer Grade III (equivalent to Capt)
  - (e) AO I - Administrative Officer Grade I (equivalent to Capt)
  - (f) AO II - Administrative Officer Grade II
  - (g) SSW - Senior Surveyor of Works (equivalent to Lt Col)
  - (h) SW - Surveyor of Works (equivalent to Major)
  - (j) ASW - Assistant Surveyor of Works (equivalent to Capt)
  - (k) DCWE - Deputy Commander Works Engineer (equivalent to Major)
  - (l) ACWE - Assistant Commander Works Engineer (equivalent to Capt)
  - (m) SBSO - Senior Barrack / Stores Officer (equivalent to Major)
  - (n) BSO - Barrack /Stores Officer (Class II Officer)



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Appendix J  
(Refers to Para 18 of Chapter-I)

**DUTIES OF DY DIRECTOR GENERAL WORKS (AIR FORCE)**  
**IN THE E-IN-C's BRANCH**

1. Advise Air Headquarters on engineering aspects of Air Force Works.
2. Progress estimates pertaining to Air Force Works.
3. Scrutinise and progress FC Cases pertaining to Air Force Works.
4. Monitor progress and completion reports of all Air Force Works sanctioned by the government or Air Headquarters.
5. Attend meetings of Steering Committees, Working Group Meetings and conferences for reviewing progress of Air Force Works.
6. Progress regularisation of losses relating to Air Force assets on charge of MES.
7. Progress regularisation of infructuous expenditure on Air Force Works.
8. Progress regularisation of audit objections through Air Headquarters.
9. Furnish information and Action Taken Notes to Ministry of Defence on Draft Para and Audit Para, Internal Audit Objections and other financial irregularities.
10. Advise Air Headquarters on Audit Para to be answered by them.
11. Progress cases of foreign exchange for Air Force Works.
12. Regulation of loss of documents or incomplete maintenance or non-maintenance of documents like RPMB, RTMB, PSMB records, cashbooks and construction accounts of Air Force Works.
13. Correspondence on behalf of DDGW (Utility), CE(QS&C), Chief Architect, DDGW(Design) with all users/CE Commands and Zones on Air Force Works.

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**RELEVANT EXTRACTS FROM REGULATIONS FOR THE MILITARY  
ENGINEER SERVICES 1968' RELATING TO THE ORGANISATION OF MES  
AND DUTIES OF MES OFFICERS**

“.....**Organisation**”

21. The Engineer-in-Chief is the head of the Corps of Engineer and of the Military Engineer Services. The level of the MES for the purpose of works services are as under:-

Engineer-in-Chief  
Command Chief Engineer  
Chief Engineer Zone / Project  
CWE  
GE  
AGE

For the purpose of these regulations wherever a reference is made to next higher engineer authority the above order is applicable (Any provision in Regulations which are at variance with the above will be deemed to have been amended).

For all engineer services, E-in-C is the technical adviser to the Chiefs of Staff of the Army, Navy, and Air Force and to their respective PSOs. Similarly, he advises the Ministry of Defence with regard to engineer services relating to Ordnance Factories and P&I and R&D Establishments (see Para 1& 2).

He is responsible to the CGS and QMG for the procurement, procurement holding and distribution of engineer stores of engineer supply.

22. The Military Engineer Services are organised by Army Commands under the administration of Chief Engineers who act as technical advisers to the GOsC in C, Administrative Officers in charge of Naval Commands, AOC in C/AOs and DGOF and are responsible for the execution of all engineer services for the Army, Navy, Air Force and Ordnance Factories within their jurisdiction.

A Chief Engineer may, in special cases, be appointed for large projects which cannot conveniently be handled by the Chief Engineer of Command.

23. ACE's Command is divided into a number of MES Districts each under the control of a CWE. Districts are further subdivided into Divisions and Sub-divisions under the control of GEs and SDOs respectively.

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24. The boundaries of MES Districts and Divisions normally correspond to those of Areas and Sub Areas. Where, however, such MES formations are intended primarily for the Navy, Air Force or Ordnance Factories or for specific projects, their boundaries will be limited to the extent of their responsibilities.

25. The position of the senior MES officer in any formation in the matter of rendering technical advise to the local heads of services and departments under the Ministry of Defence is analogous to that of the CE at Command HQ.

26. The formation of a new MES District requires the sanction of the G of I. New Divisions and Sub-Divisions may be formed with the approval of the E in C.

Sub-divisions may, if circumstances demand, be placed directly under a CWE under the orders of a CE, and will for all purposes be treated as Divisions (but see Para 46).

27. Stores and plant of engineer supply earmarked as operational reserves or required for units and works are held in ESDs (see Paras 721 to 723).

ESDs are under the control of the E in C who may delegate to the CEs such of his functions as he may deem fit.

## **DUTIES**

### **General**

30. The Engineer Executives are responsible to ensure:-

- (a) That proposals for new services are dealt with promptly and correctly;
- (b) For the constructional fitness, accuracy and economy of all designs and estimates prepared and submitted to higher authority;
- (c) For using the funds placed at their disposal for the purpose in such a manner as to maintain in the best interest of Government the conditions of their property;
- (d) For the proper execution of a work including supervision of the work of contractors;
- (e) For observing the procedure prescribed for designs, plans, estimates, measurements, keeping of records, and preparation and passing of contractor's bills;

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- (f) That no departure from regulations, approved general designs and specifications, or the orders of superior authority is permitted without the approval of the competent authority;
- (g) For the administration, under the orders of Commanders, of the funds for standing charges placed at their disposal and for advising Commanders and administrative officers regarding the administration of allotments placed at their disposal;
- (h) For reporting promptly to the administrative officer concerned, whose orders will be obtained as to the necessity of a court of enquiry and to superior engineer authority any important defects, serious accidents, unusual occurrences, serious departures from regulations or orders, probability of excesses over estimates or allotments;
- (j) For carrying out such inspections as may be necessary, and when inspecting outstations, notifying their military commander, as well as the OC of the Station which they are visiting of their intentions;
- (k) For the safe custody of cash, stocks of engineer stores, furniture, etc, and their verification in accordance with the rules laid down, and for preventing unnecessary accumulations;
- (l) That in the making of contracts or in the placing of orders, the interests of Government are safeguarded and that the rates for work are reasonable;
- (m) For the prompt investigation and report to superior authority, where necessary, of all losses, claims etc;
- (n) That prompt action is taken to secure early payment for labour, materials or work done;
- (o) For the up-to-date compilation and submission of all records that they are ordered to maintain.

### **Officers**

31. ACE is responsible for the efficient administration of MES formations under his command and ensuring that all concerned observe the rule contained in these Regulations and any amplifications thereof that may be issued from time to time by the E-in-C.

Other duties of a CE are listed in Table D. In order to assist him in these duties, a DCE and Staff Officers are appointed to his office. The duties of the SSW, Senior Architect and IEM are laid down in Para 32, and 33 respectively.

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Other Staff Officers will carry out such duties as may be assigned to them from time to time.

32. An SSW is appointed to each command to act as technical adviser to the CE on contract matters generally. His duties include:-

- (a) General supervision of the work done by the Surveyor Staff in all MES formations within the Command;
- (b) Supervision of the preparation of specifications, bills of quantities and other contract documents in the office of the Chief Engineer;
- (c) Collection of data for the fixation of maximum and minimum scales of daily labour rates for the various zones in the command;
- (d) Collection of data and preparation of analysis of rates for the revision of MES Standard Schedule of Rates;
- (e) Maintaining liaison with the PWD and Railways with a view to comparing construction costs of works.

The SSW may also carry out before payment, technical examination of any final bills to be selected by him including test check of measurement at site.

33. Inspectors of Engineer Machinery are authorised for Commands and ESDs. Those borne on Command establishment may be employed at the discretion of CE, anywhere within the Command. The duties of these officers include:-

- (a) Inspection of E/M plant and machinery to ensure that they are kept in good order, that the regulation tests for boilers machinery, etc are carried out and that proper records are kept;
- (b) Such executive duties in connection with the preparation of estimates for the installation of new machinery as may be assigned to them by the CE concerned.

34. A CWE will act as engineer adviser at the Area/Div or equivalent level to the local heads of services and departments under the Ministry of Defence and will be responsible for all engineer services within his District. He will assist commanders in the preparation of schemes for the provision of training facilities and will execute such services as may be required to be paid out of the training grant. He will also carry out such technical training schemes as may be required.

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35. A CWE is responsible:-
- (a) For the efficient administration of all MES formations within his District and that due attention is given to the observance of technical regulations;
  - (b) That the funds allotted for engineer services under his control are administered efficiently and economically and with strict regard both to the fundamental principles laid down in Chapter I and to the regulations governing the obtaining of approval laid down in Chapter III;
  - (c) For the economic operation of the engineer installations under his control;
  - (d) For the maintenance and control of Government property in his charge. Other duties are given in Table E.
36. A CWE is specially charged with the task of preparing and submitting schemes designed to reduce annual costs and to report if he considers the replacement or reconstruction of a particular building to be a measure of economy in view of its high annual cost of maintenance.
37. A CWE is responsible that the military personnel employed on works services under his control are given adequate opportunities for maintaining their military efficiency and will, therefore, ensure that whenever the exigencies of the works services permit, they are relieved from engineer duties and attend suitable military training.
38. A CWE will satisfy himself that as far as possible each officer is given duties suitable to his experience and seniority but sufficiently responsible to test his initiative and that junior officers obtain sufficient practice in designing and estimating.
39. A DCWE is the assistant to the CWE and will act on his behalf as ordered. He will be given duties by the CWE which will ensure that he maintains touch with the engineer requirements of the District.
40. An SW or, in his absence an ASW in the office of a CWE will:-
- (a) Advise the CWE on contract matters generally and particularly as regards disputes with contractors and the fixing of proportional and star rates;
  - (b) Prepare specifications, bills of quantities and other contract documents for all works services within the contractual powers of the CWE and also for such other works as may be ordered by the CE;

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(c) Take measurement of important services when so directed by the CWE (See Para 370);

(d) Carry out test checks of measurements, scrutinize deviation orders and technically check a percentage of contractors' bill before payment;

(e) Note points arising on the MES Standard Schedule of Rates and contract documents for revision.

An ASW, when posted as an assistant to the SW, will perform such duties as may be assigned to him.

41. An SBSO or a BSO when appointed on the staff of a CWE is responsible to him for the efficient working of the Barrack/Stores Branch in the district. He will:-

(a) Supervise the preparation of estimates for new supplies of furniture and submit schemes for bringing furniture upto scale, for improvements in designs and standards and for reducing maintenance costs;

(b) Deal with all questions relating to provisioning, release, preservation, stocktaking, accounting and disposal of stores at CWE's level;

(c) Ensure that the revenue records maintained by the Barrack/Stores staff are kept up-to-date and that necessary measures are taken for the expeditious recovery of any arrears of revenue;

(d) Deal with all questions relating to hiring at CWE's level.

42. An AO is appointed to assist the head of the office in the administration of the office and of the MES personnel in the formation.

43. A GE in-charge of a Division is the engineer adviser at the Sub Area/Brigade or equivalent level to the local heads of services and departments under the Ministry of Defence. He is responsible for:-

(a) The efficient execution of all original works and the maintenance in proper repair and working order of all buildings, furniture, machinery, roads, and lands committed to his charge, whether military or civil;

(b) The proper and economic expenditure of the funds allotted to him by the CWE;

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- (c) The payment of personnel employed under him;
- (d) Complying with the prescribed procedure in connection with the letting of contracts and supply of stores and ensuring prompt payment of bills;
- (e) The proper maintenance of the construction accounts upon which the system of accounting for engineer services is based (See Chapter VII);
- (f) Periodical and other inspections and actions resulting there from (Para 71 and 72);
- (g) Assessment of barrack damages (Para 634);
- (h) Giving technical advice to the Cantonment Boards (Para 47);
- (j) Execution of hiring agreements for lands and buildings (See Chapter VIII).

Other duties are given in Table F.

44. An officer, when posted as an AGE, will be given definite duties, powers and responsibilities so that he may acquire the knowledge and experience necessary for charge of a Division.

45. An Officer when posted to hold charge of a Sub-division will exercise the financial and technical powers laid down in column 8 of Table B and carry out the following duties :-

- (a) Inspect Government property and execute repairs where necessary.
- (b) Supervise works in progress.
- (c) Ensure efficient running of installations, workshops, etc.
- (d) Measure up all work carried out by contractors and prepare estimates for repairs and other services as directed by the GE.
- (e) Prepare orders on contractors;
- (f) Allocate and account for the time of any directly employed labour.
- (g) Prepare demands for stores required.
- (h) Maintain construction accounts.

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- (j) Protect Government property against fire and other risks.

46. An Officer, when posted in charge of an independent Sub-division (i.e. directly under a CWE), will carry out the normal duties of a Garrison Engineer but will exercise the financial and technical powers laid down in column 7 of Table B.

47. In accordance with Cantonments Act (Act II), 1924, the GE or other MES officer in charge of military works in a cantonment is the "Executive Engineer" of the cantonment and in Classes I and II Cantonments he, as Executive Engineer, is an ex-officio member and will attend meetings of the Board. He will not normally be appointed to committees of the Board other than the bazar committee and the building committee. His duties as Executive Engineer are purely advisory. He is merely the technical adviser of the cantonment Board and should not be called upon to perform any work over and above the statutory

duties imposed on him under the Act, viz, those attaching to membership of the Cantonment Board, membership of committees appointed by the Cantonment Board, and certain inspection duties. Thus for example he should not be asked to prepare plans or estimates for cantonment works. The services of an Executive Engineer will be utilised as a member of committees only when it is considered that expert technical advice in regard to the matter under reference to the committee is absolutely essential. In every cantonment, however administered a suitable staff other than the Executive Engineer and his staff is employed by the Cantonment Board to carry out the engineering work of the cantonment.

In cantonments where the executive engineer is not a member of the Board, he will offer technical advice when it is sought.

48. E/M officers may be posted to hold executive charge of Divisions or Sub-Divisions. They may also be posted to Commands and Districts as technical advisers to CEs and CsWE. In the latter case, their duties will include:-

- (a) The examination and, when so ordered, the preparation of schemes, estimates, rates, specifications and BQ for E/M work;
- (b) The technical examination of bills and contracts in respect of large E/M works;
- (c) The examination of the working costs of E/M installations and recommendations for improvement in efficiency and economy;
- (d) Questions regarding administration of E/M personnel.

49. A BSO posted as an assistant to a GE is responsible to him for the efficient functioning of the Barrack/Stores Branch in the Division. He will:-

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- (a) Be responsible that furniture and divisional stocks are properly and economically maintained and losses and irregularities promptly investigated and reported to the GE.
- (b) Ensure that stock taking is regularly carried out and action to deal with discrepancies taken without delay.
- (c) Ensure that (half yearly) inspection of furniture is regularly carried out, necessary repairs executed without delay and prompt action taken in respect of unserviceable furniture;
- (d) Arrange procurement of stores required for the re-couplement of divisional stock;
- (e) Prepare estimates for new supplies and renewals of furniture and check estimates for repairs;
- (f) Ensure that all revenue furniture and stores records as required by these Regulations or other orders are kept up-to-date;
- (g) Maintain liaison with Station Staff and units in connection with barrack duties and revenue matters and represent the GE on Quartering Committee;
- (h) Deal with all matters relating to hiring and payment of rents, rates and taxes:
- (j) Be responsible for the custody of MES Inspection Houses and the accounting of receipts;
- (k) Ensure the security rules and fire-protection measures for furniture and divisional stock holding are observed.

### **Non-Gazetted Personnel**

52. A Supdt Gde I in charge of Sub-division will carry out the same duties as an AEE in charge of a Sub-division (See Para 45). He will however, exercise the technical and financial powers as laid down in column 9 of Table B.

53. A Supdt B/R Gde I is responsible for the supervision of works in his charge, for the execution of those works in accordance with the prescribed specifications and for the inspection of Government property and execution of repairs where necessary. He may also be called upon to perform technical duties in an office, E/M and B/S duties and those of a cashier.

54. A Supdt E/M Gde I is responsible for the efficiency of all installations, workshops, etc in his charge. He may be called upon to perform technical duties in an office, B/R and B/S duties and those of a cashier.

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55. A Supervisor B/S Gde I will carry out such of the duties relating to furniture, stores or revenue matters as may be assigned to him. His duties include:-

- (a) For furniture-safe custody, maintenance in good repair and accurate accounting;
- (b) For stores-safe custody, issue, maintenance, preservation and accounting;
- (c) For revenue-prompt submission of Occupation Returns, Return of Recoveries etc, maintenance of all revenue records and watching recoveries.

He may also be called upon to perform B/S duties in an office and those of a cashier.

56. A Surveyor's Assistant Gde I in the office of a GE will:-

- (a) Prepare tender documents (except specifications and drawings) for work services within the GE's powers for entering into contact;
- (b) Technically check all deviation orders, rates and contractor's bills before payment and muster rolls after payment;
- (c) Carry out such other technical duties relating to contracts and bills as he may be directed to perform.

57. A Supdt Clerical is responsible for the supervision, training, guidance and discipline of the staff working under him.

58. Supdts B/R and E/M Gde II and Supervisors B/S Gde II are generally posted as assistants to Supdts / Spvrs Gde I. They will perform such duties as may be assigned to them.

A Supdt B/R or E/M Gde II may be placed in charge of an independent section under a GE. When so employed, he will carry out the duties and exercise the technical and financial powers laid down for a Supdt Gde I in charge of a Sub-division (See Para 52 and Table B).

59. A Surveyor's Assistant Gde II will generally be responsible for squaring and abstracting dimensions, and pricing and moneying out of bills of quantities and estimates. He may also be required to take off quantities, prepare estimates for or take measurement of small services and to carry out such other technical duties relating to contracts and bills as he may be directed to perform.

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60. The duties of a Draftsman in an engineer office include:-
- (a) Preparing designs from sketches and instructions;
  - (b) Making plans from measurements, including chain surveying and levelling;
  - (c) Tracing and copying plans;
  - (d) Keeping all records plans amended to-date;
  - (e) Keeping registers of buildings amended to-date;
  - (f) Such other technical duties as he may be directed to perform.
61. A Storekeeper is responsible for:-
- (a) The receipt and issue of stores in accordance with the prescribed procedure;
  - (b) The safe custody in good order and condition of all stores in his charge;
  - (c) The correct maintenance of tally cards and the Stock Register;
  - (d) The actual quantities of the stores on charge;
  - (e) The observance of precautionary measures against fire and the maintenance of fire appliances in his charge in good order. He will inform the BSO or Spvr Gde I of his requirements for stores and will carry out the instructions given in Chapter X.
62. A clerk in an engineer office is responsible for all clerical work ordered by the officer under whom he is employed including the maintenance of accounts.
63. The duties of a clerk employed as a cashier include the custody and handling of cash to the extent of the amount of his security deposit (See Para 102 and 103), recording receipts and payments in the Cash Book (IAFW-2246) and taking charge of documents connected with this work. He will neither receive cash nor make payments except under the written orders of the GE. He may be assigned other clerical duties besides those of a cashier.
- A JCO, WO or OR may also be required to carry out the duties of a cashier as described above provided that the amount of cash to be handled by him does not in any case exceed ₹ 1000.

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64. The functions of the DAD AAO (MES) attached to engineer offices are three fold:-

- (a) As accountant i.e., maintaining certain accounts in accordance with the prescribed rules and from the data furnished to him;
- (b) As primary auditor, i.e., charged with the responsibility of applying certain preliminary checks to the initial accounts, vouchers, etc;
- (c) As financial assistant, i.e., as an assistant to the GE in all matters relating to accounts, budget estimates and operation of financial rules.

In the discharge of those duties he is expected to keep himself fully conversant with all sanctions and orders passing through the office and with such other proceedings of the GE and his subordinates as may affect the estimates or actual or anticipated receipts and charges.

The GE should afford the AAO (MES) full opportunity of becoming conversant with these sanctions, orders and proceedings.”

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**CHAPTER II**

**ORIGINAL WORKS**

**APPENDICES**

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**ANNEXURE**

<b>ANNEXURE</b>	<b>DETAILS</b>	<b>Reference to Para No</b>
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<b>II</b>	Responsibility for preparation and scrutiny of engineer documents	18 & 51(a)
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**INTRODUCTION**

1. This chapter contains policies and procedures relating to the following subjects:-

- (a) Basic principles
- (b) Classification of works
- (c) Scales and specifications
- (d) Some general terms
- (e) Annual Major Works Programme (AMWP) & Budget
- (f) Processing of Major Capital Works
- (g) Urgent works
- (h) Special powers for engineers
- (j) Procedure for special projects
- (k) Annual Low Budget Works Plan (LBWP)
- (l) Minor works
- (m) Demolition of buildings
- (n) Re-appropriation of buildings
- (o) Deposit and agency works
- (p) Arboriculture
- (q) Integrated Financial Adviser
- (r) User involvement in execution and monitoring of works
- (s) Revision of PDC
- (t) Progress reports by engineers

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### BASIC PRINCIPLES

2. Defence Works Procedure (DWP) 2007 has been issued by Govt of India vide No. B/01247/Q/Policy (Works Procedure) 237/D(Works-I) dated 21 Jun 2007 placed as **Annexure I**. This DWP is the main guiding authority for the procedures to be followed in planning and execution of works services in the Armed Forces. The basic principles of undertaking Defence works are:-

(a) No new works should be sanctioned without careful attention to the assets or facilities already available and the time and cost required to complete the new works.

(b) As budgetary resources are limited and granted on an annual basis, adequate provisions should be ensured for works and services already in progress before new works and services are undertaken.

(c) If an approved (released) work is not commenced within **one year** of the date of issue of Administrative Approval, fresh Administrative Approval of the Competent Financial Authority (CFA) should be taken. Therefore Competent Engineer Authority(CEA) is to initiate the case with revised approximate estimates(RAEs) for obtaining Revised Administrative Approval (Para 2(c) of DWP 2007 refers).

(d) Time for completion of the works will be clearly indicated in the Administrative Approval. Delay in commencement of the works beyond 12 months would necessitate a Revised Administrative Approval (Para 31 (c) of DWP 2007 refers).

(e) Since time is of essence, the Probable Date of Completion (PDC) stipulated in the Administrative Approval will not be exceeded as far as possible.

(f) No works services will be executed without administrative approval, formal allocation of funds and technical sanction having first been obtained from the Competent Authority in each case. However, the procedure to be followed in case of works initiated for urgent military reasons are laid down in Para 34 to 36 of DWP 2007.

(g) No officer will, in the course of the financial year, exceed the aggregate budget allotment made to him for any work or under any sub-head of maintenance.

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(h) No officer will exceed any specific budget allotment made to him under any minor or detailed head, except in so far as he may, within his powers of transfer of funds, be able to meet excess expenditure on one item by equivalent savings on another.

(j) The final cost of any works services will not exceed the amount of Administrative Approval by more than 10%. An officer will take no action which will commit the Government to expenditure beyond 10% of Administrative Approval amount without obtaining prior sanction of the Competent Financial Authority in the form of a Financial Concurrence (FC), a Corrigendum or a Revised Administrative Approval.

(k) The CFA according Administrative Approval should be kept informed of the progress of the works till their completion through regular periodical reports.

(l) No project or works services will be split up to bring it within the powers of a CFA at a lower level.

### **CLASSIFICATION OF WORKS**

3. For purposes of budgeting and control, the operations of Defence Works are divided into two broad categories, namely:-

- (a) Original Works.
- (b) Repairs.

#### **Original Works**

4. (a) Original Works comprise works services like construction of buildings, workshops, storage depots, etc. including their internal fittings and fixtures as well as roads, runways, blast pens, marine works, E/M services, water supply, drainage, other utility services, arboriculture, ranges, furniture etc. as well as purchase and additions. Reconstruction of buildings and roads, widening of roads, additions and alterations necessitated by administrative/technical reasons, works necessary to bring into use buildings and services newly purchased/acquired or those previously abandoned or rendered unusable by extraordinary causes such as storm, fire or earthquake also fall in the category of original works.

(b) Original works of petty nature costing up to ₹ 10, 000/-(with Approval of competent authority) may, at the discretion of the CWE/GE (Independent), be treated as "Repairs". The CWE/GE (Independent) may delegate all or a portion of his powers under this paragraph to GEs or outstation AGEs by name.

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(c) The purchase and installation of static plant and machinery and equipment and the provision of furniture are treated as **original works**.

(d) Provision of furniture which does not form part of any works project will be treated as Original Works.

5. For administrative purposes, Original Works are divided into the following categories:-

(a) **Major Capital Works.** Original works costing ₹ 15 lakh or more. Funds for these works are budgeted under Capital Head.

(b) **Low-Budgeted Capital Works.** Original works costing more than ₹ 2 lakh but less than ₹ 15 lakh. Funds for these works are budgeted under Capital Head.

(c) **Revenue Works.** Original works costing more than ₹ 1 lakh and **not exceeding** ₹ 2 lakh. These are also termed as Major Revenue works. Funds for these works are budgeted under Revenue Head, but treated as new original works for the purpose of procedure of sanctioning.

(d) **Minor Works.** Original works costing **not more than** ₹ 1 lakh. Funds for these works are budgeted under Revenue Head.

6. New Original Works are further sub-divided as follows:-

(a) **Authorised Works.** Works Services for which scales are authorised in Scales of accommodation, Scales of Furniture, Scales of Hospital, Barrack Synopsis, regulations or by separate orders of a general or specific nature issued by the Government of India are referred to broadly as authorised works.

(b) **Special Works.** Items of works services not falling within sub Para (a) above are referred to as "Special Works". These may be approved only when exceptional local conditions justify the necessity, or as an important experimental measure. Special Works should not be approved if the effect would be to introduce a new practice or change of scales.

(c) Engineer authorities will not be asked to undertake preparation of estimates of a project which includes special items of work unless the Competent Financial Authority (CFA) has accorded formal approval in principle of such items. This, in principle approval may be obtained in the form of an SOC or a letter or note on file from the CFA under whose power such special work falls.

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### Note:

- (i) Where no scales have so far been laid down and there are no orders prohibiting the undertaking of those works, the Competent Financial Authority for "Special Works" may sanction such works if it is customary or technically essential to provide the same.
- (ii) If a building or service required is categorized as "Special", all connected items thereto will be termed as "Special" and sanctioned as such under the powers of the Competent Financial Authority.
- (iii) Superior specifications to those on which approved/ sanctioned Plinth Areas rates are based will be termed "**Special**". Their incorporation in works at any stage during planning or execution without prior approval of the Competent Financial Authority is not permitted.

### Repairs

- 7. (a) Repairs comprise all maintenance and periodical services, renewals and replacements as well as alterations and improvements necessitated by technical or engineering reasons.
  - (b) Works required to make good damages caused to existing buildings, roads, installations and services due to extraordinary causes, but which are still usable, are also classified as 'Repairs'. The question whether a building etc. is still "usable" or not will be decided by a **Board of Officers** convened to investigate the matter.
  - (c) A property when taken off from care and maintenance is deemed to be abandoned and will not be entitled to maintenance funds.
8. Repairs are classified into two broad categories:-
- (a) Ordinary Repairs; and
  - (b) Special Repairs
9. (a) Ordinary Repairs are further sub-divided into the following categories:-
- (i) Petty Repairs
  - (ii) Periodical Services as per MES Regulations 'Table 'G'.
  - (iii) Replacements and renewals costing up to ₹ 1, 50,000/- for each item.

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(iv) Repairs, renewals and replacements of E/M installations and other external utilities costing up to ₹ 2,00,000/- (Subject to formal approval on file by Competent Authority) in each case.

(v) Replacements of furniture of value up to 50 % of annual allotment for maintenance of furniture on Station basis **subject to a ceiling of ₹ 4.00 lakh per annum to be allowed only in respect of furniture declared as condemned /beyond economic repairs by the appropriate authority.**

(b) Ordinary Repairs will be carried out in accordance with MES Standing Orders.

(c) No administrative approval is necessary for ordinary repairs including purchase and maintenance of ordinary tools and plants for this purpose. Allotment of maintenance funds under respective code head for the purpose implies administrative approval to that extent. No work will be carried out without the technical sanction of the Competent Engineer Authority (CEA) and no expenditure will be incurred in excess of allotment under the relevant budgetary head, except in so far as such excess can be met by re-appropriation from another head within the competence of the authority concerned.

10. (a) **Special Repairs.** Consist of renewals and replacements as well as alterations and improvements costing beyond the monetary ceiling for ordinary repairs in each case and replacement of furniture beyond the limit laid down in Para 9 (a) (v) of DWP 2007. These will be carried out in accordance with MES Regulations.

(b) The Garrison Engineer will be the competent authority for grouping of buildings for the purpose of Special Repairs.

(c) Special Repairs will be treated as **Original Works** for the purpose of procedure of sanctioning of work, but irrespective of the cost, all Special Repairs will be budgeted for under Revenue Head.

(d) In case where special repairs and additions and alterations to a building become necessary at the same time, the work will be sanctioned as one project and treated as an Original Work for all purposes.

11. (a) Amendment to the capital value of existing structure due to repairs will be made in accordance with MES Regulations (Para 228). In calculating the addition to be made to the capital value, credit will be taken for the value at current rates of any portion of the original structure which has been demolished or replaced.

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(b) Notwithstanding sub-Para (a) above, changes in capital cost up to ₹ 15,000/- in respect of all buildings and those due to renewals and replacements costing ₹ 60,000/- or less to temporary buildings will be disregarded.

(c) Amendments to capital values on account of E/M renewals will be carried out in accordance with MES Regulations (Para 259 and 260).

### SCALES AND SPECIFICATIONS

12. **Scales.** The scales of accommodation approved and issued by the Government of India from time to time are intended as a close guide. Petty variations in individual cases can be made at the discretion of the Competent Financial Authority at the time of according Administrative Approval with reasons recorded in each case, provided such variations are not of general application and do not create any precedent in the matter of scales of accommodation. Following scales have been approved by Gol.

(a) **Scales of Accommodation 2009.** Scales of all types of Accommodation in Armed Forces have been laid down in Scales of Accommodation 2009. Specific scales applicable to Air Force have been mentioned in Chapter 52 in addition to general scales mentioned in other chapters. Requirement of operational and technical accommodation specific to the requirement of Air Force have been covered in Para 52.6 and Table 52.1. These provisions are to be applied to meet the requirement of accommodation in Air Force. Specific Para of scales of Accommodation 2009 are to be quoted in AEs Part-II and Adm Approval. These scales are amended from time to time by Govt of India. All users are to ensure that amendments issued by Govt of India are incorporated in these scales.

(b) **Scales of Furniture 1989.** Scales of all types of furniture for authorized Accommodation in Armed Forces have been laid down in Scales of Furniture 1989. Specific scales applicable to Air Force have been mentioned in Chapter 52 in addition to general scales mentioned in other chapters. Specialised furniture for operational and technical accommodation specific to the requirement of Air Force is covered under Para 52.1. This specialised requirement is sanctioned as Authorised works and not Special Works. These provisions are to be applied to meet the requirement of furniture in Air Force. Specific Para of Scales of Furniture 1989 are to be quoted in AEs Part-II and Adm Approval. These scales are amended from time to time by Govt of India. All users are to ensure that amendments issued by Govt of India are incorporated in these scales.

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(c) **Scales of Accommodation for Armed Forces Hospital 2003.** Scales for accommodation for Armed Forces Hospitals, Station Medicare Centers and MI rooms of different sizes are given in Scales of Hospital 2003. Specific Para of Scales of Hospital 2003 are to be quoted in AEs Part-II and Adm Approval. These scales are amended from time to time by Govt of India. All users are to ensure that amendments issued by Govt of India are incorporated in these scales.

(d) **Scales of Furniture for Armed Forces Hospital 1990.** Scales for furniture for Armed Forces Hospitals, Station Medicare Centers and MI rooms of different sizes are given in Scales of furniture for Armed Forces Hospital 1990. Certain additions in scale of furniture have been incorporated at the time of issue of scales of accommodation for Armed Forces Hospitals. These scales are amended from time to time by Govt of India. All users are to ensure that amendments issued by Govt of India are incorporated in these scales.

13. **Specifications**

(a) All works catering to short-term requirement, i.e., accommodation not expected to be required for a period of over five years from the anticipated date of completion of the work, will be in temporary construction and built to specifications of the lowest possible type having regard to availability of material and the purpose of the facility or service.

(b) All works catering to long-term requirement, i.e., accommodation expected to be required for a period of more than five years from the anticipated date of completion of the work, will be built to permanent specifications.

(c) The above-mentioned period of five years will be taken as a close guide. Competent Financial Authority will use their judgment to decide about the choice of permanent or temporary specifications in special cases and record the reasons thereof while according Administrative Approval.

(d) Building will be identified as prestigious at the stage of approval of the Annual Major Works Programme (AMWP). **However, for such projects, a separate detailed justification will be submitted by the service HQ to MoD. After the approval of MoD declaring the building as prestigious,** it will be permissible to add in the Approximate Estimates a specific percentage subject to a maximum of 10 % of the total cost of the buildings towards providing special architectural features and superior specifications.

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(e) Temporary specifications will be laid down by Zonal Chief Engineers on individual basis in accordance with general guidelines issued in this regard by E-in-C's Branch.

### **SOME GENERAL TERMS**

14. **Estimates.** Estimates fall under three main categories i.e. rough cost, indication of cost and approximate estimates.

15. **Rough Cost.** A rough cost is empirical in nature and is given on a 'not exceeding basis'. It is given as a part of board proceedings or otherwise when called for by the CFA. Its purpose is to determine the CFA for the acceptance of necessity and follow up action. Format of rough cost is placed as **Appendix A.**

16. **Indication of Cost**

(a) An Indication of Cost is required for submission to the authority competent to accept the necessity for a service. It will be based upon plinth area or other rates for the particular type of construction with percentages of the total cost added for accessory services.

(b) The estimate should contain sufficient detail to enable engineering officers in higher formations to judge whether the cost given is reasonable. If necessary, further details will be called for through engineer channels.

17. **Approximate Estimates.** An Approximate Estimate is required for the purpose of administrative approval and will be based on plinth area, cube, or unit rates for any similar works carried out. Approximate costs may be given for such items of work details of which are not fully known at the time of preparation of the estimate, or for items for which no previous rates exist.

18. **Preparations and Check of Estimates.** The authorities responsible for the preparation and check of estimates are shown at **Annexure II.**

19. **Administrative Approval.** The Administrative approval means the sanction by the competent financial authority to the execution of a work at a stated cost.

20. **Corrigendum.** A corrigendum to an administrative approval is initiated when there is no increase in total cost of the project as approved by the CFA, but certain errors are to be rectified e.g. typing, totalling, description of items and other minor discrepancies. However Financial Concurrence is also accorded by CFA in the form of Corrigendum.

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21. **Revision**

(a) When it is anticipated that due to technical reasons, the expenditure is likely to exceed authorised limits (adm approval cost plus 10% tolerance), a revised estimate will be prepared, to be followed by a revised administrative approval.

(b) Revised adm approval will be issued by the CFA based on the revised AEs.

22. **Amendments.** Amendments are issued to amend an item by substitution or enlargement, which may or may not involve increase in cost of the project.

23. **Engineer Appreciation.** Engineer Appreciation is required for all Capital Works as per the format placed at **Appendix B.**

### **ANNUAL MAJOR WORKS PROGRAMME (AMWP) AND BUDGETING**

24. Under the existing system of budgetary control, so far as it applies to works, expenditure during a financial year is generally restricted to the amount provided in the annual budget estimate for the purpose. Details of budgetary heads and the system of appropriation and re-appropriation of funds for this purpose are explained in Appendix A of DWP 2007.

25. Well before the commencement of next financial year, assessment of funds required in that year for making satisfactory progress of works already sanctioned and commenced in and up to the current year should be made, before fresh budgetary provisions are proposed for new works in the next financial year. Thus, Carry Over works will have higher priority than new works with regard to budgetary estimates for any financial year.

26. No New Works should be sanctioned and / or commenced in any financial year unless: -

(a) In case of Major Capital Works each costing ₹ 15 lakh or more, such a new work has been included in the Annual Major Works Programme (AMWP) for the relevant financial year as approved by Government of India.

(b) In case of Low-Budgeted Capital Works, such a new work has been included in the Annual Low-Budgeted Capital Works Programme of the concerned command and duly approved by the AOC-in-C.

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(c) In case of Revenue Works [Special Repair(E&M), Special Repair (B&R) and Major Revenue works], these are planned and approved at Command Headquarters within financial powers of appropriate CFAs' level against bulk funds placed at their disposal for this purpose by Air HQ in each financial year.

(d) In case of Minor Works, bulk allotment of funds is to be made by Air HQ to Command HQ in the beginning of financial year. Commands are to make bulk allotment to stations depending upon the requirement of each station. In order to meet urgent requirements of works AOC/Station Commander may sanction minor works in the beginning of financial year upto 1/5<sup>th</sup> of last year's bulk allotment without waiting for allotment for the current financial year. In such cases Adm App is to clearly state that funds will be appropriated on receipt of bulk allotment from Command HQ.

### Processing of AMWP at Command HQ.

27. AMWP at Command HQ is to be planned for two years at a time, including holding Board Proceedings and preparation of Indication of Costs, after careful assessment of the liabilities of Carry over Works and of anticipated budgetary ceilings on new works as well as the physical capacity of the engineers. The Annual Major Capital Works Programme for a financial year is to be prepared out of such two years' works plans. As per Para 18(a) of DWP-2007, proposals for Annual Major Works Programme for the relevant financial year are required to be prepared and submitted by 31 Oct of previous financial year by Air HQ for approval of MoD by 31 Dec. Therefore Command HQs are to invite proposals from stations in the month of Jun every year. The proposals from stations are required to reach Command HQ by first week of Sep of previous financial year. On receipt of proposals from the stations, Command Works Officer is to compile the proposals as per following guidelines.

(a) All proposals from stations are to be scrutinized with respect to the authorization based on the KLP and role of the station.

(b) Proposals are to be segregated as per the categories listed in **Appendix C.**

(c) The total cost of the proposals from Command should be restricted to the ceiling fixed by Air HQ.

(d) The works of previous year's AMWP which could not be released are to be included in the AMWP proposals for the new year.

(e) Those works proposals excluded from the finalized AMWP of the new financial year can be rolled over for inclusion in the next year. Their

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Indications of Costs should, however, be updated before inclusion in the next year's AMWP.

(f) The rough cost and present status of planning is to be mentioned in the remarks column against each proposals.

(g) After compilation of the proposals at Command Level, Command Works Officer is to forward the proposals to PSOs at command HQ for their recommendation before approval of AOC-in-C.

(h) The consolidated proposals from Command HQ duly approved by AOC-in-C are to be forwarded to Air HQ by 30 Sep along with summary of works in each category.

### Processing of AMWP at Air HQ

28. Air HQ is required to prepare the Annual Major Works Programme for Major Capital Works costing ₹ 15 lakh or more for the relevant financial year and submit by **31 Oct** to MoD for approval by the Government before **31 Dec** of the previous financial year. On receipt of proposals from Command HQ, PDAFW is to compile the proposals and prepare Annual Major Works Programme for Air Force as per following guidelines:-

(a) The total cost of the proposals included in the AMWP is not to exceed the overall ceiling by MoD and 20% cushion permitted by DWP-2007.

(b) Those works proposals excluded from the finalized AMWP of the new financial year can be rolled over for inclusion in the next year. Their Indications of Costs should, however, be updated before inclusion in the next year's AMWP.

(c) The works of previous year's AMWP which could not be released are to be included in the AMWP proposals for the new year.

(d) After compilation of the proposals of all the commands and units directly under Air HQ, PDAFW is to circulate the proposals to VCAS, DG(I&S) and AOM before putting up for approval of CAS.

(e) After approval of AMWP by CAS, the proposals are to be forwarded to MoD by 31 Oct for final approval of Govt of India by 31 Dec.

29. While preparing such a programme, the physical progress and financial commitments to carry over works whether approved by CCS, MoD, Air HQ, Command HQ or lower formations and the time and effort as well as funds

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required for planning and executing new works should be carefully projected. To achieve this objective before the works are included in the AMWP, adequate ground work, i.e., holding of preliminary Board of Officers proceedings as well as preparation of rough estimates of the cost involved for new works, is required to be done. There is no embargo on the number of works to be included in the AMWP but the total value of works to be cleared must be within the AMWP ceilings. In order to provide flexibility within AMWP ceilings, the number of works to be projected for inclusion within AMWP ceilings of the year, could exceed by 20%, but actual sanction for Major works by Air HQ is to be restricted within the approved financial ceilings by MoD for the financial year. Such items which were included in the projections made for the AMWP ceilings of a particular year but could not be sanctioned for one reason or the other, will automatically be included in the next year's AMWP by Air HQ unless respective Command HQ project deletion of any of these works. This should provide flexibility and ensure achievement of target of sanctioning works up to AMWP ceiling even if some works had to be carried forward due to reasons beyond control.

30. On approval of AMWP by MoD, Air HQ is to forward the approved AMWP to all commands, IFAs of all commands, PCDA, CGDA and all zonal CEs for finalization of BsOO and AEs in respect of all the works. Approval of this Annual Major Works Programme by Government will be considered as approval in principle of the implementation of the works programme in respect of those works whose BPs and rough estimates have already been scrutinized by Competent Engineer Authority (CEA) and administrative & associated financial authorities. This approval will however be subject to adequate allocation of funds.

31. If during the current financial year any new works project, not included in that year's Annual Works Programme, has to be subsequently approved and / or commenced for extraordinary reasons, separate approval of the Government should be taken for revision of the Annual Works Programme in **Mid Term Review**.

32. The format and guidelines for preparation of proposals for AMWP are given at **Appendix C**.

### PROCESSING OF MAJOR CAPITAL WORKS

33. There are nine main stages in the planning, sanctioning and execution of new Major Capital Works, viz.

- (a) Demand for and Planning of New Works.
- (b) Acceptance of Necessity
- (c) Preparation of Approximate Estimates
- (d) Administrative Approval
- (e) Appropriation of Funds
- (f) Technical Sanction

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- (g) Tender Action
- (h) Contract Action
- (j) Execution of Works
- (k) Completion

The details of procedural requirements at each of these stages are explained below.

### Stage I : Demand for and Planning of New Works

34. Command HQ are to invite demands for new Major Capital works services costing more than ₹ 15 Lakh from the stations as per the format given in **Appendix D** in the month of Jun of previous year. The works are to be classified under following categories:-

- (a) Runway and Airfield infrastructure works.
- (b) Weapon Storage Area Works
- (c) Operational and Technical infrastructure.
- (d) Works services for New Induction.
- (e) Adm Services.
- (f) Works services for improvement of Quality of life.
- (g) Sports and Recreational Infrastructure.
- (h) Married accommodation.
- (j) External services
- (k) Security related works
- (l) Rain Water Harvesting.
- (m) Non conventional energy.
- (n) Special Projects

35. The remarks column of the format is to give brief scope of the works, type of construction, requirement originated on account of new procurement, manufacture, storage of new / special equipments or armaments, or setting up of new operation related facility including special repair and maintenance of capital assets with which the civil works have to be integrated, target date by which the completion of the proposed works are desired, location and availability of land etc.

36. Consolidated proposal of AMWP in respect of the respective commands is to be approved by AOC-in-C and forwarded to Air HQ by 30 Sep of previous financial year. Works costing up to a maximum of 20% over and above the total ceiling of AMWP may be recommended as cushion list. Air HQ is to finalise and forward consolidated proposals for the Air Force AMWP to MoD after approval of CAS by **31 Oct.**

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37. Approval of this Annual Major Works Programme by Government will be considered as approval in principle for the implementation of the works programme.

### **Stage II : Acceptance of Necessity**

38. Although the approval of AMWP by MoD is a must for ordering BsOO in respect of works proposed in AMWP, to save time in planning, Air HQ is to inform the controlling commands about the approval of CAS for AMWP proposals and recommendations made to MoD. On receipt of the AMWP proposals recommended by Air HQ, Command Works Officers of the respective commands are to order BsOO for all works included in AMWP.

### **Board of Officers**

39. Board of Officers is the most important document which forms the basis of acceptance of necessity. Thus Board of Officers comprising of specialist officers for the works with engineers is to prepare the proposal for work. Detailed guidelines for preparation and compilation of BsOO are placed at **Appendix E**. Board of Officer at a level lower than Ministry of Defence can be based on rough estimates, however, at the ministry level, it must be based on a detailed AE. If, after careful consideration of the new works proposal as explained in the Statement of Case and the Board Proceedings, it is decided to carry out the proposed works services, then formal orders will be issued by the Competent Financial Authority accepting the necessity of the proposed works and ordering the preparation of Approximate Estimates. The CFA will also ascertain that funds will be made available at the appropriate time for carrying out the works before passing such orders.

40. Before a work is initiated for inclusion in AMWP, the following aspects are to be checked:-

- (a) Defence land is available.
- (b) Unit for which accommodation is planned is a KLP unit.
- (c) Deficiencies for the unit are correctly worked out.
- (d) Work is not split merely to bring it within the powers of any CFA lower than the appropriate CFA.

41. In addition to the above, before the Siting and costing Board starts its deliberations, the following should be checked:-

- (a) Accommodation sited is in appropriate zone of approved Zonal Plan.

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(b) Items catered for are as per Scales of Accn 2009. If not, every special item should be supported with justification in the statement of case.

(c) Works are planned in its entirety, even if phasing is resorted to. The phasing should not be done with the intention of bringing the cost of work within the financial powers of the lower CFA.

(d) All aspects pertaining to site conditions, functional requirements including lay out, air-conditioning, humidity control, stand-by power arrangements and any other special requirements are considered in detail and proceedings finalised.

(e) Composition of the Board of Officers is correctly constituted. Members of Railways, Fire advisor, State electricity & water boards etc, wherever applicable, should be included by the convening authority.

42. To achieve the above, every Station HQ must have the following documents:-

(a) Approved KLP of the station.

(b) Approved Zonal Plan.

(c) Approved Master Plan of the zones of the station.

(d) Map showing the status of the land.

(e) Accn Statement Part I, prepared by C Adm O/S Adm O, based on updated establishment of the units in approved KLP.

(f) Accn Statement Part II, prepared by GE (AF), based on Accn Statement Part I. This gives the accn authorised for each unit, accn held and that yet to be constructed.

43. Powers of the CFA at various levels for accepting the Necessity and according Administrative Approval for various types of works with or without financial concurrence are given in GoI letter No Air HQ/95378/1/Fin P/2431/US(RC)/Air-II/06 dated 14 Jul 2006 and amended on 20 Jul 2006 reproduced at Annexure III. These financial powers are subject to change from time to time.

44. If it is proposed to engage any outside consultancy agency for carrying out any part of the proposed works services at the planning and / or execution stages, either for technical reasons or for compressing the time-frame of the works then the cost estimate for such consultancy should be indicated by the

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engineers and accepted by the CFA while according Administrative Approval to the proposal. Further, in a specific case, where, in the opinion of the Chief Engineer concerned, a proper technical or cost appreciation of a works project or its timely implementation requires certain preliminary activities like site survey, soil investigation, enabling works, preparation of basic designs or estimates,

etc. and / or engaging an outside consultancy agency, then a 'Go-Ahead' sanction of an amount not exceeding 5 % of the rough cost estimate will be taken for such activities from AOC-in-C or equivalent or above with concurrence of the Integrated Financial Adviser concerned in accordance with Para 57 of DWP 2007. Such proposals for 'Go-ahead' sanction should be submitted to Ministry of Defence / Defence (Finance) in case of works proposals for which administrative approval would have to be accorded by Government / Cabinet. A copy of such a 'Go-Ahead' sanction will be sent to the CDA concerned.

45. In case of new works proposals requiring administrative approval of a CFA of the level of Air HQ / Government, such proposals may be submitted to the CFA along with both Board Proceedings and Approximate Estimates for obtaining Acceptance of Necessity and Administrative Approval at the same time.

### **Stage III: Preparation of Approximate Estimates**

46. Based on the scope of work defined by the users in the BOO, Engineers are to prepare Approximate Estimates. Following points are to be borne in mind:-

(a) The engineer authorities will prepare the Approximate Estimates Part I and II in the prescribed proformae as given at **Appendix F** as per the scope of work defined in the Statement of Case and / or Board Proceedings / DPR. Office and residential accommodation requirements for the MES constructional staff, consultancy charges, if any, necessary external services, and other requirements of technical nature will be included in the Approximate Estimates, even if no specific recommendation have been made in the Board of Officers.

(b) No provision will be made in the estimates for special tools and plants since a central provision is made for this purpose under Sub Head E (a) of Minor Head 111-Works to cater for special tools and plants for all projects. Nevertheless, if for special technical reasons any special tool or plant is required for any works project and cannot be met out of the above-mentioned budget provision, then a specific approval of the Government should be taken for inclusion of the estimated cost thereof with due recommendation of the Director General of Works.

(c) Contingencies will be provided at 3% of the estimates. Establishment charges will not be included for MOD establishment works but will be included for deposit works. Establishment charges, if any, may

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be included in the estimates after recording reasons therefore in each case, but will not exceed 2% of the estimates. **In addition, consultancy charges not exceeding 3% may be included in the estimates. Any additional expenditure on consultancy will require the approval of concerned CFA.**

(d) No special items of work or superior specification will be included without specific approval of the Competent Financial Authority. Variations in specifications from those included in approved plinth area rates, but considered essential to suit peculiar local conditions or due to technical reasons will be highlighted.

(e) Permissible tolerance limit of 10% beyond Administrative Approval amount as per Para 2 (h) of DWP-2007 and savings achieved on conclusion of contracts will not be utilized either to enhance the scope of the work or to enrich the specifications afterwards.

(f) Approximate Estimates (as also rough cost at the acceptance of necessity stage) will be prepared by Engineer Officers competent to do so as per guidelines laid down by the Director General of Works. Checks of such Approximate Estimates will be made by the next higher Engineer Authority as per directives laid down from time to time.

(g) In case of works scheduled to be completed within two years, no escalation, except statutory increases, will be allowed in the contracts for execution of such works. Approximate Estimates for such works will be prepared accordingly.

(h) While submitting Approximate Estimates, application will be made for allotment of funds required for execution of the works in the relevant financial year(s).

47. The above stages of processing a new works proposal, namely, Initiation of Demand, Board Proceedings, Acceptance of Necessity and Preparation of Approximate Estimates can be undertaken, if urgency so requires, even before finalization and approval of the Annual Works Programme for the relevant financial year. However, in order to avoid in fructuous expenditure of time and effort on such matters, by 31<sup>st</sup> October of the previous year, the Air HQ/Command HQ will prioritise the new works out of their two years' work plans mentioned in Para 17 of DWP 2007 and also indicate the ceilings of funds expected to be made in respect of new works services in the next financial year at Command/formation levels.

### **Stage IV : Administrative Approval**

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48. Administrative Approval is the first financial document that CFA issues. It is the most important document and must be issued after careful scrutiny by CFA. Standard formats of Adm Approvals for Capital and Revenue works by different CFAs are given at **Appendix G**. Administrative Approval accorded by CFA is to be addressed to Competent Engineer Authority and is to be treated as an order for execution of work subject to release of funds. Copies of Administrative Approval are to be distributed as per the distribution given at **Appendix H**. Following issues are to be ensured by the CFA while issuing Adm Approval:-

(a) Administrative Approval is to be accorded by the Competent Financial Authority (CFA) for the execution of the works after due examination of the Approximate Estimates. It will state clearly whether the works being approved are authorized or special. Special items of works will be specified and reasons for approving the same will be stated.

(b) At the stage of according Administrative Approval, it will be ensured that Approximate Estimates are updated to conform to prevailing percentage of market variation and difference in cost of stores. As far as possible, these administrative approvals are to be accorded before the commencement of the financial year in which the works are to commence. **Detailed guidelines regarding methodology for computing market variation and difference in stores have been issued by the E-in-C's Branch.**

(c) Time for completion of the works is to be clearly indicated in the Administrative Approval. Any extension of time for completion will be notified to the CDA concerned. **Delay in commencement of the works beyond 12 months would necessitate a Revised Administrative Approval.**

(d) **Whenever any time bound projects are entrusted to the MES with the stipulation by the Govt. on completion of facilities by stated dates, Chief Engineers can exercise the special powers as mentioned under Para 38 in connection with the planning and execution of such projects. This will come as a separate Para in the Administrative Approval accorded by the Govt.**

(e) The Adm Approval along with AE is also sent to CDA concerned and to the Engineer authority concerned who will issue such technical sanction as may be required. A copy of Adm Approval is also endorsed to the end user section for effectively monitoring the progress of work.

(f) Adm Approval is conveyed by a letter clearly specifying the following:-

(i) Name of the Station / Unit and the work being sanctioned.

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- (ii) Classification of work,
- (iii) Appropriate code head for the work.
- (iv) Specific Authority of Scales of Accommodation, Scales of Furniture, Scales of Hospital, MES Regulations or any other Gol letter is to be quoted.
- (v) Items of works with costs.
- (iv) Whether the works are 'Authorised' or 'Special'. Authority for the former and reasons for the latter are to be specified.
- (vii) For every work being included as "Special item of work" an endorsement in the Adm approval is required to be rendered by CFA stating that "The work is necessitated by exceptional conditions and approval of the same will not affect/introduce a new practice or change of scale".
- (viii) Source from which funds are provided.
- (ix) Time for completion from date of Adm Approval / release of funds.

### Revised Administrative Approval

49. (a) In case it becomes necessary to obtain a revised administrative approval as per Para 2(h) of DWP 2007, a revised estimate is to be prepared in the format given in **Appendix F**, the original and revised figures being shown in parallel columns of a comparative statement. The causes of the excesses are to be set out clearly and concisely in the remarks column of such a comparative statement.
- (b) There is no limit as to the number of times that an estimate may be revised. Immediate action in fact should be taken to revise estimates as and when the occasion demands, the procedure explained above being followed in each case.
- (c) When an administrative approval involves conclusion of a number of contracts and in the event of the tender cost for the item or items of work exceeding their corresponding administrative approval amount by more than 10% (i.e. the tolerance limit) and also if there be no prospect of savings on other items of the work, the case will be submitted to the CFA along with a statement of financial analysis for the grant of financial concurrence to enable the Engineer authority to conclude the contract. The statement of case will also include a revised estimate for part / parts

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of the work covered in the tender in the format given in **Appendix F**. Following the financial concurrence, Revised Administrative Approval will be accorded by the CFA covering the part affected by the tender in the shape of a corrigendum.

(d) Revised Administrative Approval will be essential before tender action if there is any change in scope of work due to any reason, irrespective of whether the cost is within the tolerance limit or not.

(e) No change in site is permissible. However, in exceptional circumstances, approval of the CFA one level higher than the CFA who issued original Administrative Approval is to be obtained for issue of Revised Adm Approval based on Revised Estimates for changed site, if required. However minor deviation of site not involving any increase in cost of external services is not to be referred to next CFA.

(f) If upward revision of cost estimates beyond the tolerance limit is **anticipated** without any change in scope of work, then the preparation and submission of Revised Approximate Estimates will be initiated. However, tendering and contract planning may continue; but acceptance of tender / conclusion of contract will be made only after obtaining Financial Concurrence of the CFA. It is not mandatory for the CEA to initiate the case for Financial Concurrence only if the tenders are received during the time between initiation of case for Revision of Adm Approval and issue of Revised Adm Approval by CFA.

(g) It is mandatory to obtain a Revised Administrative Approval from the CFA in the form of a Corrigendum at the earliest after the issue of the FC. As such a Corrigendum or Revised Adm Approval is not based on actual completion cost, the tolerance limit of 10 % as per Para 2 (h) of DWP 2007 will be applicable to the revised administrative approval in both cases.

(h) No revised administrative approval will be essential if increase in cost beyond the tolerance limit is solely due to payment of statutory escalations scheduled as part of the contract agreement for the originally stipulated time of completion of the works. On completion of the works, the final completion cost will reflect all approved revisions of cost estimates and escalations granted under this Para.

50. If additions become necessary due to revision of scales or establishments or for other specific administrative reasons, a supplementary estimate will be prepared and revised administrative approval is to be issued by the CFA for the entire work, including both original and supplementary estimates.

### Stage V : Appropriation of Funds

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51. (a) Appropriation of funds means the allotment of a particular sum of money to meet expenditure on a specified work through the annual allocation of funds under the budgetary heads indicated at Appendix A of

DWP 2007 immediately after passing of the Defence Service Estimates by Parliament. Based on Administrative Approval, release of the works will be conveyed by the following Officers in the form of a letter specifying the budgetary source from which funds will be provided in the year the work is sanctioned:-

<b>Classification</b>	<b>Cost (₹ In Lakh)</b>	<b>Authority Competent to Release of Funds</b>
Capital works	Above 15.00	PDAFW(Budget) Air HQ
Capital works	2 – 15	C Wks O
Special Repairs (E & M) and (B & R)	Upto 75	C Wks O
Major Revenue works	1 – 2	C Wks O
Minor Works	Less than 1	AOC/Station Commander

A copy of this letter is to be sent to the CDA concerned and to the engineer adviser concerned who will issue such technical instructions as may be required. The Time frame for pre-Administrative Approval planning is indicated at **Annexure II**.

(b) No new Major Capital Work will commence i.e. no Contract Action will be taken in respect of that work, unless and until such specified allotment of funds is made for that work or project.

(c) In case of Low Budgeted Works, Revenue Works and Minor Works, it will be ensured by Command HQ and AOC/Station Commanders that in case of each of these works that have been sanctioned and ordered to be commenced against adequate bulk allotment of funds made to that CFA for this purpose in the relevant financial year. It will be the responsibility of every CFA to ascertain that such allotment of funds has indeed been made adequately for these categories of works during the relevant financial year before such a certificate is given.

(d) Notwithstanding sub Para (b) and (c) above, in cases of urgency to be recorded in writing, the CFA may order commencement of preliminary works like consultancy, site clearance, external services, etc. in specified cases subject to the condition that the said new works services have been accorded Go-Ahead sanction and also in the approved Major Capital Works /Low Budgeted Capital Works programme of the relevant financial year and that the estimated cost of such preliminary works does not

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exceed 5 per cent of the total cost approved in each case. Simultaneously, he will forward a demand for a special allotment of funds to the appropriate higher authority explaining the urgency.

(e) The allotment of funds for the works by C Wks O for Low Budgeted Capital and Revenue works are to be restricted to the financial ceiling given below:-

<b>Category</b>	<b>Funds Allotted By Air HQ</b>	<b>Maximum ceiling of cost of works for release of works</b>
Capital works ₹ 2-15 lakh	X	2X
Special Repairs works	Y	3Y
Major Revenue works	Z	4/3Z

### Stage VI : Technical Sanction

52. Technical sanction is issued by the Competent Engineer Authority (CEA). The powers of engineer authorities for according technical sanction to work services are given in Table B of Regulations for the MES. The same is reproduced at **Appendix J**. A technical sanction ensures that:-

- (a) The design and specifications of the works are in accordance with the Govt policy.
- (b) The cost of the works is arrived at keeping in view the economy, sound design, good workmanship and proper material.
- (c) All stores used in the project are in strictly accordance with plans and specifications.
- (d) Proper accounting of the project is adhered to in accordance with the regulations.
- (e) The amount of expenditure does not exceed the amount of Adm Approval.

53. The technical sanction accorded to the costed schedule will be revised only for the following reasons:-

- (a) Engineering / technical reasons such as changes in designs, specifications, drawings etc. Revision will not, however, be necessary if such variations are sanctioned by the authority competent to revise the

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technical sanction, before deviation orders or amendments to contracts are issued under provisions of the contract. However, such competent authority may, on his own responsibility, delegate the powers of revision of

technical sanction to the authority issuing deviation orders for the specific purpose.

(b) On account of revision of administrative approval, if the variations are not already covered by sanction to deviation order or amendments to the contract vide clause (a) above. Revision will not, however, be necessary where the variation is due to non-technical reasons, such as difference in cost of stores or where the percentage in the accepted contract differs from the anticipated percentage provided in the costed schedules.

(c) The original technical sanction is found to have been based on inaccurate estimates initially. In cases, however, where scope of work is changed due to administrative reasons, the technical sanction will be revised and issued before such items of work are actually executed.

### **Stage VII : Tender Action**

54. (a) After the schedule of work for a project or sub-project has been technically sanctioned by the competent engineer authority, tenders will be invited for the execution of the work. Normal method of contracting will be based on competitive tendering.

(b) Special tenders such as those of single cost plus type require the approval of E-in-C. Separate guidelines have been issued by the E-in-C for such projects with the approval of Defence Finance.

(c) In case of the following categories of works, the practice of advertisement in news papers and Indian Trade Journals, giving notice inviting applications for issue of tenders, will be dispensed with and tenders will be distributed to selected eligible contractors who are already on the approved list of MES and have got the capacity and experience to undertake the proposed work:-

- (i) All works costing up to ₹ 5 lakh.
- (ii) All works approved under Para 34, 35 and 36 of DWP 2007.

(d) However, the notice shall be got displayed on the notice boards of the following offices:-

- (i) SE/EE of CPWD & State PWD in station.
- (ii) Local Municipalities and Cantonment boards.

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- (iii) State Bank of India, Local & nearest branches to places of work.
- (iv) Railway and post offices nearest to places of work.
- (v) MES formations in station.
- (vi) Head Offices of Builders Association of India.
- (vii) Internet Publication of tenders should be on the website of concerned Deptt/MoD.

(e) Scrutiny of tender documents by Audit prior to acceptance of tender is not necessary. Chief Engineers are empowered to alter standard contract documents at pre-tender stage to suit urgent requirements particularly with reference to security deposits, percentage payments, speed of payments, issue of stores, deviation limits and similar matters. They will, however, consult the **CDA / IFA** concerned wherever possible. Where the decision of Chief Engineer on such alterations involves a major departure from the existing procedure, he shall send a copy thereof to the E-in-C / DGW and **CDA / IFA** for information.

(f) **In case only a resultant single quoted tender is received, the same can only be accepted after permission of next higher Engineer Authority and a report to the same will be furnished to the concerned CDA / PCDA.**

### Stage VIII : Contract Action and Acceptance of Contracts

55. (a) Powers of acceptance of contracts are laid down in MES Regulations Table 'B' read with Para 428 and 440 *ibid*.

(b) It is emphasized that no officer is empowered to accept a contract which is likely to cause excess over the amount of administrative approval after taking into account the tolerance allowed *vide* Para 2(h) of DWP 2007. In case the contract is covering only a part of the work covered in the administrative approval, the procedure indicated in Para 32 of DWP 2007 is to be followed.

56. When an excess over the tolerance limit of 10 % over Administrative Approval, which cannot be met by savings on other items, occurs or appears likely to occur on account of technical reasons, a report will be made at once to the competent engineer authority who granted the technical sanction for the work. If there is still time to curtail the work or modify it, the orders of the CFA will be taken. If no modification is ordered, a revised estimate will be prepared and revised administrative approval of the CFA obtained as per Para 32 of DWP 2007.

57. In the case of projects estimated to cost ₹ 3 lakh or more, when the amount of accepted contracts reduces the cost of the project below the administratively approved amount by more than 15 %, the approved amount for

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that project will be reduced by the amount exceeding 15 % by the CE / CWE / GE within whose powers of technical sanction the work falls. The details of reduction will be sent to the CDA and all others concerned. **The amount of saving up to 5% (of the original A/A amount) thus retained will be used to cover variations in cost for technical reasons.**

58. **Reduction of Scope of a Project** When the scope of a works service is reduced for administrative or other reasons, the Administrative Approval need not be revised; but the approved amount for the abandoned or reduced items of the service and the total approval amount will be reduced accordingly by the concerned engineer authority within whose powers of technical sanction the work falls. Details of such reductions of scope will be sent to the CFA, the CDA and all others concerned.

### **Stage IX : Execution of Works**

59. Once the contract action has been completed and work order is placed with the contractor, the work is then executed by the contractors and works are progressed till completion and taken over by the users.

60. (a) After acceptance of contract, the execution of works and their supervision is to be carried out by the engineer-in-charge as per MES Regulations read with MES Standing Orders. Deviations and amendments to contracts, if necessary, will be carried out as per MES Regulations and Standing Orders.

(b) While constructing a building, new specifications or materials can be introduced if technical or aesthetic reasons so justify, with the prior approval of the Zonal Chief Engineer concerned, subject to the condition that this must be within the existing tolerance limit as applicable and not exceeding 5 % of the original Administrative Approval amount.

### **URGENT WORKS**

61. Procedure and stages described above are applicable to the planned works executed during normal circumstances. However on account of urgent requirement necessitated due to peculiar conditions, it may not be feasible to adopt the normal procedure. Under such circumstances, certain deviations from the normal procedure are ordered to meet urgent requirements. These deviations are enumerated in Para 34 to 36 of DWP 2007 and are reproduced below.

62. **Para 34 of DWP 2007.** Urgent military reasons must be made very explicit and CFAs must be held responsible for their decision. Notwithstanding the procedure laid down in Para 22 to 31 of DWP 2007, if for urgent military reasons delay involved in the issue of administrative approval based on approximate estimates cannot be accepted, the Competent Financial Authority is

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empowered to order commencement of work on essential items of required work prior to the issue of administrative approval. In doing so, however, the CFA should ensure that no accommodation or facility is constructed in excess of requirements. The "Go-Ahead" sanctions accorded under this Para by CFAs lower than the Government of India will be subject to the following conditions:-

(a) The "Go-Ahead" sanction will be ordinarily restricted to items like collection of stores, site clearance, external services, construction of essential temporary accommodation for the staff and stores, residential accommodation for the construction staff and preliminary works necessary

for execution of the project. Work related to piling and reclamation may be also covered by the "Go-Ahead" sanction, provided it is duly supported by an approximate estimate for such piling and reclamation.

(b) The "Go-Ahead" sanction will not exceed 20% of the rough cost estimate for the entire project made by the Engineer authorities. The percentage will not include the cost of acquisition of land required for the project.

(c) Provisions under Para 38 of DWP 2007 will be applicable to works sanctioned under this Para and at the discretion of the Competent Financial Authority.

### 63. Para 35 of DWP 2007

(a) Further, notwithstanding the procedures laid down in Para 22 to 31 of DWP 2007, unexpected circumstances may arise which make it imperative to short-circuit normal procedure. Such circumstances may arise from unforeseen operational necessity or urgent medical grounds or out of natural disasters when reference to the appropriate CFA would entail dangerous delay. In such circumstances, any Commander may order the commencement of required work by furnishing an order in writing (as per format placed as **Appendix K**) to the engineer officer concerned. It is advisable that prior Approval of appropriate CFA may be obtained if time permits. The following principles will guide the Commander concerned in taking such an action:-

(i) Can the appropriate CFA be referred to and his approval received without causing dangerous delay in commencement of work?

(ii) The facts of the case satisfy the Commander that, if the appropriate CFA could be referred to in time, the latter would have given the same order for commencement of works under the prevalent circumstances.

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(iii) The Commander is satisfied that he will be held responsible for any failure or disaster that may ensue, if he neglects to order commencement of necessary works.

(b) Should the concerned Commander decide that it is necessary to order commencement of necessary works in departure from the procedures laid down in Para 22 to 31 of DWP 2007, he will report the fact in writing to the appropriate CFA at the earliest possible moment within a week with copies to the CDA concerned and also inform his immediate superior Commander at the same time.

(c) Provision under Para 38 of DWP 2007 will be applicable to works sanctioned under this Para at the discretion of the concerned Commander. Further, skilled / semi-skilled / unskilled manpower may be employed on daily rates of pay as per Nerric rates prevalent in the station by the Garrison Engineer ordering the work not exceeding **15 days overall in terms of time and 1000 man days in effort, with reason and justification**. For employing skilled, semi-skilled, unskilled manpower beyond these limits, sanction of CFA will be obtained.

### 64. Para 36 of DWP 2007

(a) Again in the case of imminent danger to buildings, roads etc., or of a breakdown of supply from an E/M or water supply installation, when delay would be seriously detrimental to the public service, the **local MES or PWD officer** will take steps to protect Government property or the inhabitants etc. But he must at once report the facts of the case and the reasons for his action to the superior engineer authority, the local military Commander and to the CDA concerned indicating the financial liability he is incurring.

(b) Provisions under Para 38 of DWP 2007 will be applicable to works sanctioned under this Para at the discretion of the local Engineer Officer. Further, skilled / semi-skilled / unskilled manpower may be employed on daily rates of pay (as per Para 35 (c) of DWP 2007) by the Engineer Officer not exceeding **15 days overall in terms of time and 1000 man days in effort**. However, the engineers will have to furnish a detailed justification to their higher engineering authority for the same.

65. The procedures outlined in Para 61 to 63 above do not dispense with the necessity for the issue of Administrative Approval by the CFA based on subsequently prepared Approximate Estimates at the earliest opportunity not **exceeding six months** after commencement of work. Further such works can be started without waiting for specific allotment of funds for the project subject to the condition that necessary allotment of funds for the purpose is applied for and obtained at the earliest opportunity as per provisions in Para 45 of DWP 2007.

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**SPECIAL POWERS FOR ENGINEERS**

66. **Para 38 of DWP 2007.** When an urgent work (under Para 31(d), 34–36 of DWP 2007) is entrusted to the engineers for completion of the works in a compressed time frame, the Chief Engineer can exercise the following special powers in connection with planning and execution of such works: -

- (a) Detailing officers anywhere in the country.
- (b) Resorting to consultancy for any item of work.
- (c) Purchasing of stationery, reprographic equipments, typewriters or any other office equipment required.
- (d) Installation of Telex, Fax, Internet or other communication equipment in CE / CWE / GE office.
- (e) Payment of charges for telephone connections including STD facility on priority basis.
- (f) Hiring of civil transport for project work.
- (g) Hiring of office and temporary accommodation for construction staff.
- (h) Procurement of Cement and Steel from open market, if necessary;
- (j)\* Selective tendering.
- (k)\*\* Dispensing with advertisement for tendering and contracting.

**Note:**

(i) The expenditure to be incurred for items cited in Sub-Para (c) to (h) above will be met out of contingencies of the project. The cost of consultancy will be also met out of Contingencies if not separately provided for.

(ii) \*The dispensation mentioned in Para 38 (ix) & (x) of DWP 2007(Para 65(j) & (k) above) would be clearly spelt out in the administrative approval accorded by the Govt. / CFA not below the level of AOC-in-C and equivalent. **The reasons for dispensing with competition will be placed on record in writing.**

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(iii) \*\*Chief Engineer could exercise these powers in connection with the urgent work, after taking the approval of IFA.

67. **Mobilization Advance.** In case of works to be carried out in remote / difficult location and / or requiring mobilization of special equipment, tools or plants, or works to be completed on stringent and compressed time-frame, the Chief Engineer may include in the tender notice the offer of mobilization advance to the prospective contractors so as to prevent avoidable delay in commencement of works after acceptance of contract. E-in-C's Branch will issue necessary guidelines **with the approval of Defence Finance** from time to time on the amount of mobilization advance **subject to maximum of 10% of the value of the contract** that can be granted, the interest to be charged and the method and schedule of recovery and / or adjustment of such advance in different categories of cases.

### **PROCEDURE FOR "SPECIAL PROJECTS" TO BE SANCTIONED UNDER CODE HEAD 918/..... OVER AND ABOVE AMWP**

68. Some capital intensive works of complex nature have multiple locations, encompassing large geographical area. Due to its multiplicity, complexity and requirement of large capital outlays, it becomes difficult to accommodate them in the Annual Major Works Plan of a specific year without jeopardising the normal low budget routine works of that financial year. Hence such projects are required to be budgeted and released outside AMWP. "Resurfacing of Runway", "Air Force Station Phalodi", "SWAC HQ Complex at Chiloda", "SRE infrastructure" "Development of North Eastern Infrastructure" are few examples.

69. Therefore, notwithstanding the provisions made above, in case of works projects requiring the acceptance of necessity and administrative approval at the level of MoD, the special procedures outlined in Para 56 to 60 of DWP 2007 may be adopted if such works are of the following categories:-

- (a) Strategic importance
- (b) High Tech Complexity
- (c) Urgent necessity

**Note:** Such works may be requiring close interaction with user, specialist design consultants and vendors of plant and equipments and transfer of technology.

70. **Preparatory Stage**

(a) For initiating the demand for new works services for a special project, the User establishment/formation will prepare a Statement of Case on the lines indicated in Para 22 of DWP 2007.

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(b) The Statement of Case will be then examined by the Command HQ/ Service HQ for setting up a Board of Officers who will examine the detailed features of the works proposal with a view to:-

- (i) Defining clearly the scope, scales and specifications of the works proposed.
- (ii) Programming the various implementation phases of the project and the time schedule for each phase.
- (iii) Indicating the time and efforts required for acquisition and development of land and for environmental clearance, if any.
- (iv) Suggesting the extent of site preparation, enabling works and external services / utilities of preparatory nature required.
- (v) Nature of consultancy required at any stage of the works project, viz., preparation of feasibility/ project reports, programming schedules of works, external services and utilities, structural / architectural drawings / designs, cost estimates, preparation of bills of quantities and / or tender packages, appraisal of tender documents, project / construction management, etc. for the whole or for part(s) of the project.
- (vi) Details of rough cost estimates.
- (vii) Phasing of fund requirements.

It would be the primary responsibility of the user establishment and the Command /Service HQ to complete this preparatory stage systematically and expeditiously.

### 71. Steps up to Go-Ahead Sanction

(a) After examination of the recommendations of the Board of Officers, the Command HQ will take the following steps through the Service HQ:-

- (i) Propose inclusion of the works proposal in the Annual Major Works Programme, if not already done.
- (ii) Propose specific phasing and allocation of funds **to ensure adequate fund availability for the entire duration of the project.**
- (iii) Convene BOO for preparation of Detailed Project Report (DPR) for works projects of high value requiring MoD/Cabinet approval under departmental or outside consultancy arrangements.

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(iv) Approval of CFA will have to be obtained from the MoD for appointment of Consultants for any purpose related to the project, including preparation of the DPR, subject to the stipulations made in Para 24 of DWP 2007 based on Estimates produced by Engineer Authorities.

(b) **It is reiterated that the CFA in such cases is always MoD.** A proposal will be submitted after acceptance of Detailed Project Report (DPR) to the CFA for granting a “Go-Ahead Sanction” amounting to 5 per cent of the rough cost estimate for approving:-

(i) The broad scope and features of the works proposed.

(ii) Site surveys and development of land and enabling works including preparatory external services and utilities.

(iii) The engagement of outside consultancy, designing or estimating work, and the cost thereof, subject to the stipulations made in Para 24 of DWP 2007.

(iv) Delegation of special powers under Para 38 of DWP 2007 to the Zonal Chief Engineer / Project Chief Engineer.

(v) Appointment of a Project Management Authority for steering the project through all other phases such as detailed planning and estimation, administrative approval, finalization of designs and drawings, control action, execution and monitoring of the physical and financial progress of the works. The composition of and powers which can be entrusted to such a Project Management Authority is illustrated in Appendix G of DWP 2007 and **Appendix AC** of Chapter II.

(c) On receipt of the “Go-Ahead” sanction the preparatory activities mentioned at sub-Para (b) above will be started.

It will be the responsibility of the Air HQ to complete this stage up to “Go-Ahead” sanction expeditiously.

### 72. **Steps up to Administrative Approval**

(a) After the “Go-Ahead” sanction the engineer authorities will start preparation of basic designs and Approximate Estimates. However, in cases where a Detailed Project Report has to be prepared as per Para 57 (a) (iii) of DWP 2007, the preparation of the Approximate Estimates may be undertaken on the basis of the approved DPR.

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- (b) The AEs for works which are to be completed in two years shall be so framed that it caters for escalation for two years. However, the contract shall not include any escalation **clause** except statutory increases.
- (c) On the basis of the Approximate Estimates, the Technical sanction for the works will be given by the competent engineer authorities to enable taking of Tender Action. In case of works of high technical complexity tendering for Item Rate Contracts may be resorted to.
- (d)
  - (i) In case of selective tendering, **when approved by the CFA** the time to submit tenders will be normally restricted to 4 weeks from the date of issue of tender notice.
  - (ii) The offer of Mobilization Advance as indicated in Para 47 of DWP 2007 will be made to ensure prompt mobilization of resources and commencement of works.
- (e) Simultaneously with the issue of tenders, the Engineer Authorities will submit the Approximate Estimates to the CFA, for issue of Administrative Approval. The administrative approval will indicate the detailed scope of the works sanctioned, the date by which the works will be completed and the budgetary sources from which funds will be allotted. The administrative Approval will also indicate the scope of consultancy required for the implementation of the project.

### 73. **Steps up to Contract Action**

- (a) On receipt of tenders, the Engineers will evaluate the tenders and prepare a tender appraisal report comprising:
  - (i) Comparative evaluation of tendered rates.
  - (ii) Finalized Approximate Estimates based on approved scope of work, technical sanction and lowest acceptable tender.
- (b) The competent engineer authority will ensure completion of detailed designs and drawings as well as costed schedules and, if considered necessary, issue revised technical sanction without delay after receipt of Administrative Approval.
- (c) On receipt of Administrative Approval and technical sanction, the contract will be concluded. It will be the responsibility of the Competent Engineer Authority (CEA) to ensure that necessary documents are handed over to the contractor and the latter starts the work on the site within a pre-determined time stipulated in the contract.

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### TURNKEY PROJECTS

74. Turnkey Project in the IAF is a relatively new concept. As far as it relates to works services, it means those elements of civil engineering work that are integral to induction of a new equipment, aircraft or a weapon system and is essential for its operationalisation. Cost of such works is sanctioned by the Government along with the equipment. Such projects are processed through procurement channels and executed invariably by the OEM (Original Equipment Manufacturer) as a composite contract called the "Turnkey Project". Such projects are required to be sanctioned in accordance with Para 45 of DPP-2008. On completion of such projects by the OEM, MES takes over the infrastructure on its inventory for future maintenance. Although no govt orders exist on the subject, but following procedure is to be followed for processing of Turnkey Projects:

(a) As soon as proposal of new acquisitions or procurement that require creation of infrastructure is initiated by the concerned specialist directorate at Air HQ, FRD or IRD will be forwarded to DAFW with following details:

- (i) Proposed location of project.
- (ii) Details of Ops and Tech infrastructure required.
- (iii) Time schedule of new acquisitions and readiness of infrastructure.
- (iv) In Principle approval of MoD or CAS for undertaking the project as Turnkey.
- (v) Specialist Officers to be consulted for clarification on FRD.
- (vi) Clear directions with regards to construction of infrastructure to be undertaken by MES/CPWD or OEM.
- (vii) Proposed establishment for manpower for Adm infrastructure.
- (viii) Accommodation Statement Part I for Ops & Tech infrastructure as per format given in Annexure III to **Appendix L** of Chapter II of this manual, duly signed by Specialist Directorate.
- (ix) Present status of the proposal.

(b) DAFW will then issue necessary directions to concerned Command HQ for ordering BOO to assess the rough cost of infrastructure to be

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included in the proposal for obtaining CCS approval for the Turnkey Project.

(c) The BOO for such infrastructure for Turnkey Projects must clearly state the following:

(i) Since the proposal is still an nascent stage it is not feasible to give elaborate details of infrastructure required and justify the estimates.

(ii) Rough cost must also include the provision of percentage of annual escalation as final approval or CCS sanction may take few years.

(iii) Requirement of living in accommodation, married accommodation which can be worked out only after approval of Govt sanction for the establishment could be based on adhoc figures on lower side after taking into account the surplus accommodation if available at the Station.

(iv) Ops and technical infrastructure already available at the station, which may be available on number plating or movement of some units if planned in future must also be taken into account.

(v) Requirement of tree cutting, demolition of buildings, acquisition of land etc must also be clearly spelled out in BOO.

(d) The purpose of BOO mentioned in Para 74(c) above is to assess a rough cost on not exceeding basis for infrastructure alone for the sole purpose of CCS approval. It is not a substitute for detailed BOO that would be required to work out detailed scope of works and AEs for Adm Approval.

(e) DAFW will then scrutinise the BOO and forward it to specialist directorate for processing the case for CCS approval.

## **LOW BUDGET WORKS**

75. The Annual Low Budgeted Capital and Revenue Works (Special Repair B & R, E & M and Major Revenue) Programme (LBWP) in respect of stations under respective command should be prepared and approved by the AOC-in-C and communicated to stations before 31st Jan of the previous financial year. BsOO in respect of all works included in LBWP costing more than the financial powers of AOsC/Station Commanders (i.e. more than ₹ 5 lakh for Gp Capt Commanding and ₹ 15 lakh for station being commanded by AOC) should be convened by 28 Feb in a phased manner. Before approval of LBWP plan Command Works Officer is to carry out careful assessment of the liability of

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ongoing works in consultation with zonal CE and CWE. All Low Budgeted Capital Works and Major Revenue works should be completed within twelve months of their commencement.

76. Detailed procedure and guidelines for preparation of Low Budgeted Capital Works Programme (LBWP) has been given in **Appendix L**.

77. Works that can be sanctioned under Low budgeted works in general are:-

- (a) Works pertaining to operational efficiency.
- (b) Welfare of troops.
- (c) Improvement to essential services.
- (d) Improvement to functional efficiency in offices.
- (e) Prevention of out break of fire and health hazards.
- (f) Original furniture deficiencies in respect of officers and airmen accommodation.

78. In case of Low Budgeted Works, i. e., original capital works costing more than ₹ 2 lakh, **but less than ₹ 15 lakh**, these works are to be sanctioned by the CFAs after the Annual Low Budgeted Works Programme has been approved by AOC-in-C. Bulk allotments of funds for this purpose in the relevant financial year will be placed at the disposal of Command HQ. Board Proceedings can be dispensed with in case of Low Budgeted Works costing up to ₹ 10 lakh, if so decided by the CFA. Administrative Approval in such cases will be based on consideration and approval of a Statement of Case by the CFA and Approximate Estimates prepared by GE(AF). The Statement of case however is to be self contained and should have complete details of the scope of work as required by BOO for capital works. Thus the stations commanded by the officers of the rank of Air Cmde may dispense with Board of officers for works costing upto ₹ 10 lakh and issue Adm Approval based on detailed SOC covering all aspects of scope of works. However for stations commanded by officers of the rank of Gp Capt and below, Stn Cdr may dispense with Board of officers for works costing upto 5 lakh only. All works for which Adm Approval is required to be issued by CFA at Command HQ, Board of officers is essential except for the works initiated under 151 of MES Regulations. Funds for the LBWP are to be released by Command Works Officers as per the LBWP approved by AOC-in-C. Format of release of funds by command is placed as **Appendix M**.

79. The proposals received from stations for LBWP at command HQ are to be forwarded to all specialist branches at command HQ for scrutiny and recommendations of PSOs before approval of AOC-in-C.

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80. In case of Low Budgeted Works carried out for urgent reasons as cited in Para 34 to 36 of DWP 2007, the procedures laid down therein can be adopted.

### **Revenue Works**

81. Revenue Works will be sanctioned by the CFA after consideration of a Statement of Case and Approximate Estimates as per LBWP approved by AOC-in-C made in the relevant financial year. No Board Proceedings will be necessary in these cases.

### **MINOR WORKS**

82. Minor works are those original works costing upto ₹ 1 Lakh. This is the only class of work for which funds are allotted to station by the controlling command and thus maximum care should be taken in the management of minor works. The basic guidelines for planning and execution of minor works are as follows:-

- (a) It should be an exception to spend money on works in locations not covered by the KLP.
- (b) All works in connection with one building should be included in one sanction.
- (c) Piece meal demands by different sections must not be accepted.
- (d) Minor works sanction in respect of special item of work should only be accorded if the same does not lead to an introduction of a new practice or increase in the authorised scales.
- (e) Minor expenditure on re-appropriation of buildings with cost may be made from the minor works grant.

83. Minor works will be sanctioned by the CFA out of the bulk allotment made by Command HQ for the relevant financial year. For the Minor Works costing less than ₹ 50000/-, no Approximate Estimates will be necessary. Minor works should not be carried over. Hence these works should be planned and sanctioned well in time in consultation with the concerned Garrison Engineer for feasibility of execution so as to ensure their completion during the same financial year.

84. The local commander needs some flexibility, both in prioritising the works of urgent but of a minor nature. It is also necessary to provide funds as well as authority to the local commander for undertaking works services not foreseen as major projects.

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85. The funds are allotted in bulk to the stations normally, in the beginning of financial year. The minor works programme for the current financial year should be finalised and ready with the C Adm O by the 1<sup>st</sup> Apr of the year. This can be obtained if all units/sections are asked to submit the requirement of minor works sometime in Jan/Feb of previous financial year. A suggested format of letter by C Adm O for inviting demands for minor works from lodger units and sections is placed at **Appendix N**. It may be noted that when units/sections are requested to submit requirements, important institutions like the Officers' Messes, SNCOs, Messes, schools etc which generally do not form part of list of sections must also be included. Once all the demands have been received, they should be serially listed unit/section wise.

86. The consolidated demand for minor works should now be taken up with the engineers and the cost of each work annotated. AOC/Station Commander is to call for Unit/Section Commanders conference where the minor works requirements are discussed in detail and proposals prioritised and approved by the Station Commander / AOC within ceiling of previous year's allotment and 10 % addition. Once the priority list for minor work is ready, administrative approval as per the priorities may be made and released once the funds are allotted to the station.

87. To take maximum advantage of the funds allotted, a thorough scrutiny of the minor works list should be made by the C Adm O classifying them under two categories i.e authorised B&R works and authorised E&M works. If this list is found to be large the same may be separately clubbed together and a Board of Officers ordered for "Miscellaneous B&R works to make good deficiencies". Once this Board has been finalised in the revenue works category, administrative approval for these may be issued and these works taken off from the list of minor works. Sanction of such works will ensure that adequate funds are available to meet the minor works requirement of the station.

88. Guidelines for processing of minor works at Station are given at **Appendix O**. However the principles to be followed by C Adm Os while sanctioning of minor work are as follows:-

- (a) The nature of works sanctioned should be minor addition and alterations to meet the basic needs of living condition or medical / hygienic requirement or operational / technical needs.
- (b) Minor work sanctioned to make good certain deficiencies of major project should be completed and taken over with the project.
- (c) Minor works should not be sanctioned to make good completed major projects which are still under initial maintenance (warranty) period of the contractor.

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(d) Minor works should not be sanctioned in respect of major projects for items which have been specifically excluded at the time of initial sanction of major project.

(e) Specification of work for minor work should be the same as that of any other work being sanctioned. Major works should not be split up as minor works to bring it within the sanctioning powers of the CFA. Minor works should normally be sanctioned only if they are covered by the approved scales.

### **Documentation of Minor Works**

89. Proper documentation of the minor works is very important. It is essential that following documents are maintained by the Sqn Cdr Works / C Adm O for administrative control:-

(a) **Minor Works Register.** Works are to be entered in this register serially as and when administrative approvals are issued by the Station. Account of funds allotted by the command is to be maintained in this register wherein the different allotments are annotated and balance maintained. Format of Minor Works register is given in Annexure I of **Appendix R.**

(b) **Minor Works Sanction Folder.** All copies of administrative approval of minor works sanctioned on the station should be serially maintained in this folder.

90. AEs are not necessary in respect of minor works costing less than ₹ 50,000/-. However, for all works costing more than ₹ 50,000/- AEs Pt I and II are mandatory and should be attached to the administrative approval when the work is being sanctioned.

## **DEMOLITION OF BUILDINGS**

91. Many assets in the IAF become obsolete and are no longer required. Further, they may become dangerous to habitation. Situations could also arise when old structures may need to be removed by demolition for accommodating larger projects. However demolition needs utmost consideration for prudence.

92. The discretion to declare a defence asset as surplus rests with the Administration. Disposal may be undertaken by demolition or auction. When buildings constructed on cantonment land or on Ministry of Defence land (outside cantonments) are required to be disposed of in situ, i.e. when both land and buildings are surplus, disposal will be carried out by the DGDE.

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93. Disposal of buildings (demolition) for site clearance, i.e. when the land is not to be disposed of will be the responsibility of the MES as in the following cases:-

(a) Where Govt buildings on MES books are surplus or have fallen into a state of disrepair rendering them unsafe, and are located on land within Cantonments or on Ministry of Defence lands outside cantonments.

(b) Where assets are created by Government within the precincts of hired buildings and lands.

94. The disposal agency will also be responsible for the disposal of any surplus furniture and stores, not worth removal, lying on that site.

95. **Occasions for Demolition.** Demolition of building may be resorted to under the following contingencies:-

(a) When building is coming in the way of a new infrastructure required to be created at the same location.

(b) When building has become dangerous to be used for the purpose of original construction.

(c) A structure has reached a state of deterioration that the cost of repair of the building is more than the 50% of the cost of new construction and thus building has been declared BER.

(d) When a portion of building or complete building is required to be demolished and reconstructed with additional infrastructure to house new acquisitions.

(e) Structure has been rendered completely unserviceable due to natural calamity i.e. by floods, fire, earthquake or storm.

(f) When land is hired / requisitioned for a specific period and is to be released.

96. Partial demolition of buildings may be taken up due to the following reasons:-

(a) Partial deterioration of a structure requiring extensive repairs, renewals and replacements.

(b) Additions, alterations and improvements.

(c) Natural Calamities.

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97. **Procedure for Demolition.** Station is to Convene a BOO to assess the requirement of demolition of building necessitated on account of any of the reasons mentioned in Para 95 and 96 above.

(a) The findings and SOC of the BOO should clearly describe the following:

(i) Purpose for which the building was originally constructed its present utilization and justifying the reason for declaring it surplus or why building is not required as the case may be.

(ii) Building Number, present Book value of building to be ascertained from MES. In case more than one building then book value of each building is to be taken separately to decide the CFA for demolition.

(iii) Cost of furniture and stores not worth removable, lying on site etc. and to be disposed off, to be ascertained from MES,

(c) Demolition Statement (IAFW 1819) to be prepared by MES. Demolition statement is to be signed by GE(AF), vetted by AAO and countersigned by AOC/Stn Cdr.

(d) BOO is to include the AEs for demolition of building. AEs must be prepared taking into the account of credit of old material.

(e) Certificate by AOC/Stn Cdr for declaring the building/ as surplus to the requirement to be attached with the BOO.

(f) Vetting of BOO at Command HQ with IFA consultation (No power has been vested with AOC / Stn Cdr for any stand alone demolition of any type of building.)

(g) Approval of appropriate CFA with IFA consultation is to be obtained.

(h) In order to determine the authority competent to sanction demolition, the book value of each of the buildings (including ancillary buildings) will be taken separately and not the total book value of all the buildings in a demolition statement.

(j) Adm Approval will then be issued by the concerned CFA. The cost of demolition will be dealt with as a work, and any proceeds from the sale of demolition being dealt with as laid down in para 828 MES Regulation.

(k) Copy of approved demolition statement is sent to CDA as soon as possible.

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(l) Allotment of funds if required for demolition will be made in normal course as original works.

(m) Book adjustment – deletion of asset from RPMB will be done by MES.

98. In case demolition of a building is required for clearance of site for a new project, in that case demolition of building should be treated as part of the new project. No separate BOO is required for the demolition. Cost of demolition including Cost of furniture and stores not worth removable, lying on site etc. and to be disposed off, should be the part of AEs for the new project. BOO & SOC of new project should clearly define the purpose for which the building was constructed, its present utilisation, justifying the reason for demolition including the non-availability of another suitable site for the project. Cost of furniture and stores not worth removable, lying on site etc. and to be disposed off, to be ascertained from MES and to be included in the AEs.

99. Demolition Statement (IAFW 1819) is also to be prepared by MES and to be part of BOO.

### **Proceeds from Demolition**

100. The powers of MES officers to dispose of surplus buildings sanctioned for demolition are given in the Table B of RMES.

101. Disposal of surplus buildings for demolition and site clearance may be carried out by public auction, contract or departmental labour. Auction sales will be supervised by the GE or a gazetted officer representing him and an officer from a local unit or formation or staff nominated by the AOC/Station Commander.

102. Where reasonable bids have not been secured at an auction or reduction, contracts for demolition and site clearance on a competitive basis may be accepted by an officer under his powers of acceptance on contracts as laid down in Table B of RMES, with the approval of the engineer officer competent to approve the disposal.

103. The sale proceeds or the assessed value of materials obtained from demolition of buildings etc will be adjusted as under:-

(a) In the case of additions and alteration to existing buildings, including repairs and renewals the work will be credited with the proceeds from sale by auction, transfer to stock or use on other works. No adjustment will be carried out for stores re-used on the same work.

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(b) In the case of buildings demolished but not replaced which are written off the Register of buildings, the proceeds from the disposal of the materials will be credited to the revenue head concerned.

(c) In the case of buildings demolished to clear a site for replacement or for a new building, etc and written off the Register of Buildings, the proceeds will be credited to the demolition item of the project. The assessed value of any stores reused in the project will be debited to the building in which these are incorporated.

104. If for administrative or security reasons it is undesirable to employ a private agency for the work, demolition may be carried out by departmental labour.

105. (a) An assessment will be made whether it would be more advantageous to undertake the demolition through departmental labour and the salvaged material used for other works. Thereafter, the decision to undertake demolition as per MES Regulations will be taken.

(b) The cost of demolition will be dealt with as a work, and any proceeds from the sale or demolition being dealt with as laid down in Para 828 MES Regulations.

(c) In an estimate or reconstruction, administrative approval to the execution of the service is authority for any demolition involved irrespective of the value of the buildings to be demolished.

106. **Completion Report.** A demolition certificate on IAFW 2201 will be submitted in support of bills in which charges for demolition appear. Necessary corrections to the Register of Buildings and record plans will be made on the completion of any demolition.

## **EXECUTION OF WORKS SERVICES IN HIRED BUILDING**

107. No works services are authorised from Govt funds in the hired buildings. The repair/maint and addition alteration of hired buildings are to be carried out by the original owners. However under exceptional conditions certain essential works services can be executed in hired buildings as Special Works under the powers of CFA subject to the following conditions:-

(a) The owner of the building has no objection for the execution of such works services.

(b) A portion of rental of the building should be deducted, as far as possible, towards maintenance works of such buildings.

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- (c) Cost of work services should be restricted to the financial powers of CFA for Special Works.

### RE-APPROPRIATION OF BUILDINGS

108. Re-appropriation means the use of a group of buildings, a building or a portion thereof, for any purpose other than for which it was constructed. Re-appropriation may be temporary or permanent and may be intended either for an authorized or for a special purpose. They will be dealt with as under:-

(a) **A Re-appropriation Entailing No Alteration and No Cost.** This can never be permanent re-appropriation as the room or building must of necessity, be available for its original purpose. This is initiated by the unit and sent to the local Commander. Such appropriations may be approved in writing by any of the authorities mentioned at **Annexure III** of DWP 2007 irrespective of the Capital value of the building involved. All sanctions accorded by an authority lower than the Commander of an Area / Corps will be reported to him. Each sanction will specify the period for which the approval will remain in force and will be communicated to the Controller of Defence Accounts and Garrison Engineer concerned. It will be renewed as required. No IAFW 1831 is necessary nor will the particulars be recorded in the Register of Buildings. Specimen letter for re-appropriation of buildings entailing no alteration and no cost is placed at **Appendix AA.**

(b) **A Re-appropriation Entailing Alterations and Cost.** This will be initiated by the unit concerned on IAFW 1831, who may obtain the assistance of the local MES authorities to advise on the best method of adaptation, and sent to the local Commander who, if he accepts the proposal in principle, will ask the local MES authorities for the approximate cost. The powers of sanction in respect of re-appropriation involving expenditure will be the same as laid down in Appendix D of DWP 2007, but no expenditure will be incurred unless funds are available. All sanctions accorded by an authority lower than the Commander of an Area/Corps will be reported to him. Each sanction will state whether the re-appropriation is permanent or temporary and the period for which it remains in force and will be communicated to the CDA and Garrison Engineer concerned. It must be renewed as required and the particulars including expenditure will be recorded in the Register of Buildings. Specimen letter for re-appropriation of buildings entailing alteration and cost is placed at **Appendix AB.**

(c) **Re-appropriation** involving minor increase in scales up to 5% of the authorized area necessitated by constructional reasons can be

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permitted by the authority competent to sanction expenditure for re-appropriation. Any re-appropriation involving change of scales beyond 5 % or introducing a new practice will require the sanction of Government of India.

(d) **Re-appropriation** included in an administrative approval will not be approved separately on IAFW 1831. The particulars including expenditure will, however, be recorded in the Register of Buildings.

### **DEPOSIT AND AGENCY WORKS**

109. **Deposit Works.** The works carried out on behalf of non-Government and private persons are called 'Deposit Works'. The total cost of the buildings/works is to be deposited in advance including departmental charges. MES is not responsible for subsequent maintenance except rectification ordered on the contractor during maintenance period. The powers of authorising execution of deposit works by MES (Air Force) vested in CAS for the works exceeding ₹ 10 lakh in terms of Para 306 of MES Regulations are to be exercised by AOC-in-C of respective Command and AOA for units directly under Air HQ.

110. **Agency Works.** The works executed on behalf of other Govt departments are called "Agency Works". This includes both outside agencies carrying out work for the Defence and MES executing works for other departments.

111. The procedures for various works services outlined above are designed principally for use in MES. But it is intended that they should apply up to the Administrative Approval stage also to works carried out on behalf of the Ministry of Defence by outside agencies like State Governments, Central PWD, P & T, Railways, State PWD, Port Trust and such other Departments as may be notified from time to time. In the case of works projects costing ₹ 5 lakh and above, however, detailed plans and specifications will be shown to the Users and a view to ensuring compliance with the scales and specifications as approved by Ministry of Defence, before technical sanction is accorded.

### **ARBORICULTURE**

112. Planting and maintenance of trees, hedges and general landscaping are part of authorised works as per Chapter II, General Provisions, Para 2.17 of Scales of Accn 2009.

113. Arboriculture works covering planting and maintenance of trees, hedges and general landscaping are authorised as a part of work services vide Para 2.17 of Scales of Accommodation, 2009. GoI, MoD has accorded sanction of

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President of India vide letter No. 3(4)/97/DO-II/D(Works) dated 22 Oct 2002 stating that arboriculture works are to be sanctioned by the competent financial authority as laid down in the Defence Works Procedure, 1986 amended vide DWP 2007 either as part of a work project or as a supplementary to it. Arboriculture works can be sanctioned in areas where some construction activity is to progress or where some accommodation has come up. **In no case**, it permits afforestation of vast tracts or surplus defence land in various cantonments / military stations.

114. A detailed scheme with site-plan, location and type of trees/plants/hedges will be prepared and approval obtained from the authority sanctioning the project. Planning will include the following stages:-

(a) **Selection of Trees and Plants.** Trees, plants and hedges will be selected after detailed examination of local flora, in liaison with state horticulture and forest departments. If there is an Agriculture University in the State, their recommendations / suggestions should also be obtained. The trees/plants will be selected keeping in view the overall landscaping and aesthetics. Trees at roadsides will mainly consist of ornamental, shade, plants for soil conservation or wind deflector / breaker.

(b) **Scheduled Programme of Planting.** Since different species of trees and hedges will have to be planted during different times of the year, a proper planting schedule will be drawn up.

(c) **Coordinate With Building Work.** One of the main reasons for damage to young plants is lack of coordination with construction programmes. The newly planted seedlings perish from excavation, building rubble and movement of trucks conveying construction material.

(d) **Tree Guards and Temporary Fencing.** Properly designed tree guards should be used for individual trees, when it is not possible to group the trees and fence them off. Fencing may be resorted to, till the plants mature and construction activities are over. However, where cattle fencing forms part of the project, this may be constructed earlier with proper cattle traps wherever possible. This avoids unnecessary expenditure on temporary fencing / tree guards.

(e) **Water Supply.** Requirement of raw water to nourish saplings and hedges should be kept in view while drawing water supply schemes. Full advantage will be taken of rainy season. As far as possible, alternative supply of unfiltered water should be arranged for watering of trees, hedges and lawns.

115. **Executing Agency.** The arboriculture works sanctioned as a part of the project will be executed through MES. Supplementary work can be executed through MES or through **Local Horticulture** or **Forest Department**.

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**Responsibilities**

116. (a) **Executing Agency.** The executing agency will be responsible for planning and execution of arboriculture works in consultation with the sanctioning authority. The maintenance of arboriculture works shall be done for a period of three years including the period of execution of the work by the executing agency. Thereafter, it shall be handed over to the users for upkeep and maintenance. The execution authority shall maintain an account of the trees / shrubs planted, details of areas / roads covered, details of tree guards provided, in the form of a register, to be produced at the time of payment for arboriculture works and also for handing / taking over. This register will be subject to usual local audit. The details of trees / plants decayed during execution and maintenance period shall also be maintained and written off through a loss statement.

(b) **Staff.** Planning, execution, maintenance of arboriculture projects and laying down orders for handing/taking over in close association with engineers in accordance with provision contained in Para 245 of RMES.

(c) **User Units.** Maintenance of plants, trees & hedges including landscaping is the responsibility of user units after taking over from the executing agency.

117. No additional manpower will be provided for execution of arboriculture works and their further maintenance at any stage.

118. **Crediting of Usufructs.** All revenues derived from usufructs of these plants will be credited to the consolidated fund of India through MRO by the user units in consultation with the MES authorities located in the station. Station Cdr will be personally responsible to ensure / monitor timely deposition of the usufructs revenue generated on account of arboriculture works executed through works services in the station or area of jurisdiction. User units shall maintain an account book of such revenue transactions. This account book will be subjected to local audit.

**INTEGRATED FINANCIAL ADVISER**

119. The concept of Integrated Financial Adviser (IFA) to the commander at Command/Air HQ for enhancement of their financial powers with respect to sanctioning of works services has been introduced wef 01 Apr 1998. The policy has since been refined and latest directions issued on the subject vide CGDA Instruction No 06/2008 dated 27 Feb 08.

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120. IFAs have been designated for each Command HQ and Air HQ for sanctioning of works services within the financial powers of the respective CFA. The powers of CFA to sanction works in consultation with the IFA are given in Schedule XVIII of Gol MoD letter No Air HQ/95378/1/Fin P/2431/US(RC)/Air-II/06 Dated 14 Jul 2006 placed as **Annexure III**.

121. The role of IFA is to be consulted for the proposals before issuance of Acceptance of Necessity and Administrative Approval by CFA. If the cost of the project indicates that the IFA consultation would be necessary, then the IFA must be involved prior to according 'Acceptance of Necessity' by the CFA.

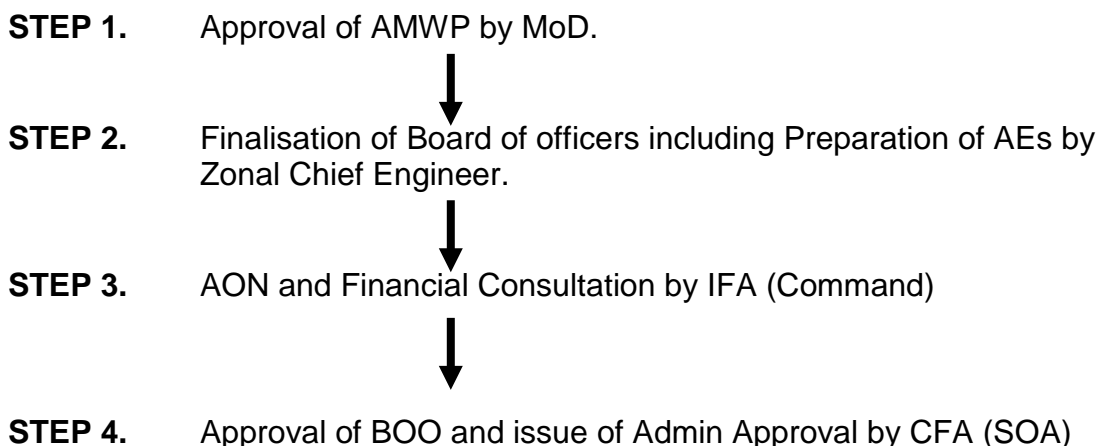
122. Wherever the proposals are beyond the limits of sanction by CFAs, they are forwarded to the IFA on file for consultation. Financial advice will then be provided by the IFA in writing and will be based on regular noting on file. In case of extreme urgency, the decisions could be taken in meetings for which details of deliberation will be recorded.

123. In case there are objections by the IFA to the proposals, the CFA may over rule the advice of the IFA by an order recorded in writing containing the list of objections of IFA and reasons for over ruling the advice. In such cases the matter may be reported by the IFA to the next higher IFA for pursuing the matter with higher CFA or dropping it as deemed fit.

124. The IFA is also responsible to provide financial concurrence for the works included in the AMWP of each Command approved by the MoD. Processing of cases for IFA consultation is to be done in the following sequences depending upon the cost of works:

### **PROCESSING THE CASES FOR CONSULTATION OF IFA**

#### **I: WORKS COSTING RS 120 LAKH TO 300 LAKH**



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**STEP 5.** Release of funds by Air HQ.

**II: WORKS COSTING RS 300 LAKH TO 500 LAKH**

**STEP 1.** Approval of AMWP by MoD.



**STEP 2.** Finalisation of Board of officers including Preparation of AEs by Zonal Chief Engineer.



**STEP 3.** AON and Financial Consultation by IFA (Command)

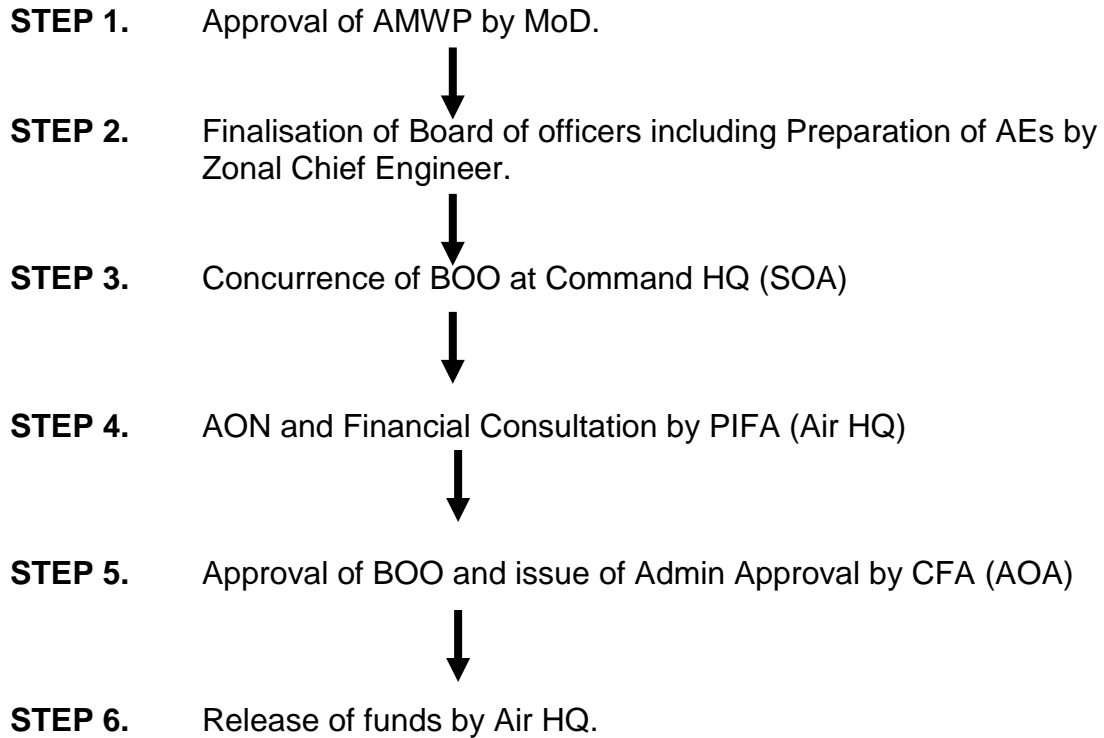


**STEP 4.** Approval of BOO and issue of Admin Approval by CFA (AOC-in-C)



**STEP 5.** Release of funds by Air HQ.

**III: WORKS COSTING RS 500 LAKH TO 1500 LAKH**





**USERS INVOLVEMENT IN EXECUTION AND  
MONITORING OF WORKS**

125. To achieve a high degree of users' satisfaction in a cost effective manner the need for an "Integrated approach to project planning and execution" is axiomatic. While the importance of supervision of construction by the MES cannot be over emphasised, association and involvement of the users during planning, execution and acceptance stage is a must. To achieve the desired degree of quality control and to ensure that user requirements are met, guidelines and responsibilities for various agencies during various stages are spelt out in the subsequent Paragraphs.

126. **Pre Adm Approval Planning Stage.** The layout, orientation, design plans, phasing and utilization patterns of various components of a project (especially for all technical and special purpose buildings) should be thoroughly discussed, understood and approved by the users at an appropriate level at the stage of BPs and the preparation of AEs. The entire scope of work and requirements of the works as perceived by the users is to be translated into simple language without using any technical jargons in findings and statement of case in BOO. Specific requirements as given in Facility Requirement Document (FRD) or Infrastructure Requirement Document (IRD) in case of new inductions should be elaborated and supported with FRD/IRD in BOO. User's representative on Boards will be held responsible for any lapses in this regard. Changes in the approved plans should be an exception as it delays finalisation of a project.

127. Users must also ensure that the entire project e.g. complementary works, external services and furniture are sanctioned concurrently so that their completion dates coincide and there is no waiting period in putting the project into use soon after its completion.

128. Engineers must advise the users at the time of finalizing the BPs, of various specifications as laid down by E-in-C's branch and current engineering practices so that users can project their specific requirement with regard to specifications or special provisions. MES is to ensure that entire scope of work described in the findings and Statement of Case along with external services and other technical/engineering requirements are included in AEs as per the requirements and specific needs of the users.

129. While according approval to the drawings, users should be requested to indicate in writing about the critical / important stages of work at which they would like to inspect it while it is in progress, so that Garrison Engineer in charge of the project can inform them of the stage concerned a week in advance.

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130. User must spell out the restrictions, if any likely to be imposed on working of the MES contractor during execution stage of the work. These restrictions could be on the working hours of the contractor, entry/exit points/route and timings for contractors labour, requirement of number of supervisors according to works site, security and flight safety restrictions, sites for labour camp, dumping of building material and debris , availability of site, phasing of works, conditional or restrictive handing over of site etc. It must be remembered that these restrictions have financial bearing on the cost of project, therefore must be adequately justified in the BOO and approval of CFA obtained.

131. **Post Release Planning Stage.** The role of station as the user becomes very critical with the release of works. It is at this stage the involvement of users in detailed planning, preparation of line plans of buildings, location of various facilities within the building like power points, fan points, communication ports, AFNET switches, LAN/WAN cables, earthing pits, staircase, toilets, finishes, colour scheme etc can ensure the creation of facilities as per functional requirements of the users. The Engineers will endeavour to design and provide infrastructures as per users aspirations, subject to the overall cost and specifications mentioned in the AEs.

132. Stations are therefore required to initiate following actions immediately on receipt of release orders from Air HQ/Command HQ:-

(a) With a view to completing the works strictly as per approved scope of works and time-schedule, the **Project Management Group**/Project Management Officers are to be formed/detailed as per the composition suggested and duties placed at **Appendix AC**. AOC/Station Commander who, in turn, will regularly monitor the progress of the works, help the engineers in mobilizing physical and financial resources and removing procedural bottlenecks.

(b) PMG/PMO be briefed by AOC/Stn Cdr/C Adm O about their role with respect to the works and any important aspect about the project.

(c) C Adm O and PMG are to liaise with Director Planning in the office of CE(AF), respective CWE (AF) and GE(AF) to obtain complete schedule of planning.

(d) Progress of planning in respect of each work is to be entered in the remarks column for stations against each work in the website of **AF Works** at AOA's webpage at Air HQ. Each station has been provided with password for editing/appending the data in respect of their works. To begin with, following dates be entered for each newly released work.

(i) Date of Issue of Notice Inviting Tender (NIT)

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- (ii) Planned Date of Issue of Tender (DIT)
- (iii) Planned Date of Receipt of Tender (DRT)
- (iv) Planned Date of Commencement of Work (DOC)

133. Stations are to ensure that all inputs required by engineers are provided in time so that tender action is completed within 4-5 months and all efforts are made to ensure physical commencement of work **within six months of release**. Special emphasis is to be laid on following aspects:-

- (a) Line plan and drawings are approved at the earliest and moved by hand.
- (b) Restriction on working hours, security restriction, entry/exist route, site for dumping material, flight safety restriction etc are well defined and conveyed in writing at the tender stage.
- (c) Site is handed over for work in totality. In case site can not be handed over in full, the phased plan of handing over of site and any other related restrictions must be informed **in writing** to the engineers at tender stage to avoid any contractual complications.

134. **During Execution Stage.** AOC/Stn Cdrs should visit the project sites periodically to ensure that the works fulfil functional requirements of users and that there are no deviations from the earlier approved site plans. They should also draw attention of the GEs, CWE, and CE to any delays and other aspects of works as considered necessary. However, no instructions should be passed directly to the contractors by the users.

135. Ensuring technical quality and **structural soundness is the responsibility of the MES**. It is not intended that the users should assess the technical quality of works being carried out by collection and testing of materials being incorporated or call any outside agency for commenting on works being executed. The quality of materials to be used is included in 'Tender Documents', SSR or certain authorised publications. However, in case, Stn Cdrs are convinced that quality of any particular material is below laid down specifications, they are at liberty to point this out to the appropriate MES authorities who will explain the specifications to the Stn Cdrs for their satisfaction. In case of any doubt, matter may be reported to Command HQ for obtaining the services of Technical Examiner.

136. The users, besides visiting the projects under construction periodically, should specially visit these at the finishing stages to point out such modifications which can even at this belated stage enhance their functional requirements without infringing on the BPs or Adm Approval and within the existing financial constraints. MES personnel executing the work should accompany the users at

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important stages to explain various details fully. Hence it would be essential that MES executives are informed of the visits by Stn Cdrs to work sites to enable them to accompany the users to explain various details and plans.

137. A Project Management Group is to monitor the progress of works concurrently. It would have access to schedule A of the contract agreements which specify the scope of work giving details of quantities of each item of work and their specifications.

138. Whenever there is difference of opinion or the defects are not rectified to the satisfaction of Stn Cdrs, the matter will be referred to next higher authority. Absence of MES supervisory staff at important stages of construction, if noticed by local Cdrs will also be brought to the notice of the next higher authority.

139. The demand for superior specifications and items of works not covered in the Adm Approval of the sanctioned work may in exceptional cases be projected through staff channels for consideration. If approval is not obtained in time, it will not be possible for engineers to incorporate these into works. No direct orders will be given to the Site Engineers on this account.

140. Instructions (if any) should be given to the MES executives viz GE / CWE / CE for appropriate action. No orders shall be passed to the site staff for stoppage of work or work tampered with. No entries will be made by users in the site documents maintained by the MES for administration of contracts.

141. The Zonal Chief Engineer (Air Force) concerned may approve deviations / amendments to the Contracts up to 10% of the Contracted Amount (CA). Deviation beyond this limit but up to 20 % of CA value will be referred to the **Project Management Authority**, so long as overall cost remains within 10 % of Administrative Approval amount.

142. During the execution of the works, as far as possible, any demand for change in scope of work or retrofitting of designs and / or specifications will be discouraged as it leads to interference with works programmes and delay in completion of the projects. However, if considered necessary, the Project Management Group may engage Engineers/Architects and other specialists to review any part of the works project including designs in order to expedite/improve the implementation and / or quality of the works in progress or to detail other technical requirements of the total project of which the works may be a part, subject to the condition that the cost of such consultancy and resultant additional works do not exceed the tolerance limit. The Project Management Group will obtain regular reports from the Chief Engineer on the physical and financial aspects of the constructions in progress and report the same to the CFA at regular intervals and also ensure that revised administrative approval of the CFA is taken for expenditure beyond tolerance limit, well in time.

143. CEs, CsWE and STEs, during their tours, should meet the user AOC/Stn Cdr and accommodate additional requirements of users, if possible, within the

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contracted obligations. They should ensure adherence to the detailed instructions laid down for guidance of supervisory staff and particularly check the quality of work and materials. It is particularly important to supervise proper curing of cement work, quality of finish of wood work and water proofing of roofs.

144. All out efforts should be made by the station to ensure fastest completion of works to ensure that no cost and time over run takes place and users are provided with the infrastructure required for their operational role well in time.

145. **During Execution Stage.** Users should not wait for the projects to be completed in totality before taking over. When certain projects are executed in phases or in such a manner that a portion or phase of work can be taken over by the user without affecting the progress of rest of the work then users should take over the works in phases as and when completed. For example, in case of married accommodation projects married quarters should be taken over and occupied by the users as soon as possible to take maximum advantage of the defect liability period of the contractor. Taking over of projects should not be unnecessarily delayed on account of flimsy reasons. It will be prudent to take over the buildings with minor defects after recording all the defects in handing/taking over board and ensuring that the defects are rectified rather than letting the building remain vacant and get further deteriorated.

### **Completion Reports**

146. (a) On completion of a work, completion report will be rendered by the engineers in accordance with the procedure and the form set out in Appendix I of DWP 2007 reproduced at **Appendix AD**.

(b) Part 'A' of the form will be completed as soon as the project is physically completed, and will be forwarded through engineer channels to the Engineer Adviser of the CFA. After being noted, they will be returned direct to the CE concerned for completion of Part 'B' and resubmission of the form in accordance with the existing procedure in Para 379 of MES Regulations.

(c) For the purpose of rendition of Part 'A' of the completion report, each administrative approval, whether it relates to a phase of a project or to an item of supplementary work, will be treated separately. These reports will be replaced by a consolidated completion report 'A' at the final stage.

(d) However, various phases and the supplementary works, if any, will be treated as one project for purpose of savings and excesses.

(e) Once Part 'A' of the final completion report has been completed, the work will be regarded as completed for all purposes of the MES

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Regulations although the accounts may not have been settled. No further supplementary estimates may be accepted.

(f) The financial closure of the project i.e., part 'B' will be rendered as soon as possible but not later than 12 months from the date of physical completion of the project.

147. **Action on receipt of Completion Report.** Station Boards should be constituted immediately after the construction is completed to take over newly constructed accommodation from the MES with a view to ensuring that sub-standard or defective work is not handed over to the users. The Board detailed to take over completed works should have a representative of GE. The board will be constituted as follows:-

- (a) Presiding Officer :Wg Cdr
- (b) Members : Medical officer in case of married accommodation, sanitary works, hospital/SMC works etc.  
: Representation of each rank for which Accn has been constructed.  
: Rep from user sections.  
: Technical officer in case of Technical buildings.  
: Reps of GE

148. The Board must carry out a detailed check and particularly see the following:-

- (a) Work as sanctioned in the Adm App has been executed.
- (b) Walls are not out of plumb.
- (c) Structural cracks in floors and walls excluding hair line cracks in plaster which get obliterated while white washing.
- (d) Seepage or leakage due to faulty water proofing treatment on roof slabs.
- (e) Defective slopes in bath room floors.
- (f) Non functioning of fittings and fixtures, electrical, or water supply and sanitary system.

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(g) Quality of finishing of wood work, flooring, plaster surface, poor quality of white washing / distempering and painting.

149. MES should ensure that rectifications are completed at least a month before the PDC so that the BOO can carryout their examination in time.

150. Any defect occurring even after taking over the buildings upto one year from the certified date of completion is to be rectified by the contractor. Users should, therefore, bring to the notice of the MES in writing any defects or faults during this period.

151. A BOO with composition similar to that given above will be convened again and finalized at least two months prior to expiry of defect liability period of the contract so that any defects and faults appearing in the building could be recorded and rectified by the contractor at his cost.

## **REVISION OF PDC**

152. It is very important for AOsC/Station Commanders to monitor the progress of on going works and ensure that works are completed as per planned PDsC. However in spite of all out efforts there may be cases wherein the progress in respect of certain works is either slow or behind schedule and it is not possible to achieve the PDsC. All such cases must be monitored closely by the local Station Commander on behalf of CFA. All such cases must be reported to the CFA at the earliest for revision of PDC. The procedure for initiation of cases for extension of PDsC is enumerated in succeeding paragraphs.

153. **Initiation of Case by GE.** As per Para 2 (d) of DWP 2007, all works should be completed within the scheduled period of completion mentioned in Adm Approval. However as soon as (but not after lapse of PDC) the engineer i/c project (GE) comes to know that the period of completion mentioned in Adm Approval will be exceeded, he is to initiate the case in the form of SOC (as per the format given in **Appendix AE**) giving complete facts of the case and reasons justifying the reasons for delay. SOC must include following details:-

- (a) Name, cost, Adm Approval number, date of release, release order number and original PDsC mentioned in Adm Approval.
- (b) Present state of planning or progress of work.
- (c) Reasons for delay in chronological order.

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- (d) Proposed date of completion (PDC).
- (e) Remedial action taken to prevent such delays in future.
- (f) Any case of extension of PDC if initiated earlier.

**Note :** The case for extension of PDsC should be taken up well before expiry of original PDC i.e. at least three months in advance.

154. **Action by AOC/Stn Cdr.** All AOsC/Station Commanders are to monitor and review the progress of all ongoing works periodically. Cases where PDsC mentioned in Adm Approval are not likely to be met; directions should be issued to GE to initiate case for extension of PDC. On receipt of SOC, the local CFA, i.e. AOC/Stn Cdr will immediately investigate the matter and ascertain if the reasons given in SOC are in order and PDC now recommended is achievable and forward the case to next Competent Engineering Authority, i.e. CWE(AF) for his remarks/recommendations. AOC/Stn Cdrs should critically analyse each case before recommending for extension of PDC.

155. **Action by Competent Engineer Authority (CEA).** In case of works costing less than ₹ 15 lakh, CWE(AF) is the next higher authority to review and recommend the case for revision of PDC. In case of all works costing more than ₹ 15 lakh, the CEA will be the Zonal Chief Engineer to recommend the case for revision of PDC to CFA. On receipt of SOC from AOC/Stn Cdr, CE will examine the reasons for extension of PDC and forward the case to Command HQ with his remarks/recommendations and remedial measures instituted to prevent slippage of PDC in future.

156. **Action at Command HQ.** On receipt of the SOC from CEA, Command Works Officer will examine the case to ascertain the facts stated and reasons forwarded for extension of PDC. In case the reasons are justifiable the case will be processed for approval of SOA/AOC-in-C. However if reasons quoted are not justifiable suitable directions will be issued and case will be processed accordingly. Case of revision of PDC for second time and received after the expiry of PDC are to be viewed seriously.

### **Competent Authority For Revision of PDsC**

157. As per Para 31 (c) of DWP 2007, Time for completion of the works (PDC) will be clearly indicated in the Administrative Approval. The authority of approval of extension of PDC is vested with the CFA only. Except for minor works and

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Major Revenue works, no extension of PDC is to be accorded by a CFA lower than Command HQ. Authorities competent to accord extension of PDCs are:-

<b>SI No</b>	<b>Category</b>	<b>CFA for Issue of Adm Approval</b>	<b>Competent Authority for Extension of PDC</b>
(a)	Works costing ₹ 2-15 lakh	AOC/Stn Cdr	SOA
(b)	Works Costing ₹ 15-75 lakh	SOA	SOA
(c)	Works Costing ₹ 75-300 lakh	SOA	AOC-in-C
(d)	Works Costing ₹ 300-500 lakh	AOC-in-C	AOC-in-C
(e)	Works Costing above ₹ 500 lakh	Air HQ/MoD	AOC-in-C on behalf of Air HQ

### PROGRESS REPORTS BY ENGINEERS

158. Progress reports on the works services are monitored in terms of physical and financial progress. The physical progress is the quantum in percentage of work physical completed in accordance with the planned execution. The financial progress indicates the payments made towards the works completed. A Monthly Expenditure Return (MER) will indicate the expenditures towards the works completed during the month as well as the progressive expenditure towards the project. The format of MER is given in the chapter on Budgeting for works services. Detailed instructions regarding vetting of MER are given in Chapter III for Maint Service.

159. The importance of strict adherence to time and cost schedules of projects needs no emphasis. The ramifications of time delays in planning, execution and consequently in the cost overruns must be fully appreciated by the Engineers (MES executives) and users at various levels. The responsibility and accountability of MES executives for these lapses is explicit; unless there are extraneous reasons beyond their control, which are identified well in time and concerned authorities apprised. GE or GE(P) or Engineer-in-charge of the project costing more than ₹ 50 lakh is to prepare Project Evaluation Review Technique (PERT) chart for monitoring the execution of works.

160. Quarterly Progress Report (QPR) is the only instrument available to higher administrative & engineer authorities for monitoring the physical and financial status of the projects. Based on this document, works are being periodically reviewed by the Ministry at the level of RM / RRM. Thus, accuracy, timely

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submission of the report and detailed exposition of factors contributing to delay assume greater relevance.

161. Since QPRs are compiled at the Command level, the responsibility for accuracy, analysis of delays and monitoring of remedial actions undertaken by CEs Zone or the lower CEAs rests with CE Command. The format of QPR to be prepared and forwarded by the CWE / GE / AGE (I) is placed at **Appendix AF**.

162. In order to make the QPR (part II) of the planning format descriptive, the report is to include the number of phases / sub-phases / contracts against each sanctioned / released work, bottle-necks and remedial action initiated. It should be detailed in the remarks column, as under:-

- (a) Phases / Sub-phases / Contracts under planning:-
  - (i) Reasons for delay in contract planning action, in case contract not concluded within six months.
  - (ii) Remedial actions initiated / required, whether or not Command HQ informed and if any action pending with them.
  - (iii) Planning programme; DIT, DRT and date of acceptance.
- (b) Works / Phases in Progress:-
  - (i) Reasons for slippage.
  - (ii) Remedial action initiated.
  - (iii) Action taken against contractor for failure to meet contractual obligations.
  - (iv) Whether or not higher authorities informed and if any action pending with them.

163. **Analysis by CEs (AF)**. CE (AF) shall submit a status report on all sanctioned / released works to the higher Engineer authority as well as the AOC-in-C of the concerned command, as under:-

- (a) No. of works (CFA wise) in two categories, i.e., more than six months old and less than six months old.
- (b) No. of phases / sub-phases / contracts initially planned.
- (c) No. of contracts concluded.

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(d) No. of phases / sub-phases pending for contract action; planning programme, responsibility and reasons for delay.

(e) Works delayed beyond the original PDC with detailed reasons, categorized as under:-

- (i) Upto six months.
- (ii) Beyond six months and upto one year.
- (iii) Beyond one year.

164. **Special Report on Retarded Projects.** CEs (AF) shall submit a monthly progress report on works declared as "Retarded". A project will be declared "Retarded" in case the physical progress achieved in two consecutive quarters is insignificant and PDC of the project is likely to be delayed. The monthly report shall include the following details:-

- (a) Actions pending at the planning stage and reasons thereof.
- (b) The reasons for slow progress of the work by the contractor, remedial / disciplinary action initiated against the contractor.
- (c) Actions taken to procure schedule 'B' stores in case delay is on this account.
- (d) Actions / decisions pending at the higher HQ leading to delay in progressing the work.

165. CEs AF will be held responsible for delay in planning of all phases / sub-phases delegated by them to CsWE / GEs.

### **Technical/ Financial Checks**

166. Technical checks of completed works are carried out by the Technical Examiner (TE). Financial checks are exercised by UA/RAO/CDA or by statutory audit (Test audit) authorities.

167. The organization of Technical Examiners Branch under the Chief Technical Examiner (Defence) at Army Headquarters is placed at **Appendix AG**. The CTE is responsible for the following:-

- (a) Site examination of works after completion as also during their progress.
- (b) Checking a percentage of concluded contracts and amendments thereto.

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- (c) Examination of a percentage of bills after payment.

168. **Site Examination of Works**

(a) **Works Carried Out by Contractors.** The CTE/TEs (Defence) will site examine some of the works after completion as also during their progress to see that the works have been executed in accordance with the terms of the contract and that quantity and quality of various classes of works set forth in the agreement on which payment is claimed, do in fact represent the quantity and quality of work actually executed. They will also watch whether deviation from agreements resulting in undue benefit to contractors has been ordered. They will further see whether time of completion of work is in accordance with terms of contract and extensions of time, if granted, have proper justification.

(b) **Works carried out by Departmentally Employed Labour (DEL).** While checking works carried out by DEL, the CTE/TEs (Defence) will check materials and labour employed or stores consumed in such works. They will check labour employed at site and also examine to see that all labour is justifiably employed.

169. **Contracts.** The Technical Examiners Branch will check a percentage of concluded contracts and amendments thereto with the object of detecting any ambiguity in description of any item or specification which is likely to lead to extra claims from contractors. This check should, if possible, be exercised within a month of receipt of contract in CDA's office so that any remedial action necessary can be taken in time. The Technical Examiners Branch will also scrutinise contracts and amendments to see if excessive rates have been allowed.

170. **Final Bills.** Technical Examiners Branch will examine a percentage of bills after payment. Check of final bills will be completed generally within three months of their receipt by the Technical Examiners Branch so that objections raised may be dealt with by the staff that carried out the work. This check will be from bills, measurement books, deviations and other documents. If necessary, the Technical Examiners Branch staff may also visit site of work for an on the spot check.

171. **Method of Working**

(a) The Technical Examiners Branch will work in close touch with Controllers of Defence Accounts.

(b) The CTE (Defence) will bring to the notice of the E-in-C serious irregularities observed during technical examination of works and similarly Technical Examiner (Defence) at Commands will bring such irregularities to the notice of Chief Engineer.

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(c) The Branch will be supplied with full information and its visiting examiners accorded all assistance by complying with their demands for pertinent documents and any other information they may require.

(d) The CTE (Defence) will forward his observations in draft form to the E-in-C's Branch for comments. Where the MES are able to satisfy a part or whole of the observations the draft Para will be suitably modified before inclusion in the half yearly report submitted to QMG, E-in-C, CGDA, DADS and Ministries of Defence and Finance (Defence).

**Note:-** (i) The operations of the Technical Examination Branch are in the nature of test check only and do not reduce the responsibility of officers of MES.

(ii) The functions of this Branch do not include any enquiry into the suitability of design, specifications or conditions of contract.

(iii) This Branch will not deal with contractors either in persons or through correspondence.

### **Employment of Border Roads Organisation for Works Services**

172. Expeditious completion of works services in forward areas where Border Roads Organisation are deployed and other works agencies are not available or execution of works by other agencies would be uneconomical a procedure for works services to be undertaken by BRO has been issued vide Government of India, Ministry of Defence letter No. B/01247/Q3W (Policy)/2119/SO-III/D (W-I) dated 18 Nov 68. This procedure covers the sanctioning of defence works services by the competent authority and Operational Works are not covered by this procedure. The construction or maintenance of works may be entrusted to Border Roads Organisation. The Border Roads Organisation could follow their own procedure for execution and accounting after the administrative approval has been issued in respect of Defence Works entrusted to them. Details are listed in the Government of India, Ministry of Defence, letters listed below:-

- (a) No. A/00992/Q3W (Policy)/1705/SO-III/ D(W-I) dated 10 Oct 69.
- (b) A/00992/Q3W(Policy)/786/SO-III/D(W-I) dated 04 Jun 71.
- (c) A/00992/Q3W (Policy)/580/S/SO-II/ D (W-I) dated 22 Jun 72.
- (d) A/00992/Q3W (Policy)/168/S/SO-II/D (W-I) dated 08 Sep 75.

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**TAKING OVER OF WORKS EXECUTED  
BY AGENCIES OTHER THAN MES**

**Procedure for Execution**

173. Regulations for MES provide two different procedures for works of defence and other normal works to be executed by agencies other than MES. When Works other than those of defence are carried out by the PWD or any other agency, they will be responsible for designs, specifications and execution in accordance with their rules of service. When the MES entrusts works to the agencies like Municipality, local body etc. technical sanction to schedule of works costing over one lakh is to be issued by the MES.

174. As far as the works of defences are concerned, if the work is to be carried out by an agency other than the MES, estimates are to be prepared in consultation with the CWE or other officer of the MES specially nominated by the GOC Area/equivalent Navy/Air Force authority or any other higher military authority. The CWE or the officer nominated will inspect the works during construction, in consultation with the agency charged with the execution of the work and on completion, will furnish the certificate to GOC Area/equivalent Navy/Air Force authority regarding the fitness of the work. In other words the nominated officer is fully responsible to ensure that works of defences are executed to meet the requirement of the services fully, whoever be the agency executing it.

**Procedure for taking over of Works Other than Works of Defence Executed by Agencies other than MES**

175. The executing agency will inform the CFA (Command HQ in cases of works sanctioned by Service HQ or the Govt.) who then may order a board for taking over the works. The board need not have a member from the MES. However, an officer of the MES should be in attendance. Where specialists' advice is required as in the case of checking of the evenness of a surface of a runway, necessary specialists may also be directed to attend the board and advice as per Air Force Works instructions on the subject.

176. The executing agency will be responsible for the maintenance of the structure/ works during the period of contractor's defect liability period which is usually one year, and rectification of all defects noticed by the board will remain the sole responsibility of the executing agency. At the end of this maintenance period, works will be taken over by the MES for further maintenance. No board is necessary for this purpose, as at this stage. The MES has only to take over the assets, its record including handing over board proceedings vide Para 175 above and being the assets on the books of the MES.

**Procedure for taking over of Works of Defences Executed by Agencies other than the MES**

177. Works of Defences, (is distinct from Works for the Defence Forces), are works which are required for defensive operations. It is for the local Commander to specify which works are works of defences as the operational plans for defence in an area of his responsibility.

178. MES Regulations provide that works of defences executed by a non military organisation are constructed to meet the military requirements. The officer nominated by the Military authority is required to inspect such works of defences.

179. Where contracts concluded by the State PWD or any other agency provide for a period of contractors maintenance less than a year the works will be taken over on completion of the maintenance period as provided for by the contracting agency and maintenance grant claimed thereafter for further maintenance by the Department.

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Appendix A  
(Refers to Para 15 of Chapter II)

**SPECIMEN FORM OF ROUGH COST**

Station-----

Name of the Project-----

SI No		Item	Basis of Calculation	Cost	Remarks
1.	(a)	Cost of Land			Add market variation & Difference in cost of stores*
	(b)	Site clearance including demolition			
2.	(a)	Bldg (incl internal service)			
	(b)	Air conditioning and Refrigeration			
3.		Special Items			
4.		Furniture **	at 5% of item 2 (a)		
5.		External Services	at 25% of item at 2 (a)		
6.		Arboriculture			
7.		Contingencies	3%		
8.		Establishment			
			Total		
9.		Add for Wks involving other agencies			
			Grand Total		

Date :  
Place :

**Name Rank & other particulars of  
Competent Engineering Authority  
Authorised to sign Rough Cost**

**\*Diff in Cost of Stores.** Between actual cost and SSR rates. For example cost of cement as per SSR 1991 is ₹ 90. Market Rate at present is ₹120/-, therefore, the diff in cost is to be added.

**\*\* Furniture Area List:** Gives cost of furniture.

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Appendix B  
(Refers to Para 23 of Chapter II)

**FORMAT FOR ENGINEER APPRECIATION**

**Station:**

**Name of Work:**

1	Total Numbers to be accommodated	
2	Number to be accommodated in new construction or in tent plinths or a combination of both (give each separately) with brief description i.e. permanent, semi or prefabricated/temporary.	
3	Number to be accommodated by addition and alteration with purpose for which originally constructed.  (a) Type of construction to which addition/alterations are to be done.  (b) Very brief description of original accommodation  (c) Approximate area of Bldgs involved  (d) Brief description of addn and alteration involved.	
4	Are any special items of works involved including those which depart from approved scale of Accn if so, reasons for deviation, approximate quantities such as square footage of floors etc and cost separately?	
5	Approximate storage, garage etc area to be provided (with brief description)	
6	Approximate workshop area to be provided (with brief description)	

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7	Are any repairs included if so, give area of bldgs to be repaired and describe repairs required?	
8	What services are to be provided	
9	Do services exist? Yes-All/ No/None/partly	
10	What percentage of various services is to be provided	
11	What repairs and or addition alteration are reqd to existing service	
12	Is any assistance likely to be needed from E-in-C (give details)	
13	Does the site involve any unduly high expenditure on any services	
14	Target date	
15	Time required for completion in normal circumstances	
16	Special measures, if any, including increase in cost reqd for completion of project by target date.	
17	Is existing staff sufficient if not, what increase will be reqd to complete the project?  (a) In Normal time (b) By target date	
18	Other information, assumption made and any remark to assist	
Place: xxxxxxxxxxxxxxxx Dated :		Signature of Engineer Authority

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Appendix C  
(Refers to Para 32 of Chapter II)

**GUIDELINES FOR PREPARATION OF  
ANNUAL MAJOR WORKS PROGRAMME (AMWP)**

1. As per Para 18(a) of DWP 2007 Proposals for Annual Major Works Programme is required to be submitted by Air HQ to MoD by **31 Oct** for approval by **31 Dec**. Therefore the proposals from stations are required to reach Command HQ by **30 Sep**. All Stations/Units are to forward proposals under the following categories, as per the format placed at Annexure to this letter so as to reach Command HQ:-

- (a) Runway and Airfield infrastructure works.
- (b) Weapon Storage Area Works
- (c) Operational and Technical infrastructure.
- (d) Works services for New Induction.
- (e) Adm Services.
- (f) Works services for improvement of Quality of life.
- (g) Sports and Recreational Infrastructure.
- (h) Married accommodation.
- (j) External services
- (k) Security related works
- (l) Rain Water Harvesting.
- (m) Non conventional energy.
- (n) Special Projects

2. Following points are to be borne in mind while finalising the proposals:-

(a) Annual Major Works Programme includes high budgeted works and has far-reaching and long-term implications. Therefore each work must be evaluated with special regard to its operational, technical or administrative utility for long term.

(b) The works must be prioritised in consultation with Operational, Maintenance, Administrative staff and GE(AF).

(c) Works proposed for Annual Major Works Programme of previous year but **not yet released** are also to be included.

(d) Nomenclature of works, Rough Indication of cost (with the basis of working out cost) brief scope of work and justification should be clearly mentioned against each work. The reference of any observations made by DASI, DMI, CAS, AOC-in-C or any other inspecting agency/officer

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including works projected on some specific directions of Air HQ/Command HQ, must be quoted in the remarks column.

(e) Works proposed to be taken up as special projects by Air HQ are to be listed in last category. For example all SRE works, IACCS works, MiG-29 Upgrade, Su 30 upgrade, Modernization of Engineering Support services etc. are some of the Special Projects proposed by Air HQ.

(f) Present stage of planning i.e. Adm Approvals issued, Board approved or board in progress or board yet to be ordered is also to be mentioned.

(g) Each page of priority list is to be endorsed by the AOC/Stn Cdr, C Adm O/S Adm O and GE(AF).

(h) Besides the hard copy a soft copy of the proposal for Capital Works Plan is to be sent in a CD or through e-mail.

(j) AMWP proposals are to be prepared in MS Excel format as given in Annexure to this Appendix.

3. Importance of Annual Major Works Programme needs no greater emphasis. Much talked about "USERS INVOLVEMENT" starts from this stage onward. All observations of DASI/CASI or any other inspecting agency concerning works services may be included with specific reference/annotation of such observations. Also infrastructure requirements for new projects/upgradations are to be included in the proposals. Stations' involvement in respect of planning and proposing the works in AMWP is essential since it is not possible to make frequent changes to the AMWP after its submission to Air HQ. **Proposals once received will be finalised at Command HQ and NO piecemeal requirements are to be accepted thereafter.** All Stations/Units are to carryout a comprehensive review of all the capital works requirement and forward the same so as to reach Command HQ by **30 Sep**. The units connected on WAN are also to send the AMWP through e-mail to Command HQ.

4. **Action by Zonal Chief Engineers.** Zonal Chief Engineers (Air Force) are to project the requirements of works services which are considered necessary purely on engineering point and users may not have adequate expertise. Works services pertaining to external services like water supply, electric supply, sewage disposal and air-conditioning are to be projected by CE(AF) to Command HQ for inclusion in AMWP.

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Annexure to Appendix C  
(Refers to Para 1 of Appx C of  
Chapter II)

**FORMAT FOR**  
**ANNUAL MAJOR WORKS PROGRAMME(AMWP)**  
**FOR THE YEAR .....**  
**AIR FORCE STATION.....**

**(TO BE PREPARED IN MS EXCEL FORMAT)**

**MAIN LIST**

<b>Priority No.</b>	<b>Category</b>	<b>Name of Work</b>	<b>Adm Approval No &amp; date (if already issued)</b>	<b>RIC (₹ in Lakh) *</b>	<b>Brief scope, justification and present planning stage of work</b>

\* Please indicate the basis of working out of RIC

**GE(AF)**

**C ADM O/ S ADM O**

**AOC/STN CDR**

**Important** : It may please be noted that for better appreciation and understanding the scope of works, necessity and urgency of the work by staff at Command/ Air HQ, it is essential that full details and background be given in last column of the format. This will avoid infructuous correspondence, queries and consequent delay.

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Appendix D  
(Refers to Para 34 of Chapter II)

**FORMAT FOR INVITING DEMANDS FOR AMWP**

Tele :  
Email : [soa@----.iaf.in](mailto:soa@----.iaf.in)

HQ ---- IAF  
-----  
-----

XXXX/2731/1/1/2009-10/Wks

Jun ---

..... (AOsC/ Stn Cdrs/ CE(AF)/CWEs/ GEs)  
(All Independent Station/ Units under HQ ----)

**ANNUAL MAJOR WORKS PROGRAMME(AMWP)**  
**FOR THE YEAR 2009-10**

1. As per Para 18(a) of DWP 2007 Proposals for Annual Major Works Programme YYYY-YY is required to be submitted by Air HQ to MoD by **31 Oct --** for approval by **31 Dec --**. Therefore the proposals from stations are required to reach this HQ by **30 Sep --**. All Stations/Units are requested to forward proposals under the following categories, as per the format placed at Annexure to this letter so as to reach this HQ by due date.

- (a) Runway and Airfield infrastructure works.
- (b) Weapon Storage Area Works
- (c) Operational and Technical infrastructure.
- (d) Works services for New Induction.
- (e) Adm Services.
- (f) Works services for improvement of Quality of life.
- (g) Sports and Recreational Infrastructure.
- (h) Married accommodation.
- (j) External services
- (k) Security related works
- (l) Rain Water Harvesting.
- (m) Non conventional energy.
- (n) Special Projects

2. Following points are to be borne in mind while finalising the proposals:-

- (a) Annual Major Works Programme includes high budgeted works and has far-reaching and long-term implications. Therefore each work must be evaluated with special regard to its operational, technical or adm utility for long term.

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(b) The works must be prioritised in consultation with Operational, Maintenance, Adm staff and GE (AF).

(c) Works proposed for Annual Major Works Programme YYYY-YY but **not yet released** are also to be included.

(d) Stations/Units are to propose five works for main list and five works in cushion list in each category of work. **However, if certain works are considered operationally very urgent, the same may also be included over and above these limits.**

(e) Nomenclature of work, Rough Indication of cost (with the basis of working out cost) brief scope of work and justification should be clearly mentioned against each work. The reference of any observations made by DASI, DMI, AOC-in-C or any other inspecting agency including works projected on some specific directions of Air HQ/Command HQ, must be quoted in the remarks column.

(f) Works proposed to be taken up as special projects by Air HQ are to be listed in last category. For example all SRE works, IACCN works, MIG 29 Upgrade, Project Richard, Modernisation of Engineering Support services etc. are some of the Special Projects proposed by Air HQ.

(g) Present stage of planning i.e. Adm Approval issued, Board approved or board in progress or board yet to be ordered is also to be mentioned.

(h) Each page of priority list is to be endorsed by the AOC/Stn Cdr, C Adm O/S Adm O and GE(AF).

(j) Besides the hard copy, a soft copy of the proposal of AMWP may be sent in a CD/Floppy (returnable) or through e-mail.

3. Importance of Annual Major Works Programme, needs no greater emphasis. Much talked about "USERS INVOLVEMENT" starts from this stage onward. All observations of DASI/CASI or any other inspecting agency concerning works services may please be included with specific reference/annotation of such observations. Also infrastructure requirements for new projects/upgradations are to be included in the proposals. Stations' involvement i/r/o planning and proposing the works in AMWP is essential since It is not possible to make frequent changes to the AMWP after its submission to Air HQ. **Proposals once received will be finalised at this HQ and NO (R) NO piecemeal requirements will be accepted thereafter.** All Stations/Units will carryout a comprehensive review of all the capital works requirement and forward the same so as to reach this HQ by **30 Sep --**. The units connected on WAN are also to send the plan through e-mail.

(Abcde)

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AVM  
SOA/SAASO

Annexure : As stated.

**Internal Copy to :**

**SASO**

**AD Cdr**

**SMSO**

**PMO**

} Suitable instructions may please be passed on respective channels to the units to include the requirement of works considered essential to meet futuristic requirement.



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Annexure to Appendix D  
(Refers to Para 1 of Appx C  
of Chapter II)

**FORMAT FOR**  
**ANNUAL MAJOR WORKS PROGRAMME(AMWP)**  
**FOR THE YEAR .....**  
**AIR FORCE STATION.....**

**(TO BE PREPARED IN MS EXCEL FORMAT)**

**MAIN LIST**

<b>Priority No.</b>	<b>Category</b>	<b>Name of Work</b>	<b>Adm Approval No &amp; date (if already issued)</b>	<b>RIC (₹ in lakh)*</b>	<b>Brief scope, justification and present planning stage of work</b>

\* Please indicate the basis of working out of RIC

**GE(AF)**

**C ADM O/ S ADM O**

**AOC/STN CDR**

**Important** : It may please be noted that for better appreciation and understanding the scope of works, necessity and urgency of the work by staff at Command/ Air HQ, it is essential that full details and background be given in last column of the format. This will avoid infructuous correspondence and queries.

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Appendix E  
(Refers to Para 39 of Chapter II)

**GUIDELINES FOR  
COMPILATION OF BOARD PROCEEDINGS  
FOR NEW WORKS & SPECIAL REPAIRS**

1. There is a plethora of instructions issued by Air HQ regarding compilation of Board proceedings for new works and special repairs from time to time. These instructions are required to be followed meticulously and due attention is required to be paid by the Presiding Officers and members at the Board stage. This would avoid delays due to observations raised at various levels in the processing of BPs.
2. In order to avoid delays on account of observations and rectifications, ordering additional BOO, revision of Adm Approvals, following comprehensive guidelines are to be followed by the Presiding Officers and C Adm Os.
3. **Convening Authority.** Convening order for the BsOO are issued on behalf of the CFA under whose financial power the cost of work comes for the purpose of issue of Adm Approval. However no convening orders are issued by Air HQ/MoD. The convening orders are to be issued by the officers on behalf of CFA as given in the following table.

<b>Cost of work</b>	<b>CFA</b>	<b>Authority for issue of Convening Order</b>
Upto ₹ 5 lakh	Stn Cdr/AOC	C Adm O
₹ 5-15 lakh	AOC SOA	C Adm O C Wks O
₹ 15-300 lakh ₹ 301-500 lakh ₹ 501-1500 lakh Above ₹ 1500 lakh	SOA AOC-in-C AOA MoD	C Wks O

4. **Composition of BOO.** Composition of Board of officers is an important aspect and must be such that the specialist expertise both from users and engineers is made available. Apart from the Reps of MES i.e. B&R, E&M, BSO, at least one specialist officer must be detailed according to the requirement of work services. For example - For Runway resurfacing BOO, representatives of ATS, SE(L) & COO are mandatory. Medical officers are to be detailed for all Married Accn, single living accn and Sewage system and health/ hygiene related works.
5. **Findings.** Findings of the Board should include the present state of the infrastructure in case of addition/alteration or Special repairs to existing buildings,

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the difficulties being experienced, reasons for additions or repairs and perceived benefits from the works proposed. In case of new works findings should give the reasons and authorisation of the works proposed, details of site and line plan, availability of land, complete details of infrastructure proposed, state of preliminary works like soil testing, contour or land survey etc. All appendices, annexure, site and line plan must be referred in findings. Cost, authorisation, and time frame for execution of work. Clearances required from external agencies like municipal authorities, CFEES, environment clearance must be incorporated in findings. Details of restrictions on the working of contractor and his labour like working hours, location of material dumping, entry exit, flight safety considerations, labour camp, number of supervisor and procedure of passes/permit, disposal of debris, waste material, handing over of site i.e. whether complete site will be handed over in one go or in phases especially in respect of already existing and occupied buildings.

6. **Statement of Case.** Detailed justification for the requirement of the proposed Work Services in the form of SOC must be attached with each BOO. This SOC may be numbered as Appendix 'A' to the Board Proceedings. The SOC should invariably include the following:-

- (a) Directions issued by Air HQ/Command HQ for carrying out works services with reference number must be mentioned and if so required these letters be attached with BOO as appendices. If the work is initiated on directions from Air HQ/Command HQ, the scope of work given in FRD/IRD provided by them must be incorporated. FRD(Facilities Required Document)/IRD (Infrastructure Required Document) wherever available must be referred and attached with BOO.
- (b) SOC must highlight the problems being faced with present system and how the proposed work will help in improvement of the Station.
- (c) Financial effect must form part of SOC and must be supported by RIC/AEs duly signed by Competent Engineering Authority.
- (d) SOC is to be prepared by the presiding officer and countersigned by the C Adm O and AOC/Stn Cdr. Detailed scope of works for proposed works like length, width, height, dimensions, type and technical specifications be mentioned/attached with SOC. Material to be used, proposed finishing etc are also to be mentioned. ***It is important for MES to correctly price the items of works as per users' requirement and not rates given in SSR for conventional specifications.***
- (e) Authority for facilities/buildings/items as per scales of accommodation or furniture or any Govt letter must be mentioned in the SOC also.

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7. **Special Item of works.** Items not covered under the existing scales of accommodation/furniture/hospital etc are known as “**Special Item of works**”. Special Items of works are to be clearly mentioned in the Findings and SOC of the Board Proceedings. Financial effects of Special works must be mentioned in Serial No 4 of RIC and AEs part I. Justification for Special Items of Works must be prepared separately in SOC. For every item of work being included as “Special item of work” a certificate is required to be rendered by CFA stating that “**The work is necessitated by exceptional conditions and approval of the same will not affect/introduce a new practice or change of scale**”. Para 52.6 of Chapter 52 of Scales of accommodation 2009 must be gone through before deciding as “**Special**”. Technical and Operation buildings and facilities peculiar to Air Force have been listed in **Table 52.I**. If applied carefully practically all ops and Tech works in Air Force can be brought under this Para. Therefore this provision should be used as “**Sanjivini**”.

8. **Accommodation Statement Part I and II.** Accommodation Statement Part I is to be prepared by C Adm O of station for each new work as per the format given in Appendix L of this manual. This is divided into two parts i.e. Part I (a) is for Md Accn, Part I (b) is for vehicles and Arms. This must be signed by C Adm O and GE and countersigned by AOC/Stn Cdr. Authority for establishment/ procurement must be mentioned in the remarks column of Accommodation Statement Part I. For Ops and Technical infrastructure Format of Accommodation Statement Part-I given in Appendix L of this manual to be used. For technical and ops infrastructure where there is no scale laid down, authorisation of aircraft/weapons/number of servicing shifts etc should be mentioned in Accn Statement Part I and requirement of space or facilities as mentioned in FRD or OEM's users manual or any other technical manual/IAP etc should be the guiding principle. Accommodation statement Part-II is to be prepared by GE based on data given in Part I and in accordance with scope of work mentioned in SOC. It is required to be countersigned by C Adm O.

9. **RIC/AEs.** Rough Indication of Cost/Approximates Estimates for the work are to be prepared based on latest SSR issued by E-in-C's Branch. Specific reference Number of SSR/ED rates be mentioned against each item of work in AEs part II. Market Rate (MR) or assessed rates if mentioned in RIC/AEs must be supported by quotations from authorised/genuine dealer and rate analysis. If rates are taken from earlier contract, copies of the same be attached in BOO or attach sufficient details for meaningful scrutiny by higher Engineer channels and IFA. RIC/AEs must be signed/countersigned by appropriate authority competent for the same as specified in E-in-C's Branch letter No. 95533/PO1/E-2 W(P&C) dated 01 Nov 2002. The final amount in AE part-II must be rounded off to two decimal places. AEs must be supported with the following documents:-

- (a) Details of site clearance i.e. demolition of building (name/number of building, temp/permanent bldg, book value, cost of demolition and credit expected), tree cutting etc.

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- (b) Line Plan of building and external services.
- (c) Heat load calculation for air conditioning.
- (d) Voltage drop calculation.
- (e) Engineering appreciation.
- (f) Quotations for items for which MR and Assessed rate have been quoted.
- (g) Questionnaire for determining the requirement of air-conditioning (Annexure I to Appendix 'E').
- (h) Questionnaire for electrification and lightening protection scheme (Annexure II to Appendix 'E').
- (j) Questionnaire for water supply protection scheme (Annexure III to Appendix 'E').

10. **PDC.** The BOO in consultation with the Engineers is to decide and recommend:-

- (a) PDC to be mentioned in Adm Approval.
- (b) Maximum time for issue of tender after the release of work.
- (c) Maximum time operationally feasible for execution of work.
- (d) Contract PDC(Time required for execution after acceptance of contract)

11. **Clearance for Fire Fighting Scheme.** Clearance from Centre for Fire, Explosive and Environment Safety (CFEES) is required for works services pertaining to WWR, Bomb Dump, OTM Accn of Tech/Ops bldg wherein Fire Detection and extinguishing System is Planned. To obtain clearance of Fire Fighting services scheme from Director, Centre for Fire, Explosive & Environment Safety, Brig SK Majumdar Road, Timarpur, New Delhi – 54 (FAX-011-23819547). A copy of the proposed fire fighting scheme both Line/Site plan and estimates is to be forwarded to CFEES for their vetting. Copy of the CFEES clearance is to be attached with BOO.

12. **Site/Line Plans.** Each BOO must have site and line plan with reference to the Master Plan of the station. Existing and proposed infrastructure must be marked in different color codes. Site and line plans are required even for the existing and occupied buildings. Line Plans must be as per scale and give dimensions of each room of building.

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13. **Furniture.** Furniture proposed in works must be within authorised scales. Wherever Special furniture is recommended it must be justified for each item of furniture. The board should include the summary of complete furniture requirement in tabular form with authorisation, quantity, location and usage. It must be included as an Appendix to BOO.

14. **Engineer Appreciation.** Engineer Appreciation is required for all works costing more than ₹1 Crore. No Engineer Appreciation is required for works costing less than ₹ 1 Crore and Special repair works. Format of Engineer Appreciation is placed at **Appendix 'B'**.

15. **Staff Work in Compilation.** The Boards are required to be preserved for posterity; therefore importance of good staff work needs no emphasis. Board proceedings must be neatly typed as per manual of staff duties, page numbered, and all pages should be of good quality, of similar size, shape and quality. Signature blocks and particulars of all members should be correctly placed and proceedings should be neatly bound for easy handling at all levels. AEs should also be typed and properly bound in correct sequence supported with details required.

16. **General.** A Check list for preparing Board Proceedings for works services is enclosed as Annexure IV of Appendix 'E'. The check list must be attached with each BOO duly signed by the presiding officer after verifying the aspects enumerated. The following documents are also to be attached wherever required.

- (a) Land availability certificate duly signed by C Adm O.
- (b) Non availability of electricity and NOC from State electricity Board or deposit work if required.
- (c) Non availability of water supply and NOC from State water board or Municipal Corporation and Questionnaire etc. (Annexure III of Appendix 'E') Certificate for tree cutting etc.
- (d) Certificate for Non availability of furniture.
- (e) Clearance of CFEES for Fire Fighting.
- (f) Questionnaire to accompany all proposals for special repairs (Annexure V of Appendix 'E').

17. All BsOO are to be accompanied with the check list duly signed by C Adm O as per format given at Annexure VI of Appendix 'E'. This Check list is to be placed on top of the P-28 exactly like dairy of action. All the pages of the BOO must be serially numbered and all copies of board must be spiral bound

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with original copy marked on cover page. Apart from the instructions given above, detailed Terms of Reference will also issued by command HQ while ordering BsOO for every work.

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Annexure I of Appendix E  
(Refers to Para 9 (g) of  
Appx E of Chapter II)

**QUESTIONNAIRE FOR AIR CONDITIONING SCHEME**

1. Does the building/rooms layout indicate suitability for central plant, package type or window type? Give reasons for type adopted.
2. (a) Has the building/room orientation been checked to minimise effect of solar heat gains?  
  
(b) Have all the glazed windows been provided with suitable sunshades and double glazing or insulated glass where required?
3. Has the provision of false ceiling of suitable insulating material been catered for to reduce the room height to requisite minimum and provide insulation?
4. Has air lock cabin/compartment been provided with central plant?
5. Has the attic space been provided with proper natural ventilation (in case of cooling processing)?
6. Plant room:
  - (a) Has the plant room been located at the centre of the load and in a place from where supply and return ducts can be taken with ease and fresh air can be taken from outside?
  - (b) Has sufficient space been catered for around the package type plant for carrying out repairs?
  - (c) Has adequate size of the central air conditioning plant room been provided?
  - (d) Has space for AHU room been provided?
7. Has the ambient DB and WB been correctly taken based either on Meteorological Data or from E&M Pamphlet issued from CME Kirkee or from Instructions issued by the E-in-C?
8. Has the inside temperature, humidity, occupancy, equipment load and fresh air requirements been taken based on Instructions issued by Air

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HQ/Army HQ/Naval HQ? If not, has the same been obtained from the users in writing? Has the variation in inside temperature and humidity correctly mentioned in the Design Data?

9. Have the heat load calculations, survey sheets, building drawing and board proceedings been enclosed?

10. Is the plant available indigenously? If not, what is the extent of FE required and the country of origin?

11. Has the availability of electricity and water supply required for air conditioning been verified?

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**QUESTIONNAIRE FOR ELECTRIFICATION AND LIGHTING PROTECTION  
SCHEME**

1. What is the power requirement? Give details.
2. What is the source of electric supply?
3. Is electricity available from the existing? If not, how it is proposed to meet the requirement?
4. Does the electrification scheme fit in the overall plan for the station to avoid any in fructuous expenditure at later date?
5. Are the following documents enclosed:-
  - (a) Layout plan showing existing and proposed installations with take over points in different colours.
  - (b) Schematic diagram showing existing and proposed equipment in different colours.
  - (c) Voltage drop calculations or a certificate to the effect that sizes of cables and overhead lines provided are adequate and economical.
  - (d) Schedule of service connections and house services meters.
  - (e) Estimates from SEB in case the supply is to be taken from outside source.
  - (f) Details of essential loads when standby set is provided.
  - (g) Sketches of Substation and power house building to justify the plinth area.
  - (h) Details of existing installations and those proposed to justify provision of key personnel Quarters where provided.
  - (j) Details in support of FE when required.

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(k) Schedule of existing and proposed internal wiring and sketches of the buildings showing internal electric points where the cost is not included in PA rates of the building.

(l) A certificates to the effect that after the addition of the load proposed in this estimate, the voltage variation at any consumer's terminal will not exceed that percentage difference as laid down in IE Rules.

6. If the provision is not as per authorised scales give details of users special requirement?

7. Is the provision of lighting protection based on the Govt. of India letter No. F.8(i) 60/6103/D(Disp) dated 06 October, 61 amended thereafter and the design in accordance with BSS 326 of 1965/STEC recommendations? Attach building drawings showing protection system.

8. Give details in respect of lump sum and assessed rates.

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Annexure III of Appendix E  
(Refers to Para 9 (j) & 16(c) of  
Appx E of Chapter II)

**QUESTIONNAIRE FOR WATER SUPPLY SCHEMES**

1. What is the total requirement of water for the project? Have the breakdown details been attached?
2. Is the requirement based on the authorised scale of water consumption sanctioned vide Govt of India, Ministry of Defence letter No. 78717/Q3W(Policy)/2274/D(Works-II) dated 11 May 62 as amended from time to time. If not, has justification for additional requirements been attached?
3. What is the existing source -Civil or MES?
4. Furnish the following information:-
  - (a) Yield of the existing source/sources.
  - (b) Number and capacity of existing storage tanks.
  - (c) Number and capacity of existing sumps.
  - (d) Number and capacity of existing pumping sets (also indicate "drive"). What are the standby arrangements?
  - (e) Individual certificates of existing treatment units i.e. Sedimentation tanks, filtration plants, chlorination plants etc.
5. What is the water requirement for the existing accommodation based on authorised scales?
6. What are the surpluses, deficiencies for the existing accommodation based on authorised scales?
7. Have the possibilities of obtaining water from civil sources with or without augmentation of their source been fully investigated before considering development of our own source for the project under consideration?
8. What proposals for the development of sources have been considered and what are the salient points for recommending a particular proposal?
9. Does the proposal fit in the KLP of the station? If not, state the reasons thereof.

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10. Any acquisition of land required for the proposed scheme? If so, give details.
11. Do the specifications and rates conform to the estimating date? If not, give details in support of assessed rates.
12. Have provisions for key personnel quarters been made in the estimate? If so, what is the basis for these provisions in relation to the existing and proposed E/M installations and existing quarters?
13. The following documents should be furnished:-
  - (a) Schedule of daily water requirements.
  - (b) Layout plant showing existing and proposed water supply installations i.e. source, treatment units, sump, pump houses, storage tanks, rising/distribution mains.
  - (c) Frictional loss calculations in the design of the proposed mains.
  - (d) Schedule of internal water supply and line plan of the building showing water supply mains where internal water supply is not included in the plinth area rates.

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Annexure IV of Appendix E  
(Refers to Para 16 of Appx E of  
Chapter II)

**CHECK LIST FOR SITING BOARDS**  
**FOR NEW CAPITAL WORKS COSTING MORE THAN ₹ 15 LAKH**  
**BUT NOT FOR ADDITION ALTERATION WORKS**

The Board of Officers to certify that following aspects wherever applicable have been looked into and relevant documents as shown against each have been referred.

SI No.	Item	Remarks YES/NO	Reference (Para/Page No. of BPs)
1.	(a)	Does Permanent Establishment or Govt letter authorizing the establishment exist? If so attach GOI Sanction.	
	(b)	Is the Unit on KLP?.	
2.	Is the composition of BOO as per Convening order issued by Command?		
3.	Documents include:-		
	(a)	Convening Order	
	(b)	Letter accepting necessity (Mention Project ID No. of approved CWP)	
	(c)	Accommodation Statement Part I signed by C Adm O/GE	
	(d)	Accommodation Statement Part II (Signed by GE)	
	(e)	Statement of Case(Signed by Presiding member and countersigned by Stn Cdr)	
	(f)	Rough Cost/Engineer Appreciation	
	(g)	Line/Site Plan(as per zonal plan) (Note: Legend marked. External services in distinct colour. Site plan to be approved and signed by the Stn Cdr)	
	(h)	Furniture availability certificate from GE	
	(j)	Water and Power availability certificate from GE	
4.	Requirement of Compound Wall/security wall /security fencing with justification.		
5.	Electrification and Lighting Protection Scheme. <b>(Please refer Annexure II)</b>		
6.	Recommendation for air-conditioning with justification <b>(Please refer Annexure I)</b>		
7.	Is separate Justification for Special works attached?		
8.	Is the Certificate of availability of land for the entire		

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	proposed work attached?		
9.	Has necessary permission been obtained from civil authorities for their assistance, where required, in respect of following:-		
(a)	Electrical connection		
(b)	Water Supply connection		
(c)	Roads		
(d)	Land acquisition		
10.	Does the project include any Railway work? If so, has necessary case been taken up with railway authorities? If so, what is the PDC of the railway work?		
11.	Have the details of site clearance work been included? If so, have the details been given in BPs.		
12.	Whether the accn catered for MES Key Personnel and construction staff? If so, has justification been given in BPs.		
13.	Whether full justification has been given for the provision of Following Items		
(a)	Lift		
(b)	Crane		
(c)	Gas supply		
(d)	Compressed air supply		
(e)	Air-conditioning		
(f)	Fly proofing		
(g)	Machine foundation		
(h)	Special type of flooring		
(j)	Special type of finishes		
(k)	Anti-termite treatment		
(l)	Precaution for seismic effects as per BIS		
(m)	Built in furniture		
(n)	Cooking range		
(o)	Guard Bars		
(p)	Grills		
(q)	Telephone/TV conduits		
(r)	Water Coolers		
(s)	Geysers		
(t)	Standby Generators		
(u)	Voltage Stabilisers		
(v)	Special items of Furniture		

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14.	Whether any demolition work is involved? If so, has the demolition statement been approved and credit been given? Cost of demolition taken in account?		
15.	Is full provision made for new furniture?		
16.	In case of new projects, how the requirement has been met so far? Has it been explained in SOC? Give page No.		
17.	Has the siting board conveyed following aspects while preparing the site plan		
(a)	Type of soil and measures to overcome the drawback of the soil conditions e.g. soil stabilisation etc.		
(b)	In case of Black Cotton Soil, has the measure been started to overcome stagnation of water e.g. providing adequate drainage around the building as well as area drainage		
(c)	Spot levels at 10 meters grid indicating contour at 0.8m intervals on flat ground and 1.0m intervals on undulated ground.		
(d)	Bearing capacity of soil-sub soil water strata		
(e)	Siting of building verified at site by pegging out on the ground based on tentative site plan.		
(f)	Existing services with sizes of Mains such as:-		
	(i) Water supply lines		
	(ii) Electric supply lines		
	(iii) Telephone lines		
	(iv) Sewage/sewerage/surface drains		
(g)	Aspects of Arboriculture		
18.	Have all the members signed the BPs?		
19.	Whether the dissenting notes of members, if any, have been recorded?		
20.	Have the BPs been concurred/approved by the Convening Officer?		

Presiding Officer

**PS.** This format may be modified/shortened depending on type of work

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Annexure V of Appendix E  
{Refers to Para 16 (f) of Appx E  
of Chapter II}

**QUESTIONNAIRE TO ACCOMPANY ALL PROPOSALS  
ONLY FOR SPECIAL REPAIRS**

1. Name of station/unit/formation :
2. Proposed use of buildings after Special Repairs:
3. Details of buildings (Separate for each bldg)
  - (a) Plinth area:
  - (b) Year of construction:
  - (c) Permanent/ Temporary:
4. For E/M services:
  - (a) Particulars of plants and machinery:
  - (b) Number of existing points of electricity:
  - (c) Number of existing points of water:
5. Details of New construction (If new bldg of required PA is to be constructed):
  - (a) Plinth Area:
  - (b) Cost :
6. Special repairs carried out:

<u>Date</u>	<u>Repairs</u>	<u>Expenditure</u>
-------------	----------------	--------------------
7. Work proposed: Proposed specifications      Brief necessity for the work.
8. Whether the repairs are economical?      YES / NO
9. Whether all requirements in the nature of special repairs have been taken into account and the proposal is based on thorough engineer appreciation?  
YES / NO
10. Whether superior specifications are proposed to be adopted and, if so, the reasons therefore?      YES / NO
11. The estimated life of the buildings after the proposed repairs.....YEARS

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12. Amount proposed to be spent during the current financial year.  
₹.....

13. Time required for the completion of the proposed special repairs.  
.....Months

(\_\_\_\_\_ )  
Rep Of GE(AF)

Date:

(\_\_\_\_\_ )  
Presiding Officer  
Wg Cdr (Min Rank)  
Date:

**N.B.** No special repairs are to be proposed in respect of requisitioned or hired buildings, or building which are evacuee properties in military use or where legal complications are involved.

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Annexure VI of Appendix E  
(Refers to Para 17 of Appx E of  
Chapter II)

**CHECK LIST FOR C ADM O**  
**TO BE PLACED ON TOP OF P-28 OF ALL BsOO**

This check list must be signed by C Adm O and forward along with all BsOO.

<b>Sl No</b>	<b>Questions</b>	<b>Yes/No</b>
1	Is SRO Sl. No. mentioned in the first page of IAFF(P) 28?	
2	Is reference number of Convening Order mentioned on cover page of IAFF (P) 28?	
3	Is full particular including personal number and branch of Presiding Officer mentioned?	
4	Are full particulars of members including personal number, rank, branch & designation especially MES reps. mentioned in page No.2 of IAFF (P) 28?	
5	Whether terms of reference issued by Command HQ attached?	
6	Has the presiding officer and all members signed in Findings and Recommendation columns at page No 4 of IAFF(P) 28?	
	<b>Findings</b>	
7	Has all the appendices as these appear have been correctly referred in findings?	
8	Has the list of appendices been attached with BOO?	
9	Has the scope of work been mentioned in Findings as well as in SOC?	
10	Is Accommodation statement Part-I signed by C Adm O/ Stn Cdr ?	
11	Is Accommodation statement Part-II signed by GE?	
12	Is Financial effect mentioned in Findings as well as in SOC?	
13	Are the following certificates attached with findings ? (a) Land availability certificate duly signed by C Adm O. (b) Non availability or availability of electricity and NOC from State electricity Board or deposit work if required. (c) Non availability or availability of water supply and NOC from State water board or Municipal corporation etc. (Annexure III) (d) Certificate for tree cutting etc (e) Certificate for Availability/Non availability of furniture from GE. (f) Clearance of CFEES (Where applicable) (g) Line Plan and site plan	

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	<b><u>Recommendations</u></b>	
14	Has the Presiding Officer and all members signed the recommendations?	
15	Has financial effects been mentioned in words and figures in findings, recommendations and SOC?	
16	Is name of work mentioned in AEs same as mentioned in BOO?	
17	Has correct authority for the work been quoted in column 3 of AEs Part II?	
18	Is AE Part I signed by appropriate Competent Engineer Authority?	
19	Whether all the rates quoted in AE Part-II have been supported by appropriate reference from SSR, ED or quotations for market rate with comparative statement?	
20	Has the total of all sub-sections of AE part-II been correctly brought forward to AE part-I?	
21	Has the final amount in AE part-II been rounded off to two decimal places?	

(To be signed by C Adm O/S Adm O)

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Appendix F  
{Refers to Para 46 (a) of  
Chapter II}

**APPROXIMATE ESTIMATE PART I**

Station : AFS xxxxxxxxxxxxxx

Name of the Project

Brief Particulars of work .....

SI No	Items of Work	Cost	Remarks
1.	Cost of land		
2.	(a) Surveys and soil investigation		
	(b) Site clearance and development		
3.	(a) Buildings (including internal water supply and electrical work)		
	(b) Internal sanitation		
	(c) Air conditioning & refrigeration		
4.	Furniture		
5.	Special item of work (Details to be given in Part II)		
6.	External services		
	(a) Roads		
	(i) Internal		
	(ii) Access		
	(b) Water supply		
	(c) Electric supply		
	(d) Sewage disposal		
	(e) Area drainage		
7.	Arboriculture, if any		
8.	Consultancy, if any		
9.	Contingencies (3% on items 1 to 7 above)		
10.	Establishment charges (limited to 2% on items 1 to 7 above)		
11.	Railway works		
	<b>Grand Total</b>		
(a)	Time required for physical completion of work under normal circumstances from date of administrative approval		
(b)	Time required for physical completion of work if carried out as per Para 55 of DWP-2007		

Sd/-

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GE (AF)/CWE(AF)/CE(AF)  
XXXXXXXX

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Appendix F (Cont'd)  
{Refers to Para 46 (a) of  
Chapter II}

**APPROXIMATE ESTIMATE PART II**

Station : AFS xxxxxxxxxxxx

Name of Work :

Sl No	Description of work	Auth	Drg No	Brief Specification of work	A/U	Qty	Rate	Amount	Remarks

Sd/-  
GE (AF)  
xxxxxxxxx

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Appendix F (Cont'd)  
{Refers to Para 46 (a) of  
Chapter II}

**REVISED APPROXIMATE ESTIMATE PART I**

Station : AFS xxxxxxxxxxxxxx

Name of the Project

Brief Particulars of work .....

Sl No	Items of Work	Original Cost	Revised Cost	Remarks
1.	Cost of land			
2.	(a) Surveys and soil investigation			
	(b) Site clearance and development			
3.	(a) Buildings (including internal water supply and electrical work)			
	(b) Internal sanitation			
	(c) Air conditioning & refrigeration			
4.	Furniture			
5.	Special item of work (Details to be given in Part II)			
6.	External services			
	(a) Roads			
	(i) Internal			
	(ii) Access			
	(b) Water supply			
	(c) Electric supply			
	(d) Sewage disposal			
	(e) Area drainage			
7.	Arboriculture, if any			
8.	Consultancy, if any			
9.	Contingencies (3% on items 1 to 7 above)			
10.	Establishment charges (limited to 2% on items 1 to 7 above)			
11.	Railway works			
	<b>Grand Total</b>			
(a)	Time required for physical completion of work under normal circumstances from date of administrative approval			
(b)	Time required for physical completion of work if carried out as per Para 55 of DWP-2007			

Sd/-  
GE (AF) xxxxxxxx

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Appendix F (Cont'd)  
{Refers to Para 46 (a) of  
Chapter II}

**REVISED APPROXIMATE ESTIMATE PART II**

Station :      AFS xxxxxxxxxxxx

Name of Work :

SI No	Description of work	Auth	Drg No	Brief Specification of work	A/U	Previous			Revised			Remarks
						Qty	Rate	Amt	Qty	Rate	Amt	
1	2	3	4	5	6	7	8	9	10	11	12	13

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Appendix G  
(Refers to Para 48 of Chapter II)

Tele : 23010231/7129

Integrated HQ of MoD (Air)  
Raffi Marg  
New Delhi – 110 106

Air HQ/.... ..... 10

HQ Comd/Unit directly under Air HQ  
Concerned CE (AF)

**PROVISION OF/WORKS SERVICES FOR .....**  
**AT AF STN .....**

1. In exercise of the delegated financial powers vested in Air Officer-in-Charge Administration vide GoI, MoD letter No Air HQ/95378/1/Fin P/2431/US(RC)/Air-II/06 dated 14 Jul 06, I on behalf of AOA as authorised by him hereby accept the necessity for and accord administrative approval to the abovementioned work at an approximate cost of ₹..... (Rupees.....) as per details given in the annexed Approximate Estimates.

2. This is an authorised work vide ..... (quote Govt authority).

or

This is a special work necessitated by exceptional local circumstances and approval of the work will not introduce new practice or change of scales.

or

This is an authorised work except Sl No..... of AE Part-I. Certified approval of the special item of work will not introduce new practice or change of scales.

3. The AEs are based on the estimates provided by CE (AF) .....

4. The expenditure involved is debitable to Major Head 4076 Capital Outlay on Defence Services, Sub Major Head 03 – Air Force, Minor Head 202 – Construction Works.

5. PDC of the work will be ..... weeks/months from the date of release.

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**RESTRICTED**

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6. For Works Sanctioned with Concurrence of IFA only. This issues with the concurrence of IFA (Air) vide their UO No...../..... dated .....

ACAS (AF Wks)

Annexure : AEs Part I and Part II

Distribution.

CDA (AF) Dehradun  
Dir of Audit (AF), 107 – Rajpur Road, Dehradun  
JCDA (AF) Nagpur  
IFA (Air) (applicable for works concurred by IFA)  
Pr Dir Audit (AF/N), New Delhi  
Concerned CDA/PCDA (one ink signed copy)  
Dir of Audit, DS ..... (concerned comd)  
E-in-C's Branch/E2 Air  
Concerned CWE (AF)  
Concerned GE (AF)/AGE (I)  
Stn concerned  
DAFW (Budget)

**RESTRICTED**

**RESTRICTED**

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Appendix G (Cont'd)  
(Refers to Para 48 of Chapter II)

Air HQ/...../...../W(.....)/...../D(Air-II)

Govt of India  
Min of Def  
New Delhi, the ..... 10

To  
The Chief of the Air Staff

**PROVISION OF/WORKS SERVICES FOR .....**  
**AT AF STN .....**

Sir,

I am directed to convey the sanction of the President for provision/ works services for ..... at AF Stn ..... at an estimated cost of ₹..... (Rupees.....) as per details given in the annexed Approximate Estimates.

2. The cost of the project is based on the estimates supplied by CE (AF) ..... and vetted by E-in-C's Branch.
3. The expenditure involved is debitable to Major Head 4076 (Capital Outlay in Defence Services), Sub Head 03 – Air Force, Minor Head 202 – construction works.
4. PDC of the work will be ..... weeks/months from the date of release.
5. This issues with the concurrence of Min of Def (Fin/Air) vide their UO No...../...../AF dated .....

Yours faithfully,

( )  
Under Secretary to Govt of India

Annexure : AEs Part I and Part II

**RESTRICTED**

**Distribution.**

CDA (AF) Dehradun  
Dir of Audit (AF), 107 – Rajpur Road, Dehradun  
JCDA (AF) Nagpur  
IFA (Air) (applicable for works concurred by IFA)  
Pr Dir Audit (AF/N), New Delhi  
Concerned CDA/PCDA (one ink signed copy)  
Dir of Audit, DS ..... (concerned comd)  
MoD/Def (Fin/Air)  
MoD/D (Air-II)  
E-in-C's Branch/E2 Air  
Concerned CWE (AF)  
Concerned GE (AF)/AGE (I)  
Stn concerned  
DAFW (Budget)

SPECIMEN ADM APP BY MOD

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Appendix G (Cont'd)  
(Refers to Para 48 of  
Chapter II)

Tele: xxxxxxxxx

HQ xxxxxxxxx AF  
xxxxxxxxxxxxxx  
xxxxxxxxxxxxxx

xxxxxx/1102/10/Wks

Jan 10

GE (AF) xxxxxxxxx (03 Copies)

**xxx/MW-01/2009-10**

**PROVISION OF/WORKS SERVICES FOR .....**  
**AT AF STN .....**

1. In exercise of financial powers vested in me by the Schedule XVIII of Annexure XVII of Govt of India, Ministry of Defence letter No Air HQ/95378/1/Fin P/2431/US (RC) Air-II/06 dated 14 Jul 06 amended vide GoI MoD letter Air HQ/95378/1/Fin P/2520/US (RC)/Air-II/06 dated 20 Jul 06, I hereby accept the necessity for and accord Administrative Approval to the above mentioned work at an approximate cost of ₹ -----/- (Rupees -----only).

2. This is an authorised work vide ..... (quote Govt authority).

or

This is a special work necessitated by exceptional local circumstances and approval of the work will not introduce new practice or change of scales.

or

This is an authorised work except SI No..... of AE Part-I. Certified approval of the special item of work will not introduce new practice or change of scales.

3. The annexure (s) to this letter is / are based on estimates supplied by GE (AF) -----.

4. Funds for the work to the extent of ₹ -----/- (Rupees -----only) are hereby appropriated out of the bulk allotment of ₹-----/- (Rupees ----- only) made to this Unit vide -----

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**RESTRICTED**

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letter No. xyz/-----/Wks dated ----- . The balance after this appropriation in bulk allotment will be ₹-----/- (Rupees ----- only).

5. The expenditure involved is debitable to Major Head 2078, Minor Head 111, Sub Head (b) Code Head 757/00 (Minor Works).

6. This work is to be completed within ----- weeks only.

( )  
Wing Commander  
Commanding Officer

Distribution:-

CWE (AF) -----	- 01 Copy
CDA (----) ----- (One ink signed copy)	- 01 Copy
HQ ----- IAF(C Wks O)	- 01 Copy
AGE (B/R-I) -----	- 02 Copies

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Appendix G (Cont'd)  
(Refers to Para 48 of Chapter II)

Tele: xxxxxxxxx

HQ xxxxxxxxx AF  
xxxxxxxxxxxxxx  
xxxxxxxxxxxxxx

xxxxxx/1102/10/Wks

Jan 10

GE (AF) ----- (03 Copies)

xxx/MR-01 /2009-10

**PROVISION OF/WORKS SERVICES FOR .....**  
**AT AF STN .....**

1. In exercise of the financial powers vested in me by the Schedule XVIII of Annexure XVII of Govt of India, Ministry of Defence letter No Air HQ/95378/1/Fin P/2431/US(RC) Air-II/06 dated 14 Jul 06 amended vide Gol MoD letter Air HQ/95378/1/Fin P/2520/US(RC)/Air-II/06 dated 20 Jul 06, I hereby accept the necessity for and accord Administrative Approval for the above mentioned works services at an approximate cost of ₹ -----(Rupees -----only) as per the details contained in the annexure to this letter.

2. This is an authorised work vide ..... (quote Govt authority).

or

This is a special work necessitated by exceptional local circumstances and approval of the work will not introduce new practice or change of scales.

or

This is an authorised work except SI No..... of AE Part-I. Certified approval of the special item of work will not introduce new practice or change of scales.

3. The AEs are based on the estimates provided by GE (AF) .....

4. The work is to be completed within ----- weeks from the date of release of funds.

5. The expenditure involved is debitable to Major Head 2078, Minor Head 111, Sub Head (a) Code Head 756/02 (Revenue Works).

( )  
Wing Commander  
Commanding  
Officer

Annexure : AEs part I & II.

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CE (AF) -----	-	01 Copy
CWE (AF) -----	-	01 Copy
CDA (-----) ----- (One ink signed copy)	-	01 Copy
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Appendix G (Cont'd)  
(Refers to Para 48 of Chapter II)

Tele: xxxxxxxxxxx

xxxxxxxx AF  
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xxxx/-----/-----/Wks

Jan 10

GE (AF) ----- (03 Copies)

xxxxx/CAP-01/2009-10

**PROVISION OF / WORK SERVICES FOR /  
ADDN/ALTN TO BLDG No. ----- AT -----**

1. In exercise of financial powers vested in me by the Schedule XVIII of Annexure XVII of Govt of India, Ministry of Defence letter No Air HQ/95378/1/Fin P/2431/US(RC) Air-II/06 dated 14 Jul 06 amended vide Gol MoD letter Air HQ/95378/1/Fin P/2520/US(RC)/Air-II/06 dated 20 Jul 06, I hereby accept the necessity for and accord Administrative Approval to the above mentioned work at an approximate cost of ₹ ----- Lakh (Rupees ----- Only) as per the details contained in the annexure to this letter.

2. This is an authorised work vide ..... (quote Govt authority).

or

This is a special work necessitated by exceptional local circumstances and approval of the work will not introduce new practice or change of scales.

or

This is an authorised work except SI No..... of AE Part-I. Certified approval of the special item of work will not introduce new practice or change of scales.

3. The annexure (s) to this letter is / are based on estimates supplied by GE (AF) -----.

4. The expenditure involved is debitable to Major Head 4076, Minor Head 202, Sub Major Head 03, Code Head 917/34(Construction works).

5. This work is to be completed within ----- weeks from the date of release of fund.

( )  
Air Cmde  
AOC

Annexure : AEs Part I & II.

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**RESTRICTED**

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**Distribution:-**

CE (AF) -----	-	01 Copy
CWE (AF) -----	-	01 Copy
CDA (-----) ----- (One ink signed copy)	-	01 Copy
Dte of Audit (AF), 107 Rajpur Road, Dehradun	-	01 Copy
Dte of Audit Defence Services, -----	-	01 Copy
HQ ----- IAF(C Wks O)	-	01 Copy

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**RESTRICTED**

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Appendix G (Cont'd)  
(Refers to Para 48 of Chapter II)

Tele: xxxxxxxxxxxx

xxxxxxxxxx AF  
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xxxxxxxxxx

xxxx/-----/-----/Wks

Jan 10

GE (AF) ----- (03 Copies)

xxxxx/SR (E&M)01/2009-10

**SPECIAL REPAIR TO E&M INSTALLATIONS**

**AT -----**

1. In exercise of the financial powers vested in him by the Schedule XVIII of Annexure XVII of Govt of India, Min of Def letter Air HQ/95378/1/Fin P/2431/US (RC) Air-II/06 dated 14 Jul 06 amended, I hereby accept the necessity and accord Administrative approval for the above mentioned works services at an estimated cost of ₹ ----- **lakh (Rupees ----- Only)** as per the details contained in the annexure to this letter.

2. This is an authorised work vide ..... (quote Govt authority).

or

This is a special work necessitated by exceptional local circumstances and approval of the work will not introduce new practice or change of scales.

or

This is an authorised work except SI No..... of AE Part-I. Certified approval of the special item of work will not introduce new practice or change of scales.

3. The annexure are based on the estimates provided by GE (AF) -----

4. The work is to be completed within ----- from the date of release of funds.

5. The expenditure involved is debitable to Major head 2078, Minor head 111 and code head 761/07 Sub Head (e) (Spl Rep (E & M) New).

( )  
Wg Cdr  
Commanding  
Officer

Annexure : AEs Part I & II.

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Distribution:

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CDA (-----) ----- (one copy signed in ink)	:	01 Copy
Dy Director of Audit, -----	:	01 Copy
HQ -----, IAF (C Wks O)	:	01 Copy
CWE (AF) -----	:	01 Copy

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Appendix G (Cont'd)  
(Refers to Para 48 of Chapter II)

Tele: xxxxxxxxxx

xxxxxxx AF  
xxxxxxx  
xxxxxxx

xxxx/-----/-----/Wks

Jan 10

GE(AF) ----- ( 03 copies)

**xxxx/SR (B&R)- 01 / 09-10**

**SPECIAL REPAIR TO ROADS AT AF STN-----**

1. In exercise of the financial powers vested in him by the Schedule XVIII of Annexure XVII of Govt of India, Min of Def letter Air HQ/95378/1/Fin P/2431/US (RC) Air-II/06 dated 14 Jul 06 amended, I hereby accept the necessity and accord Administrative approval for the above mentioned works services at an estimated cost of ₹ ----- **lakh (Rupees ----- Only)** as per the details contained in the annexure to this letter.

2. This is an authorised work vide ..... (quote Govt authority).  
or

This is a special work necessitated by exceptional local circumstances and approval of the work will not introduce new practice or change of scales.  
or

This is an authorised work except SI No..... of AE Part-I. Certified approval of the special item of work will not introduce new practice or change of scales.

3. The annexure are based on the estimates provided by GE (AF) -----

4. The work is to be completed within ----- from the date of release of funds.

5. The expenditure involved is debitable to Major head 2078, Minor head 111 and code head 760/07 Sub Head (d) (Spl Rep (B & R) New).

( )  
Air Cmde  
AOC

Annexure: AEs Part I & II.

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**Distribution:**

CE (AF) -----	:	01 Copy
CDA (-----) ----- (one copy signed in ink)	:	01 Copy
Dy Director of Audit, -----	:	01 Copy
HQ -----, IAF (C Wks O)	:	01 Copy
CWE (AF) -----	:	01 Copy

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Appendix H  
(Refers to Para 48 of Chapter II)

**DISTRIBUTION OF ADMINISTRATIVE APPROVAL  
SANCTIONED BY MoD/AIR HQ /COMMAND HEADQUARTERS/STATIONS**

Works costing	Addressees	
<u>Upto ₹ 1 lakh</u>	Addressed to concerned GE Concerned CWE - 02 Copies Concerned CDA (One ink signed copy) - 02 Copies Concerned Command HQ (C Wks O) - 01 Copy AGE (B/R-I) - 02 Copies	
<u>₹1-2 lakh</u>	Addressed to concerned GE Addressed to concerned Station and GE (if sanctioned by Command HQ) Concerned CE (AF) - 01 Copy Concerned CWE (AF) - 01 Copy Concerned CDA (One ink signed copy) - 02 Copies Concerned Dy Director of Audit, HQ Command (C Wks O) - 01 Copy Concerned AGE (B/R-I) - 02 Copies	
<u>₹ 2-15 lakh</u>	Addressed to concerned GE Addressed to concerned Station and GE (if sanctioned by Command HQ) Concerned CE (AF) - 01 Copy Concerned CWE - 02 Copies Concerned CDA (One ink signed copy) - 02 Copies Concerned Dy Director of Audit - 01 Copy Concerned Command HQ (C Wks O) - 01 Copy	
<u>₹15- 50 lakh Capital Works</u>	Addressed to Concerned CWE Concerned CDA (One ink signed copy) - 02 Copies Concerned Dy Director of Audit, - 01 Copy Concerned Command HQ (C Wks O) - 01 Copy Air HQ (VB) Concerned JD - 01 Copy Air HQ (VB) PD(Budget) - 01 Copy Concerned CE - 02 Copies Concerned Station - 01 Copy Concerned GE - 01 Copy	
<u>₹ 50- 500 lakh Capital Works</u>	Addressed to Concerned CE Concerned CDA (One ink signed copy) - 02 Copies Concerned Dy Director of Audit, - 01 Copy Concerned IFA - 01 Copy Concerned Command HQ (C Wks O) - 01 Copy Air HQ (VB) Concerned JD - 01 Copy Air HQ (VB) PD(Budget) - 01 Copy Concerned Station - 01 Copy Concerned CWE - 01 Copy Concerned GE - 01 Copy	

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Appendix H (Cont'd)  
(Refers to Para 48 of Chapter II)

₹ 500-1500 lakh	Addressed to Concerned CE		
	Concerned CDA (One ink signed copy)	-	02 Copies
	Concerned Dy Director of Audit, Concerned IFA	-	01 Copy
	Concerned Command HQ (C Wks O)	-	01 Copy
	Air HQ (VB) Concerned JD	-	01 Copy
	Air HQ (VB) PD(Budget)	-	01 Copy
	E-in-C's Branch (Engr 2 Air)	-	01 Copy
	E-in-C's Branch (E-5 Air)	-	01 Copy
	Concerned CWE	-	01 Copy
	Concerned GE	-	01 Copy
Above ₹ 1500 lakh	Addressed to the Chief of the Air Staff	-	01 Copy
	Controller General of Def Accounts, N.Delhi	-	01 Copy
	CDA (AF) Dehradun (One ink signed copy)	-	02 Copies
	Dir of Audit (AF), 107 Rajpur Road, D.Dun	-	01 Copy
	JCDA (AF) Nagpur	-	01 Copy
	IFA (Air) (Applicable for works concurred by IFA)-		01 Copy
	Pr Dir Audit (AF/N), New Delhi	-	01 Copy
	Concerned CDA/PCDA (One ink signed copy)	-	02 Copies
	Dir of Audit, DS.....(Concerned Command)	-	01 Copy
	MoD/Def (Fin/Air)	-	01 Copy
	MoD/D (Air-II)	-	01 Copy
	E-in-C's Branch (Engr 2 Air)	-	01 Copy
	Air HQ (VB) PD(Budget)	-	01 Copy
	Air HQ (VB) Concerned Dir/JD W	-	01 Copy
	Concerned CE (AF)	-	01 Copy
	Concerned Command HQ	-	01 Copy
Concerned station	-	01 Copy	
Concerned CWE (AF)	-	01 Copy	
Concerned GE(AF)/AGE (I)	-	01 Copy	

2. Adm Approvals are to be endorsed to the Command Audit Officers as under:-

Particulars of CDA	Statutory Audit Officers Accredited to the CDA
D.A., S.C.	Senior Dy Dir of Audit, Defence Services, S.C. Pune.
D.A., W.C.	Deputy Director of Audit, Defence Services, W.C.Meerut.
D.A., E.C. Meerut	Deputy Director of Audit Defence Services, Meerut
D.A. Patna	Deputy Director of Audit Defence Services, Patna
D.A., A.F. Dehra Dun	Deputy Director of Audit Defence Services, Dehra Dun

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Appendix J  
(Refers to Para 52 of Chapter II)

**POWERS OF COMPETENT ENGINEER AUTHORITIES FOR  
TECHNICAL SANCTION**

Item No	Description of Wk	E-in-C	CE	CWE	GE
(a)	Major Wks (incl Sub-projects & Minor Wks)	F.P	F.P	₹ 50 Lakh	₹ 15 Lakh
(b)	Maint of bldgs communications, etc & Maint & Op of installations	F.P	F.P	F.P	₹ 15 Lakh
(c)	Purchase, manufacture & repair of tools & plant except (d) below	F.P	₹ 7.5 Lakh	₹ 2 Lakh	₹ 0.75 Lakh
(d)	Purchase of camp eqpt or furniture & eqpt for MES offices and Insp House	F.P	₹ 2 Lakh	₹ 40,000	₹ 7,500
(e)	Manufacturing Operations	F.P	F.P	F.P	-

**POWERS OF COMPETENT ENGINEER AUTHORITIES FOR CONTRACTS  
(including contract for local materials and petty supplies)**

Item No	Description of Wk	E-in-C	CE	CWE	GE
(a)	Competitive Tender	F.P	F.P	₹ 50 Lakh	₹ 15 Lakh
(b)	Single Tender	₹ 60/125* Lakh	₹ 25/125* Lakh	₹ 6 Lakh	₹ 0.25 Lakh

\* For proprietary items only

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Appendix K  
{Refers to Para 63 (a) of  
Chapter II}

**FORMAT FOR 'GO AHEAD' SANCTION UNDER PARA 35 OF DWP 2007**

Tele: .....

FAX: .....

xxx Air Force  
xyzxyz

xxx AFS/S -----/----/Wks

Dec 09

CE(AF) -----

**PROVISION OF ----- AT**  
**AF STATION -----**

1. In exercise of the powers vested in me vide Para 35 of Defence Works Procedure 2007, I hereby accord '**Go-Ahead**' **sanction** for immediate commencement of the above mentioned work as per the details annexed at a cost not exceeding ₹..... Lakh (Rupees ..... only).

2. This is an 'authorised work' as per Para ----- of Chapter ----- of Scale of Accn 2009.

3. The expenditure involved is debitable to Major Head – 4076, Sub Major Head-03, Minor Head – 202, Code No. 917/34 [Construction Works (New)].

4. The PDC for the work is ----- weeks (minimum possible time) from the date of issue of this sanction.

5. In principal approval has been accorded by ----- (appropriate CFA) vide ..... dated ..... (Ref No).

AOC/Stn Cdr

Annexure: Details of work services.

**Distribution**

Air HQ (VB) (Dir W-Budget), New Delhi	: 01 copy
Air HQ (VB) (Concerned Dir W), New Delhi	: 01 copy
HQ ----- IAF (C Wks O)	: 01 copy
CDA(---) ----- (one copy signed in ink)	: 01 copy
Dy Dir of Audit ----- (Regional)	: 01 copy
CWE (AF) -----	: 01 copy
GE (AF) -----	: 01 copy

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Appendix L  
{Refers to Para 74(a)(viii) & 76 of Chapter II}

### GUIDELINES FOR PREPARATION OF LOW BUDGETED WORKS PROGRAMME (LBWP)

1. In accordance with Defence Works Procedure 2007, Annual Low Budgeted Works Programme for the financial year is to be approved by AOC-in-C by **31 Jan** and communicated to stations under respective Commands so that adequate time is available to complete BsOO for the works included in approved Low Budgeted Works Programme. All Units/ Stations are to carry out a comprehensive analysis of the requirements of works services for the next financial year and forward the priority list as per the instructions placed at Annexure I and in the format placed at Annexure II to this Appendix. The works services are to be planned under the following categories: -

- (a) Category I : Capital works costing ₹ 2-15 Lakh
- (b) Category II : Revenue Major Works costing ₹ 1-2 Lakh
- (c) Category III : Special Repairs (B & R)
- (d) Category IV : Special Repairs (E & M)

2. As per the provisions of Para 39 of DWP 2007, Board Proceedings can be dispensed with, in case of low budgeted works if so decided by the CFA. Thus the stations commanded by the officers of the rank of Air Cmde may dispense with Board of officers for works costing upto ₹ 10 Lakh and issue Adm Approval based on detailed SOC covering all aspects of scope of works. However for stations commanded by officers of the rank of Gp Capt and below, Stn Cdr may dispense with Board of officers for works costing upto ₹ 5 lakh only. However for all works for which Adm Approval is required to be issued by Command HQ, Board of Officers is essential except the works initiated under 151 of MES Regulations.

3. Importance of careful planning, vision and knowledge of long term and short term roles / commitments of the Station needs no emphasis. Operational and maintenance staff must be involved while projecting the proposals for works services. This would ensure that no piecemeal changes are projected after the proposal is finalised and included in the Low Budgeted Works Programme. All the proposals of Units/ Stations are to be vetted and scrutinised at the highest level at command HQ and only those proposals which are recommended by the specialist branch are to be included in approved Low Budgeted Works Programme.

4. Importance / urgency of the work may be indicated in remarks column as **“OPERATIONAL, TECHNICAL, ADM, DASI/ CASI OBSERVATION, CAS/AOC-IN-C OBSERVATION”** etc, as per the sample format. Units / Stations are to forward the proposals for the Low Budgeted Works Programme for next financial year to Command HQ by **30 Nov.**

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Annexure-I to Appendix L  
(Refers to Para 1 of Appx L)

### INSTRUCTIONS FOR PREPARATION OF PROPOSALS FOR LOW BUDGETED WORKS PROGRAMME

1. **Introduction** Low Budgeted Works Programme is different from Annual Major Works Programme, which includes only capital works costing above ₹ 15 Lakh. Low Budgeted Works Programme includes following categories of works:-

- (a) Category I : Capital works costing ₹ 2-15 Lakh
- (b) Category II : Revenue Works costing ₹ 1-2 Lakh
- (c) Category III : Special Repairs (B & R)
- (d) Category IV : Special Repairs (E & M)

It is very important to correctly classify a work and include in appropriate category in the proposed Low Budgeted Works Programme. Some guidelines for each category of work are given below to facilitate better planning.

2. **Capital Works Costing ₹ 2-15 Lakh.** These are the low budgeted new capital works which are released at Command Headquarter level. Works pertaining to operational efficiency, security, welfare, health/hygiene and works involving modifications or addition/ alterations to existing buildings can be included in this category. Following points should be borne in mind while planning these works:-

- (a) Provision of Chapter 52 (Especially Para 52.2) of Scales of Accn 2009 and terminology of Table 52.1 must be used to decide the name of work. If planned properly, all operational and technical works can be brought within the ambit of Para 52.2 and Table 52.1.
- (b) Building number must be mentioned in the work instead of name / usage of building. Works services for **messes and guest rooms** are to be confined to authorised scales and specifications. Works services are not authorised for **CSD canteen, Air Force School and other NPFs**.
- (c) SOC or justification must bring out the purpose for which the building was originally constructed and the proposed usage. The proposed usage of building must be as per the nomenclature and scope mentioned in Table 52.1 of Scale of Accommodation 2009.
- (d) New works can be planned only in respect of units on KLP except for temporary accommodations.

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- (e) Additional accommodation should not involve an increase in the prescribed scales.
- (f) Air conditioning if proposed must be authorised, brought in / covered within the scope mentioned in Para 53.5 of Scales of Accn 2009.
- (g) Furniture proposed should be within authorised scales only.
- (h) Accn Statement Part I & II must be prepared to work out the authorisation and deficiency. The format of Accommodation Statement Part I and Part II are given in Annexure III and IV to Appendix 'L' respectively.

3. **Major Revenue Works.** These are the original or new authorised works costing ₹ 1-2 Lakh and released at Command HQ level. Minor addn / altn or modifications in operational, technical, adm buildings and health / hygiene related works should be included in this category. As per Para 41 of DWP 2007, these works will be sanctioned by CFA after consideration of Statement of Case as per Para 22 of DWP 2007. No Board Proceedings are necessary for Revenue Works. Some of the guidelines for planning these works are:-

- (a) All left over minor works of previous financial year or 2-3 minor works of similar nature costing more than ₹ 50-60,000/- should be clubbed to make one revenue work.
- (b) Units/Station may plan one work titled "Provn of misc E/M Works" which should include the combined requirement of additional ceiling fans, exhaust fans, tube lights, earthing pits, plug points and switch boards etc. The BOO for this work must specify location and type of fittings, with specifications.
- (c) Similarly, a Revenue Work titled "Provn of misc B/R works" to include the requirement of additional doors, windows, ventilators, grills, wash basins, mirror, sinks, tiling, grease traps, additional overhead tanks etc.
- (d) Specific Para, chapter, table of Scales of Accn 2009 must be clearly mentioned in AEs and BOO.
- (e) All works of minor nature brought out in Station Sanitary Dairy should be clubbed to make one Revenue Work with title "Provn of Health/Hygiene related works".

4. **Special Repair (B/R & E/M).** As per Para 248 and 259 of Regulations for MES all repairs costing more than the limits specified in Para 9 of DWP 2007 for ordinary repairs may be undertaken as Special Repairs. All special repair works irrespective of cost are released by Command HQ. Para 10 of DWP 2007

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be referred for guidance. Some of the points to be borne in mind while planning Spl Repair works are:-

- (a) Total cost of the Special Repairs works proposed should not exceed 50% of the cost of new building / assets.
- (b) A certificate from GE about the residual life of bldg, no Spl Rep have been carried out during last five years and proposed utility of bldg after special repair, must be attached.
- (c) Repair / replacement of BER cooling appliances, DG sets, chloronomes, surveyed off furniture, upgradation of existing buildings with authorised works (e.g. tiling in toilets, polished stone in kitchen etc) anti termite treatment, repair to roads, fencing, culverts, drains range etc fall in this category. BOO for replacement of BER cooling appliances should also include the technical BOO for the same.
- (d) Special Repairs works should **not** be clubbed with **NEW** works, if done so, the entire project will fall under category of capital works (Para 10(d) of DWP 2007).
- (e) Unauthorized items of works or specifications not falling within the approved Zonal specifications should not be included.
- (f) SOC, justifications must mention bldg No and authority (Para 248 and 259 of RMES and DWP 2007). Certificate that maint funds are not adequate for undertaking the repairs and reasons thereof for the repairs required, must be highlighted in the BOO/ SOC.
- (g) Special Repairs (E&M) works may be sanctioned under the provisions of Para 151 of Regulations for MES.
- (h) As per Para 9(a) (v) of DWP 2007, replacement of furniture of value upto 50% of annual allotment for maintenance of furniture could be undertaken through maintenance funds subject to ceiling of ₹ 4.00 Lakh per annum. Requirement of Special Repairs of furniture is to be projected only if the allotment under maint head is not considered adequate.

### 5. **General**

- (a) As far as possible the cost of the work should be rounded off to first decimal place or at the most to 0.05 if going to second decimal place. For example ₹ 9.842 Lakh should be rounded off to ₹ 9.80 Lakh or at the most ₹ 9.85 Lakh. Under no circumstances the cost of the work should go to third decimal place.

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(b) Each category of works should start from a new page of the format placed at Annexure II and total cost of the works in each category should not exceed the total cost of works released in that category in previous financial year + 10%, unless due to very compelling reasons.

(c) If Adm Approval in respect of the work has been issued, the same may be indicated with date. All Adm approvals issued more than one year ago but work not released are to be cancelled and if requirement still exists the AEs are to be reviewed by GE (AF) and **fresh**(Not revised) Adm Approval is to be issued.

(d) All works projected for previous financial year but not released should also be included in the priority list.

(e) In the remarks column of Annexure II, brief scope of works, justification, present stage of planning action of the work, RIC with basis of working out RIC may be indicated. Please refer example placed at Annexure II.

(f) All works may be classified under following heads OPERATIONAL, TECHNICAL, ADM REQUIREMENT, DASI/ CASI OBSERVATION, CAS/AOC-IN-C OBSERVATION or any other category.

(g) Each category of works should be signed by GE, C Adm O and countersigned by AOC/Stn Cdr.

(h) While preparing AEs, it may be ensured that all rates quoted are supported by SSR/ ED rates list numbers. Assessed / market rates must be supported by rate analysis and quotation.

(j) LBWP proposals are to be prepared in MS Excel format as given in Annexure II to this Appendix.

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Annexure II to Appendix L

**PROPOSAL FOR LOW BUDGETED WORKS PROGRAMME .....**  
**STATION/UNIT.....**

**(TO BE PREPARED IN MS EXCEL FORMAT)**

**CATEGORY I : CAPITAL WORKS COSTING ₹ 2 – 15 LAKH**

<b>Sl. No</b>	<b>Priority</b>	<b>Name of Works</b>	<b>AA No. with date (if already issued)</b>	<b>Cost (₹ in Lakh) RIC</b>	<b>Remarks Give present status of work, brief scope, justification for the work basis of RIC</b>
1.	I	Provn of DSS complex for 522 Sqn AF	Not issued	6.50	Work proposes DSS complex for 522 Sqn which is on KLP of the station but does not have permanent DSS complex. DSS complex is an integral part of Tech and Maint activities of squadron. Presently BOO is in progress. PDC for the finalisation of BPs 31 Jan 07. RIC has been worked out based on PA rates. However final cost may vary by .....% <b><u>OPERATIONAL REQUIREMENT</u></b>
2	II				
3.	III				

GE(AF)

C Adm O/S Adm O

**COUNTERSIGNED**

AOC/STN CDR

**RESTRICTED**

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Annexure II to Appendix L  
(Cont'd)

**PROPOSAL FOR LOW BUDGETED WORKS PROGRAMME .....**  
**STATION/UNIT.....**

***(TO BE PREPARED IN MS EXCEL FORMAT)***

**CATEGORY II : REVENUE WORKS (COSTING ₹ 1-2 LAKH)**

<b>Sl. No</b>	<b>Prior ity</b>	<b>Name of Works</b>	<b>AA No. with date (if already issued)</b>	<b>Cost (₹ in Lakh) RIC</b>	<b>Remarks Give present status of work, brief scope, justification for the work basis of RIC</b>
1.	I	Provn of three tier washing system in No 1, 2, & 3 airmen mess at AF Stn.....	49W/MR/03/04-05 dated 29 Oct 08	1.95	The work proposes construction of three tier washing system in all three messes to improve hygienic condition. Adm Approval issued. <b><u>DASI OBSERVATION</u></b>
2	II	Provn of grease traps in all messes at AF Stn .....	-	1.60	The works proposes construction of 05 grease traps in messes at the station for better disposal of drainage system. AEs under preparation PDC- 31 Jan 09. <b><u>ADM REQUIREMENT</u></b>
3.	III				

GE(AF)

C ADM O/S ADM O

**COUNTERSIGNED**

**AOC/STN CDR**

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Annexure II to Appendix L  
(Cont'd)

**PROPOSAL FOR LOW BUDGETED WORKS PROGRAMME .....**  
**STATION/UNIT.....**

**(TO BE PREPARED IN MS EXCEL FORMAT)**

**CATEGORY III : SPECIAL REPAIRS (B & R)**

<b>Sl. No</b>	<b>Priority</b>	<b>Name of Work</b>	<b>AA No. with date (if already issued)</b>	<b>Cost (₹ in Lakh) RIC</b>	<b>Remarks Give present status of work, brief scope, justification for the work basis of RIC</b>
1.	I	Spl Rep/ Renovation of cook house of SNCOs Mess	-	4.50	The work proposes replacement of PCC flooring with kota stone, tilling on walls, cooking platform, meat cutting room and other renovation work in cook house of SNCOs mess. BOO completed and AEs under preparation. PDC 31 Jan 09. <b><u>AOC-IN-C OBSERVATION</u></b>
2	II	Spl Rep for renovation to kitchen of SMQs (Bldg No. P/75 to P/103) at AF Stn.	-	14.50	The work proposes renovation of kitchen slabs, flooring sink and tilling in cook house of airmen SMQ. BOO completed AEs under preparation. PDC 31 Jan 07.
3.	III				

GE(AF)

C ADM O/S ADM O

**COUNTERSIGNED**

AOC/STN CDR

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Annexure II to Appendix L (Cont'd)

**PROPOSAL FOR LOW BUDGETED WORKS PROGRAMME .....**  
**STATION/UNIT.....**

**(TO BE PREPARED IN MS EXCEL FORMAT)**

**CATEGORY IV: SPECIAL REPAIR (E & M)**

<b>Sl. No.</b>	<b>Priority</b>	<b>Name of Work</b>	<b>AA No. with date (if already issued)</b>	<b>Cost (₹ in Lakh) RIC</b>	<b>Remarks Give present status of work, brief scope, justification for the work basis of RIC</b>
1.	I	Spl Rep/ replacement of BER cooling appliances at AF Stn.....	-	9.5	The work proposes replacement of 05 refrigerators, 10 water coolers, 3 WTAC and 15 desert coolers declared BER. BOO is in progress. PDC 31 Jan 05. <b><u>OPERATION AND TECHNICAL REQUIREMENT</u></b>
2	II	Spl Rep for replacement of U/G cable from main PH to CCR at AF Stn....	49W/SR (E&M)/ 01/ 05-06 dated 04 Apr 05	7.6	The work proposes replacement of worn out perished UG cables supplying MES power supply to CCR. AA issued. <b><u>TECHNICAL REQUIREMENT.</u></b>
3.	III				

GE(AF)

C ADM O/S ADM O

**COUNTERSIGNED**

**AOC/STN CDR**

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Annexure III to Appendix L

**ACCOMMODATION STATEMENT PART- I (A)**  
**FOR MARRIED AND SINGLE ACCOMMODATION**  
**PROJECTS : OFFICERS, AIRMEN AND NC(E)**

Station : \_\_\_\_\_

Name of Project : \_\_\_\_\_

Unit on KLP	OFFICERS							AIRMEN					NC(E)	GOI letter sanction Establish ment of Unit	
	AVM	AC	GC	W/C	S/L	F/L	F/OMWO	WO	JWO	SGT	CPL	LAC / AC	NC(E)		
..... Wg															
..... Sqn															
..... Sqn															
.....HU															
.....TRU															
Total(A)	A													Note :-	
% Md accn Auth	100	100	100	100	100	80	63	100	100	100	75	75	35		100
Md accn Auth, (% of A=B)	B														
Single Accn Auth C=A-B	C														

**C Adm O**

**AOC**

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Annexure III to Appendix L (Cont'd)

**INSTRUCTIONS FOR FILLING UP  
ACCOMMODATION STATEMENT PART- IA**

1. Establishment of Units on KLP of the station is to be included.
2. Establishment of Units not on KLP of the station is not to be considered.
3. Govt letter according sanction of establishment and KLP of each unit is to be mentioned in last column.
4. Percentage of married accommodation authorised as per Scales of Accn 2009 has been indicated against each rank. Authorisation of Married accn is to be worked out as per percentage of total establishment.
5. Single accommodation is to be worked out after deducting married accommodation authorisation from total establishment.
6. Station may propose construction of single living in accommodation in lieu of certain married accommodation based on local requirement.

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Annexure III to Appendix L (Cont'd)

**ACCOMMODATION STATEMENT PART (I) (B)**  
**FOR MARRIED AND SINGLE ACCOMMODATION**  
**PROJECTS : FOR DSC, MES(UNIFORM) & ARMY**  
**PERSONNEL**

Station:

Name of Project:

Unit / DSC Platoon No.	DSC, MES(UNIFORM) & ARMY PERSONNEL						Gol letter sanction establishment & KLP
	Sub Maj	Sub	Naib Sub	Hav	NK/ LNK	Sep	
.... DSC Platoon							
..... DSC Platoon							
..... AFSR							
..... SECTION							
Total (A)	A						
% Md accn Auth	100	100	75	50	14	14	Note : -
Md accn Auth, (% of A=B)	B						
Single Accn Auth C=A-B	C						

**C AdmO**

**AOC**

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**RESTRICTED**

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Annexure III to Appendix L (Cont'd)

**INSTRUCTIONS FOR FILLING UP  
ACCOMMODATION STATEMENT PART I(B)**

1. Establishment of Units on KLP of the station is to be included.
2. Establishment of Units not on KLP of the station is not to be considered.
3. GOI letter according sanction of establishment and KLP of each unit is to be mentioned in last column.
4. Percentage of married accommodation authorised as per Scales of Accn 2009 has been indicated against each rank. Authorisation of Married accn is to be worked out as per percentage of total establishment.
5. Single accommodation is to be worked out after deducting married accommodation authorisation from total establishment.
6. Establishment of only uniform personnel of MES is to be considered.

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Annexure III to Appendix L (Cont'd)

**ACCOMMODATION STATEMENT PART (I) (C)**  
**FOR MARRIED AND SINGLE ACCOMMODATION PROJECTS : CIVILIANS**

Station:

Name of Project:

UNIT KLP	ON	<u>CIVILIAN</u>				Gol letter sanction establishment & KLP
		Group A	Group B	Group C	Group D	
Total (A)		A				
% Md accn Auth						
Md accn Auth, (% of A=B)		B				

**C Adm O**

**AOC**

**INSTRUCTIONS FOR ACCOMMODATION STATEMENT PART (I) (C)**

1. Establishment of Units on KLP of the station are to be included.
2. Establishment of Units not on KLP is not to be considered.
3. Gol letter according sanction of establishment and KLP of each unit is to be mentioned in last column.
4. Married Accommodation **is authorised only at stations mentioned in Appendix 'F' of Scale of Accommodation 2009.** For other stations, Married Accommodation for civilian is not authorised.
5. Authorisation of MES Key personnel accommodation could be taken up with project. Otherwise Md Acc for civilian MES personnel is to be undertaken only as per priority of E-in-C's Branch.
6. Single Accommodation is not authorised for civilian personnel.

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Annexure III to Appendix L (Cont'd)

**ACCOMMODATION STATEMENT PART-I (D)**  
**ACCOMMODATION FOR TEMPORARY DUTY PERSONNEL**

Station:

Name of Project:

<b>Category</b>	<b>Monthly Average personnel on Temp Duty during last five yrs</b>	<b>Accommodation required For Temporary Duty Personnel</b>	<b>Reference of GoI/ Air HQ approved course of instructions, mandatory periodical Temp Duties</b>
Officers (S/L & above)			
Officers (F/L & below)			
SNCO's (Sgt & above)			
OR (Cpl & below)			

**Sign of C Adm O**

**Sign of AOC**

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Annexure III to Appendix L (Cont'd)

**INSTRUCTIONS FOR ACCOMMODATION STATEMENT PART 1 (D)**

1. Authorisation/requirement of Single accommodation for Temporary duty personnel is to be worked out and justified based on data of number of personnel arriving on Temporary Duty or Courses during last five years.
2. Accommodation statement Part I is to be supported by authentic data of Temporary Duty personnel which actually arrived at Stn during last five years.
- 3 Details of Govt sanction/ Air HQ approved course of instruction with mandatory of personnel per course, number of census per year be given to support the requirement of T/Duty accommodation.
4. Authorised periodical Temporary Duty like DASI/CASI visits, audit inspections, periodical Ops exercises, periodical movement of detachments to op locations or range firing or other ops exercises etc be noted to justify.
- 5 Since there is no specific authorisation for accommodation in scale of Accommodation, requirements will have to be justified for each base on case to case basis.

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Annexure III to Appendix L (Cont'd)

**ACCOMMODATION STATEMENT PART – I (E)**  
**FOR ACCOMMODATION FOR VEHICLES & ARMAMENT**

Name of Station :

Name of Project :

<b>Unit/ Station</b>	<b>Accommodation Required For</b>	<b>Type/ Class &amp; Details of vehicles</b>	<b>Authorised Establishment</b>	<b>Gol letter sanctioning the authorised Establishment</b>
	<b><u>Vehicle</u></b> (a) Specialist Vehicles (i) (ii) (iii)  (b) Heavy vehicles (i) (ii)  (c) Light vehicles (i) (ii)  (d) RRS Plant/ Machinery (i) MCD (ii) Road Roller (iii) Excavators  (e) Armament (i) (For A/C Accn) (ii) Non A/C Accn (iii) Open Plinths			

**C Adm O**

**AOC**

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Annexure III to Appendix L (Cont'd)

**INSTRUCTIONS FOR ACCOMMODATION STATEMENT PART-I (E)**

1. Exact Qty and Type of vehicle holding authorised as per Gol sanction is to be included in this form.
2. Qty, type and other details of Armament holding with type of accn required i.e. air conditioned, non air conditioned or open plinths as per govt letter is to be mentioned.
3. Format may be modified if required to suit the actual requirement and be classified appropriately.

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Annexure III to Appendix L (Cont'd)

**FORMAT OF ACCOMMODATION STATEMENT PART – I (F)**  
**FOR OPERATIONAL/TECHNICAL WORKS IN INDIAN AIR FORCE UNDER PARA 52.6 OF SCALE OF ACCN 2009**

Station/Unit :  
Name of work:

Description of Operational/ Technical Infrastructure required	Reference/Authy of GoI/ Air HQ letter vide which task for creation of infrastructure and operational / Tech role has been assigned to Unit/Station	Details of Ops/Tech infrastructure required as per OEM/IRD/Tech IAP/ Manual			Details of number of ac,/hp/radar/ missiles/veh/etc. to be serviced/ repaired/stored in the proposed infrastructure	Area/ facilities already available	Additional area/ space Facilities required
		Description of Acc required	Area/Facilities required	Reference of OEM/IRD/ Tech IAP/ Manual			
Provn of Hanger For Su 30 ac for 20 Sqn	Air HQ/MoD letter No.....giving the Est and Type of ac for 20 Sqn.	Hangar	60Mx40Mx11M	IAPT-4702-00-00.02	6 Su 30 aircraft to be parked and Second line servicing	NIL	60M x 40M x 11M
		Flooring	Concrete floor with joints filled with Polyurethane		Flooring of required PCN for Su 30 Aircraft	NIL	
		Annex	Double storey with corridor				
		Hydraulic Lab	10 M x 5 M Air conditioned				

**C Eng O/COO**

**AOC**

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Annexure III to Appendix L (Cont'd)

**INSTRUCTIONS FOR FILLING**  
**ACCN STATEMENT OF PART – I (F)**

1. **Name of Project.** Give name of work as included in AMWP or as per the convening order issued.
2. **Unit/Station.** Give the name of Unit/ Station for which infrastructure is being created. If name of unit is mentioned then that unit must be on KLP of station.
3. **Column – 1.** Give title/details of the operations/Technical infrastructure required. For example “ Provn of Hanger for SU 30 ac for 20 Sqn at AF Station Pune”.
4. **Column – 2.** Give the Govt of India/MoD or Air HQ letter vide which the station has been assigned the task for which the infrastructure is being created. For example for Avionics Lab works, Gol/MoD letter No Air HQ vide which the task of second line servicing has been given/allotted to the station for that particular type of aircraft.
5. **Column-3.** Give details of breakdown of each and every infrastructure/facility that OEM has given in IRD (Infrastructure Requirement Document) if it is not a new equipment then the reference/authority of any operational/technical IAP/ Manual wherein the requirement of such infrastructure/facilities have to be spelt out.
6. **Column – 4.** Details of area/space required for the number of aircraft, helicopter etc as mentioned in column 3.
7. **Column – 5.** Give the reference of OEM/IRD/Tech IAP/Manual wherein the facilities and area is given.
8. **Column – 6.** Give the details of number or frequency of turn over of aircraft, helicopter, radar, missiles, vehicles, stored, parked, serviced etc in the proposed infrastructure. This number/frequency must be as mentioned in Gol/MoD letter. For example in case of Hanger being constructed for Su 30 aircraft, the number of aircraft that Sqn is authorised with no of aircraft which are proposed to parked/serviced in the said hangar is to be given.
9. **Column – 7.** Details of Area/Space/facilities that are already available at this station.
10. **Column – 8.** Balance of facilities required = (Column4 - Column7)

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Annexure IV to Appendix L

**ACCOMMODATION STATEMENT PART II**

Name of station :

Name of project:

Sl. No.	Description of Accommodation	Authy	Str as per Acc Statement Part I	ACCOMMODATION				
				Authd	Existing usable	Balance By Addl/ Altn	Required New Construction	By
<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>J</u>

**C Adm O**

**AOC**

**INSTRUCTIONS FOR FILLING ACCOMMODATION STATEMENT PART II**

1. **Column B.** Give details of Accn required i.e. Married, Single, Garages, Hangar, WSA etc.
2. **Column C.** Quote Specific Para of Scale of Accn or Scale of Furniture or Scale of Hospital or any other Govt order vide which accn described in Column B is authorised.
3. **Column D.** Give details of strength worked out based on Est given in Accommodation statement Part I. Only total number is to be given for each type of Accommodation required.
4. **Column E.** Authorisation of Accommodation will be worked out by the engineers based on the authorisation given in scales.
5. **Column F.** Actual accommodation existing on the station in this category.
6. **Column G.** Quantity of deficient accommodation proposed to be met by Addn/Alteration of existing buildings.
7. **Column H.** Quantity of Accn required to be newly construction.
8. **Column J.** Remarks Column be used to elaborate any special facilities if required.

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Appendix M  
(Refers to Para 78 of  
Chapter II)

**SPECIMEN OF ALLOTMENT LETTER**

Tele :xyz  
FAX : xyz  
Email : cwks0@xxx.iaf.in

HQ xxx IAF  
xxxxxx

xxx/---/-/-/-----/Wks

..... (Date) 08

GE (AF) -----

Release Order Sl. No.  
xxx/CAP/RL-01/20...-...(FY)

**ALLOTMENT OF FUNDS UNDER CAPITAL WORKS**  
**(COSTING BETWEEN ₹ 2 TO 15 LAKH) : 20...-...(FY)**

1. The under mentioned Capital Works (costing between ₹ 2-15 Lakh) under Major Head 4076, Sub Major Head-03, Minor Head 202, Detail Head 2 (ii) and Code Head No 917/34 is hereby released for execution during the financial year - -----.

(₹ in lakh)

Sl. No	Unit	Name of Work	A/A No. & Date	Cost of Work	Funds allotted

2. The above allotment of funds are made from the bulk amount placed at the disposal of this HQ by Air HQ vide their letter No Air HQ/---/-/----- (Budget) dated -----.

3. Please ensure that the allotment of funds are utilised in full during the current financial year -----.

4. The fund position after this allotment is as follows:-

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**ABSTRACT**

Amount allotted to the Command	Value of Wks that can be released	Value of Wks released earlier	Amount allotted against the Wks released earlier	Value of works released till date	Amount allotted against the wks released till date

C Wks O

**Distribution:**

Air HQ (VB) (For Dir W (Budget) / New Delhi –11,  
CDA (concerned)  
Director of Audit (AF) 107 Rajpura Road Dehradun,  
CE (AF) -----, CWEs (AF)-----, Stations concerned.

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Appendix N  
(Refers to Para 85 of  
Chapter II)

Tele : xyz

Air Force Station xxx  
SOMEWHERE

SW/----/1/Wks

.....

(All Unit/Section Cdrs)

**MINOR WORKS : 20----20- -**

1. As per Manual of AF Work Services, priority list of minor works to be sanctioned for the next FY is required to be drawn up by 31 Mar \_\_ \_\_. Minor works are those new works which are urgent in nature and cost less than ₹ 1 lakh.

2. To meet urgent and operational requirements of new works services, a certain amount of funds under minor works head, are allocated at the disposal of local commander. These funds are meant to be utilised for new works, which are urgently required and can not be undertaken out of maint funds.

3. In order to ensure that funds are effectively and economically utilised, and proportionate share is given to all units/sections, it is very essential that as far as possible advance planning of requirement may be done and adequate time is given to MES for execution of work. During 200\_\_-20\_\_, Rupees XX Lakh were allotted under minor works and a total of YY minor works were sanctioned to meet the requirement of various units/sections. Good planning and with cooperation of all users, units and sections, almost 95% minor works could be executed by **31 Oct 20\_ \_**. Therefore proper foresight in planning and cooperation is required for deciding the priority of minor works for 20\_\_-20\_\_.

4. All unit and section commanders are requested to have comprehensive look at the requirement of minor works in your area of work, prioritise the requirement and forward consolidated requirement so as to reach Station Works Officer by **31 Jan 20\_ \_**. Following points must be ensured before initiating a minor work:-

(a) As far as possible the cost should not be more than ₹ 50,000/- for any one minor work.

(b) Scope of work giving details of dimensions, specifications, colours of material to be used etc must be clearly spelt out. Services of draftsman and computer graphics may be utilised for preparation of drawings.

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(c) Visualise the works proposed and see how the proposed works are going to fit in the existing infrastructure.

5. A brief as to What is a Minor Work?, procedure for initiating minor works and guidelines for unit/Section commanders for initiating minor works is placed at Appendix to this letter (Annexure to this Appendix). It is therefore requested that a consolidated requirement of minor works for 20\_\_ \_\_ be worked out at Unit Cdr/ Branch head and independent Section Cdr level only, and forward the same in triplicate to Station Works Officer by **31 Jan 20\_\_**. These works will be executed between Apr to March of next financial year, depending upon availability of funds and priority accorded by AOC.

6. Please remember scarcity of funds and ensure that ONLY right demands are processed.

C Adm O  
For AOC

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**GUIDELINES FOR INITIATION OF MINOR WORKS**

1. **What is a minor work?** Any **new** work which is otherwise authorised under the Scales of Accommodation 2009, Scales of Furniture 1989, works compendium or any Gol policy letter or by any other special authorisation, costing **less than ₹ One lakh**, is known as minor work. **Repair/replacements of minor nature are not (R) not minor work.** As per DWP 2007 even the new works costing upto ₹ 10,000.00 could be undertaken as petty repairs at the discretion of GE. It is only new additions/alterations with new specifications or upgrading the facilities which constitutes minor works. Some of the examples of minor works are:-

- (a) Provision of additional Fans or Tube lights or Exhaust Fans. (Remember, **not** replacements of U/S items).
- (b) Provision of additional Wash basin, WC in toilets.
- (c) Provision of grills, new doors, new window, and small partition walls etc.
- (d) Provision of new sign board/notice board etc.
- (e) Provision of new fixtures, plug point for new equipment.
- (f) Minor modifications in work place.
- (g) Air Conditioners should normally not be sanctioned under minor works unless authorised.
- (h) Upgradation of existing infrastructure with new and higher specification like tiling of toilets and floor etc.

2. **Procedure of Processing Minor works.** The complete procedure from initiation of demand till completion of work is enumerated below:-

- (a) The user section feels the necessity of work, and minor work Proforma are raised in triplicate. Detailed justification of the work, scope of work in simple layman's language giving various dimensions and lay out plan for better understanding should be attached with minor work Proforma by the user.

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(b) On receipt of Proforma, the works section scrutinizes for authorisation and enters the demand in minor works register and forward two copies to GE (AF) for pricing of work.

(c) GE(AF) returns one copy of Proforma, duly priced. If the work is costing more than ₹ 50,000/- Approximate Estimates part I and II are also required.

(d) After receipt of all minor works priced, Station Works Officer puts the consolidated list to AOC for prioritization and approval depending upon the availability of funds.

(e) After approval of AOC, Adm Approvals are issued, and user is also given a copy of Adm Approval.

(f) MES thereafter executes the work. All minor works are required to be completed within the same financial year i.e. by 31 Mar.

(g) User is required to be involved during execution of work. No addition in scope is however feasible at this stage.

(h) After completion, user is required to take over the work irrespective of any observations. Observation if any is to be brought out in writing to Station Works Officer at the earliest.

3. **Guidelines for Branch Head/Unit Cdrs for initiation of work.** Following guidelines may be kept in mind while initiating the demands for minor works.

(a) Although Re One lakh is the upper limit for minor works but generally works costing more should be avoided as it will take away major portion of total funds allotted.

(b) Only very genuine and deserving requirement should be projected. Operational and flight safety requirements should take priority over other requirements.

(c) Scope of work must be spelt in detail indicating each item. Detailed lay out plan/diagram should invariably be attached to amplify the projections and dimensions.

(d) Simple and layman's language should be used to project the demand.

(e) Demands are to be examined in detail before forwarding so that no change of scope is required at a later stage. It will be better if 2-3 Officers and men who are actually going to use the new work are consulted before planning the work.

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(f) Repairs/replacement of existing infrastructure (with same specifications) should **NOT** be included in minor works as these constitute repairs & not minor works. However upgradation with higher specifications is a minor work.

(g) If any difficulty is faced wrt design or plan, advise of Station Works Officer or MES may be sought.

(h) All demands of Units/Section/Brach may be forwarded consolidated (on Proforma) by **31 Jan.** No piece meal demands should be forwarded.

4. **Some of the Common Mistakes Noticed in MW Demands**

(a) Very big works like provn of covered storage shed for storing gas cylinders costing more than ₹ one lakh are demanded.

(b) Size of the fixtures asked does not fit in the place for which it is asked.

(c) Area for tiling given in minor work proforma was lesser than what was asked for during execution.

(d) Items like TV, refrigerator, heater and cooling appliances are demanded.

(e) Drawing of furniture items are ambiguous and are changed subsequently.

**P.S.** : Please put these guidelines at appropriate place for easy reference in future.

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Appendix O  
(Refers to Para 89 of  
Chapter II)

**GUIDELINES FOR PROCESSING OF MINOR WORKS**

1. Allotment of funds for Minor Works for the financial year will be made to the independent and self accounting Stations/Units by Command HQ as soon as bulk allotments are received from Air HQ. Allotment is to be made to stations based on the size, role and operational commitment of the stations. The quantum of funds being allotted under minor works is very large and play very important role in meeting emergent requirements of the station. Command HQ are to issue detailed instructions for utilization of minor works funds. Stations are to ensure adherence to the important aspects listed below.

2. **Annual Minor Works Plan.** A comprehensive minor works plan is to be made on the basis of demands/minor works proforma received from lodger units/sections. All works must be recorded in a register/computer and put up for CFA's approval. A brief scope of works must be mentioned in the register/computer format so that the actual requirement of user unit/section is recorded and changes at execution stage are monitored. Sanctioning minor works without prior approval is to be avoided. All these activities must be completed and ready for sanction by end of April. Allotment of funds under minor works is generally made during first week of May. Stations are to ensure the following after receipt of funds under minor works:-

(a) All efforts are made to sanction and issue Adm Approval in respect of all minor works by **30 Jun.**

(b) No reserve funds are to be kept.

(c) PDC for E&M minor works may be confined to four weeks and for B&R works to a maximum of **three months.**

(d) Avoid sanctioning minor works for larger amounts unless unavoidable. Efforts be made to combine two or more minor works with similar scope of work to make one Major Revenue Work. For such cases, additional Revenue Major Works are to be projected to command for release.

3. **Minor Works Register.** The format of Minor works register is placed at Annexure I to this Appendix. This register must be countersigned by the CFA at the end of the financial year after filling up all the sanctioned minor works. Work wise expenditure and date of completion certificate obtained from user must be reflected in this register.

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4. **Completion Report.** Completion report in respect of all minor works is to be obtained from the users as per the format placed at Annexure II to this Appendix. Completion certificates are to be serially numbered and endorsed in Minor Works Register in remarks column. Observations made by the users must be rectified immediately by the contractors. Receipt of this certificate from the users must be endorsed in the Minor Works Register.
5. **Reconciliation/ Re-appropriation of Funds.** Funds for Minor works allotted to the Stn are to be utilised at the discretion of AOsC/Stn Cdrs based on the estimates given by GEs. The estimates for Minor works prepared by GEs are based on the broad guidelines and rates given in SSR or ED etc. Since these are only estimates, in actual booking of expenditure the amount may be different. **For example** if a Minor work has been sanctioned for ₹ 57,600/- the actual completion cost may be only ₹ 48,000/-. Thus in this case there is a saving of ₹ 9,600/-, similarly in some other case the expenditure may be more than the Adm approval amount. Thus the completion cost may vary because of certain changes in scope of work during execution stage. It is therefore very important that re-appropriation of minor work funds is carried out at the end of financial year after completion of all Minor works so that the balance if any can be utilized for sanction of additional minor works. A format of such re-appropriation of funds is placed at Annexure III to this Appendix. Since, this is a financial re-appropriation, only CFA i.e. AOC/Stn Cdr are authorised signatories.
6. **Execution/Expenditure.** Clear scope, directions, handing over of site (wherever applicable) is to be made available to MES for execution. All users are to provide support to the contractor and monitor the work at site. They must intimate progress of work and problems if any at regular intervals till completion of the work. Instructions may be issued to GE to make a separate contract for minor works rather than utilizing the Terms Contract. This will ensure quality of work through a dedicated contract. However this should not be done at the cost of time delays.
7. Responsibility of CFA and administration does not end either with issue of Adm Approval or execution of work. Booking of expenditure and reflection in MER is equally important. Very often it is observed that expenditure under minor works is very low till the month of December. Minimum 50% expenditure must be reflected in MER of 30 Sep and 67% by 31 Dec.
8. Demand for additional funds under minor works by command is to be considered only on the basis of expenditure reflected in MER and not on the basis of Adm Approvals issued.
9. Station Commanders must appreciate that minor works funds are the only funds under work services which are at the direct discretion of local Commanders. Its effective utilisation can ensure immediate results and highest user satisfaction.

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Annexure I to Appendix O

**PROFORMA FOR MINOR WORKS REGISTER**

Minor Wks No.	AA No. & date	Name of work	Cost as per AA in ₹	Funds Allotted to this work	Initial/Subsequent allotment made by Command/Balance funds after last Minor Works in ₹	PDC	Date of actual Completion	Completion Certificate Sl. No.	Completion Cost / Remarks.
1	2	3	4	5	6	7	8	9	10
<b>Sample entry</b>									
SWAC/9006/2/Wks dated 02 May 06(RL-01)					18,00,000/-				
1	2W/MIN/01/06-07 dated 09 May 06	Addn/Altn to Bldg No. 218 at AF Stn Pune	60,000/-	60,000/-	17,40,000/-	10 Sep 06	31 Aug 06	01	
Addition allotment received vide SWAC/9006/2/Wks dated 10 May 06(RL-02)						₹ 2,00,000			
Total Balance Funds						₹ 19,40,000			

**Note**

1. Allotments made by Command HQ are to be endorsed in RED ink with entry running across the columns of register with reference number of allotment letter.
2. Amount of initial and subsequent allotment mentioned in column No. 06.
3. Total to be made with balance amount and subsequent allotments made by Command.

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Annexure II to Appendix O

**SL No. /2009-10**

**USER'S COMPLETION CERTIFICATE – MINOR WORKS**  
**MINOR WORKS No.....**

1. Certified that Minor works sanctioned vide ..... dated ..... for an amount of ₹ ..... has been completed on.....(date) as per the scope of work mentioned in Adm Approval. The completion cost of the work is .....

Quality of work is

.....  
.....  
.....

2. Following observations/ comments are made:-

.....  
.....  
.....

3. Buildings/assets created/ procured have been taken over and inventory action completed.

Signature of Officer i/c of user section

**Countersigned by C Adm O**

Note: This certificate must be obtained from users for each minor work sanctioned separately.



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Appendix AA  
{Refers to Para 108 (a) of  
Chapter II}

**SPECIMEN LETTER FOR THE RE-APPROPRIATION OF BUILDING  
ENTAILING NO ALTERATIONS AND NO COST**

Tele : xyz

xxxxx AF  
xxxxxxxxxxx

xxxxx/----/----/Wks

Jan 10

GE (AF) -----

**RE-APPROPRIATION OF BUILDING No. -----AT -----**

1. In exercise of the powers vested in me vide Ministry of Defence letter No. B/01247/ Q3W (Policy)/2119/SO III/D (W-I) dated 18 Nov 68, I authorise the re-appropriation of building No. ----- for use as living-in accommodation for SNCOs, with effect from ----- (date) for a period of two years.
2. The re-appropriation will not entail any alteration or cost.
3. Building No. ----- was originally constructed as living-in accommodation for airmen (Cpls/ACs). Construction of another building for the purpose for which building No. ----- was originally constructed will not be initiated during the period of re-appropriation.

( )  
Group Captain  
Station Commander

Copy to:-

HQ ----- IAF  
CDA (concerned)

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Appendix AB  
{Refers to Para 108 (b) of  
Chapter II}

**RE-APPROPRIATION OF BUILDINGS ENTAILING  
ALTERATIONS AND EXPENSE**

(See paragraph 155, Regulations for the MES)

(This form will also be used when buildings are transferred to or exchanged with  
those belonging to another Department or are loaned to units.)

Station..... Independent Sub Area/Area.....

Number, Name and location of building	Purpose for which constructed	Proposed re-appropriation				Remarks
		Details	Auth'd (A) or Special (S)	Approx cost of structural alteration	Date to which required or permit (P)	
1	2	3	4	5	6	7
						Certified that the change/transfer has been noted in the Register of Building on pages..... and that periodical Services Measurement Books, Record Plans of Buildings, Cantonment Plans, etc. have been amended as necessary. Garrison Engineer.

Approximation of buildings entailing alterations and expenses (To be initiated by Unit concerned).

- (a) No. and Name of the building.
- (b) Purpose for which constructed.

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- (c) Purpose for which it is proposed to be re-appropriated.
- (d) What are the present arrangements for the accommodation required?
- (e) Why cannot these arrangements continue?
- (f) What use is to be made of the accommodation rendered surplus by the re-appropriation?
- (g) Is the accommodation being re-appropriated surplus?
- (h) Is the accommodation likely to be required again for its original purpose?
- (j) Is the accommodation likely to lead to a demand for replacement?
- (k) What alterations are required in the building?
- (l) Will such alterations prevent the building being re-used for its original purpose?
- (m) Are any extensions or electric and water installations necessary or is additional electric or water equipment required?

Recommendations of Local Commander

Passed to GE for costing on.....

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Appendix AC  
(Refers to Para 71(b)(v) and  
132 (a) of Chapter II)

**DUTIES OF PROJECT MANAGEMENT GROUP/  
PROJECT MANAGEMENT OFFICER**

1. To achieve a high degree of users' satisfaction, it will be most desirable to detail dedicated Project Management Group (PMG) or Project Management Officer (PMO) to be associated from the Board of Officers stage till completion of the project. However due to prolonged gestation period from the conceptualization of a project to actual execution, this may not always be feasible. However as soon as the work is released by Command or Air HQ, it is incumbent on the part of Station to detail PMG/PMO for every work. The officers so detailed should normally be from the end user section that is going to utilize the infrastructure being created. For Md Accn project or living-in accommodation projects, a team of appropriate ranks be considered including Warrant ranks and living in Sgts, Cpl /LAC for billets.

2. **Composition.** Following composition is suggested:-

(a) For projects costing more than ₹ 100 lakh, PMG may consist of following components subject to availability of officers at Stations:-

- (i) Wg Cdr/Sqn Ldr from user unit/section.
- (ii) Appropriate specialist rep from COO, C Eng O, C Adm O, when planning specialised capital works such as runway resurfacing, aircraft servicing base, integrated electronic labs, WWR/WSA accommodation, BPI complex, hospital, hangar etc.
- (iii) B&R, E&M and BS representatives from the MES.
- (iv) Appropriate number of Warrant ranks (if required).

(b) For projects costing more than ₹ **25 lakh** but less than ₹ **100 lakh**:-

- (i) Wg Cdr/Sqn Ldr from user section/unit.
- (ii) Specialist reps from concerned branches/trade.
- (iii) MES reps.

(c) For project costing less than ₹ **25 lakh**, AOC/Stn Cdr may at his discretion detail PMG or a Project Management Officer with one rep from MES. Warrant Rank Officers may also be detailed as PMO for Major revenue works or special repair works at the discretion of AOC/Stn Cdrs.

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3. Immediately on release of work, PMG/PMO should thoroughly study the scope of work included in BOO and Adm Approval. PMG must confirm that all the requirements/scope of work mentioned in the BOO has been included in AEs attached with Adm Approval. Discrepancies, if any noticed are to be brought to the notice of CFA. They/he must be explained that at this stage it is not possible to change the site or scope of work or increase / decrease in quantities, but minor deviation within the permissible limits in consultation with engineers is feasible.
4. Project Management Officer / Group is to liaise with Director Planning of CE's office in case of works costing more than ₹ 75 lakh, with CWE for works costing between ₹ 15 to 50 lakh and with GEs for all works costing less than ₹ 15 Lakh. PMG in consultation with **CEA** is to finalise the dates for issue of notice of Tenders (NIT), issue of Tender (DIT), receipt of Tender (DRT) and commencement of work (DOC). These dates are to be entered in the remarks column against the work on web site of Directorate of AF Works at Air HQ.
5. PMG/PMO are responsible for the following:-
  - (a) To inspect the site and ensure that site is clear and ready for handing over to engineers before commencement of the work. In case site is not clear or can not be handed over in totality, then work out the schedule/phases in which site can be made available for execution and incorporate the same in tender/contract planning.
  - (b) To spell out the restriction on working hours, material dumping, security restriction etc. for the working of contractor so that the same could be incorporated in tender. However it needs to be remembered that every restriction on contractor's work may add up to the cost.
  - (c) When the work is being executed in already occupied building, PMG to ensure that users are informed about the planned work well in advance and site is handed over for work without any delay.
  - (d) To provide all inputs required by the engineers for preparation of line plan/drawings. Drawing so prepared by engineers is to be approved by AOC/Stn Cdr at the earliest. The delays are to be avoided and as far as possible drawings should be moved by hand.
  - (e) To attend tender presentation at the office of CE or CWE to understand and appreciate the planning process.
  - (f) To monitor and closely follow up the case of revision of Adm Approval if initiated after release of work. Complete process is to be followed up by hand.

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(g) To monitor the physical progress of work on ground and visit project site regularly (Not less than once in a week). To compare the progress as per CPM/PERT chart to ensure monitoring of adherence to PDC. Regular feed back on the progress is to be forwarded to Command through C Adm O.

(h) To monitor the progress of work with regard to PDC and regularly update the progress of work in the remarks column against specific work in AF Work web site of Air HQ.

(j) During construction/execution stage, PMG is to monitor adherence to the sanctioned scope of works.

(k) Analyse and approve suggestions for improvement of assets after taking into account the contractual, technical and financial implications. A copy of the contract document Schedule (A) should be made available to the PMG.

(l) To ensure that the cost does not exceed the sanctioned budget and authorised deviations.

6. In case of any likelihood of slippage of PDC, the case of extension of PDC is to be intimated by concerned GE (AF) and to be monitored/ followed up by PMG/PMO.

7. The technical quality and structural soundness is the responsibility of the MES. It is not intended that the users should assess the technical quality of works being carried out by collection and testing of materials being incorporated or call any outside agency for commenting on works being executed. The quality of materials to be used is included in tender Documents SSR or particular material is below laid down specifications, they are at liberty to point this out to the appropriate MES authorities who will explain the specifications to the Stn Cdrs for their satisfaction. In case of any doubt, matter can be reported to Command HQ for obtaining the services of Technical examiner. However no instructions should be passed directly to the contractors by the users.

8. On completion of work, Engineer I/C is to render completion certificate and PMG is to give completion report for ordering Handing/Taking over Board of Officers.

9. Handing/Taking over BOO is to be independent of PMG/PMO. PMG should be involved in the process of handing/taking over of the completed assets. PMG should also ensure that the observations made during taking over the project are rectified as per the guarantee clause of the contract.

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Appendix AD  
{Refers to Para 146 (a) of  
Chapter II}

**COMPLETION REPORT FOR ORIGINAL WORKS**

Head of Account .....

Name of Area .....

Division .....

---

**Part A**

1. Name of Work.....
2. Authority according administrative approval and amount.....
3. Total amount of Technical Sanction.....
4. Date physically completed.....
5. Recorded expenditure up to (4).....
6. Estimated amount of liabilities outstanding on (4).....
7. Certified that necessary entries have been made in the Register of Buildings/plant Record Book (in the case to furniture, certified that the articles have been brought on ledger).

---

Station .....

No..... Date..... AGE

Forwarded to CWE through U. A.	GE
Forwarded to CE	CWE
Forwarded to E-in-C	CE
Noted and returned to GE	E-in-C
	CE
	CWE

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**Part B**

8. Completion cost ₹.....
  9. Percentage of excess over administrative approval.....
  10. Authority passing the excess.....
  11. Certified that the following have been completed in respect of this project:
    - (a) Record Drawings of buildings.
    - (b) Periodical Services Measurements.
    - (c) Alteration of Cantt. Plan where necessary.
    - (d) Completion cost recorded in the register of Buildings.
- 

Station.....  
No.....

Date..... AGE  
Date..... GE  
Date..... UA  
Date..... CWE

**STATEMENT OF CASE FOR ENHANCEMENT OF PDC**

1. **Works details**

- (a) Job No. & name of Work :
- (b) Adm approval Amount :
- (c) Authority :
- (d) Date of release :
- (e) Original PDC :

2. **Present Status**

- (a) Planned progress :
  
  
  
  
  
  
  
  
  
  
- (b) Actual progress :

3. **Reasons for delay**

(Elaborate if the delay is due to FC case (Give date of initiation, date of approval) or due to delay in planning (Give details of Initial contract planning with reasons of delay, if any) or due to Shortage of Govt Sub Stores or due to changes made by users (Give details like change in site or scope etc) or Slow Progress by contractor (reasons for delay and action taken) or any other miscellaneous reasons with detailed effect towards completion.

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4. Details of contract

(a) CA No. :

(b) Name of contractor :

Date: Garrison Engineer

---

Remarks of CWE(AF)

Date: CWE(AF)

---

Remarks of CE(AF)

Date: CE(AF)

---

Remarks of AOC/Stn Cdr

Date: AOC/Stn Cdr

---

Remarks of Command HQ

Date:

---

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Appendix AF  
(Refers to Para 161 of Chapter II)

**QUARTERLY PROGRESS REPORT : QE .....**

**Command :**

Sl No	Stn/Unit	Name of Project	AA/RAA Cost (₹ in Lakh)	Date of release	PDC/ RPDC (Date)	Physical Progress		Total fund allotted as on date	Expenditure (₹ in lakh)			Funds reqd in current FY	Remarks*
		AA/RAA No & Date				Planned %	Achieved %		Planned	Achieved	Balance/ Addl Reqmt	Expected carry over liability	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(j)	(k)	(l)	(m)	(n)	(o)

- \* Remarks.
- (a) In case of work yet to be contracted, DIT & DRT and likely date of conclusion of contract.
  - (b) In case of work completed during the quarter, date of completion and date of handing over to user.
  - (c) In case work progressing behind schedule, reasons for delay/slow progress and action taken to speed up the progress.

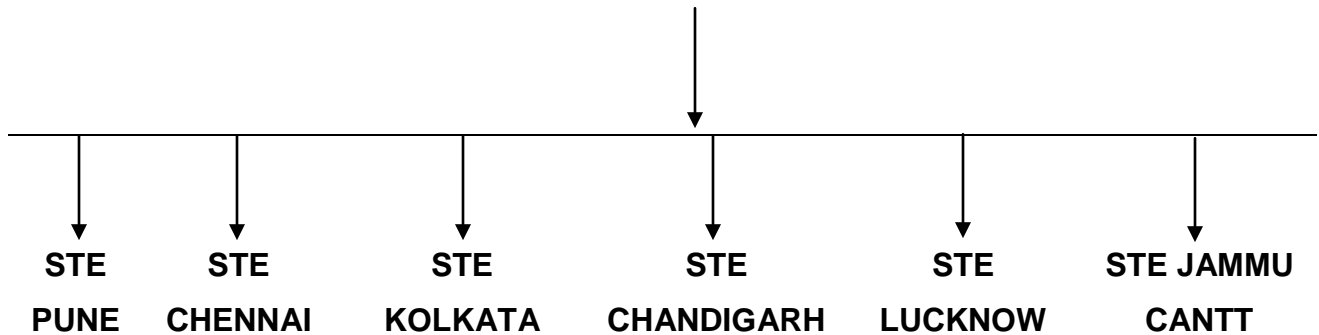
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Appendix AG  
(Refers to Para 168 of Chapter II)

**ORGANISATION AND LOCATION**

**ADDITIONAL DIRECTORATE GENERAL TECHNICAL EXAMINATION**

(at QMG Br Army HQ)



**Details**

1. **HQ CTE**

CTE – 1 (Maj Gen)

STE – 1 (Lt Col/SSQ/Superintending Engineer)

TE – 1 (Maj/SW/Executive Engineer)

2. **Command Teams (each)**

TE – 1 (Maj/SW/Executive Engineer)

ATE – 2 (ASW/Asst Executive Engineer)

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Annexure-I  
(Refers to Para 2 of Chapter II)

No.B/01247/Q/Policy(Works Procedure)/237/D(Works-I)  
Government of India  
Ministry of Defence  
Sena Bhavan, New Delhi,

Dated 21<sup>st</sup> June, 2007

To

The Chief of Army Staff  
The Chief of Naval Staff  
The Chief of Air Staff

**DEFENCE WORKS PROCEDURE 2007**

Sir,

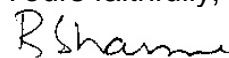
The Jafa Committee had recommended the revision of Defence Works Procedure, 1986 to streamline the existing procedure so that delay in planning and execution of works may be minimized and cost over runs in Defence Works could be reduced.

2. The recommendation of the Jafa Committee were considered in the Ministry of Defence and accordingly, the Defence Works Procedure, 1986 revised with the approval of the competent authority. The revised procedure will henceforth be known as Defence Works Procedure, 2007 abbreviated as DWP 2007.

3. A Copy of the Defence Works Procedure 2007 is enclosed. This will supersede the earlier Defence Works Procedure, 1986 issued vide letter No. 95533/POL/CSS/E2 WPC/687/DO-II/D(W-I) date 17<sup>th</sup> June 1986 and as amended from time to time and will be effective from the date of issue of this letter.

4. This issues with the concurrence of the Defence Finance Division vide their U.O.No.532/D/F/(W-II) dated 21<sup>st</sup> May 2007.

Yours faithfully,



(Rosy Sharma)  
Director (Works)

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Annexure - II  
{Refers to Para 18 & 51 (a) of  
Chapter II}

No 95533/POL/CSS/E2WPC)/472/DO-II/D(W)  
Government of India  
Ministry of Defence  
New Delhi

24<sup>th</sup> April 1986

To

The Chief of the Army Staff  
The Chief of the Naval Staff  
The Chief of the Air Staff

**SANCTIONING OF EXECUTION OF CIVIL WORKS**  
**BY MES ENFORCEMENT OF REVISED TIME-SCHEDULE**

I am directed to say that this Ministry has had under its consideration, for the past time, the rationalization of the existing procedures relating to the issue of sanction/execution of Civil Works by the MES. Accordingly, a committee was set up to review the existing MES works Procedure and to suggest measures for streamlining/rationalizing it, also reviewing the obtaining time factors.

2. The Government have accepted the recommendations of the said Committee regarding adherence to a specified timeframe for the sanctioning and execution of civil works by MES and accordingly direct that the time schedules as given at Appendices 'A' and 'B' for the pre/post administrative approval activities be adhered to strictly.
3. Service HQ may issue suitable instructions to all concerned.
4. This issues in consultation with the Ministry of Defence (Finance)

Yours faithfully,

Sd/  
(Bhag Mall)  
Deputy Secretary to the Govt. of India

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Annexure - II (Cont'd)  
 {Refers to Para 18 & 51 (a) of  
 Chapter II}

APPENDIX 'A' to GoI MoD LETTER 95533/POL/CSS/E2(WPC)/472/DO-II/D(W)  
dt 24<sup>th</sup> April 1986

**TIME SCHEDULE FOR PRE/ADM APPROVAL ACTIONS BY THE STAFF  
 USERS AND ENGINEERS FOR GETTING SERVICES HQ POWER WORK**

(All the duration's indicated below are in weeks reckoned from D-day)

- |     |  |   |                     |
|-----|--|---|---------------------|
| 1.  | Acquisition of land and taking over  | : | Time duration D-day |
| 2.  | Commands HQ obtains proposal for Major Works Programme to be implemented two years later and forwards then to QMG's branch | : | 10                  |
| 3.  | Analysis Major Works Programme and approval after Ascertaining availability of funds                                       | : | 5                   |
| 4.  | Initiation of Rough Cost at case for acceptance of necessity by Commands   | : | 4                   |
| 5.  | Technical scrutiny of rough cost by E-in-C's Branch  | : | 4                   |
| 6.  | Scrutiny of acceptance of necessity proposal by CFA & According approval   | : | 9                   |
| 7.  | Issue of convening order for Siting Boards by Commands   | : | 2                   |
| 8.  | Preparation time and actual assembly of Boards   | : | 10                  |
| 9.  | Processing BPs through the Commands and transmission to QMG's Branch including preparation of /AEs by Engineers            | : | 6                   |
| 10. | Technical scrutiny of AEs by E-in-C's Branch   | : | 8                   |
| 11. | Scrutiny of AEs by Command & issue of Adm Approval   | : | 12                  |
| 12. | Release of work  | : | 6                   |
| 13. | Receipt of Adm Approval /release of work Later by CE.  | : | 2                   |

(Latest by 1 Apr)

-----  
 Total 78 weeks  
 -----

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Annexure - II (Cont'd)  
 {Refers to Para 18 & 51 (a) of  
 Chapter II}

APPENDIX 'B' TO GoI MoD LETTER No 95533/POL/CSS/E2/PC/472/DO-II/D(W)  
DATED 24 APR 1986

**TIME SCHEDULE PART II**  
**TIME SCHEDULE FOR POST ADMINISTRATIVE PLANNING AND**  
**EXECUTION OF WORKS**

SL NO	Stage of work	CE's Contracts		CWE's Contracts		GE's Contracts		Remarks
		Md	OTM	Md	OTM	Md	OTM	
1.	(a) Issue of works operational order/ Executive Instructions  (b) Issue tender notice for building; forecast requirement, Tools & Plant and demand of stores with long lead time.	2	2	2	2	2	2	Reckons from Date of Receipt of Release letter. Please see Note 1
2.	Site Development	-	-	-	-	-	-	Dovetailed into Pre-Adm Approval Stage (See Note 2)
3.	Approval of line plans by the Users	-	-	-	-	-	-	Dovetailed into Siting Board Proceedings Stage (See Note 3)
4.	Preparation of Designed and working Drawings (a) Married Accommodation involving design of two categories of buildings  (b) Married Accommodation involving Multi-storied bldgs.	2	-	4	-	3	-	(a) For timing involving design of four or more categories of building, see Note 4  (b) Design paralleled with execution of pile Foundations after acceptance of necessity

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	(c) OTM Accommodation upto 5000M plinth area.  (d) External Services Design and planning.	-	6	-	8	-	4	(See Note 5).  (c) For Complex structures, add 33%, more time. For large plinth areas, see Note 6.  (d) For developed Areas/Zones, the time is concurrent with 4(a) or (c), Also see Note 7. For Head works/Installations /Central
5.	Stores indent (Firming up) and Issue of Tenders (Simultaneous)	4	4	4	4	2	2	Includes preparation of tender documents, pricing by ES Section and issue of TS by E2 plg. Also see Notes 8&9.
6.	Time with Tenders	4@	6#	6	8	6	8	@Two more weeks for tenders including extensive external services. #Tenders covering complex/Prestigious building may take six more weeks.
7.	Security & acceptance of Tender	3	4	4	4	3	4	(a) One more week for extensive. First services if included. (b) Two more weeks for complex/prestigious bldgs. (c) 6-8 weeks extra for FC Cases.
8.	Period of physical Execution	80	80	58	62	33	36	(a) For Multi-storeyed Construction, add 25% extra. (b) For High value bldg contracts (say over 1.to 2. crores at 1985 prices), add pre-rata extra. For wharves, jetties, and Runways, see Note 10 below.
	<b>Total</b>	<b>95</b>	<b>102</b>	<b>78</b>	<b>88</b>	<b>49</b>	<b>56</b>	

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**Notes:**

1. The time durations indicated in the above table are in weeks. The time shall reckon from the date of receipt by the competent Engineer Authority the adm approval letter or the release of work letter whichever is later. This will henceforth be known as date of **executive order**.

2. The site development /soil investigation is to be linked with acceptance of necessity and delinked with the main project when involving the following items of work:-

- (a) Reclamation
- (b) Soil Investigation
- (c) Forest clearance
- (d) Extensive earth work
- (e) Pile foundations

3. **Approval of Line Plan by Users.** All the buildings will be constructed to the standard design/type of design existing at the time of siting Board. The line plan needs no approval in respect of buildings for which type design/standard designs exist. Any non-standard/uncommon building included in a project should be identified at the Siting Board Stage itself. The covering order for the Siting Board will list out all such building with a directive that line plan will be prepared and finalized by the Board, taking assistance from the user's representative on the Board. When uncommon/specialist buildings are to be included in a project; the user's representative on the Board shall be well conversant/competent to guide the Board in the preparation of line plans. Line plans so finalized will be appended to the Board proceedings are eventually approved by the competent administrative authority in consultation with the respective Directorate/Branch. No enhancing time is to be included for approval of line plans.

4. The duration for approval of line plan will be :-

- |     |                               |   |         |
|-----|-------------------------------|---|---------|
| (a) | Four categories of buildings  | : | 4 weeks |
| (b) | Six categories of buildings   | : | 6 weeks |
| (c) | Eight categories of buildings | : | 8 weeks |

5. As pile foundations will invariably be undertaken during the time lag between acceptance of necessity and accord of adm approval which is 12 months, no further effective time for preparation of design and drawings of multi-storeyed buildings is specified after adm approval of the project is accorded.

6. Preparation of designs and working drawings OTM accommodation (in CE's office).

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<u>Plinth area m<sup>2</sup></u>	<u>Time</u>	<u>Remarks</u>
(a) 5000-25000	12 weeks	} For complex structures add 33% extra.
(b) 25000-75000	18 weeks	
(c) For each 10,000 thereafter	2 weeks	

7. The actual date of commencing of the planning of external services and air-conditioning will have to be dovetailed into the planning programme for construction of buildings in order to ensure that the completion date of the services match with the completion date of the building.

8. All repetitive pages of a tender document will be got printed and sufficient number of copies will be stocked by the accepting authority. Proofs of all such printed pages will be read and corrected before printing by SW in CE/CWE office. The printing will be arranged by the Engineer authority at various levels directly through trade and no reference nor approval of DMRF will be necessary.

9. In respect of external services being included in the building tender, all the activities pertaining to the services except preparation of plan and document shall coincide with the planning date for building, for which co-ordination will be ensured by the ACE planning of the zone.

10. No time duration have been laid down in these Tables for projects with EFC Memo/CCPA or works of nature peculiar to a service such as wharves & jetties for the Navy and Runways for AF. In such cases, a detailed analysis will be carried out by E-in-C's Branch and time schedule evolved and included in the Engineer appreciation except in cases of time-bound projects when the completion dates will be as stipulated by the Service HQ/Government with the necessary assured finances.

11. The actual date of commencing of the planning of external services and air conditioning will have to be dovetailed into the planning programme for construction of buildings in order to ensure that the completion date of the services match with the completion date of the buildings.

Annexure - II (Cont'd)  
 {Refers to Para 18 & 51 (a) of  
 Chapter II}

ANNEXURE –I to APPENDIX 'B' of GoI MoD LETTER No  
 95533/POL/CSS/E2/PC/472/DO-II/D(W) Dated 24 Apr 1986

**TIME SCHEDULE FOR POST ADMINISTRATIVE PLANNING AND  
 EXECUTION FOR EXTENSIVE EXTERNAL SERVICES  
 (IN WEEKS)**

SI No.	Stage of work	CE's Contracts	CWE's Contracts	GE's Contracts	Remarks
1.	(a) Issue of works operational order/Executive order/Executive (b) Issue tender notice for buildings; forecast requirement, Tools & Plant and demand of stores with long lead time.	2	2	2	Please see Note 4 under Appendix 'B'
2.	Preparation of Design and working Drawings (a) Ext E/M Services incl Head works including Head works/Installations. (b) -Do- without Head works/Installations (c) Central Sewage Disposal Plant and Sewer Networks (d) Sewerage Networks with Pumping installations. (e) Roads, culverts and Area Drainage. (f) Air-conditioning	24 18 30 18 24 6	- 8 - 10 16 8	- 8 - - 10 8	

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3.	Stores indent (firming up) and Issue of Tenders	4	4	4	Including preparation of tender documents, pricing by E8 section and issue of TS by E2 Plg. Also see Notes 8&9 under Appendix 'B'
4.	Time with Tenders	8	6	6	
5.	Scrutiny and Acceptance				
	(a) Ext E/M Services	6	4	3	Two weeks extra for complex cases. Also see note 11 under appendix B -do- -do-
	(b) Air-conditioning	8	-	-	
	(c) Other Ext-services	4	4	4	
6.	Period of Physical execution				* Add 50% -100% time in complex/ High value schemes. But see Note 11 under Appendix 'B' -do- -do- -do-
	(a) Ext Ele/Water Supply	60*	50	25	
	(b) Air -Conditioning	40*	-	-	
	(c) Other Ext Services like Road/Path Area drainage.	50*	50	30	
	(d) Central Sewage disposal scheme	60*	-	-	

Annexure-III  
{Refers to Para 43 & 120 of  
Chapter II}

Air HQ/95378/1/Fin P/2431/US(RC)/Air-II/06

Government of India  
Ministry of Defence  
New Delhi- 110011

14 Jul 2006

To

The Chief of Air Staff

**DELEGATION OF FINANCIAL POWERS TO VARIOUS  
INDIAN AIR FORCE AUTHORITIES**

Sir,

1. I am directed to refer of Ministry of Defence letter No. 10(3)/02-D(Air-II) dated 01 Apr 2002 on the above mentioned subject and to convey the sanction to the **delegation of Capital procurement power** to the extent mentioned in Annexure I of this letter and further enhancement/addition in the existing delegated financial powers under Revenue to various Air Force authorities as specified in schedules of FR Part-I, Vol. II, Revised Edition 1983, as given in Annexure II to XXI (viz. Schedules I to XXII except Schedule X and XIV) to this letter. Relevant Schedules and connected rules of FR Part-I are to be amended accordingly.
2. The guidelines for exercise of delegated financial power will be as under.

**(CAPITAL)**

- (a) The delegation of financial powers for Capital procurements is to be exercised as per the procedures laid down in DPP 2005. The Competent authority to accord various stage approvals as per DPP procedure and the composition of CNCs will be laid down separately by Air HQ with the approval of MoD.
- (b) Air HQ has to render a quarterly Report to MoD (Acquisition wing) on the progress of various Capital schemes under delegated powers, indicating of various Capital Schemes under delegated powers, indicating the actual cash out go against the budgetary projections.

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## **REVENUE**

(c) Under Revenue, the enhancement of delegated financial powers to various functionaries should lead to better fiscal management resulting in tangible benefits by way of timely procurements, time bound implementation of schemes/projects, speedy disposal of cases contributing towards **enhanced fleet serviceability** and optimum use of in house capabilities built up over the years. All CFAs accordingly need to be aware of the same.

(d) A Revenue **Prioritized Procurement Plan** for centralized procurement will be drawn up taking into account carry over liabilities and the fresh procurement required ensuring **desired fleet serviceability levels**. Detailed instruction with regard to fleet/weapon system wise monitoring of serviceability levels linked to budgetary allotment will be laid down in a separate order by Air HQ.

(e) The DPB should preferably be apprised of the Revenue **Prioritized Procurement Plan** of Air HQ so that these are duly harmonized with the AAP for Capital Equipment and the maintenance requirement are duly factored into the budgeting process.

(f) Air HQ is to submit a **monthly return of MoD on the performance of the Prioritized Procurement Plan** and the Progressive utilization of revenue budget. Air HQ is also to lay down a **PERT chart** for all major schemes under revenue for close monitoring of the progress of such schemes.

(g) Air HQ is also to put in place a system for data sharing and data networking, both within the Air Force and Inter Services in order to widen the procurement sources and obviate differential being paid for the same item by the Air Force Commands and different Services.

(h) Air HQ will make budget available to each budget holder/centre at the beginning of the financial year and monitor the extent of user satisfaction that has gone up as a result of delegation.

(j) The **monetary limit** which has been set in each case extends to each separate sanction. The criterion in every case is the total cost of a measure and no measure which requires the sanction of higher authority shall be sanctioned by a lower authority in installments.

(k) **CVC guidelines** issued from time to time on purchases/procurement/other financial dealings by Central Govt Departments **will be strictly complied with while processing cases in exercise of the delegated financial powers.**

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3. The enhanced/additional delegated financial powers under revenue will be exercised subject to fulfillment of the following conditions:

(a) The exercise of the financial powers will be governed by existing orders and instructions, DSRs, FR Part I & II, DPM 2005 (where applicable), GFR 2005, as amended by the Government from time to time, and general stipulations contained in subsequent paragraphs as also those contained in the notes to the Schedules. Standard Operating Procedure (SOPs) relating to the exercise of the financial powers as issued and amended from time to time are to be strictly followed. SOPs for financial powers delegated for the first time will be issued by Air HQ with the approval of MoD. Cases not covered by the delegated financial powers will be referred for sanction to the Ministry of Defence.

(b) All delegated financial powers referred to in Col. 3 of the schedules should be exercised by the CFAs in consultation with the accredited IFA. Financial advice/consultation will be provided in writing/through electronic media and will be based on regular noting on file. In case of an extreme urgency, decision could be taken in meeting/discussions for which details of deliberations/minutes will be recorded. All such cases should be followed up immediately by regular noting on the file where the decision taken during the meeting/discussions will be recorded and financial advice recorded in writing. In matter within the delegated powers, it is open to the CFA to overrule the advice of the IFA by an order recorded in writing containing the gist of objections of IFA and reason for overruling advice. A copy of the Order overruling financial advice will be endorsed to the next higher CFA informing the IFA also simultaneously. In such cases, it will be open to the IFA to report the matter to the next higher IFA or dropping it as deemed fit.

(c) The financial powers as enumerated in Col. 2 of the schedules are to be exercised by the CFAs without having to refer to IFA at any stage of activity.

(d) The Principles to be followed for determining the mode of tendering i.e. whether to go in for Open tender/Limited tender/Single tender/Proprietary Article Certified tendering, will be as laid down in Chapter IV of DPM 2005 as amended from time to time.

(e) The powers to sanction indents, contracts and purchases in respect of central procurement of maintenance stores on PAC basis and on non PAC single tender basis have been laid down in Sch XII (L1& L2). In respect of Schedules I, VIII, XI, XV, XVI, XIX, XX and XXII, the powers of purchase items of PAC basis will be the same as the powers provided to CFAs in the respective schedules. The PAC certificate is, however, to be given at the level of AOC/CO of a self accounting unit, CLMO at Command level and Principal Directors/Independent Directors at Air HQ. In the case of purchase on single tender basis for non-proprietary items,

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the financial limits in the schedules (other than Sch XII and Sch1(c), (D) and (E)) will be ₹ 15,000/- per transaction without the consultation of IFA and ₹ 1,20,000/- with the consultation of IFA. The PSOs mentioned under Schedule 1(c), (D) and (E) will have powers of purchase on non PAC single tender basis to the extent powers are available to them in schedule XII(L2)(i).

(f) Purchase of goods up to the value of ₹ 15,000/-(Rupees Fifteen Thousand) only on each occasion may be made without inviting quotations or bids on the basis of a certificate to be recorded by the competent authority (Rule 145 of GFR 2005 refers)

(g) The CFAs should ensure that sanctions are not spilt so as to avoid seeking the consultation of Ministry/IFA.

(h) The financial powers at unit level are to be exercised only by the CFA of Self Accounting unit.

4. The powers delegated to AOsC-in-C schedule XII (other than AOC-in-C, MC for fleets already decentralized) for procurement from indigenous sources will take effect only after specific orders are issued by Air HQ decentralizing this responsibility for specific fleets. Provisioning and procurement responsibility of indigenous stores will be transferred to Command HQs in phases by AOM in consultation with the concerned AOC-in-C and IFA (Air HQ). Till then, CFAs at Air HQ and HQ MC will continue to exercise the powers in respect of the respective fleets. With decentralization of responsibility to Commands, necessary budgetary allocation will be made by Air Headquarters to enable them exercise the delegated powers.

5. For purchases to be made under Schedule XIX and XX, Air HQs will lay down specifications of equipment to be procured in order to ensure standardization across the Air Force.

6. Powers delegated to specified authorities for exercise during war, hostilities, natural calamities/disaster management and special operations, without consultation of IFA, will become operative only in issue of Govt order declaring such a situation or ordering of special operation by Air HQ, inter alia indicating the overall ceiling of funds for this purpose. Detailed SOPs are to be laid down in consultation with MoD (Fin).

7. In the case of import purchases under various schedules (Capital and Revenue) separate approval for release of FFE will not be required and release of FFEs will only be noted at Directorate of Financial Planning/DMA at Air HQ after expenditure angle approval for the purchase has been granted by the CFA.

8. All previous Govt. letters/relevant rules of the FR on this subject stand amended to the extent of the enhanced financial powers indicated now. Other terms and conditions in the existing Govt. orders will continue to apply.

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9. The financial powers contained in the schedule will take effect from the date of issue of this letter.

10. This issues with the consultation of Ministry of Defence (Finance) vide their ID Note No. 4786/Addl FA(M) dated 13 Jul 2006.

Yours faithfully,

Sd/-xxxxxx  
(RC Sharma)

Under Secretary to the Govt of India

Annexure III (Cont'd)  
(Refers to Para 43 & 120  
of Chapter II)

Air HQ/95378/1/Fin P/2520/US(RC)/Air –II/06

Government of India  
Ministry of Defence  
New Delhi 110011

Date 20 Jul 2006

To

The Chief of the Air Staff

**DELEGATION OF FINANCIAL POWERS TO VARIOUS  
INDIAN AIR FORCE AUTHORITIES**

Sir,

1. The Gol letter No Air HQ/S95378/1/Fin P/2431/US(RC)/Air-II/06 dated 14 Jul 2006 relating to enhancement/addition in existing delegated financial powers to various Indian Air Force Authorities is amended as given below:-

(a) Delete contents of Para 3(e) of the Gol letter No. mentioned in Para 1 above and replace it with the following:-

“The powers to sanction indents, contracts and purchases in respect of central procurement of maintenance stores on PAC basis and on non PAC single tender basis have been laid down in Sch XII (L1 & L2). In respect of Schedules I, VIII, XI, XV, XVI, XX and XXII, the powers to purchase items on PAC basis will be the same as the powers provided to CFAs in the respective schedules. In respect of schedule XIX the power to purchase items on PAC basis will be 50% of the powers mentioned at column 3 of the schedule. The PAC certificate is to be given at the level of AOC/CO of a self accounting unit, CLMO at Command level and Principal Directors/Independent Directors at Air HQ. In the case of purchases on single tender basis for non-proprietary items, the financial limits in the schedules (other than Sch XII and Sch I (c), (D) and (E) will be ₹ 15000/- per transaction without the consultation of IFA. The PSOs mentioned under Schedule 1(C), (D) and (E) will have powers of purchase on non PAC single tender basis to extent powers are available to them in schedule XII(L2) (i)”.

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(b) **SCHEDULE XVIII, XIX AND XX**

Delete the existing column serial numbers and renumbered columns of “competent financial authority” as column No. 1, financial limits“ without IFA consultation” as column No. 2 and IFA consultation” as Column No. 3.

2. This issues with the consultation of Ministry of Defence(Finance) vide their ID Note No 4893/Addl FA(M) dated 18 Jul 2006.

Sd/-xxxxxxx  
Yours faithfully,  
(RC Sharma)  
Under Secretary of the  
Govt of India



Annexure III (Cont'd)  
(Refers to Para 43 & 118 of Chapter II)

Annexure-XVII to Gol MoD letter No.Air HQ/95378/1/Fin P/2431/US(RC)/Air-II/06  
Dated 14 Jul 2006 as amended vide GOI MoD letter No.Air HQ/95378/1/Fin  
P/2520/US(RC)/Air-II/06 Dated 20 Jul 2006.

**SCHEDULE XVIII**

**POWERS OF ACCEPTANCE OF NECESSITY, ADMINISTRATIVE**  
**APPROVAL, APPROVAL AND DEMOLITION OF BUILDINGS UNDER PARA**  
**15 AND 15A RESPECTIVELY OF DEFENCE WORKS PROCEDURE, 1986**

(In Rupees)

Competent Financial Authority		FINANCIAL LIMITS			
		Without IFA Consultation		With IFA Consultation	
1		2		3	
		Authorised Works	Special Works	Authorised Works	Special Works
<b>(A) POWERS OF ACCEPTANCE OF NECESSITY, ADMINISTRATIVE APPROVAL AND APPROVAL FOR WORKS</b>					
1	AOA	120,00,000	20,00,000	1500,00,000	75,00,000
2	AOC-in-C	75,00,000	7,00,000	500,00,000	50,00,000
3	SOA/SAASO	Nil	Nil	300,00,000	30,00,000
4	STN CDR				
	(I) AOC	15,00,000	50000	Nil	Nil
	(ii) Gp Capt	5,00,000	50000	Nil	Nil
	(iii) Wg Cdr & Below	5,00,000	50000	Nil	Nil
<b>(B) POWERS FOR DEMOLITION OF BUILDINGS</b>					
1	AOA	Nil	Nil	50,00,000	Nil
2	AOC-in-C	Nil	Nil	20,00,000	Nil
3	SOA/SAASO	Nil	Nil	8,00,000	Nil

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**CHAPTER III – MAINTENANCE SERVICES**

**APPENDICES**

<b>APPENDIX</b>	<b>DETAILS</b>	<b>PARA No (Reference)</b>
A	Services Chargeable to Detailed Head in the Revenue Head of Accounts Major Head 2078 Minor Head III – Works	20
B	Limits of Sanction - Special Repairs	23
C	Norms of Expenditure for Maintenance Services	40
D	Guidelines for Maintenance Programme	43
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G	Periodical Services ; Table G of RMES	90

**ANNEXURE**

<b>ANNEXURE</b>	<b>DETAILS</b>	<b>PARA No (Reference)</b>
I	Extracts from MES Regulations	21
II	GoI letter No 87966/1/E2W(PPC)/Vol-IV/278/DO-II/D(W-I) dt 20 Mar 09- Norms of maintenance of military roads	31
III	Maintenance Funds for Airfield Lighting Project requiring MES oriented repairs - Air HQ/37873/1/2/US/D(Air-IV)/W(ALP) dated 10 Jan 2001	73
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### INTRODUCTION

1. This Chapter contains policies and procedures relating to maintenance of infrastructure at Air Force establishments. Various maintenance aspects are covered under following headings:-

- (a) Maintenance Services – Definition.
- (b) Scope of Repairs.
- (c) Types of maintenance services.
- (d) Maintenance Funds.
- (e) Annual Maintenance Programme.
- (f) Execution of Maintenance Programme.
- (g) Monthly Expenditure Return.
- (h) Maintenance and Operation of Installations.
- (j) Miscellaneous Maintenance Issues.

### MAINTENANCE SERVICES: DEFINITION

2. Maintenance services would comprise all works services which are required to keep the existing assets and infrastructure in serviceable and functional condition and for enhancement of their life. The maintenance activities include periodical services, renewals and replacements as well as alterations and improvements necessitated by technical or engineering reasons. Works required to make good damages caused to existing buildings, roads, installations and services due to extraordinary causes, but which are still usable, are also classified as 'Repairs'. The question whether a building etc. is still "usable" or not will be decided by a Board of Officers convened to investigate the matter. However the structural soundness of the building is to be decided by appropriate engineering authority. A property when taken off from care and maintenance is deemed to be abandoned and will not be entitled to maintenance funds.

3. All maintenance repairs are classified into the following categories:-

- (a) Petty Repairs.
- (b) Periodical Services as per MES Regulations '**Table 'G'**'.
- (c) Replacements and renewals costing up to ₹ 1,50,000/- for each item, subject to formal approval on file by Competent Authority.
- (d) Repairs, renewals and replacements of E/M installations and other external utilities costing up to ₹ 2,00,000/- in each case.

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(e) Replacements of furniture of value up to 50% of annual allotment for maintenance of furniture on station basis subject to a ceiling of ₹ 4.00 lakh per annum to be allowed only in respect of furniture declared as condemned /beyond economic repairs by the appropriate authority.

4. Ordinary Repairs will be carried out in accordance with Regulations for the MES 1968. No administrative approval is necessary for ordinary repairs, including purchase and maintenance of ordinary tools and plants for this purpose. Allotment of funds for the purpose implies administrative approval to that extent. No work will be carried out without the technical sanction of the competent engineer authority and no expenditure will be incurred in excess of allotment under the relevant budgetary head, except in so far as such excess can be met by re-appropriation from another head within the competence of the authority concerned.

### SCOPE OF REPAIRS

5. **Buildings.** Repairs to buildings consist of maintenance, petty repairs, replacements, renewals and periodical services inclusive of internal water supply, electrical and sanitary systems. MES is also responsible for cleaning of chimneys in unit lines and cleaning of glass panes of sky lights in hospital wards, storage sheds, hangars and any other area which are not accessible.

6. **Roads.** Repairs to roads consist of patch and petty repairs, surface renewals, resurfacing, maintenance renewal and maintenance of drains, culverts, bridges and causeways, road berms. It also includes maintenance and renewal of sign posts, mile stones, boundary pillars, road berms and road furniture etc.

7. **Airfields.** Repairs to airfields consist of petty repairs, maintenance and renewals (including resurfacing) of runways, taxi tracks, hard standings, aprons and cross drainage works, airfield storm water drains, joint filling, epoxy repairs, runway marking, painting, repair/replacement of DTGM, barriers, blast pens etc.

8. **Landing Grounds.** Repairs consist of maintenance of landing grounds only. Funds for such repairs will be provided by the owner of the landing ground unless otherwise agreed upon in a Memorandum of Understanding between the Centre and the State Govt.

9. **Ranges.** This include repair and maintenance of all types of ranges whether small arms ranges or air to ground ranges, from maintenance funds. However minor repairs to the earthwork of stop butts and firing points, arising out of the use of the range will , however be done by the unit or units in charge.

10. **Installations.** Repairs to installations consist of maintenance and renewals (upto ₹ 2.00 lakh) of water supply and electrical systems, ice plants, mechanical sewage disposal plants, workshops, air conditioners and refrigerators.

11. **Tools and Plants (T&P).** Repairs of T & P consist of maintenance and renewals of authorised and special T and P held by MES e.g., portable machinery, earth shifting machinery and associated equipment, small tools and miscellaneous equipment.

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12. **Vehicles.** Repairs consist of maintenance, including replacement of worn out parts of the vehicles held by MES.

13. **Furniture.** Repairs consist of maintenance and renewals/replacement of authorised furniture holdings of MES supply. Replacements of furniture of value up to 50 % of annual allotment for maintenance of furniture on station basis subject to a ceiling of ₹ 4.00 lakh per annum to be allowed only in respect of furniture declared as condemned/ beyond economic repairs by the appropriate authority

### **Notes:-**

(i) *Camp equipment or furniture and equipment for inspection bungalows and offices (except E-in-C and CEs' office) are classified as T and P.*

(ii) *MES is also responsible for maintaining (but not renewals) and upkeep of furniture supplied as free gift by Red Cross society to hospitals.*

### **MES Responsibility**

14. The MES responsibility for maintenance of assets belonging to armed forces is as follows:-

- (a) All buildings whether owned/hired/leased.
- (b) Roads, both inside and outside cantonment/camp, if on MES charge.
- (c) Airfields occupied/used by Air Force, if on MES charge.
- (d) All installations except those maintained by the forces themselves (eg) signal communications, port installations, industrial plants, etc., if on MES charge.
- (e) Furniture for office and domestic use, if on MES charge.

### **Notes:-**

(i) *Responsibility for hired/leased buildings devolves on MES if the agreements so stipulate.*

(ii) *Responsibility for roads inside cantonments is usually limited to roads used for purely military purpose (classified as 'military' by Govt of India). Other roads even if constructed out of defence funds, are handed over to cantonment/civil authorities as early as possible under the orders of Govt of India.*

(iii) *When Air Force utilises civil facilities, repairs may be carried out by civil agencies at an agreed cost. Alternatively, contribution towards repairs may be made by the civil authorities. Roads or assets belonging to civil authorities may be taken over for the purpose of maintenance only under the orders of MoD.*

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(iv) *Installations and assets owned by units are not maintained by MES.*

15. Maintenance and care of assets is not entirely the responsibility of the MES. The users also have to develop a purposeful sensitivity towards this.

### TYPES OF MAINTENANCE SERVICES

16. Maintenance services comprise the following:-

- (a) Ordinary Repairs
- (b) Special Repairs

#### Ordinary Repairs

17. Ordinary repairs consist of:-

- (a) **Petty Repairs.** Original works of petty nature costing up to ₹ 10,000/- may, at the discretion of the CWE/GE (Independent) be treated as "Repairs". The CWE/GE (Independent) may delegate all or a portion of his powers under this paragraph to GEs or outstation AGEs by name.
- (b) Periodical Services as per MES Regulations 'Table 'G'.
- (c) Replacements and renewals costing up to ₹ 1,50,000/- for each item.
- (d) Repairs, renewals and replacements of E/M installations and other external utilities costing up to ₹ 2, 00,000/- in each case.
- (e) Replacements of furniture of value up to 50 % of annual allotment for maintenance of furniture on station basis subject to a ceiling of ₹ 4.00 lakh per annum to be allowed only in respect of furniture declared as condemned /beyond economic repairs by the appropriate authority.

18. Ordinary repairs mentioned above will be carried out in accordance with MES Standing Orders. (Para 123, 227, 246, 248, 258 and 259 of RMES refers).

19. The following works are also classified as maintenance:-

- (a) Alterations necessitated by technical reasons.
- (b) Works required to make-good damage due to extraordinary causes to buildings, roads, installations, airfields, docks, etc, but which have been declared as still usable by the court of inquiry convened to investigate the loss.

20. No Administrative Approval is necessary for repairs falling in category of ordinary repairs. Allotment of funds for the purpose implies Administrative Approval (AA) to that

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extent. No work will be carried out without the Technical Sanction of the Competent Engineer Authority (CEA) and no expenditure will be incurred in excess of allotment under the relevant head. In exceptional circumstances, such excess expenditure may be met by re-appropriation from another head within the competence of the engineer authority concerned. The various services chargeable to Major Head – 2078, Defence Services – Air Force Minor Head - III (Works) are listed at **Appendix A**.

### **Special Repairs**

21. Special Repairs consist of renewals and replacements costing beyond the monetary ceiling for ordinary repairs in each case and replacement of furniture beyond the limit laid down in Para 9 (a) (v) of DWP 2007. Special Repairs are to be carried out in accordance with Regulations for MES 1968 (relevant extracts of the MES Regulations are placed at **Annexure I**). GE will be the competent authority for the grouping of buildings for this purpose. In the case of furniture, renewals and replacements costing more than 50% of the annual maintenance funds allotted or ₹ 4.00 lakh in one year whichever is more will be treated as special repairs.

22. The proposal for special repairs are initiated as a result of demand by users and inspection reports by unit or MES and compiled by a BOO. The BOO inspects the buildings along with MES representatives and recommends the proposal. The points to be considered are as follows:-

- (a) Repairs are to be carried out only to those buildings which, after repairs are likely to be gainfully utilized.
- (b) No proposals relating to vacant or surplus buildings are initiated. Only the required buildings are repaired.
- (c) No money is spent on special repairs to structures, which are Beyond Economical Repair (BER) (i.e. repair cost is more than 50% of the cost of new construction of a similar structure with same specifications at the time of recommending special repairs).
- (d) Additions and alterations constituting major works will not be included.
- (e) Superior specifications are allowed based on engineering and not on administrative considerations.
- (f) Proposed specifications are sound and economical.
- (g) All requisite repairs are included in the proposal.
- (h) A renewal is the replacement of a work or definite portion of a building or other structure, e.g. the replacement of a major portion of the roof or a majority of the doors or windows. Minor replacements will be classified as petty repairs.
- (j) The replacement of a fitment or portion of a building by one of a better class is a new original work, if the existing fitment or portion of the building is still

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serviceable. However it will be considered as maintenance service if it is worn out due to fair wear and tear or unserviceable and requires replacement in any case.

(k) If a building is to be entirely rebuilt or built on existing foundations, it will be treated as a new original work.

(l) In case of any difference of opinion, the CWE's/GE(l)s decision as to whether a particular work is to be classified as an original work, renewal or petty repairs shall be final.

(m) An E & M renewal may be defined as the replacement of a complete installation, or the whole or a definite portion of an installation or of a complete unit forming part of an installation. The following will also be treated as renewal under Special Repairs:-

(i) Extensive reconstruction of supply system.

(ii) Increased capacity of plant including DG Sets, air-conditioners etc. or accommodation for the installation.

(iii) The substitution of superior for an inferior class of works, when, however, the portion replaced is still serviceable, it will be classified as original work.

(iv) Replacement and supply of major spare parts.

23. All special repairs are treated as original works for the purpose of Administrative Approval and technical sanction and budgeted out of Revenue Head of expenditure. Funds for special repairs are specifically allotted once they are sanctioned. The limits for CFAs to sanction special repairs are placed at **Appendix B**.

### **Roads**

24. Roads in any Air Force establishments are important communication facilities. It gives greater impetus for movement as well as safety and security of the personnel. It deserves attention in planning, design, construction and maintenance. It should be well maintained to improve the quality of life at AF Stations.

25. In defence services basically there are three types of roads, Cantonment Roads, Military Camp Roads and Military Roads at forward areas. These roads are further subdivided into four categories, All Weather Roads, Fair Weather Roads, Paved Roads and Unpaved Roads.

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26. In IAF we are primarily concerned with construction and maintenance of roads by MES. As per MES following are the four classifications of roads inside the camp:-

- RD1 Double carriage way each 7.5 m wide
- RD2 Two lane carriage way 10.5 m wide
- RD3 Two lane carriage way 7m wide
- RD4 Single lane carriage way 3.5 m wide

27. Whenever a new road is to be constructed as part of new project or a separate work, following factors are to be considered:-

(a) **Master Zonal Plan.** Approved MZP of station should be seen by BOO so that long term planning is achieved.

(b) **Traffic Pattern.** At AF Stns, type of traffic is by and large light commercial vehicle (LCV) or light passenger vehicles (LPV). At what speed traffic is expected to move is important which must be considered to determine type of surface and overlay required.

(c) **Location.** Architect of any road depends on strength of soil. This varies considerably depending on Sand, Plains, Coastal or Hill / Mountain areas.

(d) **Associated Aspects**

(i) **Side drains and drain pipes.** These should be wide enough to take storm water effectively with adequate slope and brick lining for long life.

(ii) **Foot paths.** Width and type of these depends on human traffic and can be grass topped, brick lined or terrazzo laid.

(iii) **Road Dividers.** Should be in the centre of road in case two way traffic is planned to be separated. These can be of simple four brick divider or path divider or path with grill divider.

(iv) **Arboriculture.** Planting of trees in the centre of foot paths merits attention so that they neither obstruct traffic on road / foot path nor obscure road lighting. At road crossing and round about, no tree should be planted so as to provide clear vision. Type of trees should be decided carefully for their spread of roots or branch & height. Kind of natural waste created by trees / plants on road needs attention as it causes daily clearing problem apart from choking the drain / gutters. Trees should be adequately away from water drains, road lights, overhead or underground power lines and telephone cables.

(e) **Road lighting.** Adequate luminosity should be ensured while selecting and deciding on road lighting. This depends primarily on traffic density, traffic speed, duration of lighting, location of trees and type of crossing / round about. Location of lights should be at any of the following three places depending on requirement.

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- (i) In centre of road for two way divided roads
- (ii) On one side of road
- (iii) On both sides of road

In AF we can have road lighting by way of tube light / normal mercury lamp / sodium vapour lamp / high power sodium / mercury lamp. BOO should consider the subject of road lighting carefully.

(f) **Road Signs.** For any safe driving, road signs are important because it warns traffic for coming road features and also guide the drivers for correct action. Various road signs given below should be carefully planned and used:-

- (i) Traffic signs.
- (ii) Restricted / Prohibited Orders.
- (iii) Road maps of areas.

(g) **Road Marking.** These are basically ground markings on roads supplementing road signs. In centre a road divider should be a white single continuous line. Whereas a lane marking is to be a yellow continuous line. Care should be taken to mark turn / lane change indicators. Zebra crossing, stop lines, and use of Cat eye. For all road markings paint used should be rubber based.

(h) **Speed Breakers.** These are prohibited on NH & SH. Inside AF camps these are not permitted.

28. Some important aspects which also should be catered while planning for construction or widening of roads are:-

- (a) Layout, height and protection of road lights LT lines.
- (b) HT Power lines crossing roads.
- (c) Telephone lines running parallel or crossing road.
- (d) Cable ducts for future laying of power / telephone cables should be adequately planned at important crossing points.
- (e) Road crossing of sewer lines
- (f) Natural water ways which may be regular or seasonal
- (g) Scope for expansion of roads in future.

### **Maintenance of Road.**

29. In case, certain portions of the road are very bad and need extensive repairs which cannot be carried out from normal maintenance grant based on authorised scales of maintenance, these repairs can be sanctioned as special repairs. If repairs can be met from normal maint grant, there is no need to initiate proposal for special repairs even if the

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cost exceeds the limit of petty repairs mentioned in Para 9 of DWP 2007. The quality of repair/resurfacing of a road largely depends upon the technology used, terrain, sub soil conditions and monsoon. Repairs/resurfacing carried out using mechanised pavers last longer and have better riding quality. Since use of mechanised pavers may not be economical in low budgeted works, efforts should be made to plan their road repair works in conjunction with repairs of runways or combined one annual contract for resurfacing of road using pavers. Wherever considered cost effective construction of concrete roads may be planned in the station. The concrete roads, though costly in construction originally prove to be economical in long run under following conditions/areas where:-

- (a) Use of road is not frequent and traffic is restricted (Perimeter roads)
- (b) Subsurface water level is high.
- (c) Heavy rain fall is experienced.
- (d) Flooding is frequent.
- (e) Rapid growth of grass spoils bitumen roads.

30. Maint of roads can be achieved by patch repair or limited over lay or by strengthening of full road. Letter No. 87966/1/EW(P&C)/Vol-IV/278/DO-II/D(W-I) dated 15 Mar 99 forwarded to all commands vide letter No. Air HQ/27528/32/W(P&C) dated 31 Mar 99, following is the authorization for maint of roads. Stn / Command should accurately work out their authorization and demand funds accordingly.

<b>Authorisation</b>	<b>Normal Repair (₹/sq m)</b>	<b>Special Repairs (₹/sq m)</b>
RD1	6.40	8.35
RD2	6/23	8.12
RD3	5.45	7.10
RD4	5.95	7.75

Note:- For hilly areas, heavy rainfall areas above 3000 mm per annum and for desert areas / black cotton soil, the following premium / increase over the scales at Para 3 above shall be applicable.

(a) Hilly areas and heavy rainfall areas above 3000 mm per annum	34% or normal repairs
(b) Desert areas / black cotton soil areas	11% of normal repairs

MES uses either manual labour or hot mix pant for these repairs depending on quantity / type of repair. Of late cold emulsion tech has also come in India which is yet to be tried by MES. It is recommended that period of execution should not be in monsoon and it should be so planned as to cause minimum disruption / inconvenience to traffic.

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31. Norms of expenditure for maintenance of military roads authorised vide GoI MoD letter No 87966/1/E2W (PPC)/Vol-IV/278/DO-II/D(W-I) dt 20 Mar 09 is placed at **Annexure II.**

### Airfields and Periodical Services

32. Airfield maintenance and periodical services, even in excess of the limit specified in Para 9 of DWP 2007, are treated as ordinary repairs provided they do not exceed the allotted funds under the relevant sub head.

33. Keeping in view the ageing factor (wear and tear) and engineer's appreciation, 'Special Repairs' required to augment the efforts should be planned well in advance. The prioritisation and scheduling of runway for resurfacing shall be kept in mind while planning special repairs to the airfield. The emphasis should be to ensure full readiness of the airfield to meet Op requirements at all times.

### Stages of Planning of Special Repairs

34. The four stages of planning involved in special repairs are:-

(a) **Acceptance of Necessity.** Approval of LBWP by AOC-in-C Command is deemed to be in principle approval for Acceptance of Necessity for a Special Repairs work. No separate SOC is required for AON in each case. Guidelines for planning of LBWP works have been given in Chapter II.

(b) **Administrative Approval.** After approval of LBWP, BsOO are to be ordered by the appropriate CFA and completed as per the guidelines given in Chapter II. Based on the scope of work and AEs, CFA is to issue Adm Approval like any other original works. Code head for Special Repairs is 760/07 for B&R works and 761/07 for E& M works.

(c) **Appropriation of Funds.** Allotment of funds will be made by Command Works Officer as per the LBWP for the year.

(d) **Technical Sanction.** After release of funds tender action and technical sanction is accorded by the Competent Engineering Authority.

35. After a natural disaster or calamity whether or not a building is still "usable" will be decided by the Court of Inquiry convened to investigate the loss. However engineers will conduct tests as required by a specialist agency like civil engineering department of a Govt approved Engineering College / reputed institute.

36. Considering the high cost of renovation of old buildings, the execution of special repairs on a large scale may no longer be economical. Projects for special repairs to temporary buildings should not, therefore, be sanctioned as a routine. In all such cases, engineers should be asked to furnish rough cost of special repairs and new construction. Where Rough Cost of special repairs given by the engineers is more than 50% of the cost of new construction, special repairs should not be sanctioned and the building will be considered for demolition.

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37. In the case of water, electrical or sanitary internal installations, alterations may only be carried out as special repairs. Provisions of Para 151 of MES regulations may be used.

38. In accordance with the existing policy, while working out deficiencies of accommodation in any station all available accommodation, including buildings built to temporary specifications, except those which are BER, have to be taken into account. Therefore maint funds for building built on temp specifications should be demanded accordingly.

### MAINTENANCE FUNDS

39. Funds for maintenance are allotted under various code heads by Air HQ to Command HQ based on Budget Estimates (BE) submitted by them for the relevant year. Budget Estimates are compiled by zonal CEs on the basis of schedule of demands submitted by GE in consultation with C Adm O. Based on the budget provisions, Air HQ will allot lumpsum funds to Command HQ. Bulk allotment received by Command HQ is sub-allotted to AF Stations by SOA/SAASO in consultation with ACE(L) and C Wks O. Allotment of funds for the purpose of repairs implies Administrative Approval to that effect.

40. The Schedule of Demands for repairs is based on certain laid down norms as specified in Gol letter No 87966/ E2W (PPC)/346/ DO II/D(W-1) dated 27 Aug 08, revised from time to time. The extract of Gol letter is placed at **Appendix C**. The Schedule of Demands is to be prepared by GE(AF) as per the format issued by E-in-C's branch.

41. Considerable thought must be given while planning and utilisation of maintenance funds so as to derive maximum benefit from the limited funds available for maintenance. The available Directly Employed Labour (DEL) in the MES must be gainfully employed and the available funds judiciously distributed for procurement of stores to meet the requirements of petty repairs. Maintenance planning involves the users, administrative staff and the MES. A deliberate and coordinated effort on the part of all the three agencies at the stations is essential to draw up a meaningful annual maintenance programme and to ensure its subsequent execution.

### ANNUAL MAINTENANCE PROGRAMME

42. To carryout maintenance services at a station during a financial year, a detailed programme known as '**Annual Maintenance Programme**' is drawn up for the entire Station. This is prepared jointly by the Administrative staff and the MES through a **Station Board of Officers**, keeping in view the demand and likely availability of funds.

43. The Annual Maintenance Programme and Complaint Register Analysis Reports are the most important documents for effective planning, execution and monitoring of the maintenance works and optimum utilization of maintenance funds. Stations are to draw a comprehensive Annual Maintenance Programme through a station BOO. Detailed guidelines and instructions for preparation of Annual Maintenance Programme alongwith sample Annual Maintenance Programme is placed at **Appendix D**. Annual Maintenance Programme is to be duly approved by the Station Commander. The maintenance

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programme must quantify works of each category and code head. The requirement of maintenance funds is to be worked out as per the latest plinth area rates and demand for funds projected accordingly. Annual Maintenance Programme should be the guiding factor for the maintenance contracts by GEs. The scope of Maintenance contracts executed by the GEs should invariably be drawn from the requirements mentioned in the Annual Maintenance Programme. The sample maint programme given in this manual gives the code head wise breakdown of works for planning of maint contracts. This programme is to be used as a guideline for preparation of AMP. Monitoring of the execution of AMP is to be done through Quarterly Station concurrent BOO. Following procedure is to be adhered to for preparation of AMP.

- (a) All lodger units and sections of the station are to project their requirement for maintenance works to the C Adm O in the month of Sep for the next financial year. C Adm O may seek inputs as per the sample letter placed at **Appendix E**.
- (b) A joint station BOO is to be convened to physically examine all the buildings, roads and furniture during the month of September- October and to ascertain the maintenance requirements of the entire station. The composition of the board is to include representations of all units, major sections, E&M, B&R and BSO rep of MES.
- (c) The requirement of maint works received from the units/sections are to be compiled by the BOO for preparation of the maintenance programme for the following financial year by assessing and prioritising maintenance / repairs required.
- (d) The requirement of maint works for the next financial year is to be restricted to the authorisation of maint funds. Contracts are to be planned upto the allotment of funds for the current financial year with 10% increase.
- (e) A conference should then be held by the Station Commander with the branch heads, Stn Wks Officer, GE and the Unit Commanders to finalise maintenance programme for the station as a whole. The Presiding officer of the BOO for AMP should present the planned Maint Programme and justify the priorities allocated based on considerations below:-
  - (i) **Priority-I.** Works required for ensuring structural soundness, enhanced life and utility of Government assets as well as safety of these assets against damage due to natural or unnatural causes.
  - (ii) **Priority-II.** Periodical services.
  - (iii) **Priority-III.** Maintenance and repairs necessitated for ensuring a high standard of hygiene, sanitation as also providing hazard-free and secure occupancy to users.
  - (iv) **Priority-IV.** Items which might have been left out of the previous year's maintenance programme.
  - (v) **Priority-V.** Other general repairs and maintenance.
- (f) On approval of the prioritised list of maintenance works, by the AOsC / Stn Cdrs, a copy of the draft board proceedings shall be forwarded to the GE for pricing

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the maint works and preparation of demand of maint funds as per the plinth area rates.

(g) No work will be planned in AMP in respect of the building for which special repairs are being executed/ planned to be executed.

(h) The Annual Maintenance Programme is to be prepared in eight copies and approved by Station Commander. A copy of the approved AMP is to be forwarded to the ACE (L) of the controlling Command HQ by **31 Jan**, i.e. two months prior to commencement of next FY. In addition, copies of AMP are to be provided to the following agencies:-

- (i) C Adm O
- (ii) Stn Works Officer
- (iii) GE
- (iv) AGE(E&M)
- (v) AGE(B&R)
- (vi) BSO

(j) Additional copies may be prepared in case considered necessary by the AOC/Station Commander or required by GE.

(k) If required, AMP may be drawn up sub -division wise in a station for the convenience of execution and monitoring.

44. In preparing maintenance programme and allotting priorities in a station, adequate attention will be paid to the genuine and equitable needs of all units. The compilation of Maintenance Programme must also take into account the following factors:-

- (a) Requirements brought out in the quarterly inspection reports and the inter-se order of priority for meeting these requirements.
- (b) Requirements from analysis of demand registers / complaint registers.
- (c) Requirement of stores for petty repairs.
- (d) If a building, road or installation requires repair/ maint which is beyond the limits of ordinary repairs as laid down in Para 9 of DWP 2007, the same is to be taken up as Special Repair under Annual Low Budgeted Works Programme.
- (e) Renewal for surveyed off furniture upto 50% of the maint funds allotment subject to a maximum of ₹ 4.00 lakh per annum.

45. The programme should clearly lay down the priorities of work, the allotment of funds, the time by which the buildings or furniture will be handed over to the MES, and the time of commencement and completion of works. It would be appropriate to earmark some funds and MES efforts as reserve to cater for any unforeseen requirements.

46. Maintenance programme once issued will be adhered to, unless there are compelling reasons for change. Deviations from the AMP (if any due to administrative reasons) must be forwarded in writing by the C Adm O to the GE. Deviations from the AMP (if any due to engineering reasons) must be forwarded in writing by the GE to the C Adm O.

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47. The AMP should include the quantity of major stores to be procured in a year and approximate cost to be spent on such stores brought out by the GE in consultation with Stn Cdr / C Adm O. However, detailed planning and procurement will be the responsibility of GE.

48. To facilitate advance planning and to achieve even flow of expenditure in the year, the following relaxations have been permitted:-

(a) In order that full advantage may be taken of a 12 months working season, liabilities for payment in the next financial year may be incurred on minor works and maintenance services during the last financial quarter, upto the average quarterly appropriation for current year, without any allotment of funds. (Authy: Para 183 of MES Regulations).

(b) Adjustment of cost of stores drawn for carrying out repairs as per sub Para (a) above could be postponed to the next financial year by making them **NOT ADJUSTABLE UNTIL 1<sup>st</sup> OF APRIL** in red ink.

49. A similar action will be taken for the formulation of maintenance and repair programme in respect of furniture.

50. While preparing the Annual Maintenance Programme a suitable programme for the execution of periodical services is to be drawn up and published in Station Routine Orders at appropriate time.

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**EXECUTION OF MAINTENANCE PROGRAMME**

51. Besides the inputs from Annual Maintenance Programme the repairs are also initiated as a result of the following:-

- (a) Scrutiny of Unit Demand Registers / Complaints at MES Service Centres.
- (b) Quarterly inspection by a joint team.
- (c) Inspection by Engineers/Staff.
- (d) Periodical services.
- (e) Demands for urgent repairs.
- (f) Storm damages.
- (g) Physical examination of buildings, roads and furniture by the BOO preparing the Annual Maintenance Programme (AMP).
- (h) From the observations of DASI, CASI, Staff visits from Command/Air HQ and visits of AOC-in-C, CAS and other senior officers.

**Planning by GE**

52. Immediately after the approval of Annual Maintenance Programme, GE (AF) is to initiate following action:-

- (a) Place the demand for the stores and equipment required for execution of the maintenance programme in time.
- (b) Finalise the scope and initiate tender action for the maintenance contracts for next financial year. Care should be taken to ensure that maintenance works like periodical services, repair/ resurfacing of roads and other repair works likely to be affected by monsoon are not executed during Jun-Sep. On the other hand maintenance contracts for repair of storm water drain, lightning conductors, roof repairs etc are completed and executed before the onset of monsoon.
- (c) The details of maintenance contracts and the scope of work with planned time frame for execution should be communicated to C Adm O for wide publicity to the occupants and users.

**Planning by C Adm O**

53. Based on the inputs regarding maintenance contracts, the C Adm O is to ensure that:-

- (a) All preparatory arrangements are made so that the buildings, etc are made available to the Engineers in time.
- (b) Periodical meetings are held with the Engineers, with a view to removing bottlenecks, if any, in the execution of the Annual Maintenance Programme.

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- (c) Changes necessitated for administrative or engineering reasons must be recorded in writing by the C Adm O / GE as applicable for inclusion in the findings of the concurrent boards.

### Execution

54. For execution of the maintenance works, following important points must be borne in mind by MES:-

- (a) All necessary precautions against damage/collapse of structures are taken e.g., shoring, protection to floors, walls, decorative features, etc.
- (b) All preliminary/preparatory operations are carried out before the works are taken up.
- (c) Repair works are carried out in the right sequence. As far as possible, convenience of the user and early completion of individual buildings should be aimed at.
- (d) All demolition stores are properly accounted for.
- (e) Standard of maintenance is kept high. Full advantage is taken of the latest research on repairing techniques, use of suitable materials and preservation treatment.
- (f) Special emphasis is given to Site Clearance.

55. During the execution of maintenance work, C Adm O is to ensure that prior information is given to the user with regard to the scope of work and time schedule of the execution. The user section is to be briefed to involve themselves in the execution of the works by the MES contractor. At no stage the work by contractor should be allowed to proceed un-supervised. While the user is to be advised not to pass direct instructions to the contractor or his supervisor/labourer but at the same time any work of poor or sub standard quality should be immediately reported to the GE and C Adm O.

### Agencies to Carry out Maintenance Repairs

56. The maintenance repair works planned in the Annual Maintenance Programme can be executed through any of the following agencies:-

- (a) Term Contractor (TC).
- (b) Contracts for certain specific repairs sanctioned as original works.
- (c) Casual maintenance gangs or Directly Employed Labour (DEL) on permanent basis.

57. **Term Contract.** Term contracts are finalised on zonal basis as decided by the GE to cater for repairs and minor work. Zone may include one or more small units within a station or a station may be sub divided in one or more zones like technical area, domestic area or No 1 area, No 2 area etc. Term contracts are entered into for a period of 12

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months, which preferably operate from July to June or any other annual time frame depending upon local weather or working conditions.

58. **Maintenance Contract.** Repairs of similar nature e.g., re-roofing, replacement of E/M fittings, plaster, roof repairs etc can be grouped and separate maintenance contracts finalised based on nature of work. This may be resorted to for obtaining more competitive rates or restricting the work load on the Term Contractor. MES may engage certain temporary maintenance gangs for carrying out urgent seasonal repairs. The composition and strength of the gangs is approved by CWE and should be kept to the minimum commensurate with the anticipated works load. (e.g. monsoon repairs, clearance of storm water drains, restoration of storm damaged buildings back to habitable condition etc.). Annual Maintenance and Operation Contracts may also be entered into for manning, maintenance and operation of water supply, power supply and other MES installations.

59. **Department Employed Labourers.** Permanent DEL is employed for routine repairs of furniture, E/M works, urgent repairs and other petty works excluded from the scope of term contract. For other essential services where there is a shortage of tradesmen outsourcing should be resorted to in the form of AMC or **manning, operation and maintenance contracts.**

### **Quarterly Concurrent Board of Officers**

60. A concurrent Board of officers is to be convened with the responsibility of carrying out regular checks of maintenance works executed. The board is to be convened on a quarterly basis for the periods ending 30 Jun, 30 Sep, 31 Dec and 31 Mar every year. The board is to be convened and notified in the SRO at least one month prior to the commencement of the quarter during which the repairs are to be concurrently monitored. Composition of the board is as:-

- (a) Presiding Officer (Wg Cdr and above).
- (b) Sqn Cdr Works / WO in charge of Maint Wks Services as a member. (In case the Sqn Cdr Works is the Presiding Officer, another officer will be detailed as a member).
- (c) Appropriate number of members from Warrant Ranks (from units / sections ensuring adequate representation for various zones / sub divisions).
- (d) MES representatives of B & R, E & M and BSO.

61. The terms of reference for the Concurrent Board are shown at **Appendix F**. The Station Commander may entrust the Board with additional duties by suitably amending the terms of reference.

62. The periodical reports / board proceedings received from the Board are to be studied in detail by C Adm O who is to take the actions listed below:-

- (a) Satisfy himself regarding the quality of maintenance services provided.
- (b) Discuss the observations and recommendations made by the concurrent boards with the engineers.

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**MONTHLY EXPENDITURE RETURN (MER)**

63. Effective monitoring of maint expenditure and scrutiny of Monthly Expenditure Return is very important for effective control over maintenance fund by the Station Administration. To monitor maint expenditure, critical scrutiny and analysis of MER submitted by the GE is required to be carried out by the C Adm O. Therefore on receipt of MER from GE every month, a note on file is to be put up by C Adm O/Stn Works Officer to AOC/Stn Cdr highlighting the following points:-

(a) Expenditure under important code heads like 760/01-03, 760/04, 760/05, 760/06, 760/30, 761/01, 761/03, 761/05, 761/06, 761/08 & 761/09, during the last month.

(b) Increase in expenditure since last return will give indication/trend of expenditure being booked under these code heads vis-à-vis physical work done by MES. The expenditure reflected in a month must be commensurate with the quantum of work undertaken. Joint meetings chaired by AOC/Stn Cdr be held every month, wherein GE should give the details of work executed with quantum of expenditure incurred.

(c) Incurring expenditure under any code head more than allotted is not admissible as per Para 176 of Regulation for MES and Para 9 of DWP 2007. This must be ensured by GE (AF) and C Adm O. However provision of Para 183 of MES regulations must be followed to the extent required for advance planning and incurring carryover liabilities in respect of maint funds.

(d) Bills of all Term Contracts for maintenance works are to be signed by C Adm Os. Records to this effect should be kept and expenditure reflected in the MER should be scrutinised as per the records held by the Station.

64. The measures recommended for monitoring maintenance services as well as maintenance of fiscal discipline includes the following:-

(a) C Adm Os are to interact with engineers and obtain details of maintenance contracts being planned and entered into. This is to ensure that the contract so planned must facilitate qualitative improvement of buildings and E&M services.

(b) A maintenance cell is to be created at each station under an Officer / Warrant Officer / SNCO from the Stn Works Flight to monitor all maintenance activities of the station. The cell must have representatives of all lodger units, Operations, Maintenance and Administrative support groups constituted on a quarterly basis for the periods ending 30 Jun, 30 Sep, 31 Dec and 31 Mar every year. The duties of maintenance cell should encompass visits to electricity, water supply and sewage installations on a daily basis to monitor their operations as per laid down timings and submit a report to the station administration. In addition, the Maintenance cell is to carry out regular check of compliance of complaints being attended to by MES and undertake visits to sites at which maintenance contracts are being executed. The task of Maintenance Cell is to monitor and report the factual position to the Stn

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administration and the engineers. However, maintenance cell is not to give any executive directions to MES supervisors or contractors.

(c) Engineers will keep the users informed of the budgetary state through Monthly Expenditure Returns (MER), Pre-Revised Estimates (PRE) / Revised Estimates (RE) projections and extent of liabilities created. C Adm O and GEs are responsible and accountable to ensure that liabilities are not created beyond allocation received.

(d) Maintenance of Married Quarters covering E/M, furniture, B/R and periodical services are to be planned and executed in an organised manner.

65. The points that cannot be resolved by the Station Commander with the engineers are to be promptly brought to the notice of Command HQ who should seek the assistance of concerned Chief Engineer.

### **MAINTENANCE AND OPERATION OF INSTALLATIONS**

66. Under the detailed budgetary head (s), funds are provided to MES for the 'Maintenance and Operations of Installations'. Detailed instructions are given in Regulations for the MES Chapter XI.

#### **Water Supply**

67. SMO is responsible to carry out frequent checks on the suitability of water supplied by MES. Unsuitability reports, as and when received are to be dealt with promptly. SMO should also check the state of Chloronomes and Bleaching Powder Dozers (BPDs) or any other system being used for treatment of water.

68. Water supply hours are to be properly regulated in a manner that will ensure that:-

(a) Supply is made during the hours it is needed by the personnel. These timings should be published in the Routine Orders on a regular basis.

(b) The total supply is kept within the limits imposed by available funds.

(c) Unauthorised use and wastage of water is prevented.

#### **Electric Supply**

69. Suitability of electric supply for meeting the functional requirements of equipment is to be checked by GE(AF). Remedial measures are to be promptly initiated in case of voltage fluctuations, break-down etc.

70. Full serviceability and reliability of standby power generation equipment is to be ensured.

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71. Electric supply is to be regulated in a manner that will ensure that the expenditure is kept within available budget. All measures are to be taken to prevent unauthorised connections.

### **Refrigeration and Air-conditioning**

72. Full serviceability and reliability of the refrigeration and air-conditioning equipment is to be ensured. Renewal of BER appliances must be undertaken on a yearly basis to ensure their availability during hot weather periods.

### **Maintenance of Airfield Lighting**

73. Air Force Stations equipped with airfield lighting are authorised ₹ 2 lakh (Rupees two lakh) for maintenance services to be provided by MES / CPWD on demand by the AOsC / Stn Cdrs vide Govt of India, Min of Def letter No Air HQ/S 37873/1/2/US/D(Air-IV)/W(ALP) dated 10 Jan 2001. The maintenance services to be provided and the budgetary head to which this expenditure is to be debited are given in Gol letter placed at **Annexure III**.

### **Sewage Disposal**

74. Disposal of sewage in the most hygienic manner is to be ensured. New techniques for waste water management must be explored to the extent possible. Sewage Treatment Plants(STPs) with provision of recycling of treated water for gardening, use of toilets in SMQs/OMQs through separate overhead tanks for each house & pipelines, separate overhead water reservoirs for drip irrigations or pumping stations for utilisation of treated water are to be planned as original works at all stations. Wherever possible septic tanks and oxidation ponds are to be replaced with Central Sewage System(CSS) with Sewage Treatment Plant(STP) and recycling of treated water.

## **MISCELLANEOUS MAINTENANCE ISSUES**

### **Demand Register and MES Complaint Service Centre**

75. Although efforts are being made at Air HQ and command level to evolve and design software for **automation of MES complaint system** which will ensure maximum users satisfaction, effective monitoring of complaints and demand/accounting of stores etc., till such time the software is designed and put in place the station commanders are at liberty to devise any modern system of MES complaint system by means of computerisation or IVRS or any other method considered necessary. The system should take into consideration the existing establishments of MES and system etc. If no indigenously designed and functional system is feasible then time tested system of complaints through demand register is to be strengthened and followed for maximum users' satisfaction. The Station Commander in consultation with Engineers and keeping in view user satisfaction is to decide on the following points:-

- (a) Places where the Demand Registers will be kept.
- (b) Individuals in whose custody the Demand Registers will be kept.

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- (c) Hours of day/night during which the Demand Register will be made available for making entries.
- (d) Procedure for the entries to be noted by MES personnel.
- (e) Days and timings for entries to be noted by MES representatives.
- (f) Daily check of the registers by the Stn Wks Offr / Officer IC Maintenance Wks.
- (g) Periodical check of the registers by C Adm O at intervals not exceeding once a fortnight.
- (h) Periodical check of the registers by Station Commander, at intervals not less than once a month or if any complaint has not been attended despite repeated complaints.
- (j) Periodical check of the registers by GE and CWE once a fortnight and once a quarter respectively.
- (k) Attending to the entries made by the personnel by carrying out repairs, sanctioning minor works etc.

76. Periodical checks by Station Commander and C Adm O are to be recorded on the Register. CWE and GE are to take similar action.

77. The procedure to be followed for registering of complaints is to be laid down in Station Standing Orders. Relevant extracts are to be re-produced in Station Routine Orders at intervals not exceeding once in three months. Broadly the features of operations of system of demand registers are to include:

- (a) Separate registers should be maintained for Even and Odd days. Demand registers for E & M, B & R and furniture etc should be kept at easily accessible locations within 1 km radius from all buildings. Users should be able to lodge complaints on telephone also.
- (b) Complainant should be able lodge complaint at complaint cell personally or through IVRS or any other method on 24 hrs basis.
- (c) Occupants of buildings or users or inventory holders should be able to write details of complaint in narrative form in layman's language. The complainant should invariably provide following information:
  - (i) Building number with location.
  - (ii) Name of building/section for correct identification.
  - (iii) Exact nature of complaint in descriptive form.
  - (iv) Date, time and particulars of the complainant.
  - (v) Particulars of the store required, if user feels there is any requirement of replacement of any item.

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(d) Normally urgent E & M complaints like power failure or disruption in water supply etc should be attended to immediately. Other E & M complaints should be attended within 24 hrs. Complaints requiring stores should be attended within 48 hrs.

(e) B & R complaints should normally be attended to within 24 hrs or on next working day. However complaints involving cement work, repair/replacement of sanitary fittings, door, and windows etc should be attended within a week. Minor repairs/replacements involving plumbing work like replacement of taps, flush repairs, and carpentry work of replacement of latches, fly proofing, door/window handles etc should be attended within two working days.

(f) If an E & M complaint is not attended within two days and B & R complaint within three days, complainant should write second complaint referring to earlier complaint with "REPEAT" word on complaint. Priority is to be given to REPEAT complaints.

(g) If a complaint is not attended within 7 days the complainant should write complaint in RED ink giving reference of earlier complaints. Every complaint written in RED ink should be personally seen by GE and Station works officer and must be investigated for reasons of delay.

(h) GE is to prepare summary of MES complaints on monthly basis and present the same in the monthly station works conference/welfare meetings or flight safety meetings etc as per station requirements. Pending complaints are to be listed according to the category and reasons for non attendance of these complaints should be analysed and explained by GE in the monthly works conference.

(j) Repairs that are required to be carried out through a contract as a consequence of unsatisfactory repair or deficiency of DEL or due to the extensive nature of the work, must be brought to the notice of C Adm O so that the same could be included in Annual Maint Programme or as Special Repairs.

78. It must be borne in mind by all concerned that the vast majority of personnel at a station are not aware of the part played by MES on various projects and, by and large, all they expect from the organization is to attend to day-to-day petty requirements so that reasonable working and living conditions are made available. Defects like leaking taps, unserviceable lights/fans, broken / unserviceable flush out systems, blocked drains, etc act as daily irritants and have serious morale repercussions. It is the responsibility of the Station Commander to ensure that a foolproof system is laid down for ensuring that:-

(a) The personnel are given adequate facilities for noting the defects / un-serviceability.

(b) Timely remedial action is taken. (Guidelines at Para 7.1.0 of E-in-C's Technical Instructions 1/88.)

79. Basic rules regarding the maintenance of Demand Register (IAFW/1805) are contained in Para 232 to 234 of MES Regulations. This register is maintained for enabling occupants of married quarters as well as representatives of section/squadron commanders, Officers i/c billet etc to note down defects / un-serviceability and record these in the

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Demand Registers. To improve user satisfaction, especially in respect of married quarters the E-in-C's laid down instructions for establishment of 'MES Service Centres' vide E-in-C's Technical Instruction No 20/87. These are reproduced at **Annexure IV**.

### Scheduled Inspections

80. The duties and responsibilities of MES personnel regarding inspection to be carried out by them are laid down in Para 72 and 73 of MES Regulations.

81. The Station Commander is responsible for planning the following types of inspections:-

(a) Quarterly Inspection of buildings, fixtures and installations.

(b) Weekly inspection of essential buildings, fixtures and installations by the section/unit commanders.

82. These inspections are to be planned well in advance at the laid down frequency and are to be carried out in accordance with the instructions laid down in the succeeding paragraphs.

### Quarterly Inspections

83. It is obligatory on the part of MES authorities to carry out quarterly inspections in accordance with Para 72 and 73 of MES Regulations. A programme for quarterly inspection of all buildings and installations is to be drawn up by the C Adm O in consultation with the Engineers. It is to be published in Station Routine Orders and is to be communicated in writing to the GEs as well as to the concerned Section/Squadron/Unit Commanders.

84. The Station is to be invariably represented by the C Adm O / Stn Wks Offr or Officer in Charge Works Services on these inspections. GE is to depute 'B&R' and 'E&M' representatives from the supervisory staff. These inspections form the basis of repairs programme.

85. Section/Squadron/unit Commanders, officers IC billets, etc who are the users of building being inspected are to be instructed to be available at site for bringing various defects and other requirements to the notice of the inspecting teams. During inspection of married quarters, it is to be ensured that occupants of married quarters are available at their residences for inspection in accordance with the published programme. Repairs that are required to be carried out through a contract must be highlighted during such inspections. Necessary rectification action is to be suitably forwarded by the user for inclusion in the 'Annual Maintenance Programme'. It is to be communicated by the C Adm O / Stn Wks Offr in writing to the GE and its progress is to be checked and recorded by the concurrent Board of Officers, constituted in accordance with the instructions, contained in this chapter.

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**Other Inspections**

86. The Station Commander is to plan inspection of essential buildings and services by C Adm O and GE at more frequent intervals. Examples of such buildings are Messes, Institutes, important installations contributing to operational efficiency, Water treatment plants, Bore wells, Sewage treatment plants, etc. Inspection of such buildings / installations and the periodicity of such inspections will vary from station to station. A consolidated list of such essential buildings / installations must be forwarded to GE in writing by the C Adm O and reviewed annually. A follow up report on these inspections shall be submitted to the Stn Cdr within a week of such inspections.

87. The responsibility of carrying out inspection after the working hours is normally entrusted to Station Duty Officer and Station Orderly officer. Other officers may be detailed, when considered necessary. Section/unit commanders are to actively involve themselves in the upkeep of buildings and other assets which they use or fall within their area of responsibility. They are to be instructed to record the cases of un-serviceability / defects in the following documents:-

- (a) Duty Officer / Orderly Officer Report Proforma.
- (b) Demand Register.

88. The points brought out in the Station Commander's inspection of the camp and consequent repairs necessary are to be communicated by the C Adm O in writing to the GE and appropriate entries are to be made in the Demand Registers.

89. **Inspection by Higher Authorities.** Periodical inspections by staff and engineers and the reports on these visits also form the basis for maintenance plan.

**Periodical Services**

90. Periodical Services comprise the external and internal painting, lettering, white washing, distempering, tarring & oiling of gates, rolling shutters, security fences, walls etc required from time to time to keep them in neat, clean & serviceable condition. Rules on the subject are laid down in MES Regulations, Para 229 to 231 and Table 'G' of RMES. The normal intervals & variations prescribed as shown in Table G of MES Regs (reproduced at **Appendix G**). These frequencies may be reduced by the prior sanction of the CWE, but any extension thereof may be sanctioned by the GE. The GE may decide the number of coats of paint etc, necessary in all cases. All periodical painting should normally be done under a separate contract. (Refer MES Regs Para 229 & 230 and Para 263 of E-in-C's Standing Orders).

91. The colour scheme for hospitals is given in detail in Scales of Armed Forces Hospital 2003.

**Urgent Repairs**

92. These comprise repairs to water supplies, electrical wiring, leaking roofs, sanitary system, cooking apparatus, dangerous structures, etc. These are initiated by the user in writing to the C Adm O. The C Adm O is to forward the requirement to the MES for

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immediate / urgent rectification. If it is not considered urgent, the AGE returns such demands with reasons for inclusion in unit demand registers. The C Adm O is responsible to keep the user informed of the progress on urgent demands.

### **Storm Damages**

93. Station Commander should convene a court of inquiry with a MES representative as a member to assess the damages caused by storms at the earliest and not later than a period of 72 h. Irrespective of the progress of Col, MES is to carry out repairs of the building and installations. Special attention is to be paid to restoration of essential services like power supply, water supply and sewage disposal etc. In case of minor storm damages, immediate action is to be taken by the MES to carry out the necessary repairs. Funds for urgent repairs shall be made available to the MES over and above their normal authorisation if projected through proper channels to their respective HQ Commands.

### **Optimisation of Manpower**

94. All possible efforts are to be made to optimise MES manpower by reviewing operating hours of installations without affecting operational effectiveness. Measures to convert manned MES installations to unmanned or user operated facilities where feasible should be explored, (e.g.) centrally located electronic timer switches may be provided to regulate switching on/off street lights without human intervention. Complete automation of all installations, water supply, electric supply, AC plant shall be the objective of the station to be achieved in a time bound manner.

### **Responsibility of Users towards Care and Upkeep of Buildings, Fixtures and Installations**

95. Users / Occupants have a major responsibility of ensuring that buildings, fixtures etc are kept well and that defects / complaints are routinely reported and attended to.

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Appendix A  
(Refers to Para 20 of Chapter III)

**SERVICES CHARGEABLE**  
**MAJOR HEAD – 2078 DEFENCE SERVICES AIR FORCE MINOR HEAD III - WORKS**

<b>Sub head</b>	<b>Nomenclature</b>	<b>Code No</b>	<b>Services chargeable/Remarks</b>
(a)	Works executed under (OWP) Operational Works Procedure	756/01	Caters for expenditure on operational works irrespective of cost including maintenance
		756/01	Caters for expenditure on operational works irrespective of cost including maintenance of assets not taken over by MES (CS 26/78).
	Revenue Works	756/02	Original works costing more than ₹ 1.00 lakh and upto ₹ 2.00 lakh (including POL projects)
(b)	Minor works	757/00	Original works costing upto ₹ 1.00 lakh
(c)	Losses	759/00	Regularisation of losses.
(d)	<b><u>Maintenance of buildings communications, furniture etc</u></b>		
	(i) Permanent Buildings	760/01	(aa) Renovations/repairs
	(ii) Temporary hutted	760/02	(ab) Internal water and electric systems
	(iii) Hired/leased/ Requisitioned buildings (Registered in the RPMB (Register for Permanent Military Buildings) maintained by MES)	760/03	(ac) Internal approach roads (ad) Rectification of defects. (ae) Periodical services (af) Drainage (ag) Bulk provision of maintenance items/stores reported on demand registers/inspections.
	(iv) Air Fields, Runways Taxi tracks, Hard standings, aprons etc	760/04	(aa) Runways (ab) Taxiways (ac) Aprons/hard standings (ad) Shoulders (levelling/grading and removal of grass). (ae) Cleared zones. (af) Airfield markings. (ag) Distance to go markers and other airfield sign boards
	(v) Roads	760/05	(aa) Resurfacing. (ab) Patch repairs. (ac) Maintenance of road berms. (ad) Road signs. (ae) Traffic furniture

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	(vi) Furniture	760/06	(a) Procurement of furniture under replacement programme (b) Restringing of charpoy (c) Re-caning of furniture (d) Polishing and varnishing (e) Repairs including change of upholstery and other maintenance items.
	(vii) Special Repairs (B&R)	760/07	Caters to special repairs to buildings, furniture, roads, airfields, runways, taxi tracks, hard standing aprons etc.
	(VIII) Miscellaneous	760/30	(a) Defences (b) Ranges(all types) (c) Drains (d) Parade and Sports grounds (e) Boundary Pillars (f) Fencing (not included in the capital cost of a building) (g) Gardens/children parks (h) Traverses (j) Camping Grounds (k) Austere Strips (l) Soakage pits and Septic Tanks (m) Sewage systems. (n) Hard standing and platforms, (o) Lightning conductors,
	(ix) Wages (B&R)	760/35	Wages for DEL
(e)	<b><u>Maintenance and Operation of Installations</u></b>		
	(i) <b>Water supply</b> (aa) Payment of Tariff	761/01	Payment of bills for water supplied by civil sources for official use and non paying consumers.
	(ab) Exp on Maint and Repairs	761/09	Maintenance of water supply installations and water supply lines upto overhead tanks of buildings.
	(ii) <b>Electricity</b> (aa) Payment of bills	761/03	Payment of bills for electricity supplied by civil sources for official use and non paying consumers.
	(ab) Exp on Maint repairs	761/05	Maint of electricity supply installations including standby power supply
	(iii) Refrigeration and air-conditioning	761/06	(a) Operation of refrigeration and air-conditioning equipments/plants. (b) Maintenance of refrigeration and air-conditioning equipments (c) Replacement of u/s refrigeration and air-conditioning equipment

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	(iv) Special Repairs(E&M)	761/07	Repairs and renewals costing more than ₹ 2,00,000. Subsequent replacement of BER installations being treated as renewals (refer Para 927 MESR) Maintenance of Airfield Lighting system (MES DEL)
	Miscellaneous(E&M)	761/08	(aa) Maint of BPI maintained by MES (ab) Disinfectors (ac) Boilers (ad) Electric motors, overhead and centrifugal pump. (ae) Standby generating sets (af) Sewage disposal installation (mechanical). (ag) Lifts. (ah) Swimming pools. (aj) Battery charging sets. (ak) Grinding and drilling machines and water cisterns, electrical drills, welding sets and air compressors. (al) Chlorination and filtration plants (am) Kitchen equipment, clocks etc. (an) Perimeter and external lighting (incl security and street lighting) (ao) Expenditure on telephones in E&M installations
	Wages (E&M)	761/15	Wages for DEL

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Appendix B  
(Refers to Para 23 of Chapter III)

**FINANCIAL LIMITS – CFAs FOR SPECIAL REPAIRS  
FOR ISSUE OF ADM APPROVAL**

<b><u>Sl No</u></b>	<b><u>Authority</u></b>	<b><u>(₹ in Lakh)</u></b>	
		<b><u>Without IFA consultation</u></b>	<b><u>With IFA Consultation</u></b>
1.	Govt of India	FULL	FULL
2.	AOA	120	1500
3.	AOC-in-C	75	500
4.	SOA/SAASO	Nil	300
5.	<b><u>STN CDR</u></b> (For issue of Adm Approval only)		
	(a) AOC	15	NIL
	(b) Gp Capt	5	NIL
	(c) Wg Cdr & Below	5	NIL

(Authy: GoI, MoD letter No. Air HQ/95378/1/Fin P/2431/US(RC)/Air-II/06 dated 14 Jul 06 and 20 Jul 06)

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Appendix C  
(Refers to Para 40 of Chapter III)

**NORMS OF EXPENDITURE FOR MAINTENANCE  
OF GOVT BUILDINGS BY MES**

(Extract of Government of India, Ministry of Defence letter No 87966/E2W(PPC)/ 346 /DO-II /D (W-1) dated 27 Aug 08 )

**PART - I**

**PLINTH AREA RATES FOR CIVIL ENGINEERING MAINTENANCE**

Sl No	Category	Service Charge	Annual Repairs	Special Repairs		
				Age 0-20	Age 21-40	Above 40 Yrs
		₹/ Sqm	₹/ Sqm	₹/ Sqm	₹/ Sqm	₹/ Sqm
1	2	3	4	5	5	7
(a)	Residential Buildings					
	(i) Single/Married JCOs Qtrs and Ancillaries	30.99	22.45	14.28	23.71	32.11
	(ii) Single Married Officers quarters other than the residences of General Officer Commanding	30.99	22.45	14.28	23.71	32.11
	(iii) OR/JCOs Messes	40.27	29.21	14.28	23.71	32.11
	(iv) Officers' Messes, Inspection Bungalows Institutes and residences of Gen Offrs Commanding (Div Area, Crops and Command) & equivalent Offrs of services.	48.20	35.42	14.84	24.73	33.67
(b)	Non Residential Buildings					
	(i) Office Buildings (any type except in sub Para (ii) below) storage accn (any type) workshops/ garages and tech can except in sub Para (ii) below etc.	35.31	25.75	24.73	40.97	57.38

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(ii) Office accn (adm block only of formation HQ, down to sub area, and equivalent in other service trg accn of category 'A' establishments Army and corresponding Institutions of Navy/AF/R&D and technical accn of R&D laboratories.	48.20	35.42	15.62	24.73	34.86
(iii) MI rooms and hospitals	88.28	64.52	37.99	63.27	88.47

**Note:**

(a) The above plinth area rates do not cover expenditure of conservancy charges.

(b) In respect of accommodation of Andaman and Nicobar group of islands and for hilly areas, the plinth area rates prescribed above will be increased by 50% for residential and 25% for non residential buildings.

(c) These modified plinth area rates for normal repairs and special repairs will be in super session of Ministry of Defence letter No. 87966/F2(WPC)/1103/DO II/D(W1) dated 30 Jul 1998 and letter No. 87966/E2W(PPC)/1500/D(W1) dated 05 Nov 98. Scales prescribed for items other than normal repairs to internal electrical installations to buildings in Govt. letter No. 13(37)/72/D (Works I) dated 10 Apr 1975 will continue to be operative.

(d) The plinth area rates of Annual Repairs of Civil Engineering Maintenance for high rise buildings located in coastal areas in respect of following categories of buildings will be enhanced as under:-

Residential Buildings		
(i)	Single/Married OR/JCO Qtrs and ancillaries.	From ₹ 40.10 to 47.34 Sq Mtrs
(ii)	Single/Married officers Qtrs other than residences of General Officers Commanding.	From ₹ 40.10 to 47.34 Sq Mtrs.

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**PART – II**

**PLINTH AREAS FOR ELECTRICAL ENGINEERING MAINTENANCE**

SI No	Category of Building	Rates in ₹ per Sqm for day to day Services, Repairs and Maintenance	
		Concentrated Group	Scattered Group
<b><u>Residential Buildings</u></b>			
1.	Single/Married OR/JCO Qtrs and ancillaries	18.22	22.45
2.	Single/Married officers Qtrs other than residences of General Officers Commanding	22.45	25.91
3.	ORs/JCOs Messes	29.67	
4.	Officers, Mess, Inspection Bungalows, Institutes and Residence of General Officers Command (Division, Area, Corps and Command) and equivalent officers of other services.	29.67	
<b><u>Non Residential Buildings</u></b>			
5.	Office Buildings (any type except in sub Para (b) below) storage accn (any type) workshops/garages and tech accn except in sub Para below.	25.91	29.67
6.	Office accn (adm block only of formation HQ, down to sub area, and equivalent in other service, trg accn of category 'A' establishments Army and corresponding Institutions of Navy/AF/R&D and technical accn of R&D laboratories.	29.67	
7.	MI Room and Hospitals.	59.34	

**Note:**

1. (a) These plinth area rates do not cover expenditure on maintenance and running of air conditioning installations, lifts, pumps and sub stations etc. Funds will be provided for those services on actual requirements.
- (b) In respect of accn situated at altitudes more than 5,000 feet and at Andaman and Nicobar group of Islands the plinth area rates prescribed above will be increased by 10%.

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(c) These modified plinth area rates for normal repairs and special repairs will be in super session of Ministry of Defence letter No. 87966/F2(WPC)/1103/DO II/D(W1) dated 30 Jul 1998 and letter No. 87966/E2W(PPC)/1500/D(W1) dated 05 Nov 98. Scales prescribed for items other than normal repairs to internal electrical installations to buildings in Govt. letter No. 13(37)/72/D(Works I) dated 10 Apr 1975 will continue to be operative. Maintenance of grant for perimeter and external lighting shall be demanded as on required basis in M&O estimates.

(d) The above norms do not include the replacement cost of bulbs and tubes, funds for which will be demanded separately at two replacements per annum.

(e) The plinth area rates of Electrical Engineering Maintenance for high rise buildings located in coastal areas in respect of following categories of buildings will be enhanced as under:-

<b>Residential Bldgs</b>		
(i)	Single/Married OR/JCO Qtrs and ancillaries	From ₹ 17.56 to 20.73 Sq Mtrs
(ii)	Single/Married officers Qtrs other than residences of General Officers Commanding	From ₹ 21.68 to 25.59 Sq Mtrs.

2. It has been decided that no norms should be prescribed for special repairs (electrical) and that estimates shall be prepared for each set of buildings individually and sanctions obtained after a survey has been conducted on annual basis.

3. The actual maintenance expenditure will be restricted to allotment made by Govt.

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Appendix D  
(Refers to Para 43 of Chapter III)

**GUIDELINES FOR UNITS / STATIONS PROJECTING MAINTENANCE WORKS/REQUIREMENTS FOR INCLUSION IN MAINTENANCE PROGRAMME 20 -**

1. **Maintenance Works.** Any work that is required for repair/replacement of an already existing infrastructure or for enhancement of life or improvement of specification (when higher specifications have been authorised) is called Maint Work.

2 **Examples.** Some of the examples of Maint works as per code head are given below:-

(a) **Permanent and Temporary Buildings (760/01-03) (B/R).** This is the most important head wherein all the repairs inside a permanent or temp bldg is included. The work that can be included are:-

- (i) Repair/re-flooring of existing floor with SAME specification.
- (ii) Repair/replacement of doors, windows, window panes, stopper, hinges, hydraulic door closers, window/door frames etc.
- (iii) Repair of temp roof, replacement of AC/CGI sheets, false ceiling. Repair of permanent roof for leakage/seepage.
- (iv) Re-plastering of walls and plinth protection etc.
- (v) White wash, OBD, dry distemper, painting of wooden and steel surfaces.
- (vi) Repair/replacement of all sanitary fittings.
- (vii) Repair of rolling shutters and gates.

(b) **Permanent and Temporary Buildings (760/01-03) (E/M).** Repair/replacement of complete internal wiring, Electrical fitting/fixtures, repair of fans, light points, electric meters etc come under this head.

(c) **Airfield Maintenance (760/04).** Complete requirement of airfield maint works like joint filling, painting, epoxy, grass cutting, repair of bituminous surface, repair of airfield drainage, POL of vehicles used for airfield maint and RRS, is included in this head. Requirement of work under this head is projected by SATCO with approval of COO.

(d) **Road (760/06).** Repair and resurfacing of road.

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- (e) **Furniture (760/06).** All types of repair of furniture like re-caning, polishing, repair of locks, change of upholstery etc is covered in this head.
- (f) **Miscellaneous (760/30).** Repair of drains, culvert, sewer lines, fencing, small arms range and traverse wall, is included in this head.
- (g) **Water Supply (761/09).** Repair of complete external water supply services.
- (h) **Electric Supply (761/05).** Repair of **only external** electric supply system.
- (j) **Refrigeration and Air-conditioning (761/06).** All types of repairs related to air-conditioning, water cooler, desert cooler, deep freezer, ice makers and refrigerators is covered under this head.
- (k) **Miscellaneous E/M (761/08).** Repair of DG set, transformers and other MES installations.

3 Above list is a mere guideline and not conclusive. There is a need to identify correct requirement and demand correctly. One should note down the requirement of maint works and project it to Stn Wks officer in the following format:-

<b><u>Bldg No.</u></b>	<b><u>Code Head</u></b>	<b><u>Cat of work</u></b>	<b><u>Details of work required</u></b>
	<u>760/01-03</u> (B&R)	(a) Re-flooring  (b) Joinery work (Repair of doors/windows)  (c) Roof repair  (d) Plastering of walls and plinth protection  (e) Periodical Services  (f) Repair of Rolling Shutters and gates.	
	<u>760/01-03</u> (E/M)	(a) Repair of internal electric wiring, switch boards, fans, plugs points etc.	
	<u>760/04</u>	(a) Airfield Maint Works (For SATCO only)	
	<u>760/05</u>	(a) Repair of Road	

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760/06

Furniture Repair

- (a) Re canning
- (b) Polishing/varnish/painting
- (c) Repair of steel furniture
- (d) Repair of wooden furniture
- (e) Change of upholstery

760/30

- (a) Repair to drains and culverts
- (b) Repair to sewer lines
- (c) Repair to fencing poles and wires
- (d) Repair to traverse walls of danger building and Blast pens traverse walls

761/09

Water Supply

Repair of external water supply pipelines, pumping system OHT etc.

761/05

Electric Supply

- (a) Repair to EXTERNAL electric Supply system
- (b) Rep to DG set, stabilizer etc.

761/06

Air Conditioning & Refrigerator  
Repair of:-

Window type AC  
Water Coolers  
Desert Coolers  
Deep Freezers  
Refrigerators  
Central AC plants

761/08

Misc (E/M)

Repair to DG sets, transformers and other E/M Installations.

**Note:-**

- (i) Do not include any new item in maintenance programme.
- (ii) Include fencing repair, repair of road in and around your Bldg or anywhere in Station if you have noticed.

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(iii) Please do not forget to include the requirement of married quarters of airmen and officers, billets and common places like messes, institute, shopping complex, cinema hall, sports fields and sports courts.

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Appendix D (Cont'd)  
(Refers to Para 43 of Chapter III)

**SAMPLE**

**ANNUAL MAINTENANCE PROGRAMME**

**20 -**

**AIR FORCE STATION -----**

**COPY No ...../....**

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**INSTRUCTIONS FOR PREPARATION OF  
ANNUAL MAINTENANCE PROGRAMME**

1. Except for findings and recommendations, all appendices are to be prepared on MS Excel format.
2. Building No., Plinth area, Capital value asset, and role of maintenance funds authorized once in soft copy can remain unchanged for subsequent year.
3. However Plinth area added after addn/Altn during previous years has to be added.
4. New buildings constructed will have to be added in annual maintenance programme.
5. Buildings demolished are to be deleted from Maintenance Programme.
6. Plinth area rates for maintenance funds when ever revised by Govt will have to be amended.
7. Formulae for calculation of Maintenance funds authorized and estimated cost of repair work are to be added in Formula of MS Excel work sheet for automatic calculation of annual funds authorized and estimated cost of work.
8. Cost of each category of work for Appendix B can be found by applying filter in Annexure column.
9. Totals of all appendices can be automatically brought forward in Annexure I of Appendix A by "Paste link" feature. Figures from Annexure I to be brought in Appendix A by Paste link feature.
10. To find out all the maintenance works planned in one building, filter tab be applied in Column 2 of Appendix. This will give total authorization of Manual funds for one building and manual works planned in that building. If the cost of manual work exceeds the limit of ordering repair as per Para 9 of DWP 2007, then buildings are to be taken up as Special Repair.

**TERMS OF REFERENCE**

1. To prepare and finalise the Annual Maintenance Programme for the year 20\_\_-\_\_ based on the guidelines/Instructions and sample Annual Maintenance Programme given in Chapter III of Air Force Works Manual.
2. To carry out comprehensive and thorough joint inspection of all buildings in the station (OTM, Md Accn, Messes & Billets) by the BOO along with MES reps.
3. To verify the requirements of Maintenance and repair works projected by Unit/section Cdrs by physical check alongwith the reps of GE. The Maintenance Programme is to be compiled based on the demands for repair/maintenance works received from units/sections.
4. To include the maintenance work projected by SMO through Sanitary Dairy.
5. To lay down the priority for execution of various Maintenance works included in the Maintenance Programme.
6. To obtain Airfield maintenance works form ATS Sqn and include in the Annual Maintenance Programme.
7. To scrutinize the complaint/demand registers and include common B&R and E&M complaints not addressed during last financial year.
8. To indicate time frame for completion of Maintenance works.
9. To earmark 10% of the periodical services for inspection/visits.
10. To prepare appendices and annexure on MS Excel sheets and apply formulae to work out the cost of each annexure and appendix and transfer by "*paste link*" feature of MS Excel in Annexure I to Appendix A and thereafter Appendix A.
11. To record findings and make recommendations.

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**FINDINGS**

1. The board having assembled at 1000 hrs on \_\_\_ Sep 20\_\_\_ and on subsequent days studied the requirement of maint works at the station.

2. Requirement of maint works services was called from all units/sections including messes, living in and married accommodation. In addition, a team comprising AGE(E/M), AGE(B/R), BSO, Barrack Warden, Stn Wks offrs and GE(AF) inspected various buildings and installations at the station to assess the requirement of maint work. After compilation of the requirement under various heads, assessment of cost was done by MES. Code head wise allotment of funds during last three financial years, requirement of funds as per the demand of current financial year and expected allotment for 20\_\_-\_\_ is given at Appendix A (Annexure I to this Appendix).

3. Building wise requirement of maint works received from different units/section has been compiled in following appendices and annexure:-

(a)	760/01-03	Buildings	Appendix B
		(i) Re-flooring & Plastering	Annexure I
		(ii) Joinery Work	Annexure II
		(iii) Roof repair work	Annexure III
		(iv) Other B/R works	Annexure IV
		(v) Periodical Services	Annexure V
		(vi) Sanitary Work & B/R stores	Annexure VI
		(vii) Window Panes	Annexure VII
		(viii) Rolling Shutters & gate	Annexure VIII
		(ix) E/M Internal Wiring	Annexure IX
(b)	760/04	Airfield Maint	Appendix C
(c)	760/05	Road Maint	Appendix D
(d)	760/06	Furniture	Appendix E
(e)	760/07	Camouflage painting	Appendix F
(f)	760/30	Miscellaneous (B&R)	Appendix G
		(i) Drain & Culverts	Annexure I
		(ii) Sewer repair Works	Annexure II
		(iii) Fencing	Annexure III
		(iv) Small Arms Range	Annexure IV
(g)	761/09	Water Supply (Maint)	Appendix H
(h)	761/05	Electrical Supply (External)	Appendix J
(j)	761/06	Refrig & Air conditioning	Appendix K
(k)	761/07	AFLS Maint(MES oriented)	Appendix L
(l)	761/08	Miscellaneous E/M	Appendix M
(m)	765/01	New supply (other than vehicles)	Appendix N
(n)	765/03	Repair & Renewal of Tools & Plant	Appendix O
(o)	765/04	Repair to vehicles	Appendix AA

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4. The requirement of maint works being very large, it has been arranged in the order of priority which will be executed as per the order of priority. Guidelines given in Chapter III of works manual have been kept in mind while allocating priorities.
5. While pricing the maint works and working out the requirement of funds, 25% of additional requirement have been included, in sub head 'd' as few users may not have given their requirements or few buildings may have been left out while board inspected the buildings and also to cater for unforeseen demand of works.
6. Buildings for which special repairs have been planned to be executed in the next financial year are excluded from the scope of this maint programme except for only emergency works.
7. Proposed maint contracts to be executed by GE (AF) - as per the format given in Appendix AB.

Presiding Officer

Member

Rep of Unit A  
Rep of Unit B  
Rep of Unit C  
Rep of Unit D

E&M Rep of GE  
B&R Rep of GE  
BSO Rep of GE

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Appendix D (Cont'd)

Appendix A

**SAMPLE MAINTENANCE PROGRAMME : 20 -**  
**SUMMARY OF MAINT FUNDS ALLOTMENT AND DEMAND**  
**(TO BE PREPARED ON MS EXCEL)**

(₹ in Lakh)

SI No	Name of heads	Code Head	Allotment last three years			Funds Required	Funds expected	Details of work planned
			20 - __	20 - __	20 - __			
<b>Major Head 2078, Minor Head 111, Sub Head (d) Maint Bldgs &amp; Commn etc</b>								
1	Bldgs	760/01-03	304.00	210.00	223.58	279.00	220.00	Appendix B
2	Runway/Air Field	760/04	29.70	32.67	33.94	45.00	36.00	Appendix C
3	Roads	760/05	16.20	15.00	24.32	25.65	24.00	Appendix D
4	Furniture	760/06	15.00	17.00	16.00	21.00	21.00	Appendix E
5	Camouflage	760/07	9.72	6.50	6.50	8.00	7.50	Appendix F
6	Miscellaneous B&R	760/30	43.96	30.00	32.60	43.00	40.00	Appendix G
7	Wages B/R	760/35	67.50	67.50	80.00	100.00	100.00	
	<b>Total Sub Head (d)</b>		<b>486.08</b>	<b>378.67</b>	<b>418.94</b>	<b>510.00</b>	<b>443.50</b>	
<b>Major Head 2078, Minor head 111, Sub Head (e) Maint &amp; operation of Installation</b>								
8	Water Supply (tariff)	761/01	80.60	80.00	90.09	120.00	120.00	
9	Water Supply (Maint)	761/09	30.00	34.00	26.00	47.70	30.00	Appendix H
10	Elect Supply (Tariff)	761/03	195.00	180.00	194.00	220.00	220.0	
11	Elect Supply (Maint)	761/05	85.14	75.00	57.00	65.00	65.00	Appendix J
12	Refrigeration & AC	761/05	34.00	33.75	25.00	25.00	25.00	Appendix K
13	Miscellaneous (E/M)	761/08	20.00	20.00	16.00	20.00	20.00	Appendix L
14	AFLS Maint (MES oriented)	761/07	2.00	2.00	2.00	2.00	2.00	Appendix M
15	Wages (E/m)	761/15	166.14	166.00	185.00	0	190.00	
	<b>Total Sub Head (e)</b>		<b>612.88</b>	<b>590.75</b>	<b>595.09</b>	<b>499.70</b>	<b>672.00</b>	

GE(AF)

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Appendix D (Cont'd)

Appendix 'A'(cont'd)

**SAMPLE MAINTENANCE PROGRAMME : 20 -**  
**SUMMARY OF MAINT FUNDS ALLOTMENT AND DEMAND**  
**(TO BE PREPARED ON MS EXCEL)**

(₹ in Lakh)

SI No	Name of head	Code Head	Allotment			Funds Required	Funds expected	Details of work planned
			20 - __	20 - __	20 - __			
<b>Major Head 2078, Minor Head 111, Sub head (h)</b>								
16	Tools, Plant and Machinery							
17	New Supplies (Other than Vehs)	765/01	--	--	3.10	5.00	5.00	Appendix N
18	New Supplies of Vehicles	765/02	--	--	--	-	--	-
19	Repair and Renewal of tools and plants	765/03	3.75	-	8.00	60.00	20.00	Appendix O
20	Repair to vehicles	765/04	3.00	-	3.00	3.50	3.50	Appendix P
	<b>Total Sub Head (h)</b>		<b>6.75</b>		<b>14.10</b>	<b>28.50</b>	<b>28.50</b>	

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Appendix D (Cont'd)

**ANNEXURE I TO APPENDIX A**  
**SUMMARY OF FUNDS REQUIRED**

		Amount
<b>760/01-03 (Pmt &amp; Temp Bldgs)</b>		
Annexure I	Re-flooring	27,18,000
Annexure II	Joinery	30,65,000
Annexure III	Roof work	37,44,500
Annexure IV	Plastering & misc B/R works	26,42,800
Annexure V	Periodicals services	15,97,900
Annexure VI	Sanitary works and B/R stores	4,67,000
Annexure VII	Window panes	30,000
Annexure VIII	Rolling shutters and gates	2,00,000
<b>Annexure I - VIII</b>		<b>1,44,65,200</b>
Annexure IX	E/M internal	79,13,000
<b>Appendix B</b>		<b>2,23,78,200</b>
	+25%	55,94,550
<b>Grand Total</b>		<b>2,79,72,750</b>
<b>760/04 (Air Filed)</b>		
<b>Appendix C</b>	Airfield Maint (B/R)	40,68,000
	Airfield Maint (E/M)	4,50,000
<b>Grand Total</b>		<b>45,18,000</b>
<b>760/05 (Roads)</b>		
<b>Appendix D</b>	Road Maint	20,52,000
	+25%	5,13,000
<b>Grand Total</b>		<b>25,65,750</b>
<b>760/06 (Repair of furniture)</b>		
<b>Appendix E</b>	Furniture	21,03,000
	+25%	5,25,750
<b>Grand Total</b>		<b>26,28,750</b>
<b>760/07 Camouflage</b>		
<b>Appendix F</b>		7,50,000
<b>Grand Total</b>		<b>7,50,000</b>
<b>760/30 (Misc) B/R</b>		
Annexure I	Drain & Culverts	12,00,00
Annexure II	Sewer repair works	13,00,00
Annexure III	Fencing	8,00,000
Annexure IV	Small arms range	2,00,000
<b>Annexure I-IV</b>		<b>35,00,000</b>
	+ 25%	8,75,000
<b>Appendix G Grand Total</b>		<b>43,75,000</b>
<b>761/09 (Water supply maint)</b>		
Appendix H	Water supply (Maint)	47,70,700
	761/09 (Elect supply maint)	
Appendix J	Elect supply (External)	83,10,000
	761/06 (Refrigeration and A/c)	
Appendix K	Refrigeration and air conditioning	35,65,500

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	761/08 (misc E/M)	
Appendix L	Miscellaneous E/M	19,63,300
	761/07 AFLS Maint (MES Oriented)	
Appendix M		2,00,000
	765/01 (Tools and Plants)	
Appendix N	New supply (other than vehicles)	3,36,500
	765/03 (Repair and renewal of tools and plants )	
Appendix O	Repair & Renewal of tool plants	32,98,000
	765/04 (Repair to vehicles)	
Appendix P	Repair to vehicles	13,44,000

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Appendix D (Cont'd)

Annexure I to Appendix B

**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**RE-FLOORING AND PLASTERING**

UNIT :

Code Head : 760/01-03

B&R Maintenance Domestic Area

Sl. No.	Bldg No.	Location	Description of work	Priority of works	Plinth Area in SM	Capital cost of Assets	Rate of Maint Funds	Maint Grant Authorised	Qty /Area of works	Rate	Total Amount	Proposed Qtr of Execution	Annexure
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	P/678	SNCO Mess	Repairs floor to	I	778.30	35.00		0.90	20.00	80.00	1600.00	Apr-Jun	I
	P/678		Repairs plaster to	I					40.00	50.00	2000.00	Apr-Jun	I
			Repair plaster to	I					100.00	50.00	5000.00	Apr-Jun	I
			Repair plaster to	I					100.00	50.00	5000.00	Apr-Jun	I

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Appendix D (Cont'd)

Annexure II to Appendix B

**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**JOINERY WORKS**

**UNIT:**

**Code Head: 760/01-03**

**B&R Maintenance Domestic Area**

Sl. No.	Bldg No.	Location	Description of work	Priority of works	Plinth Area in SM	Capital cost of Assets	Rate of Maint Funds	Maint Grant Authorised	Qty /Area of works	Rate	Total Amount	Proposed Qtr of Execution	Annexure
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	P/255	Battery Charging room	Repair to floor	I	50.00	5.00		0.10	20.00	80.00	1600.00	Apr-Jun	II
			Repair to joinery	I					2.00	1200.00	2400.00	Jul-Sep	II
			Painting of doors windows								0.00	Jul-Sep	II
			Painting of doors windows								0.00	Jul-Sep	II

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Appendix D (Cont'd)

Annexure III to Appendix B

**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**ROOF REPAIR WORK**

**UNIT :**

**Code Head : 760/01-03**

**B&R Maintenance Domestic Area**

Sl. No.	Bldg No.	Location	Description of work	Priority of works	Plinth Area in SM	Capital cost of Assets	Rate of Maint Funds	Maint Grant Authorised	Qty /Area of works	Rate	Total Amount	Proposed Qtr of Execution	Annexure
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	P/678		Repairs to roof	I					20.00	200.00	4000.00	Jul-Sep	III
			Repair to roof	I					100.00	200.00	20000.00	Oct-Dec	III
			Repair to roof	I					100.00	200.00	20000.00	Oct-Dec	III
			WPT on roof	I					50.00	200.00	10000.00	Oct-Dec	III

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Appendix D (Cont'd)

Annexure IV to Appendix B  
**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**MISCELLANEOUS (B&R)**

**UNIT :**  
**Code Head : 760/01-03**

**B&R Maintenance Domestic Area**

Sl. No.	Bldg No.	Location	Description of work	Priority of works	Plinth Area in SM	Capital cost of Assets	Rate of Maint Funds	Maint Grant Authorised	Qty /Area of works	Rate	Total Amount	Proposed Qtr of Execution	Annexure
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	P/678		Replacement of door shutter	II					4.00	1200.00	4800.00	Oct-Dec	IV
			Repair to plinth protection	II					60.00	60.00	3600.00	Oct-Dec	IV
	P/446	Bomb Dump	Repair to ramp and steps	II	500.00	25.00		1.00	30.00	80.00	2400.00	Oct-Dec	IV
	P/21	Armoury	Repair to ramp and steps	II	500.00	25.00		1.00	30.00	80.00	2400.00	Oct-Dec	IV
			Replacement of AC Sheets	I	1000.00	25.00			20.00	1400.00	28000.00	Jan-Mar	IV
	P/102	Logistics	Repair of ramp and floor	II	550.00	15.00			45.00	600.00	27000.00	Jan-Mar	IV

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Appendix D (Cont'd)

Annexure V to Appendix B

**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**PERIODICAL SERVICES**

**UNIT :**

**Code Head : 760/01-03**

**B&R Maintenance Domestic Area**

Sl. No.	Bldg No.	Location	Description of work	Priority of works	Plinth Area in SM	Capital cost of Assets	Rate of Maint Funds	Maint Grant Authorised	Qty /Area of works	Rate	Total Amount	Proposed Qtr of Execution	Annexure
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	P/100	Stn HQ	White/colour wash on wall/ceiling	I	700.00	35.00			500.00	500.00	250000.00	Oct-Dec	V

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Appendix D (Cont'd)

Annexure VI to Appendix B  
**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**SANITARY WORK**

**UNIT :**  
**Code Head : 760/01-03**  
**B&R Maintenance Domestic Area**

Sl. No.	Bldg No.	Location	Description of work	Priority of works	Plinth Area in SM	Capital cost of Assets	Rate of Maint Funds	Maint Grant Authorised	Qty /Area of works	Rate	Total Amount	Proposed Qtr of Execution	Annexure
1	2	3	4	5	6	7	8	9	10	11	12	13	14
			Replacement of WC								0.00	Apr-Jun	VI
			Replacement of Urinals								0.00	Apr-Jun	VI
			Replacement of WHB								0.00	Apr-Jun	VI
			Replacement of tap showers and water pipelines								0.00	Apr-Jun	VI
			Replacement of GI fittings								0.00	Apr-Jun	VI
			Replacement of bib tap								0.00	Apr-Jun	VI

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Appendix D (Cont'd)

Annexure VII to Appendix B

**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**WINDOW PANES**

**UNIT :**  
**Code Head : 760/01-03**

**B&R Maintenance Domestic Area**

Sl. No.	Bldg No.	Location	Description of work	Priority of works	Plinth Area in SM	Capital cost of Assets	Rate of Maint Funds	Maint Grant Authorised	Qty /Area of works	Rate	Total Amount	Proposed Qtr of Execution	Annexure
1	2	3	4	5	6	7	8	9	10	11	12	13	14
			Replacement of window pane	III					6	200	1200.00	Oct-Dec	VII
			Replacement of window pane	II					4	200	800.00	Oct-Dec	VII
	P-88	Md Qtrs	Replacement of window pane	II					5	200	1000	Oct-Dec	VII
	P-89	Md Qtrs	Replacement of window pane	II					3	200	600	Oct-Dec	VII

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Appendix D (Cont'd)

Annexure VIII to Appendix B

**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**ROLLING SHUTTERS AND GATES**

**UNIT :**

**Code Head : 760/01-03**

**B&R Maintenance Domestic Area**

Sl. No.	Bldg No.	Location	Description of work	Priority of works	Plinth Area in SM	Capital cost of Assets	Rate of Maint Funds	Maint Grant Authorised	Qty /Area of works	Rate	Total Amount	Proposed Qtr of Execution	Annexure
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Hangar No 1	DSS	Repairs to rolling shutters	I								Oct-Dec	VIII
	Hangar No 2	121 HF	Repairs to rolling shutters	I								Oct-Dec	VIII
	Hangar No 5	101 Sqn	Repairs to rolling shutters	I								Oct-Dec	VIII
	Hangar No 6	28 Sqn	Repairs to rolling shutters	I								Oct-Dec	VIII

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Appendix D (Cont'd)

Annexure IX to Appendix B

**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**INTERNAL WIRING**

**UNIT :**

**Code Head : 760/01-03**

**B&R Maintenance Domestic Area**

Sl. No.	Bldg No.	Location	Description of work	Priority of works	Plinth Area in SM	Capital cost of Assets	Rate of Maint Funds	Maint Grant Authorised	Qty /Area of works	Rate	Total Amount	Proposed Qtr of Execution	Annexure
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	P-88	Md Qtrs	Rewiring of SMQs									Apr-Jun	IX
	P-89	Md Qtrs	Rewiring of SMQs									Apr-Jun	IX
	P-90	Md Qtrs	Rewiring of SMQs									Apr-Jun	IX
	P-121	Md Qtrs	Rewiring of SMQs									Apr-Jun	IX
	P-287	Md Qtrs	Rewiring of SMQs									Apr-Jun	IX
	P-307	Md Qtrs	Rewiring of SMQs									Apr-Jun	IX
	P-310	Md Qtrs	Rewiring of SMQs									Apr-Jun	IX

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Appendix D (Cont'd)

**INSTRUCTION FOR FILLING ANNEXURE I TO IX OF APPENDIX B**

1. Column 2 - Building No as per MES books where maint repair is proposed. Prefix P, T and SP are to be used for permanent, Temporary or Semi Permanent buildings respectively.
2. Column 3 - Name and Location of building in common user parlance.
3. Column 4 - Describe the actual repair required.
4. Column 5 - Priority as per guidelines given in works manual.
5. Column 6 - Plinth area of building as recorded in MES books.
6. Column 7 - Cost of building after depreciation as per MES books.
7. Column 8 - Latest rates of annual funds as given by Gol.
8. Column 9 - (Col. 6 x Col. 8) Value of sum column to be automatically worked out with format fed in MS Excel.
9. Column 10 - Area of work or Quantity of maintenance work. If the authorisation is in area then use area and if the authorisation is as per item then use Qty.
10. Column 11- Estimated rate of repair as per SSR or ED or Last maintenance rate as applicable.
11. Column 12 - Value to be automatically arrived at by multiplying Col 10 x Col 11.
12. Column 13 - Planned Quarter of execution of work depending upon nature of work, working season, state and requirement.
13. Column 14 - For appendix B following annexure be used so as to apply filter on MS Excel sheet to access value of each category of work.

Annexure –I            Re-flooring and plaster.  
Annexure –II         Joinery work  
Annexure-III and so on

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Appendix C

**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**AIRFIELD**

UNIT :

Code Head : 760/04

Airfield Maintenance

Sl. No.	Airfield Area	Location	Description of work	Priority of works	Area in SM	Capital cost of Assets	Rate of Maint Funds	Maint Grant Authorised	Qty /Area of works	Rate	Total Amount	Proposed Qtr of Execution	Appendix
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	LTT	A LINK	Repairs of taxi track								0.00	Oct-Dec	C
	RW	13 End	Repairs of apron shoulders or runway								0.00	Oct-Dec	C
	RW		Repairs to DTGM								0.00	Oct-Dec	C
			Painting of Main runway, taxi tracks								0.00	Oct-Dec	C
			White washing of over shoot								0.00	Oct-Dec	C

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Appendix D (Cont'd)

Appendix D

**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**ROADS**

**UNIT :**  
**Code Head : 760/05**

**Road Maintenance**

Sl. No.	Type of Road	Location	Description of work	Priority of works	Area of road in SM	Capital cost of road	Rate of Maint Funds	Maint Grant Authorised	Qty /Area of works	Rate	Total Amount	Proposed Qtr of Execution	Appendix
1	2	3	4	5	6	7	8	9	10	11	12	13	14
		Domestic area	Resurfacing with 25 mm premix carpet on existing roads	III							0.00	Jan-Mar	D
		Tech area main road	Resurfacing with 40 mm DAC overlay on existing roads	I							0.00	Oct-Dec	D

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Appendix E

**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**FURNITURE MAINTENANCE**

**UNIT :**  
**Code Head : 760/06**

**Furniture Maintenance**

Sl. No.	Area	Location	Description of work	Priority of works	Qty of furniture	Capital cost of furniture	Rate of Maint Funds	Maint Grant Authd	Qty /Area of works	Rate	Total Amount	Proposed Qtr of Execution	Appendix
1	2	3	4	5	6	7	8	9	10	11	12	13	14
			Re-wearing and repair of charpoy						200.00	65	13000.00	Oct-Dec	E
			Replacement of table top 3/2						100.00	480	48000.00	Oct-Dec	E
			Re-canning of chair verandah						15.00	85	1275.00	Oct-Dec	E
			Renewal of steel/ wooden furniture								0.00	Oct-Dec	E

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Appendix D (Cont'd)

Appendix F

**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**CAMOUFLAGE PAINTING**

**UNIT :**  
**Code Head : 760/07**

**Camouflage Painting**

Sl. No.	Area	Location	Description of work	Priority of works	Area in SM	Capital cost of Assets	Rate of Maint Funds	Maint Grant Authorised	Qty /Area of works	Rate	Total Amount	Proposed Qtr of Execution	Appendix
1	2	3	4	5	6	7	8	9	10	11	12	13	14
			Change of plan B to C									Apr-Jun	F
		Base Ops	External painting of Base Ops									Oct-Dec	F
		Blast Pen No.1	External painting of Blast Pens									Oct-Dec	F

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Appendix D (Cont'd)

Annexure I to Appendix G

**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**MISCELLANEOUS**

**UNIT :**  
**Code Head : 760/30**

**Misc (B&R) Maintenance(Drains & Culverts)**

Sl. No.	Area	Location	Description of work	Priority of works	Plinth Area in SM	Capital cost of Assets	Rate of Maint Funds	Maint Grant Authorised	Qty /Area of works	Rate	Total Amount	Proposed Qtr of Execution	Appendix
1	2	3	4	5	6	7	8	9	10	11	12	13	14
		TATA AREA	Repair of culverts drain slabs								0.00	Jan-Mar	I
		Airmen Mess	Repair of storm water drains								0.00	Jan-Mar	I
			Repair of garbage bins								0.00	Jan-Mar	I
		TATA AREA	Repair of culverts/ drain slabs								0.00		I

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Appendix D (Cont'd)

Annexure II to Appendix G

**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**MISCELLANEOUS**

**UNIT :**  
**Code Head : 760/30**

**Misc (B&R) Maintenance(Sewer Repair works)**

Sl. No.	Area	Location	Description of work	Priority of works	Plinth Area in SM	Capital cost of Assets	Rate of Maint Funds	Maint Grant Authorised	Qty /Area of works	Rate	Total Amount	Proposed Qtr of Execution	Appendix
1	2	3	4	5	6	7	8	9	10	11	12	13	14
			Cleaning of blockage of sewer lines								0.00		II
			Repair of sewer lines								0.00	Jan-Mar	II
			Replacement of Manhole covers								0.00	Jan-Mar	II

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Appendix D (Cont'd)

Annexure III to Appendix G

**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**MISCELLANEOUS**

**UNIT :**  
**Code Head : 760/30**

**Misc (B&R) Maintenance(Fencing & gates)**

Sl. No.	d Area	Location	Description of work	Priority of works	Plinth Area in SM	Capital cost of Assets	Rate of Maint Funds	Maint Grant Authorised	Qty /Area of works	Rate	Total Amount	Proposed Qtr of Execution	Appendix
1	2	3	4	5	6	7	8	9	10	11	12	13	14
			Repair of security fencing								0.00	Jan-Mar	III
			Repair of cattle fencing								0.00	Jan-Mar	III
			Repair of wicket gate								0.00	Jan-Mar	III
			Repair of cattle traps								0.00	Jan-Mar	III

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**RESTRICTED**

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Appendix D (Cont'd)

Annexure IV to Appendix G

**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**MISCELLANEOUS**

**UNIT :**  
**Code Head : 760/30**

**Misc (B&R) Maintenance(Range)**

Sl. No.	Area	Location	Description of work	Priority of works	Plinth Area in SM	Capital cost of Assets	Rate of Maint Funds	Maint Grant Authorised	Qty /Area of works	Rate	Total Amount	Proposed Qtr of Execution	Appendix
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	P/345	Small arms Range	Repair to Stop Butt	100							10000	Oct-Dec	IV
			Replenishment of sand								40000	Oct-Dec	IV
			Repair of firing platform								5000	Oct-Dec	IV
			Repair of stop butts									Oct-Dec	IV
			Replacement of sand									Oct-Dec	IV
			Repair of targets									Oct-Dec	IV

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Appendix D (Cont'd)

Appendix H

**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**ELECT SUPPLY MAINTENANCE**

**UNIT :**  
**Code Head : 761/05**

**Elect Supply Maintenance**

Sl. No.	Area	Location	Description of work	Priority of works	Area in SM	Capital cost of Assets	Rate of Maint Funds	Maint Grant Authorised	Qty /Area of works	Rate	Total Amount	Proposed Qtr of Execution	Appendix
1	2	3	4	5	6	7	8	9	10	11	12	13	14
			Change of transformer oil									Oct-Dec	H
			Change of switch gears									Oct-Dec	H
			Repair of transformer									Oct-Dec	H
			Repair of overhead line									Oct-Dec	H

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Appendix D (Cont'd)

Appendix J

**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**REFRIGERATION AND AIR CONDITIONING MAINTENANCE**

**UNIT :**  
**Code Head : 761/06**

**Refrigeration and air conditioning Maintenance**

Sl. No.	Area	Location	Description of work	Priority of works	Area in SM	Capital cost of Assets	Rate of Maint Funds	Maint Grant Authorised	Qty /Area of works	Rate	Total Amount	Proposed Qtr of Execution	Appendix
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	P/678	SNCO Mess	Repair of AC	III							0.00	Apr-Jun	J
			Repair of water coolers	III							0.00	Oct-Dec	J
			Replacement of air filters for window A/Cs								0.00	Oct-Dec	J

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Appendix D (Cont'd)

Appendix K

**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**AFLS MAINTENANCE**

**UNIT :**  
**Code Head : 761/07**

**Airfield Lighting System Maintenance**

<b>Sl. No.</b>	<b>Area</b>	<b>Location</b>	<b>Description of work</b>	<b>Priority of works</b>	<b>Area in SM</b>	<b>Capital cost of Assets</b>	<b>Rate of Maint Funds</b>	<b>Maint Grant Authorised</b>	<b>Qty /Area of works</b>	<b>Rate</b>	<b>Total Amount</b>	<b>Proposed Qtr of Execution</b>	<b>Appendix</b>
1	2	3	4	5	6	7	8	9	10	11	12	13	14

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Appendix D (Cont'd)

Appendix L

**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**WATER SUPPLY MAINTENANCE**

**UNIT :**

**Code Head : 761/09**

**Water Supply Maintenance**

Sl. No.	Area	Location	Description of work	Priority of works	Area in SM	Capital cost of Assets	Rate of Maint Funds	Maint Grant Autho rised	Qty /Area of works	Rate	Total Amount	Proposed Qtr of Execution	Appendix
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	P/211	Pump house No.1	Underground sump repair	I							0.00	Apr-Jun	L
			Replacement of main water supply pipe line from PH No.1 to SNCOs Mess									Oct-Dec	L
			Cleaning of OH Reservoirs									Oct-Dec	L
			Repairs/Replacement of submersible pumps & motors									Oct-Dec	L

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Appendix D (Cont'd)

Appendix M

**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**MISCELLANEOUS (E&M)**

**UNIT :**  
**Code Head : 761/08**

**Miscellaneous (E&M)**

Sl. No.	Area	Location	Description of work	Priority of works	Area in SM	Capital cost of Assets	Rate of Maint Funds	Maint Grant Authorised	Qty /Area of works	Rate	Total Amount	Proposed Qtr of Execution	Appendix
1	2	3	4	5	6	7	8	9	10	11	12	13	14
			Repair of sub-station										M
			Repair of grid feeders										M
			Repair of security lights										M
			Repair of street lights										M

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Appendix D (Cont'd)

Appendix N

**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**NEW SUPPLY OTHER THAN VEHICLES**

**UNIT :**  
**Code Head : 765/01**

**New Supply other than Vehicles**

<b>Sl. No.</b>	<b>Area</b>	<b>Location</b>	<b>Description of work</b>	<b>Priority of works</b>	<b>Area in SM</b>	<b>Capital cost of Assets</b>	<b>Rate of Maint Funds</b>	<b>Maint Grant Authorised</b>	<b>Qty /Area of works</b>	<b>Rate</b>	<b>Total Amount</b>	<b>Proposed Qtr of Execution</b>	<b>Appendix</b>
1	2	3	4	5	6	7	8	9	10	11	12	13	14

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Appendix D (Cont'd)

Appendix O

**ANNUAL MAINTENANCE PROGRAMME 20 -**  
**REPAIRS & RENEWAL OF TOOLS AND PLANTS**

**UNIT :**

**Code Head : 765/03**

**Repairs & Renewal Of Tools and Plants**

Sl. No.	Area	Location	Description of work	Priority of works	Area in SM	Capital cost of Assets	Rate of Maint Funds	Maint Grant Authorised	Qty /Area of works	Rate	Total Amount	Proposed Qtr of Execution	Appendix
1	2	3	4	5	6	7	8	9	10	11	12	13	14

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Appendix D (Cont'd)

Appendix Q

**PLANNED MAINT : BUILDING AND COMMUNICATIONS**  
**CODE HEAD 760/01-03 APPENDIX B**

<b>Demanded /Authorised</b>	
<b>Allotment Expected</b>	
<b>Planned</b>	<b>A</b>

**DETAILS OF MAINT CONTRACTS 2007-08**  
**SUMMARY OF APPENDIX B**

Sl. No.	Maintenance Contract/work	Estimated Amount
1.	TC for domestic building No. 01 area	
2.	TC for technical and adm bldg No. 01 area	
3.	TC for technical area	
4.	TC for technical and domestic bldgs no 02 & 03 area	
5.	Repairs to rolling shutters sliding gates of hangers and blast pens Logistics building. Armament bldgs	
6.	Repair to joinery (Replacement of wooden doors and windows with steel frame door with panel shutters and steel (single and double) windows with hollow section	
7.	Repair to certain buildings of 2216 Sqm (as per scope given in maint programme)	
8.	Repair to certain buildings of 125(H) Sqm (As per scope) given in Mant Programme	
9.	Repair to sanitary fittings and tiling in toilets of OTM and kitchen of messes.	
10.	Repair/renovation of toilets/kitchen of Officers Qtrs	
11.	Repair/renovation of toilets of airmen Qtr	
12.	Repair to approach paths and courtyards of airmen qtrs	
13.	Repair/Replacement of CGI and AC sheets and false ceiling at various bldgs in station	
14.	Repair to RCC roof in various bldgs in Technical and domestic bldgs	
15.	Periodical services – Technical Area	
16.	Periodical services – No. 02 & 01 area	
17.	Periodical services – Md accn No. 01 area (offr Qtr)	
18.	Periodical services - Md Accn No. 01 area (Offr Qtr)	
19.	Periodical services - (No. 01 area Airmen Qtr + Billet + Messes)	
	<b>Total</b>	<b>A</b>

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Appendix D (Cont'd)

**PLANNED MAINT : BUILDING AND COMMUNICATIONS**  
**CODE HEAD 760/01-03 APPENDIX B**

<b>Demanded /Authorised</b>	
<b>Allotment Expected</b>	
<b>Planned</b>	<b>A</b>

**DETAILS OF MAINT CONTRACTS 2007-08**  
**SUMMARY OF APPENDIX B**

<b><u>Sl. No.</u></b>	<b><u>Maintenance Contract/work</u></b>	<b><u>Estimated Amount</u></b>
1.	Repair/renewal of internal wiring (The contract to have provision of baton wiring, conduit wiring and concealed wiring, box type lights, mirror optic tube lights. MCB junction boxes double AC wiring, ceiling fan, 5 amp, 6 amp 15 amp sockets, flexible wire points. SVL/MVL piano switches, conduit for communication cables telephone jacks, fan regulators etc)	
2.	Repair/replacement of main boards/distribution boards meter board (double door type) sub main wiring and replacement of defective electric fitting/fixture in different locations.	
3.	Repair to Geysers	
4.	Repair/painting of fans and rewiring in certain bldgs at AFS Pkt	
5.	Repair/Replacement of internal wiring, fitting/fixture in SNCOs billets.	
6.	Misc rewiring work required in various units as per maintenance planning programme.	
7.	Bulbs/Tube lights	
8.	Store required for day to day complaint utilized by DEL including reserve geyser/ceiling fans, chocks starters and cables of various sizes.	
	<b>Total</b>	<b>A</b>

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Appendix D (Cont'd)

**PLANNED MAINT : AIRFIELD MAINTENANCE**  
**CODE HEAD 760/04 APPENDIX C**

<b>Demanded /Authorised</b>	
<b>Allotment Expected</b>	
<b>Planned</b>	<b>A</b>

**DETAILS OF MAINT CONTRACTS 2007-08**  
**SUMMARY OF APPENDIX C**

<b><u>Sl. No.</u></b>	<b><u>Maintenance Contract/work</u></b>	<b><u>Estimated Amount</u></b>
1.	Epoxy	
2.	Joint Filling	
3.	Clearance and repair of airfield drains	
4.	Painting of R/W, PTT etc	
5.	Whitewashing of ORA	
6.	Leveling of shoulders	
	<b>Total</b>	<b>A</b>

**PLANNED MAINT : ROAD MAINTENANCE**  
**CODE HEAD 760/05 APPENDIX D**

<b>Demanded /Authorised</b>	
<b>Allotment Expected</b>	
<b>Planned</b>	<b>A</b>

**DETAILS OF MAINT CONTRACTS 2007-08**  
**SUMMARY OF APPENDIX D**

<b><u>Sl. No.</u></b>	<b><u>Maintenance Contract/work</u></b>	<b><u>Estimated Amount</u></b>
1.	Repair to road in Tech Area	
2.	Certain Repair to roads in Tech area	
	<b>Total</b>	<b>A</b>

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Appendix D (Cont'd)

**PLANNED MAINT : FURNITURE MAINTENANCE**  
**CODE HEAD 760/06 APPENDIX E**

<b>Demanded /Authorised</b>	
<b>Allotment Expected</b>	
<b>Planned</b>	<b>A</b>

**DETAILS OF MAINT CONTRACTS 2007-08**  
**SUMMARY OF APPENDIX E**

<b><u>Sl. No.</u></b>	<b><u>Maintenance Contract/work</u></b>	<b><u>Estimated Amount</u></b>
1.	Repair/Reweaving of charpoy GI pipe	
2.	Repair of wooden furniture and polishing/painting/varnishing to furniture	
3.	Repair to chairs/sofa set/tables and steel furniture	
4.	Renewal of condemned furniture	
	<b>Total</b>	<b>A</b>

**PLANNED MAINT : CAMOUFLAGE PAINTING**  
**CODE HEAD 760/07 APPENDIX F**

<b>Demanded /Authorised</b>	
<b>Allotment Expected</b>	
<b>Planned</b>	<b>A</b>

**DETAILS OF MAINT CONTRACTS 2007-08**  
**SUMMARY OF APPENDIX F**

<b><u>Sl. No.</u></b>	<b><u>Maintenance Contract/work</u></b>	<b><u>Estimated Amount</u></b>
1.	Camouflaging to mastering store/Projected store at No. 02 area	
2.	Camouflaging to/painting to certain bldgs in Tech area	
3.	Camouflaging/painting to certain bldgs or domestic area	
	<b>Total</b>	<b>A</b>

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Appendix D (Cont'd)

**PLANNED MAINT : CAMOUFLAGE PAINTING**  
**CODE HEAD 760/07 APPENDIX G**

<b>Demanded /Authorised</b>	
<b>Allotment Expected</b>	
<b>Planned</b>	<b>A</b>

**DETAILS OF MAINT CONTRACTS 2007-08**  
**SUMMARY OF APPENDIX G**

<b><u>Sl. No.</u></b>	<b><u>Maintenance Contract/work</u></b>	<b><u>Estimated Amount</u></b>
1.	Repair to drains and culverts including road berms	
2.	Repairs to barbed wire fence, poles, small arms range and butt (including sand/earth filling)	
3.	Repair to sewer lines, manholes gutters and Nallas etc	
4.	Repair to range built shop	
	<b>Total</b>	<b>A</b>

**PLANNED MAINT : CAMOUFLAGE PAINTING**  
**CODE HEAD 760/07 APPENDIX H**

<b>Demanded /Authorised</b>	
<b>Allotment Expected</b>	
<b>Planned</b>	<b>A</b>

**DETAILS OF MAINT CONTRACTS 2007-08**  
**SUMMARY OF APPENDIX H**

<b><u>Sl. No.</u></b>	<b><u>Maintenance Contract/work</u></b>	<b><u>Estimated Amount</u></b>
1.	Misc water supply works	
2.	Repair/renewal of old GI/CI pipe in line of tech domestic area	
3.	Repair to chloronome plant and supply of chlorine gas	
4.	Cleaning of RCC OH reservoir	
5.	Maint of VT pumps/motor using main pump house panel cable	
6.	Maint of S/By DG set of W/S installation	
7.	Misc Elect work for repair to S/Bys DG set	
8.	Repair maint contract for water supply rising/distribution at 41 WEU	
	<b>Total</b>	<b>A</b>

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Appendix E  
(Refers to Para 43 (a) of  
Chapter III)

**SAMPLE LETTER FROM C ADM O TO UNIT/SECTION**

Tele:

Air Force Station

...../2058/1/Wks

Aug 10

----- (For CO)  
(All Units Cdrs)

**ANNUAL MAINTENANCE PROGRAMME: .....(YEAR)**

1. With ever rising cost of construction and stores, real availability of funds under maint budget actually decreases every year. Approximately Rupees Nine crore are allotted every year for the maintenance of assets at Air Force Station. For effective and meaningful utilization of every rupee allotted, it is very essential that we apply our minds and decide our priorities so that a clear and useful plan is made for utilization of scarce maint funds. This can be achieved if ALL OF US contribute our bit towards formulating the Annual Maint Programme.

2. You as occupant and user of YOUR building and premises know best as to what exactly is required for optimum use of YOUR assets and enhancement of life. It is, therefore, requested that a close survey of all the buildings and surroundings under your jurisdiction be carried out and projection for maint Programme for year --- ---- (FY) be made to Stn Wks Offr by ..... **(date)**. Details guidelines for preparation of maintenance programme and sample maintenance programme is given in Appendix D, Chapter III of IAP 2501.

3. It may be appreciated that only with your involvement and cooperation can the Station Work section formulate an effective and meaningful Maint Programme for ---- --- (FY). The maint demand/requirement may be furnished latest by .....**(date)**.

C Adm O  
For AOC

Copy to:

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**TERMS OF REFERENCE FOR CONCURRENT BOARD OF OFFICERS  
FOR MAINTENANCE PROGRAMME**

1. To study the following documents, with a view to determining the maintenance items completed by MES till the date of check by the Board:-
  - (a) Station Maintenance Programme.
  - (b) Quarterly inspection reports.
  - (c) Reports by Duty Officers and orderly officers.
  - (d) Reports on other inspections.
  - (e) Demand Registers.
2. To verify the execution of work by physical check.
3. To list items not attended to.
4. To list items of unsatisfactory maintenance specifically pointing out how the maintenance is unsatisfactory.
5. To make recommendations.

**Note:** GEs are empowered to issue materials as specified in RMES only to Unit Commanders for this purpose on the understanding that work is carried out by the soldiers themselves as specified in Regulations for the MES. The cost of such materials will be adjusted against the maintenance estimates concerned. Employment of contractors by units for this purpose is not permitted. The work will be approved at the time of quarterly inspection by a representative of the MES.



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Appendix G  
(Refers to Para 90 of Chapter III)

**TABLE 'G'**  
**(See Para 229 OF RMES)**  
**NORMAL PERIODICAL SERVICES**

Internal and external lime washing (white or tinted)		
Half yearly	. . . . .	Cookhouses and other buildings of rooms where food is dealt with, bakeries, grain stores abattoirs meal stores, foul linen stores, latrines and urinals.
Yearly	..... ,,,,,,,,,,,	All other buildings except store houses.
Every two years	.....	Storehouses.
Distempering( including whitening of ceilings).		
Every two years	.....	One coat of dry distemper for offices, schools etc and one coat of oil bound distemper for hospital wards and X-ray or in lieu rooms.
Every four years	.....	Two coats of distemper.
Tarring and treating with wood preservative		
Yearly	.....	Dadoes of stables (to be tarred).
Every four years	.....	Huts fencing and other external works (to be tarred or treated with wood preservative as the case may be)
External paining and oiling		
Every three years	.....	Two coats on all wood work, iron work etc, not otherwise treated.
Internal painting and oiling		
Every four years	.....	One coat on all wood work, iron work etc, not otherwise treated.
Sweeping chimneys		
Monthly	.....	Unit cookhouses

**Variations**

Variations of the intervals laid down above may be made as follows:-

- (a) Hospital wards may be distempered half-yearly if requisitioned by the OC hospital.
- (b) Rooms in hospitals which infectious disease have occurred may (after disinfection by the Medical authorities) be re-distempered, repainted etc on the certificates of a medical officer that the work is necessary.
- (c) Internal painting of schools may be executed every three years.
- (d) Lime wash in mortuary may be done earlier on the certificate of a medical officer that the work is necessary.
- (e) The external wood work and iron work of new buildings should be repainted within two years of completion and thereafter at the normal intervals. The dadoes of stable should be tarred twice in the first year after erection and thereafter at the normal yearly intervals.
- (f) Steel palisading, etc in exposed situations and steel shutters etc of works of defence may be treated to prevent rusting when considered necessary by the CWE.
- (g) The following may, at the discretion of the CE, be carried out in officers quarters at every change of occupancy provided not less than one year has elapsed since the service in question was last carried out:-
  - (i) Internal painting to the extent of one-fourth the normal periodical expenditure on internal painting.
  - (ii) External painting to the extent of one-third the normal periodical expenditure on external painting.
  - (iii) One coat of distemper.
- (h) In the case of Factories/Installations falling under the Factories Act, the intervals of periodical services may be reduced to conform to the requirement of the Act or Rules framed there under.
- (j) Proposed periodicity may be suitably altered by the CWE if there is a reduction in the allotment of maintenance of funds, so as to avoid diversion of funds authorised for other buildings.

2. The execution of periodical services in a building should, whenever possible, be synchronized so that all such services in the building may be carried out at the same time. It may, therefore, be expedient to advance or postpone the time when certain portions of the work would normally fall due.

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Annexure I  
(Refers to Para 21 of Chapter III)

**EXTRACT OF REGULATIONS FOR THE MES 1968**

**Procedure for Maintenance**

232. The necessity for repairs and maintenance services is ascertained through:-

- (a) Demand Register (IAFW-1805)
- (b) Periodical Inspections (Para 73)
- (c) Other inspection by GE. AEEs and Supdts Gde I.
- (d) Urgent requisition (IAFW-1817)

233. A demand register will be maintained by the Quartermaster of each unit in which all necessary repairs will be entered as they arise. In the case of married quarters on the Station Pool, a similar register will be maintained in the office of the SSO. Entries in this register will be noted from time to time by a MES representative and petty repairs carried out. The remaining items, together with the points noted during periodical and other inspections, will form the basis of the repair programme. Interim requisitions should be made for only very urgent repairs.

234. On scrutiny of demands the SDO will strike out any service not chargeable to Government or involving a new service or re-appropriation. He will also strike out from urgent requisitions any repair which is not urgent and will notify the requisitioning officer accordingly.

**Minor Head (b)-Military Roads**

235. The construction and improvement of military roads in cantonments and military stations are authorised.

236. For purposes of construction and maintenance, roads inside cantonments are classified as follows:-

- (a) Military roads (including roads for Air Force, Navy and Ordnance Factories)-These are roads required for purely military purposes (e.g.) those within depots, unit lines ,etc, and those leading from depots, units lines etc, either to the railway station or to the main cantonment roads or lines of communications of the country). Such roads are maintained from Defence Services Estimates.
- (b) Civil roads (Central or State Government, Municipal or District Board)-These are such sections of the Civil network of roads which happen to pass through a cantonment but are required for civil purposes independently of the existence of the cantonments. Such roads are maintained from civil funds.

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Annexure I (Cont'd)

(c) Cantonment roads-These are roads required primarily for the convenience of residents in cantonments. The use of such roads by troops on duty will not cause any claim for consideration as military roads. Such roads are maintained from cantonment funds.

237. No existing road in a cantonment may be closed (except for repairs) and no new roads opened without the approval of the GOC-in-C.

238. No road may be classified as 'military' without the approval of the G of I. The reclassification of a military road also requires the approval of the Government of India.

239. The GOC-in-C is empowered to abandon a military road in a cantonment within his control, which is not required for any military purpose.

240. Roads outside cantonment or military stations are ordinarily constructed and maintained as Civil Works, but where charged to Defence Services Estimates in special cases, they will be handed over as soon as possible under the orders of the government of India to the local administration for maintenance.

241. The classification of a civil road as a road of military importance requires the approval of the Government of India. In special cases, where for military reasons it is necessary to maintain such a road at a standard higher than the considered requisite for civil purpose, the orders of the Government of India should be obtained as to what contribution, if any, should be paid to the local administration to cover the excess cost of maintenance.

242. Repairs and renewals to military roads, the petty additions or improvements to protective works such as retaining walls, berms, culverts, etc, are chargeable to this head (but see Para 225).

Repairs and renewals will be carried out to military roads both in the plains and hills within the authorised maintenance rate per mile laid down by the government of India. The maintenance rate per mile is merely a basis for demanding funds and is not intended to imply any limitation to the expenditure that may be incurred during the year on any particular portion of road.

In the case of hill roads when it is not possible to repair the road from within the maintenance grant, a case for special repairs to the particular road will be submitted to the CFA for sanction and allotment of funds. However, when extra repairs and renewals caused by subsidence of the portion of a road or additional protective works become necessary, the work will be carried out under Para 15 and the case submitted to the CFA for regularization and allotment of funds. In either case the repairs, irrespective of the cost, will be treated as special repairs and budgeted for under minor head(s).

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Widening of roads and reconstruction of un-metalled roads to permanent specification or of sections of roads completely washed away or otherwise destroyed will be treated as original works.

243. A record of road metal and road surfacing materials, etc, collected for use on roads will be maintained by the SDO in a Road Metal Register 9I AFW-1809). The verification of unusual road materials will be made at least once a year by an officer or Supdt. Gde I.

244. The GE will maintain a Roads Register for all military roads in his Division, showing separately for each road, the class of road and length, expenditure on new construction and annual expenditure on maintenance.

245. The MES are not responsible for the planting or maintenance of trees on road sides or elsewhere. Arboriculture may, however, be undertaken by the MES if included in new projects for units or formations or for military roads outside cantonment. On completion, the maintenance thereof will devolve on the unit or formation and the Station Commander respectively.

#### **Minor Head(c)-Furniture**

246. To this head is chargeable the expenditure on repairs and renewals to furniture.

A renewal in the case of furniture is the manufacture or purchase of a new article in replacement of a similar article held on charge, which has been declared unserviceable.

All renewals, irrespective of cost, are treated as ordinary repairs.

247. Rules for the maintenance of furniture are given in Chapter VIII.

#### **Minor Head (d)-Special repairs**

248. Renewals costing more than ₹ 20,000 under Minor Heads (a) and (e) of Sub-Head (d) (1)-Special Repairs (See Para 125). Special repairs to roads (see Para 242) are financed from Minor Head (d) (2).

#### **Minor Head (e)-Miscellaneous**

249. Miscellaneous items of maintenance expenditure such as the following are debitable to Minor Head (e)-Miscellaneous:-

Maintenance of-

- (a) Defences (Para 285).
- (b) Ranges (Para 250).
- (c) Drains (Para 251).
- (d) Parade and sports grounds where authorized.

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Annexure I (Cont'd)

- (e) Perimeter and external lighting except where otherwise ordered by the G of I.
- (f) Boundary pillars (Para 252).
- (g) Fencing which is not included in the capital cost of a building.
- (h) Gardens where authorized (Para 253).
- (j) Traverses.
- (k) Camping Grounds.
- (l) Austere strips.

250. The responsibility of themes in respect of maintenance of ranges is restricted to the maintenance of only those parts of the range which are authorized for execution by MES. Minor repairs to the earth work of stop butts and firing points, arising out of the use of the range will, however, be done by the unit or units in charge (see Barrack Synopsis).

The custody of ranges, when in general use by troops in the station, is the responsibility of the Station Commander.

Permanent danger notice Boards (in English/Hindi and or the regional scripts concerned) warning the public that firing may be taking place at any time when red flags are displayed, will be erected at prominent locations on all roads/tracks, leading into the ranges and at other vantage points.

The erection of notice boards will be carried out in accordance with the normal works procedure.

251. Local MES authorities are governed by the provisions of the Cantonments Act (Act II of 1924) and the rules made there under regarding sanitation and matters connected therewith. The responsibility for sanitary conservation and drainage of land inside cantonments rests with the authority in occupation or in executive management of the land, the MES being responsible only for the military properties in the cantonments.

When a drain is an integral part of the drainage systems of lands under more than one authority, the cost of new construction and maintenance will be divided between the authorities concerned in proportion to the drainage, carried by the drain. The drainage from (but not inside) the compounds of residential quarters and cantonment main drains which run generally on Class C land are the responsibility of the Cantonment Board (but see also Section 189 of Cantonments Act 1924).

252. The cost of erecting and maintaining boundary pillars for demarcating boundaries of a cantonment as a whole will be borne by the Cantonment Board concerned. The responsibility for erecting and maintaining boundary pillars for demarcating military land or Class A land rests with the MES, the erection being charged to the cost of acquiring land or treated as an original works, as the case may be.

**RESTRICTED**

253. The maintenance of gardens is not the responsibility of the MES except under the following conditions:-

- (a) When in the case of hired or leased building, it is incumbent on the MES to maintain the garden under the terms of the lease.
- (b) When, in the opinion of the Station Commander, it is necessary to maintain the garden and/or compound of a vacant military building used for residential purposes.
- (c) When specially authorised by the G of I and chargeable to the head.

The pay of malis authorized for the upkeep of gardens in CEs offices is chargeable to Main Head 3 Sub-Head M.

The rules regarding the supply of water for the upkeep of gardens and compounds are laid down in Quarters and Rents.

#### **Sub-Head C-MAINTENANCE AND OPERATION OF INSTALLATIONS**

254. The budget provision under this head covers the expenditure incurred by the MES on the maintenance and operation of installations for the supply of water and electricity, and payments made by them to municipalities etc. for the supply of water and electricity at stations where there are no separate MES installations. Expenditure on the maintenance and operation of ice plant, refrigeration air-conditioning, mechanical sewage disposal and other E/M installations is also provided for under this head (see also Para 927).

The responsibility of the MES in respect of these installations is given in Chapter XI.

255. The following items of expenditure are chargeable to Sub-Head C-Maintenance and Operation of Installations:-

- (a) Maintenance of buildings including accommodation for installations staff, and other structures which form part of an E/M installations or workshop.
- (b) Petty repairs to workshops, installations and supply systems (Para 258).
- (c) E/M Renewals (para 259).
- (d) All stores, minor spare parts, expendable tools, fuel lubricants, jointing and packing materials, charts for recording meters, cleaning materials and other consumable stores, required for the daily running and maintenance of an installation (Para 274).

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Annexure I (Cont'd)

(e) Pay and allowances of personnel whether permanent, temporary or casual employed in maintaining and operating an installations (Para 909).

(f) Payment made for water and electricity obtained from outside sources.

(g) Telephones for all E/M installations and workshops (Para 117).

256. The following charges are not debitable to the works services budget:-

(a) The cost of drawing water from springs, wells, etc, by animal or manual labour and distribution other than by pipes or ducts.

(b) Charges connected with water supply to troops on the line of march or in training camps other than at camping grounds in MES charge.

257. Charges on account of maintenance and operation of sewage disposal installations, disinfectors, boilers, stand by sets etc, and expenditure on telephone in E/M installations will be booked against Minor Head (e)-Miscellaneous.

258. Petty repairs cover all repairs irrespective of cost, which may be necessary to maintain an installation (including supply system) or workshop in good working condition. Replacement and supply of minor spare parts necessary for the normal maintenance of a plant will also be classified in this category.

259. An E/M renewal may be defined as the replacement of a complete installation, or the whole of a definite portion of an installation, or the whole of a definite portion of an installation or of a complete unit forming part of an installation.

The following will also be treated as renewals:-

(a) Extensive reconstruction of supply system.

(b) Increased capacity of plant or accommodation of the installation.

(c) The substitution of a superior for an inferior class of work. When however the portion replaced is still serviceable, it will, be classed as an original work.

(d) Replacement and supply of major spare parts.

In case of any dispute, the CWE's decision as to whether a particular work shall be classified as an original work, renewal or petty repair, shall be final.

260. Renewals costing up to ₹ 20,000 will be treated as ordinary repairs and charged to the appropriate installation under Sub-Head C. Those exceeding ₹ 20,000 will be financed from Minor Head (d)-Special Repairs (see Para 125).

**RESTRICTED**



## **RESTRICTED**

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Annexure I (Cont'd)

All alterations to the capital cost arising out of renewals of whatever value will be entered in the Plant Record Book (IAFW-2208) maintained for each installation (see Para 903 et seq).

### **Sub-Head D-GENERAL CHARGES**

261. The Minor heads under this sub-Head are detailed in Appx 'C'. The descriptions of these minor heads indicate the nature of the item that are properly chargeable to them.

262. The following items are chargeable to Minor Head (f)- Miscellaneous:-

- (a) Law charges incidental to a work or to the hiring of accommodation or resumption of sites.
- (b) Chowkidars employed on the care of vacant buildings and property. Compensation paid under the Workmen's Compensation Act (Para 96).
- (c) Payment of commission to auctioneers.
- (d) Rent for furniture taken over with a hired building.

263. Rules regarding the payment of rents, rates and taxes are given in Chapter VIII.

### **Section 51-SUPPLY OF WATER AND ELECTRICITY**

#### **General Rules**

831. The MES are responsible for the technical management of the electrical and water supply systems in their charge. Rules for the supply of water and electricity are contained in Appendices N and O and 'Quarters and Rents'. The scales are laid down in 'Barrack Synopsis' as supplemented by Government orders issued from time to time.

No change in, or addition to, the water supply or electrical fittings or current consuming devices already installed in a military building may be made without the written authority of the GE in each case. For private buildings see rules printed separately on IAFsW-2309 and 2191.

No wireless aerial or any structure connected there with may be erected so as to cross an electrical power line or to interfere with the electrical installation. Previous permission of the GE must be obtained in writing for the erection of any such aerial etc or the installation of any private current consuming device.

**RESTRICTED**

**RESTRICTED**

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Annexure I (Cont'd)

832. Except in case of shortage or when control becomes essential water will be turned on during the whole 24 hours of each day.

833. The hours of supply of electric energy will normally be 24 hours of each day, unless supply during the hours of day light in the non-fan season tends to increase the average net all in cost per unit, in which case the Station Commander will limit the hours of supply to those which he considers are necessary to meet entitled loads.

834. The hours during which a supply of water or electric energy is to be made available will be decided by the Station Commander, after consulting the GE, and will be notified in Station Orders and known as the 'hours of supply'.

835. The maximum duration of the fan season will be fixed by the Sub-Area/Bdes or Area/Div Comdr for each station and published in order. Within this duration the dates of the commencement and the end of the fan season will be settled by the Station Commander in conjunction with the medical authorities and the dates will be notified in Station Orders. The actual period of working should be reduced to a minimum.

836. The Station Commander will lay down the hours during which perimeter lighting, and other external and internal lighting directly under his control, will be turned on.

837. In the case of piped water supplies, whether the source of water is controlled by the MES or water is obtained from an outside source, when for any reason as shortage of water occurs such that the piped system cannot supply the minimum quantities authorized for the station, the MES officer responsible for the supply, or the Station Commander where there is no MES staff, shall certify that such shortage exists; the Area/Div Commander shall then take such action as he may consider necessary to supplement the available piped supply (see; also Para 256).

Immediately the supply of water becomes sufficient again the MES officer or the Station Commander shall certify to this effect to enable the services of bhistees etc, engaged during the period of shortage to be dispensed with.

838. The Station Commander is responsible that the economy is exercised in the case of water and electric energy by entitled non-paying consumers and any instances of over-consumption or waste in building occupied by them will be brought to his notice by the MES. Standing orders on the use of water and electric energy by such consumers will be issued by the Station Commander and recoveries for excess consumption will be effected as laid down in 'Quarters and Rents'.

839. In the case of Ordnance Factory supplies, the Superintendent or Officer-in-Charge of the Factory will assume the responsibilities of the Station commander.

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**RESTRICTED**

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Annexure I (Cont'd)

840. No debts will be raised for electric energy or water supplied by Ordnance Factories to the MES but necessary statistics in this respect will be furnished annually by the Factory authorities to the GE concerned for inclusion in the MES Proforma accounts.

841. When a supply of electric energy or water for military buildings, etc, is obtained from a company, local body, State Government or a department of the Central Government, the MES will, except as provided for in Para 842 make the necessary arrangements and draw up the agreement or memorandum of terms as the case may be and deal with the supplying agency (see Table B item 10 and Appx M).

The arrangements between the MES and State Governments will be embodied in formal agreements and those between the MES and other departments of the Central Government in memoranda of terms. Agreement between Government departments (Central or State) are exempt from stamp duty vide Indian Stamp Act 1899.

Where MES obtains a distributed supply of electric energy or water from an outside source at rates applicable to the General public, the printed conditions of the supplying agency will be treated as an agreement and no special agreement will be required. These arrangements will be finalised locally irrespective of the annual payment involved.

842. The MES will not be responsible for making arrangements and drawing up agreement with the supplying agency when:-

(a) for administrative or other reasons the G of I decide otherwise.

Or

(b) Such; supply is required for buildings, installations, etc, which are maintained or hired from funds outside. Main Head 7 for the Army and correspondence heads for the Navy and Air Fore. In such cases the department concerned will draw up the agreement or memorandum of terms as the case may be and deal with the supplying agency in respect of all matters including the payment of bills. In special cases the MES may, at the request of the department concerned, to draw up the draft agreement or memorandum of terms

843. Where a distributed supply of electric energy or water is obtained from a supplying agency, the MES will be responsible for the payments of only such bills as pertain to the consumption by entitled non-paying consumers. All other categories of personnel will deal directly with the supplying agency.

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Where there is no MES staff in a station, arrangements will be made by the MES for such bills, the payment of which is normally their responsibility to be submitted to the GE by the OC unit or formation concerned duly certified to the effect that the quantities charged for are correct.

844. The rules governing the extension of mains and the making of service connections to serve private buildings and the charges to be levied are contained in Appendices M and O.

845. All applications for supplying in bulk by the MES of water for any purpose or electric energy will be submitted to the QMG with recommendations. Each such case will be governed by an agreement or memorandum of terms as the case may be (see Table B item 11 and Appx M).

846. Wherever possible, the MES will give a bulk supply of water or electric energy to buildings belonging to departments of the Central Government, each

case being considered on its merits. In cases where it is not possible, the MES may give a distributed supply under the same conditions as for private buildings (see Para 856 and 860). Supplies to a Cantonment Board should, whenever possible be in bulk and not distributed.

847. The responsibilities of the MES for the collection of charges for water and electricity under varying conditions of supply are contained in Chapter IX-‘Revenue and Receipts’.

848. Wherever “Main Head 7” is mentioned in this chapter it will be deemed to include the corresponding heads for the Navy and the Air Force.

### **Water Supply**

849. All water supply works to meet normal domestic requirements and the provision of all machinery connected therewith (exclusive of articles of Ordnance supply and the drawing of water by manual labour) and piped distribution systems are authorized MES works and may be carried out subject to the usual financial rules.

Where the scheme entails taking a bulk supply from an outside source, the approval to the draft agreement by the competent engineer authority (see Table B) will be obtained before any work is commenced.

Schemes for supply of water for irrigation are 'special' and require sanction of the G of I irrespective of cost. However, the initial construction of wells for irrigating unit gardens, including provision of pumping plant, and where necessary service connection, is an authorized work. But such plant will be operated, maintained and renewed by the unit which will also pay for the cost of electric energy, if any.

850. When it is proposed to take a bulk supply of water from an outside source and the supply cannot be arranged by the CWE/CE within his powers (see Table B), the proposal together with an approximate estimates of cost and a report bringing out the following points, will be submitted to the E in C for consideration.

- (a) Source of supply of water, and the reason for considering a separate MES source undesirable.
- (b) The comparative estimated all in working costs per 1,000 gallons, with details.
- (c) The proposed conditions of supply.
- (d) Reasons for taking a bulk in preference to a distributed supply.

A report from the medical authorities that the source of supply has been inspected and that chemical and bacteriological tests have been carried out, will accompany the proposals.

851. The advice on location of water sources, when required will be obtained from the 'Ground Water Organisation' of the Geological Survey of India. Water diviners will not be employed for this purpose.

852. The MES will be responsible for all sedimentation, filtration and chlorination plant, including the provision of reagents. The medical authorities will test the water periodically and notify the MES when they consider that the water is not being adequately treated. They will also lay down the proportion of the reagents to be used.

Where water is supplied in small service tanks, from which the water is drawn direct by units, the medical authorities will be entirely responsible for providing the reagents and treating the water

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Annexure I (Cont'd)

853. Water mains will be designed only for the normal supply of water for domestic purposes. There is no objection to fire hydrants being fitted to existing mains where supply and pressure are sufficient. Special fire mains will not however be provided except in the case of Arsenals, Ammunition Depots and other similar establishments, when the approval of the G of I will be obtained.

The MES are responsible for the provision of hydrants, tanks and hooks for fire buckets as necessary.

854. In special cases where water is purchased and delivered by supplies into tanks or reservoirs from where distribution is by hand or transport and not through a piped distribution system, payment for the water will be made direct to the suppliers by the administrative authorities and the incidence of cost will follow the administrative arrangements (see also Para 256). If however the water is pumped or distributed through pipes, the payment will be made by the MES and expenditure debited to the relevant sub-head of Main Head?

855. The CE will make arrangements that all water supply works connected with mobilization camps and railway sidings are inspected and tested, where possible by the MES. In all cases the cost incurred will be debited to Main Head 7.

856. Rules for the supply of water to private buildings/premises/land for domestic or non-domestic purposes in all military stations are contained in IAFW-2309. Agreements will be executed in such cases by the owner on IAFW-2310 and by the consumer on IAFW-2308.

**Electric Supply**

857. Electrical installations in connection with authorized services in military buildings are authorized works and may be carried subject to the usual financial rules.

Where the scheme entails taking a bulk supply from an outside source, the approval to the draft agreement by the competent engineer authority (see Table B) will be obtained before any work is commenced.

858. When it is proposed to take power in bulk from an outside source and the supply cannot be arranged by the CWE/CE under his powers (see Table B), the proposal together with an approximate estimate of cost and a report bringing out the following points, will be submitted to the E in C for consideration :-

- (a) Source of supply of power and why an MES power station is not considered desirable.

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- (b) The comparative estimated all in working costs per kilowatt-hour, with details.
- (c) The proposed conditions of supply.
- (d) Whether any company's license covers the area concerned if so, a copy of the license must be sent with the proposal.
- (e) Reasons for taking a bulk supply in preference to a distributed supply.

859. The provisions of internal electrical installation at unit/private expense in buildings owned or otherwise temporarily appropriated by the Defence Services is authorized, subject to the acceptance in writing by the OC unit, owner or occupant, as the case may be, of the conditions laid down in IAFW-2155. The sanctioning authority is the GE subject to the approval of the CFA as for deposit works.

Funds to meet the estimated cost of the work will be paid into the nearest treasury before work is begun. Departmental charges will be levied as laid down in Table H.

In the case of Government owned buildings, where the OC Unit/Occupant foregoes all his right, title and interest in respect of such installations, vide not 8 of Table H, the installation on completion will be entered in the Register of buildings and maintained at Government expense. The rent will be re-assessed on the increased capital cost.

860. Rules for electric supply to private buildings/premises are contained in IAFW-2191. Agreements will be executed in such cases by the owner on IAFW-2195 and by the consumer on IAFW-1774 except in the case of bulk supplies which will be governed by special agreements.

## **Section 52-INSTALLATIONS**

### **General Responsibility**

865. The MES are responsible, except as provided below, for the erection, operation and maintenance of all Defence Services installations for the supply of electricity and water for air-conditioning and refrigeration, for sewage disposal and for the manufacture of ice.

866. The conditions under which departments and services other than the MES will operate and maintain the installations mentioned above are:-

- (a) When specifically authorized by the G of I: or

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Annexure I (Cont'd)

(b) When buildings and installations are maintained from funds outside Main Head 7.

Should however the department or service concerned consider the operation and maintenance of such installation beyond its capacity the MES may operate and maintain the installations as an agency service with the concurrence of the CE.

867. The responsibility of the MES in respect of Defence Services installations other than those mentioned in Para 865 are laid down in the following paragraphs.

Where the term 'Industrial Plant' is used, it covers any authorized plant, machinery specialist and scientific apparatus, or other consuming apparatus, which is used or required by the department or service concerned to enable it to carry out its function, other than those provided by the MES in accordance with 'Barrack Synopsis'; or other Government orders issued from time to time.

868. The incidence of cost and degree of responsibility of the MES will depend on whether :-

- (a) both buildings and installations are maintained from Head 7, or
- (b) the buildings are maintained from Main Head 7 and the installations from a head other than Main Head 7; or
- (c) the buildings and installations are both maintained from a head other than Main Head 7.

869. Where buildings and installations are both maintained from Main Head:-

- (a) The MES will provide, erect, maintain and operate the supply installation and all consuming apparatus, including industrial plant if any. The expenditure involved will be debited to the appropriate head of account for original works or maintenance services, as the case may be;
- (b) The department or service concerned may erect, maintain and/or operate the installation and/or consuming apparatus, at the request and as the agent of the MES. The expenditure will be met by, and the responsibility remains with the MES. Such arrangements may be made locally between representatives of the MES and the department or service concerned.

870. Where the maintenance of buildings is carried out under Main Head 7, and installations are maintained from funds outside Main Head 7, by departments or services who operate their own industrial plant and employ competent staff for the purpose:-

**RESTRICTED**



**RESTRICTED**

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Annexure I (Cont'd)

(a) the MES will be responsible for the supply of electricity, water, etc as under :-

(i) Electricity. The provision, at the standard voltage and frequency, of electric power supply required by the unit, installation or establishment and the provision of mains, sub mains, circuit wiring, devices and other accessories related to the provision of power supply up to the lighting points and main switches for machines, plant and equipment.

(ii) Water etc. MES will arrange the supply to a point to be fixed by mutual agreement where the responsibility of the MES will cease. Such supply point will normally be the stop cock or valve controlling the supply to each individual industrial plant in the installation.

(b) the MES have no responsibility in connection with the provision etc, of the industrial plant or any apparatus connected therewith but they must be consulted before any additions or alterations, are made to the consuming apparatus. The MES will however provide erect and maintain the consuming apparatus required for normal illumination, ventilation, heating etc as authorized but excluding any special provision made for the industrial plant.

(c) no adjustment of charges in respect of the supply of electric energy, etc will be made in the MES accounts except for inter-Service adjustments between the Army, Navy and Air Force. In the case of quasi-commercial concerns, proforma statistics will be furnished by the MES for cost accounting purposes.

(d) the plan of any foundation or other work to be attached to the structure of the building, etc, will be approved by the CWE before the work is started, and the service of the GE can at all times be called upon in an advisory capacity when foundations are being installed by the operating service.

(e) the MES may erect, maintain and/or operate any such installations, at the request and as the agent of the department or service concerned, provided that the expenditure is met by and the responsibility remains with, such department or service. Departmental charges will be levied in accordance with the ordinary rules. Such arrangements may be settled locally between the representatives of the MES and department of service concerned.

(f) in the case of medical electrical apparatus, suitable earth wiring and 'earth' will invariably be installed by the MES. The portion which is not normally to be provided by the MES as part of the MES electrical installation will be carried out by the MES as an agency service.

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**RESTRICTED**

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Annexure I (Cont'd)

871. Where both buildings, and installations are maintained from funds outside Main Head 7, and the installations are required for departments or services who operate their own industrial plant and employ a competent technical staff for the purpose, the responsibilities and duties of the MES in respect of such installations will be as defined in Para 370 except that :-

(a) the MES will have no responsibility, financial or otherwise, for the supply of electric energy, etc but must be consulted before the arrangements for supply are made so that duplication of sources may be avoided. Should it be decided mutually or by reference to higher AUTHORITY that an MES supply is available and economical the MES will arrange the supply (including provision, erection maintenance and operation) only to the main switch or fuse etc controlling the supply to the building, where all MES responsibility ceases.

(b) the provisions made regarding the scrutiny of plans and foundations etc will only apply if the MES are responsible for the maintenance of the building concerned.

(c) proforma debits for electric energy, etc. supplied by the MES will be furnished for cost accounting purposes only. Where, however, the supply installation is maintained from Navy or Air Force funds inter-services adjustments will also be made.

872. The MES will install petrol and fuel oil storage and handling and measuring plant required in connection with ASC, Navy and Air Force bulk and retail issue installations.

Funds to meet the initial cost will be provided from the appropriate head for original works of the Service concerned.

The installations will be handed over to the users for operation and routine maintenance from within their own funds. The buildings housing the installations will be maintained by the MES. Funds for maintenance of buildings housing the pumping sets, filling machines etc will be allotted by the Service concerned as in sub Para below. Expenditure on maintenance of all other buildings will be met from the normal maintenance grants under head 7B of Army and the corresponding heads of Navy and Air Force.

Maintenance and repairs beyond the capacity of the user, as also any renewals required, will be carried out by the MES on behalf of the user. All charges relating thereto will be debited directly to the relevant head of account of the Service concerned which will ensure that adequate funds are allotted before the work is entrusted to the MES.

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## **RESTRICTED**

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Annexure I (Cont'd)

873. The MES will provide, erect and maintain disinfectors, other than those mounted on lorries and will operate all high pressure steam disinfectors and also low pressure steam disinfectors when the steam is supplied from a separate boiler excluding in all cases these provided erected, maintained and operated under the rules in Para 870 and 871.

874. The MES will provide and erect instructional workshop machinery for Engineer units. The machinery will be issued free of cost by Ordnance/ESDs and the erection, etc, cost will be sanctioned as an original work. On erection these will be handed over to the units concerned for maintenance from within their own funds.

### **Cold storage and Air-conditioning Installations**

882 The MES are responsible for the operation and maintenance of all refrigerating plant in cold storage installations and all air conditioners except for the following which will be the responsibility of the EME/User :-

#### **EME**

- (a) Cold stores of over 50-ton storage capacity and air conditioners of over 5 ton capacity-4 Ech repairs.
- (b) Cold stores of 50-ton capacity and below 2.3 and air conditioners of 5-ton capacity and below- 4 Ech repairs.

#### **User**

- (a) Air conditioners of 5-ton capacity and Operation below 1 Ech repairs.
- (b) All structures connected with the cold storage installations will also be maintained by the MES but the contents of the cold store, together with their accounting and safe custody, will be the responsibility and under the control of the user.
- (c) In the case of domestic refrigerators the user is responsible for operation and 1 Ech repairs. The responsibility for all other repairs is that of the EME.

### **Sewage Disposal Installations**

883. As it is difficult to increase the capacity of sewage disposal plant, once installed, all schemes for such installations will generally be designed to allow for a 100 per cent expansion. Alternatively, suitable provisions will be made in the initial scheme to allow for subsequent enlargement of the capacity of the plant should the situation demand.

**RESTRICTED**

884. Statistics of the population served by all such installations will be maintained to ensure that the plant is not overloaded. When it becomes apparent that the installation is working at maximum capacity fresh proposals for expansion or installation of a new plant will be initiated to cover the anticipated increase of population.

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Annexure II  
(Refers to Para 31 of Chapter III)

87966/1/E2W(PPC)/Vol-IV/278/DO-II/D(W-I)  
Government of India  
Ministry of Defence  
New Delhi, dated 20 Mar 09

To

The Chief of the Army Staff  
The Chief of the Air Staff  
The Chief of the Naval Staff

**NORMS OF EXPENDITURE FOR MAINTENANCE OF MILITARY ROADS**

Sir,

1. I am directed to convey the sanction of the President to the adoption of the under mentioned norms of maintenance for military roads in and ex-cantonment by the MES:-

Category of Road	Normal Repair in ₹/per Sqm	Special Repair in ₹/Sqm
RD1, RD2, RD3 & RD4	10.29	13.40

2. For hilly areas, heavy rainfall areas above 3000 mm per annum an increase of 25% over above rates are applicable and for Desert areas/Black cotton soil areas no separate increase would be allowed.

3. These modified norms of maintenance for Normal and Special Repairs will be in supersession of the Ministry of Defence letter No 87966/1/E2W(PPC)/Vol-IV/278/DO-II/D(W-I) dated 15 Mar 1999. These norms will be effective from 01 Apr 2009 and the maintenance grant based on the above norms will come into force for the financial year 2009-10 and onwards. However, the actual maintenance will be restricted within the allotted funds. These norms will be valid for five years or till next revision.

Notes:-

The road classification is based on instructions issued by E-in-c's Branch vide letter No 84008/Pol/CP dated 22 Nov 91 and 05 Mar 92.

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**Type of Roads**

**Carriage Way**

RD1

Double carriage way each 7.5m wide

RD2

Two lane carriage way 10.5m wide

RD3

Two lane carriage way 7m wide

RD4

Single lane carriage way 3.5m wide

4. This issues with the concurrence of the Ministry of Defence(Finance) vide their UO No 342/D/F/F/Wk-II/2009 dt 18 Mar 09

Yours faithfully,

Sd/xxx

(JOSE THOMAS)

Dy Secretary to Govt of India

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Annexure III  
(Refers to Para 73 of Chapter III)

No. Air HQ/37873/1/2/US/D(Air-IV)/W(ALP)  
Government of India  
Ministry of Defence  
New Delhi 10 Jan 2001

To

The Chief of the Air Staff (with 50 spare copies)

**Subject :-Maintenance Fund for Airfield Lighting Project Requiring MES oriented Repairs.**

Sir,

I am directed to convey the sanction of the President of India to revise the incurring expenditure of ₹ 1 lakh (Rupees one lakh) sanctioned vide MoD letter No. Air HQ/S 37532/162/W(P&C)/1500/D(Air-IV) dated 20 Nov 87 to ₹ 2 lakh (Rupees two lakh only) annually for each Air Force unit having Czech type Airfield lighting equipment for the maintenance services to be provided by the CPWD on demand by the respective Air Force station Commander and to review the same after 10 years. The exact nature of MES oriented work to be undertaken will be intimated to the specialist officer in charge of airfield lighting.

2. The charter of responsibilities to be provided by the MES/CPWD will be mainly confined to the following works:-

- (a) Digging, repairing or replacing the cables supplied by Air Force, relaying and closing of the trenches for the airfield lighting system.
- (b) Epoxy/Heat shrink joining U/G cables.
- (c) Earth work, Masonry and concrete works required for repairs of airfield lighting system.
- (d) Minor repairs to 11 KV/400 V transformer and HT switch gear.
- (e) Repairs to earthing system.

3. Expenditure involved is to be debited to budgetary Head 2078, Minor Head-111, Detailed Head-4, Sub head (e). Maint and Operation installations, special repairs, new chargeable to code head 761/07.

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4. Annual Budget demands will be submitted by Air HQ and placed at the disposal of the MES.
5. This amount is not to be spent on repairs to B/R works and major renovation works of airfield lighting system.
6. Expenditure on maintenance of airfield lighting system will be reported by the Garrison Engineer to Air Force Station Commander through R and I Vouchers monthly.
7. This letter issues with the concurrence of Ministry of Defence (Finance/Air/P&W) u.o.No. 44/P&W/Air dated 08 Jan 2001.

Yours faithfully,

Sd/-xxx  
(Shyam Sunder)  
Under Secretary to the Govt of India

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Annexure IV  
(Refers to Para 79 of Chapter III)

### **E-IN-C'S TECHNICAL INSTRUCTION NO 20/87** **MES SERVICE CENTRES(COMPLAINTS CELLS)**

#### **Introduction**

1.1.0 A survey of different Zones reveals that there exist different practices as far as organization, manning and functioning of MES Services Centres (earlier called Complaints Cells) are concerned. Some follow the job Card System and some follow the Complaint Register. There is no standardized procedure as far as feedback on completion to users' complaint is concerned. This is not a matter to be left to chance since the image of MES largely depends upon users' satisfaction. This is an area which affects his creature comforts to the maximum extent.

#### **Aim**

2.1.0 The aim of this Technical instruction is to lay down a uniform standard procedure throughout MES for Service Centres, particularly in regard to complaints pertaining to Married Accommodation.

#### **Scope**

3.1.0 The TI covers mainly the organization of Service Centres in regard to married quarters of officers, JCOs, and Single Officers' Quarters. In regard to Md OR and OTM, the existing system of attending to complaints through Unit Demand Register will continue.

#### **Service Centre**

4.1.0 **Name.** At most of the stations, these are at present called "MES Complaints Cells". With immediate effect, the name will be changed to "MES Service Centre".

4.2.0 **Location.** The MES Service Centre will be located generally at the load centre of the area it serves so that users can conveniently lodge their complaints personally or on phone. It will be in a room/set of rooms consisting of a counter where the user can get his complaint registered.

4.3.0 **Timings.** This will have a telephone and will be manned by selected persons who are polite and well motivated to be courteous and responsive to the users. It should be manned preferably by a Gde II, who will assess the urgency of the defect/repair required and to ensure that the repair/maint gang take along required tools and spares and proceed to attend to the complaint promptly. The scale of staffing of tradesmen like plumber, electrician, pipe fitter should be based

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on complaint analysis at each centre. These may be varied seasonally for correct response in summer/winter.

4.4.0 **Timings.** The Service Centre should preferably work round the-clock in three shifts of eight hours each starting from 0800 hours each day including holidays. If resources do not permit, at least it will be manned for two shifts from 0800 hours to 1600 hours and 1600 hours to 2400 hours. A plumber should be available in both these shifts. For the third shift, there can be a skeleton staff of an electrician/wireman sleeping at the Service Centre so that he is available on call.

4.5.0 To begin with, an effort should be made to establish one Service Centre per station/sub division. This number may be increased as manpower and other resources permit. While expanding the number of Service Centres, the geography of the station, the lay out of the colonies and accessibility to users should be taken into consideration.

### **Maintenance/Complaints Slips**

5.1.0 Different MES offices are following different formats for maintenance Slip/Job Card. After studying them, a standard Maintenance Slip has been evolved and is attached as Appendix A to this letter. This will be followed hereafter throughout MES.

5.2.0 It may be seen that the Maintenance Slip is printed with a counterfoil from which it can be separated by tearing out at the perforation. The list of stores issued should be endorsed on the reverse of this slip. After the particulars are filled up by the duty clerk/attendant at the Maintenance Service Centre and signed with time indicated thereon, the tradesmen or the maintenance team concerned take the Maintenance Slip to the user and get the signature of the user in token of having completed the job satisfactorily. Thereafter, the Slip is pasted back to the counterfoil by the Complaint Cell i/c.

5.3.0 The present system of issue of stores through baby indents may be continued till they are replaced gradually by the record of stores issued on the reverse of the complaint slips. These slips will also cut down on paper work as it incorporates the job instructions, the work record and eventually stores requisition and issues.

5.4.0 With the introduction of this system, there will be no need of maintaining a separate demand register for Md Accn for Officers / JCOs. However, in order to keep a proper control of the number of complaint slips books (like USR Books) which may be issued one per Service Centre, duly machine-numbered on the book, on the slip, and on counterfoil, a control register would need to be maintained by the GE's office (E2) and the signature of Grade I will be taken each time fresh books are issued to him. Printing should be organized centrally by each Zone.

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5.5.0 The following points should be borne in mind by the Gde I/II in-charge of the Service Centre:-

5.5.1 All complaints should be recorded serially on the Complaint Slip Number should be automatically intimated to the user as is done for trunk bookings.

5.5.2. The workers attending complaint must carry the Maint/Complaint Slip containing details of house number and nature of complaints.

### **Carry Forward of Complaints**

6.1.0 In case it is not possible to rectify the defect fully due to nature of defect or non-availability of stores or in case a complaint has a number of items of work which are partly to be attended to immediately and partly at a later stage, separate slips will be prepared. When a complaint has been only partly attended to, the slip will not be pasted but pinned. It will be only pasted once the complaints on the slips have been fully attended to. The complainant should not be required to repeat his complaints, which is happening at present.

6.2.0 Each CE Zone to work out SOP on time frame for the rectification of various types of complaints. On the expiry of such time, if a complaint is not attended to, the user has the liberty to bring it to the attention of the concerned GE/CWE. This SOP should also be disseminated to the users.

### **Functioning**

7.1.0 The Service Centre should function on a Single Window System where user should be able to report all his complaints at one place whether these are of B/R, E/M internal or external. It is the duty of the Service Centre to switch the complaints to an appropriate maintenance staff of the concerned sub division.

7.2.0 In order to attend to common main complaints promptly, the Maintenance Service Centre should have eqpt which should be worked out to include items such as electric drill and rawl plugs.

### **Transport**

8.1.0 To enable the staff to react favorably and effectively, they must be made mobile. They must, therefore, be provided with suitable vehicles like 3 Tonner/1 Tonner/Matador/Tempo/3 wheelers/Motor Cycle/Cycle/Trolleys depending upon the terrain, spread and area of service. Four wheelers must carry an extendable aluminium ladder and if possible, a spot light. If MES does not have the required resources, Station/users should be called upon to provide the vehicles.

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### **Conduct**

9.1.0 The conduct of the personnel manning the Service Centre (Complaint Cell) will be polite and courteous at all times. Even when one has to say 'No' it can be said without conveying to the user that the Service Centre staff is negative, cheeky or non-cooperative. Telephones will not be kept off. The AGEs must ensure this by periodic checks.

9.2.0 The Grade I/II in-charge of the area should ensure a 100% check of pasting back of the complaint slip with the counterfoil. Any missing complaint slip will be investigated and suitable action taken. AGE will inspect the maintenance slips book at least once a week for similar purpose. GE should do so once a month, basically to see the time of response and complaints that are unattended.

### **Complaint Register**

10.1.0 The system of Complaint Register (form at Appendix B) at the Service Centre which contains complaints received from other than married accommodation (OTM) through phone or through unit Demand Register will continue. In such cases, however, the Supdts B/R, E/M, B/S, in the maint yard of the sub division will make a note every evening from the register of the complaint cell and detail the works the next day as at present.

### **Unit Demand Register**

11.1.0. The institution of Service Centre is complementary to but does not alter the precedence or procedure of getting normal repairs done through Unit Demand Registers. The Unit Demand register should have suitable columns showing time, date of complaint, nature of complaint, initials of QM and dated initials of Supdt Gde II daily and Gde I /AGE once a week or so on the fly leaf in order to monitor the response to complaints. The completion should be recorded by QM staff. It is observed that the details of repairs required by the units are not indicated when entries say "repair to chullah', window broken" and so on. The units must be educated to fill in the complaints in clear terms to enable MES to take effective remedial measures in the first instance itself. There should be no overlap of E&M and B&R complaints

### **Issue of Bulbs**

12.1.0 This should be done on a clean exchange basis at the Service Centres for domestic accommodation only, which should be made known to all users through Station Orders or otherwise.; This will apply to MES supplied bulbs (with MES mark) only.

### **Stores**

13.1.0 The spares/stores used in maintenance tasks should be of standard quality and of ISI mark, as far as possible. The quality of repairs replacement and its subsequent durability is another important aspect of users' satisfaction; which must be constantly kept in view.

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**Publicity**

14.1.0 Adequate publicity should be given through slides in garrison cinemas/unit lectures, baatcheet and so on indicating the location of the Service Centre (Complaints Cell), its telephone number, hours of work, areas covered and whom to contact in case of persistent complaint. Similarly, the publicity can be improved by suitable mention in the conferences of Formation Commanders, hand-outs to new occupants and issue of circulars. During the publicity campaign, the attitude of the user should also be paid due attention.

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**CHAPTER IV - BUDGET**

**APPENDICES**

<b>Appendix</b>	<b>Details</b>	<b>Reference of Para No.</b>
<b>A</b>	Organisation Chart of Budget Organisation	4
<b>B</b>	Duties responsibilities of various appointments dealing with the management works budget of Air Force	5
<b>C</b>	Format of PR return	7 (c)
<b>D</b>	Format of PRE return	7 (a) & (d)
<b>E</b>	Format of RE return	7 (b) & (e)
<b>F</b>	Format of MA return	7 (f)

**ANNEXURE**

<b>Annexure</b>	<b>Details</b>	<b>Reference of Para No.</b>
<b>I</b>	Extracts from the Regulations for the Military Engineer Services 1968`	6 & 11
<b>II</b>	FRI Part I (1963 Edition ), Chapter V	6 & 39

**INTRODUCTION**

1. Management of works budget is an important and integral part of works at all levels. The aim of this chapter is to consolidate policies, rules and regulations concerning budgeting for 'Works Services' in Air Force. Various budgetary code heads, returns and simplified guidelines have been described in this chapter with the intention of providing a ready reckoner for Air Force and MES personnel dealing with works services. Ultimate goal is to achieve optimum and judicious utilisation of the funds allocated for the works services in Air Force. The chapter has been divided into following sub headings:-

(a) Organisation

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- (b) Financial Regulations
- (c) Budgetary Cycle
- (d) Planning of Annual Budget and Flow of funds in Budgetary Cycle
- (e) Budgetary Returns
- (f) Monitoring of Expenditure
- (g) Budgetary Heads
- (h) Release of New Works
- (j) Budgetary Classification of Works
- (k) Re-appropriation of Funds

## **ORGANISATION**

2. Prior to 1994, works budget for Air Force was controlled by E-in-C's branch and funds were being allotted to GEs through zonal CEs by E-in-C's branch. Allotment of funds was being made by E-in-C's branch directly to GEs through zonal CEs on MES channels. CFAs at Air HQ, Commands and Stations were not in the channel of budgetary allocations and thus were not aware of the allotments being made to the GEs against the authorisation of their areas of responsibilities. GEs were also common for three services. This system had inherent disadvantages as it did not provide clear demarcation and utilisation of Air Force works budget to Air Force commanders. In 1992 bifurcation of MES formation was done with separate and dedicated GEs, CsWE and CEs for Air Force put under direct control of Air Force Commanders. These MES formations are now co-located with Air Force formation for better interaction and lateral coordination. Air Force started exercising direct control over the Air Force Works Budget from the financial year 1995-96. Since then Air Force has come long way in exercising effective financial control over Air Force works budget. Air HQ is exercising financial control through the Air Force Commands. This system has given Air Force Commanders the ability to achieve greater mileage out of the funds kept at their disposal.

3. This system, interalia, has changed the channel for projecting demands and the fund flow. On receipt of allocation of budget by Govt of India, ACAS (Fin P) is to intimate budgetary allocation for works services to ACAS (AF Works). Immediately thereafter PDAFW (Budget) is to make bulk allotment of funds for Maintenance, carryover, Special Projects and in respect of all new works directly

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to the Command HQ. At Command HQ, Command Works Officer/Additional Chief Engineer (Liaison) is to further allot funds to respective zonal Chief Engineer, Commanders Works Engineer and Garrison Engineers as applicable under intimation to the concerned Stn Cdrs. Allotment of funds to the Stations is to be based on the projections made by CEs, role/responsibilities, authorisations and strictly in accordance of basic principles of DWP 2007 and MES Regulations.

4. For the purpose of monitoring and control there will be a Budget Cell to function under Command works Officer at the Command HQ. Command Works Officer is to exercise control over funds and is responsible for accounting for the expenditure. ACE (L) at HQ Command is to assist Command works Officer on all budgetary matters. Organisation chart of budgetary organisation is placed at **Appendix A**.

5. At Air HQ level, a separate section has been formed under PDAFW (Budget) who deals with all budget matters related to works services. All reports and returns required to be submitted by HQ Commands are to be addressed to Principal Director Air Force Works (Budget). Duties and responsibilities of various appointments dealing with the management of works budget of Air Force is placed at **Appendix B**.

## FINANCIAL REGULATIONS

6. Instructions on budgetary control and re-appropriations are contained in Chapter V of 'Defence Services Regulations - Financial Regulations Part I Revised Edition 1963 briefly termed FR Part I. Extract of FR Part I is reproduced as **Annexure I** to this Chapter. The instructions contained in FR Part I are generic in nature and applicable to all financial dealings pertaining to Defence Services. Specific financial instructions concerning works services are given in Para 176 to 197 of Section 10, Chapter III of MES regulations. Extract of MES Regulations is reproduced as **Annexure II**. All Air Force and MES officers at station, Command, Zone and Air HQ level entrusted with the responsibility of dealing with Air Force Works budget are to familiarise themselves with the provisions contained in these regulations and keep in mind that these regulations are not violated in any manner.

## BUDGETARY CYCLE

7. Budgetary cycle in respect of works services has six main stages which run concurrently for the projections of funds for next financial year and review of expenditure for current financial year. These stages are:

- (a) **Forecast Estimate (FE)**. Projections of funds for a particular financial year start from Forecast Estimates (FE) which are made in the month of **Sep** of previous financial year. At this stage it may not be

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possible to have full details and data available for authentic estimates; therefore FE is only forecast of estimates of the likely expenditure for next financial year based on past track record and information available. Format of FE return is placed at **Appendix D**. This return is required to be submitted by GE/CWE/CE through HQ Commands to Air HQ, PDAFW (Budget) along with previous year's Pre Revised Estimates (PRE)

(b) **Budget Estimate (BE)**. This is the most important stage in the budgetary cycle wherein detailed and realistic projections of funds for next financial year are made in the month of **Nov** every year. All allotments for next financial year are made after taking into consideration the estimates projected at this stage. Therefore thorough planning and evaluation of the budgetary requirement for next financial year must be done while compiling the BE return. Format of BE return is placed at **Appendix E**.

(c) **Preliminary Reports (PR)**. This is the first budgetary report after the allotment of funds for the current financial year. The Preliminary Report is submitted in **Jul** with the actual expenditure for the first three months (Apr – Jun) and realistic estimates for the remaining nine months of the financial year. Though no additional allotment of funds are made based on the PR but it is an important tool for monitoring the trend of expenditure and may be a useful input for internal readjustment of funds by PDAFW (Budget) to the extent feasible. Any unforeseen requirement if emerged subsequently could be included in this return. Format of PR return is placed at **Appendix C**.

(d) **Pre-Revised Estimate (PRE)**. PRE is prepared taking into account actual expenditure of first six months i.e. as on **30 Sep** and assessed requirement of funds for remaining period from 01 Oct to 31 Mar. This return gives another opportunity to fine tune the budgetary estimates (BE) for the current financial year. However no additional allotments are made based on the PRE by PDAFW (Budget) but revised estimates in PRE may help Command and Air HQ for internal re adjustment of surpluses and shortfall of funds from within the Air Force. PRE return is sent along with FE as one return. Format of PRE return is placed at **Appendix D**.

(e) **Revised Estimate (RE)**. This is an important stage wherein review of the budgetary allocation and actual expenditure of first seven months i.e. upto **31 Oct** is taken into consideration. Revised projections are made based on the actual expenditure of seven months and realistic estimated expenditure for remaining five months. Revised Estimates made at this stage are taken into consideration for allocation of additional funds for current financial year. Projections for additional allotments should be commensurate with the expenditure reflected upto 31 Oct in this return. Over/underestimation of expenditure and demand could lower the creditability of the return. **RE stage is combined with BE stage** and

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processed as single return. Format of RE return is placed at **Appendix E**.

(f) **Modified Appropriation (MA)**. This is the last stage of budgetary cycle wherein re appropriation is allowed to the extent admissible based on the actual expenditure as on **31 Jan**. Demand of funds in respect of works which could not be progressed as planned due to unforeseen circumstances or may be certain works progressed faster than expected could be reassessed. However it may be understood that mere correction/reduction/ increase in budgetary estimates in MA may not automatically result in proportionate increase/reduction in allotment of funds as it is very late for further allocation of funds from the Govt. However this return does give an opportunity to HQ Command and Air HQ to allot funds within the Air Force Commands and re-appropriate funds within the head to the extent admissible. Therefore the MES executive officers and HQ commands are required to be more proactive and liaise with Air HQ in time to ensure re-appropriation is done with the aim of optimum utilisation of funds. Before forwarding MA to HQ Command, Zonal Chief Engineers and CsWE are to make re appropriations as admissible under Para 190 of MES Regulations and intimate the same to HQ Command and Air HQ. No re appropriations are admissible after **01 Mar**. Format of MA return is placed at **Appendix F**.

8. **Monthly Expenditure Return (MER)**. In addition to six major budgetary returns described above another important and basic return is Monthly Expenditure Return. As the name indicates it is a monthly return that is prepared by Garrison Engineers based on the expenditure booked as on 25<sup>th</sup> of previous month. This is a very important tool for the Air Force commanders for effective monitoring of maint expenditure. To monitor maint expenditure, critical scrutiny and analysis of MER submitted by GE is required to be carried out by the C Adm O. Detailed instructions regarding scrutiny of MER has been given in Para 63 and 64 of Chapter III. It may however be borne in mind that the physical progress of works on ground will be more than the percentage progress as the payments are made only after technical inspections and measurements by the engineer in charge. Thus percentage of expenditure reflected in MER should not be taken as indicator of physical progress. MER is to be submitted by the GE to C Adm O, CWE, CE and Command Works Officer/ACE(L) by 10<sup>th</sup> of the following month. The responsibility for compilation of MERs from stations and submission to Air HQ will rest with ACE(L) at Command HQs. Thus, GE wise monthly and quarterly expenditure, will need to be compiled and submitted by the Zonal Chief Engineer (Air Force). After due scrutiny at Command HQ by ACE(L) in consultation with Command Works Officer these are to be forwarded to Air HQ. In the process, the CEs will invariably have to follow a dual channel, as the reports will have to be submitted to AF Commands as well as on the Engineer channel to the E-in-C's branch. At the station level, compiled expenditure returns will be monitored for expenditure by the AOC/Stn Cdr keeping in mind the

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availability of funds for the rest of the year. A similar procedure will be necessary for submission of projections at PR, PRE, RE and MA stages.

9. Quarterly reports submitted by the Chief Engineers on pay and allowances for Army personnel dedicated to AF Works are to be continued to be sent to the Command CEs, with a copy to Air HQ.

### PLANNING OF ANNUAL BUDGET AND FLOW OF FUNDS IN BUDGETARY CYCLE

10. Initiation of demands is to start from GEs wherein he is to project the requirement of Forecasted Estimates (FE) and Budgetary Estimates (BE) for next financial year. The estimates are to be compiled by CsWE in respect of all GEs under him and forwarded to zonal CEs (AF). Estimates in respect of all CsWE and GE (I) are then vetted and compiled by zonal CE(AF) and forwarded to ACE(L)/ C Wks O. At Command HQ estimates of CEs, CPWD, DGBR and any other engineering service providing engineering cover are to be thoroughly scrutinized and compiled before forwarding to Principal Director Air Force Works (Budget) at Air HQ. At Air HQ estimates received from all commands, CPWD and DGBR are to be analysed and compiled. Corrections and changes are to be made based on past allotments, expenditure trends and additional inputs available with Air HQ regarding some special projects and status of AMWP works.

11. Instructions regarding the preparation of Budget Estimates are contained in Financial Regulations (India) Part I (1983 Edition) Rules 101 to 105 (reproduced at **Annexure I**) and Instructions issued vide by D Fin P, from time to time.

12. These instructions are to be kept in mind by PDAFW (Budget) while compiling budgetary information and forwarding the same to D Fin P.

13. D Fin P is required to forward the particulars of budgetary requirements in the next year as per the following time schedule to the Government.

(a) Forecast Estimates (FE) to reach the Government by **10<sup>th</sup> November**.

(b) Budget Estimates (BE) to reach Government by **20<sup>th</sup> December**.

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14. PDAFW (Budget) at Air HQ is to take necessary action for ensuring that:-
- (a) Information relating to FE and BE is received from the HQ Commands and RCPO latest by **25<sup>th</sup> October** and **30<sup>th</sup> November** respectively.
  - (b) AOA's approval is obtained on consolidated FE and BE returns latest by **29<sup>th</sup> October** and **05<sup>th</sup> December** respectively.
  - (c) FE and BE returns reach D Fin P latest by **31<sup>st</sup>October** and **08<sup>th</sup> December** respectively.
  - (d) Command HQ and units under Air HQ and other agencies, if any, for whom the budget is provided from works budgetary heads are to forward required information well in advance. Wherever there are areas of disagreement between PDAFW (Budget) and the agencies forwarding their requirements, these are to be discussed by them.
  - (e) Draft return is to be put up to AOA for approval.
  - (f) After approval of AOA, the return is to be sent to D Fin P by due date.
15. In case any delay is expected in the forwarding of a return to D Fin P, due to non-receipt of information in time from various agencies or any other reason, D Fin P is to be kept informed. Variations, if any between the PR, PRE, RE & MA should be supported with adequate justifications.
16. The BE of entire Air Force is then to be forwarded to MoD by D Fin P. The Budget Estimates for the following financial year are normally finalised by the Government in the month of December. Based on the budgetary figures agreed to by the Government (subject to approval by the Parliament), advance planning of the utilisation of budget is to be carried out by PDAFW(Budget) in the following manner:-
- (a) AMWP, after approval by AOA, is to be forwarded to the Government for approval.
  - (b) Command-wise allocation of funds under Revenue Head of Account is to be decided. This is to be followed by detailed instructions to Command Headquarters and units under Air HQ latest by **1 Feb**, with a view to ensure the following :-
    - (i) Timely preparation of maintenance programmes.
    - (ii) Timely planning of Minor Works and Revenue Major Works.

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(c) Director of Financial Planning is to be approached, latest by **15 Mar**, for arranging initial allotments (equivalent to 1/6th of BE figures) so that funds are made available to the executing agencies during the months of April and May (Bulk allotments are made later after the receipt of intimation regarding formal approval of budget).

17. MoD will allocate funds out of the Defence Budget approved by the Parliament based on the budgetary estimates (BE) received from Air Force. Normally, the Ministry of Finance (Defence) release only 90 % of the budget in the beginning of the financial year. The remaining 10 % is kept as reserve with Air HQ and released later i.e. normally in the month of December. D Fin P is to allocate works budget to PDAFW (Budget) which in turn is to make bulk allotment of minor works, revenue, carryover and low budgeted capital works funds at the disposal of HQ Command. Allocation of funds for initial allotment of funds for new Major Capital Works (costing more than ₹ 15 lakh) and Special Projects is made by PDAFW (Budget) along with release of AMWP and Special Project works as and when Adm Approvals are accorded. C Wks O is to make station wise allocation based on the projections made by the station in Annual Maintenance Programme. Allocation of funds for initial allotment of funds for new Low Budgeted Capital Works (costing ₹ 2 to 15 lakh), Major Revenue works and Special Repairs works is made by C Wks O at HQ Command along with release of LBWP works as and when Adm Approvals are accorded. Allotment for minor works is made by C Wks O on receipt of funds from Air HQ based on past trend. Necessary action is to be taken by PDAFW to arrange the release of 10 % reserve in time for ensuring its proper utilisation during the financial year.

### BUDGETARY RETURNS

18. Budgetary reviews are carried out through periodical budgetary returns in accordance with the instructions issued by D Fin (P) from time to time. These returns are the most important tool to exercise financial control over works budget. These returns should not be taken as one of those routine and mundane activities but due importance and priority must be assigned for timely preparation of the returns. To make these periodical returns more meaningful, compilation of data in such returns should be done very carefully and only after assessing physical progress of works in progress and under planning. There are budgetary returns associated with each stage of the budgetary cycle described above. Time table giving the periodicity and schedule of each of these budgetary returns is given below:-

RETURN	EXP UPTO	LAST DATE OF SUBMISSION BY			
		CE TO COMMAND	COMMAND TO AIR HQ	PDAFW TO D Fin P	D Fin P to MoD
PR	30 JUN	05 JUL	15 JUL	05 AUG	20 AUG
PRE cum FE	30 AUG	05 OCT	15 OCT	05 OCT	10 NOV
RE cum BE	31 OCT	05 NOV	15 NOV	05 DEC	20 DEC
MA	31 JAN	05 FEB	15 FEB	25 FEB	10 MAR

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### **MONITORING OF EXPENDITURE**

19. As per mandate of Finance Ministry all Govt organisations are to ensure expenditure upto 67% of the BE allocation by Dec and expenditure in the last quarter of financial year (Jan – Mar) should not exceed 1/3rd of the budgetary allocations. These instructions are equally applicable to expenditure of works services in Defence services and are required to be ensured in letter and spirit.

20. In the past while reviewing the aforesaid instructions, the Finance Ministry has observed that in some Demands for Grants, the ceiling of 33% of expenditure in the last quarter had been breached due to various reasons. Finance Minister has directed that, no explanation will be accepted for exceeding 33% expenditure in the last quarter. It has also been directed that in case any Ministry/Dept is unable to spend 67% by 31 Dec, they will not be allowed to spend more than 33% in the last quarter.

21. In past the CGDA's compilation of expenditure has revealed that expenditure made by the IAF Commands in works services upto Dec have been around 50 to 55% only which is far below the stipulated 67%. The situation is more critical in case of Capital Heads as compared to Revenue Heads. Consequently, under Capital Head the expenditure in the last quarter goes beyond the prescribed 33%.

22. It needs no emphasis that expenditure targets prescribed by the Finance Ministry have to be met. Therefore it is to be ensured that these directions are strictly followed while processing expenditure proposals and monitoring progress of expenditure. Further, in order to achieve a target of 67% by 31 Dec, it is to be ensured that at least 45% - 50% of the Budget allocation is spent by Sep. Requests for additional allotment of funds will not be considered if the expenditure falls short of this target.

### **BUDGETARY HEADS**

23. The Budget for 'Works Services' is provided under two major heads i.e. Capital Heads and Revenue Heads.

24. **Capital Heads.** Capital head is that head funds for which are allocated by Govt of India out of the borrowings from international sources, Reserve Bank of India and loans. This head is for creation of new infrastructure, up gradation and new procurements. In works services, expenditure on all Major Capital Works and Low Budget Capital Works, special projects and land acquisition cases are to be booked under this code heads. The detailed head are given below:-

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(a) **Major Head 4076, Sub Major Head 03**

(i) Minor Head 050 – Land

(aa) 916/31 – Acquisition of land

(ab) 916/33 – Deduct receipts from disposal of Air Force land originally financed from Capital

(ac) 916/34 – Deduct recoveries from HAL account of Capital expenditure incurred by Govt on Aircraft manufacturing Depot, Kanpur

(ad) 916/35 Deduct refund of un-disbursed amount on account of compensation money for acquisition of land.

(b) **Minor Head 202** - Construction Works

**Carried Over Liabilities**

(i) 917/31 - Md Accn Carryover

(ii) 917/32 - OTM Carryover

**New Schemes**

(iii) 917/33 - Md Accn New

(iv) 917/34 - OTM New

(v) 917/35- Deduct receipts from the disposal of AF Buildings etc

(vi) 917/41 Married Accommodation Projects

(c) **Minor Head 103** – Other Equipment

(i) 919/36 – Other equipment

(d) **Minor Head 206.** - Special Projects. Sub code heads of Special project are allocated separately for each new project or a group of similar projects. Special code heads allocated for various projects so far are as given below:

(i) 918/31 - Works other than those carried out by MES

(ii) 918/32 - Works carried out by MES

(iii) 918/34 - Infrastructure for NE

(iv) 918/37 - AF base at Phalodi

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- (v) 918/38 - AF Project at Chiloda
- (vi) 918/39 - Security related works
- (vii) 918/40 - AF base at Thanjavur
- (viii) 918/41 - Project Ajeet at Bidar
- (ix) 918/42 - Infrastructure at Palam
- (x) 918/43 - AWACS projects
- (xi) 918/44 - Infrastructure for ALH
- (xii) 918/45 - Infrastructure for Mirage 2000
- (xiii) 918/46 - Project Richards
- (xiv) 918/48 - Infrastructure for Mig-29 upgrade
- (xv) 918/49 - Infrastructure for MI-17VS
- (xvi) 918/50 - Resurfacing of runway

25. Funds for acquisition of land will be provided for Air HQ under Major Head 4076, Sub Major Head 03 – Air Force, Minor Head 050 – Land. Budgeting and accounting of funds under this Head will be done by DGDE as per instructions of Air HQ.

26. **Revenue Heads.** Funds for the revenue budget are generated from the taxes and levies made by central and state govts. The revenue budget is utilised for maintenance of existing assets and petty capital expenditure. For works services expenditure on Revenue Works, Minor Works, Ordinary and Special Repairs, Maintenance of buildings, roads, railways sidings, communication, Maintenance and Operation and installations / workshops including payment of tariff, General Charges like rents for buildings and lands, rates and taxes, Tools, plant & machinery, Stores for works and maintenance, Stores for Parks & Divisional Stocks and their maintenance, MES Advances as well as Wages and Salaries of MES establishment assigned to such services are budgeted and accounted for under Revenue Head. The relevant Budgetary Heads for such Revenue expenditure for works and maintenance in respect of Air Force are appended below:-

<b>Major Head – 2078 Defence Services Air Force, Minor Head III</b>			
<b>Sub head</b>	<b><u>Nomenclature</u></b>	<b><u>Code No</u></b>	<b><u>Services chargeable/ Remarks</u></b>
(a)	Works executed under (OWP) Operational Works Procedure	756/01	Caters for expenditure on operational works irrespective of cost including maintenance

		756/01	Caters for expenditure on operational works irrespective of
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			cost including maintenance of assets not taken over by MES (CS 26/78).
	Revenue Works	756/02	Original works costing more than ₹ 1.00 lakh and upto ₹. 2,00 lakh
(b)	Minor works	757/00	Original works costing upto ₹. 1,00 lakh
(c)	Losses	759/00	Regularisation of losses.
(d)	<b><u>Maintenance of buildings communications, furniture etc</u></b>		
	(i) Permanent Buildings	760/01	<ul style="list-style-type: none"><li>• Renovations/repairs</li><li>• Internal water and electric systems</li><li>• Internal approach roads</li><li>• Rectification of defects.</li><li>• Periodical services</li><li>• Drainage</li><li>• Bulk provision of maintenance items/stores reported on demand registers/inspections.</li></ul>
	(ii) Temporary hutted	760/02	
	(iii) Hired/leased/ Requisitioned buildings (Registered in the RPMB (Register for Military Buildings) maintained by MES)	760/03	
	(iv) Air Fields, Runways Taxi tracks, Hard standings, aprons etc	760/04	<ul style="list-style-type: none"><li>• Runways</li><li>• Taxiways</li><li>• Aprons/hard standings</li><li>• Shoulders (levelling/grading and removal of grass).</li><li>• Cleared zones.</li><li>• Airfields markings.</li><li>• Distance to go markers and other airfield sign boards</li><li>• Any other airfield related works</li></ul>
	(v) Roads	760/05	<ul style="list-style-type: none"><li>• Resurfacing.</li><li>• Patch repairs.</li><li>• Maintenance of road bumps.</li><li>• Road signs and Traffic furniture.</li></ul>

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	(vi) Furniture	760/06	<ul style="list-style-type: none"><li>• Procurement of furniture under replacement programme</li><li>• Restringing of charpoy</li><li>• Re-caning of furniture</li><li>• Polishing and varnishing</li><li>• Repairs including change of upholstery and other maintenance items.</li></ul>
	(vii) Special Repairs (B&R)	760/07	Caters for special repairs to buildings, furniture, roads, airfields, runways, taxi tracks, hard standing aprons etc.
	(viii) Miscellaneous	760/30	<ul style="list-style-type: none"><li>• Defences</li><li>• Ranges(all types)</li><li>• Drains</li><li>• Parade and Sports grounds</li><li>• Boundary Pillars</li><li>• Fencing (not included in the capital cost of a building)</li><li>• Gardens/children parks</li><li>• Traverses</li><li>• Camping Grounds</li><li>• Austere Strips</li><li>• Soakage pits and Septic Tanks</li><li>• Sewage systems.</li><li>• Hard standing and platforms,</li><li>• Lightning conductors,</li></ul>
	(ix) Camouflage Painting	760/07	Camouflage painting
	(x) Wages (B&R)	760/35	Wages for DEL
(e)	<b>Maintenance and Operations of Installations</b>		
	<b>Water supply</b>		
	(i) Payment of Tariff	761/01	Payment of bills for water supplied by civil sources for official use and non paying consumers. Maintenance of water supply installations and
	(ii) Deduct Recoveries	761/02	
	(iii) Exp of Maint and repairs	761/09	

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	<p><b><u>Electricity</u></b> (iv) Payment of bills (v) Deduct Recoveries  (vi) Exp on Maint repairs  (vii) Refrigeration and air-conditioning  (viii) (Special Repairs(E&amp;M))</p>	<p>761/03 761/04  761/05  761/06  761/07</p>	<p>water supply lines upto overhead tanks of buildings.</p> <p>Payment of bills for electricity supplied by civil sources for official use and non paying consumers.</p> <p>Maint of electricity supply installations including standby power supply</p> <ul style="list-style-type: none"><li>• Operation of refrigeration and air-conditioning equipments.</li><li>• Maintenance of refrigeration and air-conditioning equipments</li><li>• Replacement of u/s refrigeration and air-conditioning equipment</li><li>• Repairs and renewals costing more than ₹ 2,00,000. Subsequent replacement of BER installations being treated as renewals (refer Para 927 MESR)</li><li>• Maintenance of Airfield Lighting system (MES DEL)</li></ul>
	<p>(ix) Miscellaneous(E&amp;M)</p>	<p>761/08</p>	<ul style="list-style-type: none"><li>• Maint of BPI maintained by MES</li><li>• Disinfectors</li><li>• Boilers</li><li>• Electric motors, overhead and centrifugal pump.</li><li>• Standby generator set</li><li>• Sewage disposal installation (mechanical).</li><li>• Lifts.</li></ul>

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			<ul style="list-style-type: none"><li>• Swimming pools.</li><li>• Battery charging sets.</li><li>• Grinding and drilling machines</li><li>• Water cisterns, electrical drills, welding sets and air compressors.</li><li>• Chlorination and filtration plants</li><li>• Kitchen equipment, clocks etc.</li><li>• Perimeter and external lighting (incl security and street lighting)</li><li>• Expenditure on telephones in E&amp;M installations</li></ul>
	(x) Wages (E&M)	761/15	Wages for DEL
(f)	General Charges		
	Rent for hired/requisitioned/leased buildings		
	(i) MES	762/01	
	(ii) DEO	762/02	
	(iii) Rates & taxes	762/03	
	(iv) Cantonment Board	762/09	
	(v) Other Local Bodies	762/04	
	(vi) Payment of Rly Sidings		
(g)	Departmental Charges	763/00	
(h)	(i) Tools and Plants and Machinery		
	(ii) New Supplies(other than vehicles)	765/01	
	(iii) New supplies of vehicles	765/02	
	(iv) Repairs and renewals of tools & plants	765/03	
	(v) Repairs to vehicles	765/04	
<b><u>Major Head – 2078 Defence Services Air Force, Minor Head 104</u></b>			
(f)	Pay and allowances of civilian staff of MES Establishment		
	(i) Officers	728/01	
	(ii) Others	728/02	

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<b><u>Major Head – 2078 Defence Services Air Force, Minor Head 105</u></b>			
(g)	(i) Transportation, Passages & conveyance of MES Establishment		
	(ii) MES Establishment	737/01	
<b><u>Major Head – 2078 Defence Services Air Force, Minor Head 800</u></b>			
(s)	(i) Miscellaneous expenses except conservancy and hot water charges	799/01	
	(ii) Printing & stationery	799/02	
	(iii) Telephone	799/03	
	(iv) Payment to other departments for works done for Defence	799/04	

27. Details of sub-head wise budgetary classification and account code Nos. are explained in Defence Services Estimates and MES Regulations. The details of the procedure for budgeting and booking expenditure on various items of Revenue works and maintenance services are explained in Section 13 of the MES Regulations.

28. Revenue Works and Minor Works chargeable to Revenue Head have been defined in Para 5 of this DWP 2007. Similarly Ordinary Repairs and Special Repairs have been defined in Paras 8-10 of DWP 2007. Although treated as Original Works, Special Repairs are budgeted and accounted for under Revenue head.

**RELEASE OF NEW WORKS**

29. Release of funds for new works is made by Air HQ and Command HQ depending upon the category of work and cost of work.

**New Release by Air HQ**

30. Initial release of funds in respect of new capital works costing more than ₹ 15 lakh is made by Air HQ, irrespective of the fact that Administrative Approval for the work has been issued by CFA at Command HQ or station level. Although Para 31 (e) of DWP 2007 states that Administrative Approval will be considered as release of the works and conveyed by a letter specifying the budgetary source from which funds will be provided in the year the work is sanctioned, however till such time the system of allocation of bulk allotment of funds by Air HQ to Commands and further to the stations by Command HQ is implemented, the existing system of release of funds for capital works costing more than ₹ 15 lakh by Air HQ and all LBWP works by HQ Command is to continue. However no new Major Capital Work will commence, unless and until such specified allotment of funds is made for that work or project. Appropriation of funds means the

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allotment of a particular sum of money to meet expenditure on a specified work through the annual allocation of funds under the respective budgetary head immediately after approval of AMWP by MoD. This means that unless a work is included in the approved AMWP and allocated with project ID number by Air HQ, fund will not be released for the work.

31. The release of works under AMWP is to be restricted within the ceiling fixed by MoD for the AMWP for a particular financial year. Initial allotment of funds is to be restricted to a maximum of 50% of the total cost of the work except in case of deposit works wherein full amount is required to be deposited with the executing agency as in case of State Electricity Boards for enhancement of contracted load.

**New Release by Command HQ**

32. Initial release of funds in respect of Low Budgeted capital works costing upto ₹ 15 lakh, Special Repairs (E&M and B&R) and Revenue Major Works is made by Command Works officers at HQ Command, irrespective of the fact whether Administrative Approval for the work has been issued by CFA at Command HQ or station level. If the bulk allotment of funds is made by Command HQ to the stations then Administrative Approval will be considered as release of the works in terms of Para 31 (e) of DWP 2007 and conveyed by a letter specifying the budgetary source from which funds will be provided by CFA in the year the work is sanctioned. However if the bulk allotment of funds is not made to the stations by Command HQ, the existing system of release of funds for Low Budgeted Capital works, Special Repair and Revenue works is to continue. No new work will commence, unless and until such specified allotment of funds is made for that work or project. Appropriation of funds means the allotment of a particular sum of money to meet expenditure on a specified work through the annual allocation of funds under the respective budgetary head immediately after approval of Low Budgeted Capital Works and Revenue works Programme (LBWP) by AOC-in-C. This means that unless a work is included in the approved LBWP, the work is not to be released except for exceptional cases.

33. In case of Low Budgeted Capital works, Special Repair and Revenue works, the ceiling on total value of sanctions to be accorded in each financial year is to be restricted as given below in that year:-

<b>Category of works</b>	<b>Ceiling for release</b>
Capital works ₹ 2 to 15 lakh	2 times the budget provided for
Revenue Major works	1.5 times the budget provided for
Special Repairs (B&R and E&M)	Three times the budget provided for

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**BUDGETARY CLASSIFICATION OF WORKS**

34. **New Works.** A work released in a financial year will be referred to as “**New Work**” for the purpose of budgetary allocation. Funds allotted against one new work can be re-appropriated against another new released work or to carryover works by the CFA as explained under re-appropriation of funds. Any supplementary work to a main project sanctioned / released during the previous year(s) will be treated as new major work for the purpose of allotment of funds. Funds for new Low-Budgeted Works will be provided through bulk allotment of funds for the purpose to Commands.

35. **Carry over Works.** All works which commenced (including those in respect of which liabilities were incurred) during the previous year(s) and the accounts of which are not finally closed are termed as carryover works for the purpose of budgetary allocation. As stated in Para 15 of this DWP 2007, Carryover Works will have higher priority than New Works while preparing budgetary estimates and allotting funds for Capital Works in any financial year. After careful assessment of the liabilities already committed and likely to occur for such Carry Over Works in each Command, funds for the same will be placed lump sum at the disposal of Commands/Service HQ after approval of the Demands for Grants. Allotment of funds for individual works will be made by Commands in the normal manner. Any surplus or deficit in allotment of funds for Carry Over / New Works will be adjusted in the manner explained in Para 36 & 37 below.

36. **Work in Progress.** Falling in this category are the works which were commenced (including those in respect of which liabilities were incurred) during the previous year(s) and / or the accounts of which are not finally closed. After the provisions for such works made in the annual budget have been accepted, funds for such works will be placed in lump sum at the disposal of Commands on the basis of demands made by them and other known factors. Allotment of funds for individual works will be made by Commands in the normal manner. Any fund not required will be surrendered to Service HQ through first and subsequent changes-in-grants. If for any reason, funds placed at the disposal of a Command are found inadequate, application supported by full details should be made to the Service HQ concerned for additional funds in the various changes-in-grants.

37. **New Revenue Works.** For new Revenue Works sanctioned in a particular year, provisions will be made in the budget on lump sum basis without the list of such works being prepared. After the demands for grants are approved, the accepted provisions for new works under Revenue Head will be placed at the disposal of Commands for subsequent allotment for individual works. Any surplus or shortfall in allotment of funds for such new works during the year will be adjusted in the same manner as explained in para 39 below.

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38. **Minor Works.** All revenue works costing less than ₹.1 lakh both new and those in progress on 31<sup>st</sup> March fall in this category. Lump sum provision will be placed at the disposal of Commands for such works. It will be incumbent on Commands to restrict expenditure on minor works to the funds placed at their disposal, irrespective of the number of such works sanctioned.

### RE-APPROPRIATION OF FUNDS

39. As per Para 2 (g) of DWP 2007, no officer will exceed any specific budget allotment made to him under any minor or detailed head, except in so far as he may within his powers of transfer of funds, be able to meet excess expenditure on one item by equivalent savings on another. Thus under the ideal conditions the expenditure under any minor or detailed head is required to be confined to the allotments made under those heads. However at times due to the circumstances beyond the control of the executives the progress of works may not be commensurate with that of the planned progress. Therefore a situation may arise wherein surplus funds are available under one head and shortage of funds exists in other code heads. Under these circumstances transfer of funds from one head to another code head is allowed. Detailed instructions in this regard are contained in Para 189-192 of MES Regulations reproduced as **Annexure II**. However no officer shall, in the course of the financial year, exceed the aggregate budget allotment made to him for any works or under any sub-head without seeking re-appropriation/ transfer of funds from the competent authority.

40. The authorities empowered to transfer/re-appropriate funds are as given below:-

(a) **By Air HQ**

- (i) Between one major work in progress to another major work in progress.
- (ii) Between one major work (whether in progress or new) to a new major work if the latter is administratively approved and is included in the year's works programme. Thus the funds allotted against a newly released major work can be transferred to another work which has been released in the current financial year or in the previous financial year(s).
- (iii) Transfer of funds from new works to carryover and vice versa within the same revenue code head.
- (iv) No other transfer of funds is permissible.

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(b) **By the AOC-in-C at Command HQ**

(i) Between one major work in progress and another major work in progress. The funds allocated under carryover works can be re-appropriated within the carryover works in progress.

(ii) Between one new major works to another new major work so long as the latter has been administratively approved and released for execution by CFA. The initial allotments received against a new work can be transferred to any other new work released in same financial year.

(iii) Between a major work in progress and a new major work provided the latter is administratively approved and its cost does not exceed ₹.15 Lakh.

(c) Sub-Para (ii) and (iii) above are subject to the condition that the new work is included in the annual works programme and is administratively approved.

**Note:** Transfer of funds in the above categories of work is permissible only in respect of works of the same category i.e. from Capital to Capital and from Revenue to Revenue.

(d) **By CE(AF) in Maintenance Services**

(i) By HQ Command / AOC-in-C / Command Chief Engineers between the Heads of Accounts relating to Buildings and installations but not between the two categories – Normal to Special and vice versa.

(ii) By Chief Engineers and CsWE within the funds placed at their disposal between the detailed Heads under Sub Head B (Normal Repairs), C (Normal Maintenance), D (General Charges) and between the detailed heads 1, 3 & 4 of Sub Head E (a) Tools and Plans under Minor Head 111 – Works. Similarly, the Chief Engineers and the CsWE will also have full powers of Transfer of Funds between sub Detailed Heads under the relevant detailed Heads for normal repairs, normal maintenance and general charges in respect of Air Force and Naval Works. All the above Transfer of Fund are subject to the provision that:-

(aa) Authorized percentages for maintenance etc., where laid down are in no case exceeded.

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(ab) All Transfer of Funds made by Chief Engineers and CsWE are reported to Service HQ concerned before 1<sup>st</sup> March at the latest. No Transfer of Funds will be permissible after this date.

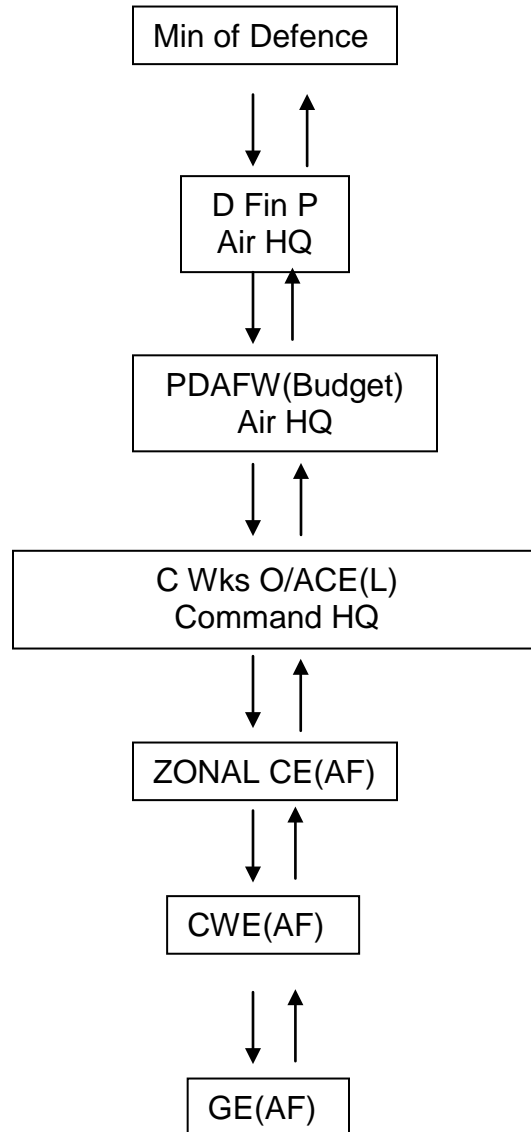
(e) MoD has full powers for re-appropriation of funds.

(f) No other transfer/re-appropriation will be allowed.

41. It is of great importance that expenditure is spread evenly over the periods during which work is possible and every effort must be made to avoid a rush of expenditure at the end of the year.

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**ORGANISATION CHART – BUDGETARY CHANNEL**



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Appendix B  
(Refers to Para 5 of Chapter IV)

**CHARTER OF DUTIES - VARIOUS APPOINTMENTS  
DEALING WITH WORKS BUDGET**

**DUTIES OF DIRECTOR OF AF WORKS(BUDGET)**

1. PDAFW (Budget) is responsible to PDAFW for total financial control over works budget, monitoring of expenditure, analyses and submission of budgetary returns. He is responsible for following duties:-

- (a) Projection of Forecast Estimate (FE) and Budget Estimate (BE) for next financial year, after careful analysis and compilation of FE and BE projections made by Air Force Commands, DGBR, DGDE and any other agency providing services regarding works matter.
- (b) Monitor expenditure reflected in Preliminary Report (PR), Pre-Revised Estimate (PRE), Revised Estimate (RE) and Modified Estimates (MA) and make changes, transfer and re-appropriation of funds between Commands and within various heads within the gambit of admissible rules and regulations.
- (c) Finalisation of AMWP and to obtain approval of MoD.
- (d) Release of works of AMWP in consultation with Jt Directors dealing with Command HQ.
- (e) Bulk Allotment of maintenance, revenue and LBWP budget to Command HQ, CPWD and DGBR.
- (f) Re-appropriation of funds as requested by Commands and admissible within the rules.
- (g) Periodical reviews, monitoring of capital and revenue funds for carry over works and maintenance services.
- (h) Forecast and preparation of budgetary provisions for land acquisition / requisition / hire etc. cases
- (j) Control & monitoring of carry over liabilities of works services.
- (k) Rendering advice on budgetary matters.

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- (l) Maintenance of budgetary data for statistics and analysis.
- (m) Processing of Charged expenditure cases with MoD and allotment of funds.
- (n) Updation of budget data in the **online** data base maintained by Dte of Air Force Works.

**DUTIES AND RESPONSIBILITIES OF COMMAND WORKS OFFICERS  
WITH REGARD TO BUDGET**

- 2. Command Works Officers are responsible for monitoring and control of works budget and expenditure at all stations under their areas of responsibilities (AOR). He will be assisted by ACE (L)/SO-I(L) at Command HQ.
- 3. C Wks O is responsible to SOA for the following:-
  - (a) Careful study, scrutiny and analysis of MER received from GE, CWE, and CE.
  - (b) Issue directions to stations and GE, CWE and CE for corrective action with regard to expenditure trends.
  - (c) Scrutiny and compilation of following returns and ensure submission to Air HQ on the dates shown against each.

	<b><u>RETURN</u></b>	<b><u>LAST DATE OF SUBMISSION TO AIR HQ</u></b>
(i)	PR	15 JUL
(ii)	PRE cum FE	15 SEP
(iii)	RE cum BE	15 NOV
(iv)	MA	15 FEB
(v)	MER	10 <sup>th</sup> of the following month

- (d) Projection of estimates for new works and minor works in following category:-
  - (i) Capital works costing ₹ 2-15 lakh)
  - (ii) Spl Rep (B&R)
  - (iii) Spl Rep (E&M)
  - (iv) Revenue Major works
  - (v) Minor Works

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- (e) Bulk allotment of maintenance funds and minor work funds.
- (f) Allotment of funds for AFLS (MES oriented repairs) out of bulk allotments received under code head 761/07.
- (g) Re-appropriation of funds as admissible within the powers of AOC-in-C.
- (h) Re-adjustment of funds under maint heads and minor works between stations depending upon expenditure trends, role of stations and ability to expend/utilize funds.
- (j) Preparation of AMWP proposals and submission to Air HQ.
- (k) Preparation of LBWP proposals and approval of AOC-in-C and thereafter release of works.
- (l) Processing the BsOO and proposals for Special Projects and projection of funds for these projects.
- (m) Processing the cases for land acquisition and projection for requirement of funds thereof.
- (n) Monitoring of expenditure under tariff for water and electricity.
- (o) Issue of advisories on monitoring of progress of works and expenditure to stations and ensure uniform spread of expenditure in the financial year. At least 67% expenditure be ensured by 31 Dec.

### **DUTIES AND RESPONSIBILITIES OF ACE(L)/SO-I (L) AT COMMAND HQ**

1. Additional Chief Engineer (Liaison)/Staff Officer-I (Liaison) at Command HQ is to function under Command Works Officer. However wherever ACE (L) / SO-I (L) is senior to Command Works Officer he will report to SOA and discharge his duties in consultation with C Wks O.
2. ACE (L)/SO-I(L) will be responsible to SOA/C Wks O for following duties:-
  - (a) Careful study, scrutiny and analysis of MER received from GE, CWE, and CE.
  - (b) Issue directions to stations and GE, CWE and CE for corrective action with regard to expenditure trends.

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(c) Scrutiny and compilation of following returns and ensure submission to Air HQ on the dates shown against each.

	<b><u>RETURN</u></b>	<b><u>LAST DATE OF SUBMISSION TO AIR HQ</u></b>
(i)	PR	15 JUL
(ii)	PRE cum FE	15 SEP
(iii)	RE cum BE	15 NOV
(iv)	MA	15 FEB
(v)	MER	10 <sup>th</sup> of the following month

(d) Bulk allotment of maintenance funds and minor works funds.

(e) Re-appropriation of funds as admissible with the powers of AOC-in-C.

(f) Re-adjustment of funds under maint heads between stations depending upon expenditure trends, role of stations and ability to expend/utilize funds.

(g) Monitoring of expenditure under tariff for water and electricity.

(h) Issue of advisories on monitoring of progress of works and expenditure to stations and ensure uniform spread of expenditure in the financial year. At least 67% expenditure be ensured by 31 Dec.

**DUTIES AND RESPONSIBILITIES OF C ADM O  
WITH REGARD TO WORKS BUDGET**

1. All allotment of funds and release of works are made to GEs/CWE/CE with a copy to stations. C Adm O though not directly involved in expenditures in works, is responsible to monitor the expenditure through various budgetary returns.

2. C Adm O is responsible to AOC/Stn Cdr for following duties:-

(a) Scrutinise FE, BE, RE, PRE and MA prepared by GE and advise Stn Cdr/AOC.

(b) Scrutinise MER and put up to AOC/Stn Cdr with noting on file giving specialist comments.

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- (c) Formulate LBWP and AMWP proposals and forward to HQ Command as per the time schedule prescribed.
- (d) Ensure release of funds for all minor works by 30 Jun.
- (e) Monitor the progress of all ongoing works.
- (f) Issue of Adm Approvals of all LBWP works within the financial powers of local CFA.
- (g) Process BsOO in respect of all AMWP works and LBWP works costing more than the financial powers of AOC/Stn Cdr.

### **DUTIES AND RESPONSIBILITIES OF GE WITH REGARD TO WORKS BUDGET**

1. GE is the most important grass root level executive functionary who is directly involved in management of funds for works services. He plays a key role in ensuring authentic projections for budgetary estimates and optimum utilisation of funds placed at his disposal.
2. GE is responsible to AOC/Stn Cdr on staff channel as well as to Zonal Chief Engineer through CWE on Engineer channels for following duties:-
  - (a) Preparation of schedule of demand for funds based on authentic data about plinth area, age and health of buildings, works in progress, actual requirement of user as mentioned in Annual Maintenance Programme.
  - (b) Authentic and factually correct projection of allotment, expenditure and additional requirement of funds in all budgetary returns.
  - (c) To appraise and explain to AOC/Stn Cdr about the planning of contract, committed and booked expenditure in periodic budget conference.
  - (d) To submit budgetary returns to the office of Zonal CE (AF) and attend periodical budgetary conferences in the office of CWE and CE to review the expenditure and additional requirement of funds.
  - (e) To project the requirement of re-appropriation of funds on engineers and staff channel.
  - (f) To keep C Adm O and Stn Cdr apprised of budgetary status through out the year.

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Appendix C  
{Refers to Para 7(c) of Chapter IV}

**FORMAT FOR PRELIMINARY REPORT**  
**FOR THE YEAR 200 -**

**COMMAND:**

<b>Details of Heads</b>	<b>Code Head</b>	<b>Actual Expenditure during last FY</b>	<b>Carryover liabilities as on 01 Apr</b>	<b>Sanctioned budget current year</b>	<b>Expenditure incurred upto 30 Jun</b>	<b>Demand at PR stage</b>	<b>Reasons for variation between BE allotment and demand at PR stage</b>

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Appendix D  
{Refers to Para 7 (a) & (d) of Chapter IV}

**FORMAT FOR PRE REVISED ESTIMATE FOR THE YEAR 200 -**  
**CUM FORECAST ESTIMATE FOR THE YEAR 200 --**

**COMMAND:**

Details of Heads	Code Head	Actual Expenditure during last FY	Carryover liabilities as on 01 Apr	Allotment of Funds	Expenditure incurred upto 30 Sep	Demand at PRE stage	Reasons for variation between BE allotment and demand at PRE stage	Forecast Estimate 200 __ - __

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Appendix E  
{Refers to Para 7 (b) & (e) of Chapter IV}

**FORMAT FOR REVISED ESTIMATE FOR THE YEAR 200 -**  
**CUM BUDGET ESTIMATE FOR THE YEAR 200 --**

**COMMAND:**

<b>Details of Heads</b>	<b>Code Head</b>	<b>Actual Expenditure during last FY</b>	<b>Carryover liabilities as on 01 Apr</b>	<b>Allotment of Funds</b>	<b>Expenditure incurred upto 31 Oct</b>	<b>Demand at RE stage</b>	<b>Reasons for variation between BE allotment and demand at RE stage</b>	<b>Budget Estimate for the year 200_--</b>

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Appendix F  
{Refers to Para 7(f) of Chapter IV}

**FORMAT FOR MODIFIED APPROPRIATION FOR THE YEAR 200 - \_\_\_\_\_**

**COMMAND:**

<b>Details of Heads</b>	<b>Code Head</b>	<b>Actual Expenditure during last FY</b>	<b>Carryover liabilities as on 01 Apr</b>	<b>Allotment of Funds</b>	<b>Expenditure incurred upto 31 Jan</b>	<b>Demand at MA stage</b>	<b>Reasons for variation between BE allotment and demand at MA stage</b>

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Annexure I  
(Refers to Para 6 & 11 of Chapter IV)

**EXTRACT OF DEFENCE SERVICES FINANCIAL  
REGULATIONS PART I 1963 EDITION**

**Chapter V - BUDGETARY CONTROL AND RE-APPROPRIATION**

**“.....GENERAL**

101. The fundamental rule on which the whole system of budgetary control rests is that no item of public expenditure may be incurred unless provision exists to meet it in the sanctioned budget estimates of the year concerned. This rule applies to the nature of expenditure as well as the amount; in other words, the provision in the budget must have been made for the purpose of meeting the particular kind of expenditure involved. Certain authorities are vested with limited powers of “re-appropriations” i.e. transfer of funds from one budget head to another, but with this exception, the rule referred to above is absolute. It follows that each individual officer to whom any portion of a grant, provided in the budget to meet a specified class of expenditure is allotted, is responsible for seeing that the allotment is utilised solely for that class of expenditure and is not overspent and that prior sanction of the Government of India is applied for whenever, in exceptional circumstances, expenditure, which cannot be met from the sanctioned grant, has to be incurred. When application is made for such sanction, it should be specifically stated to what extent the original grant will fall short of what is required and whether the expenditure can be met from savings in the sanctioned grant. Explanation should also be given why the expenditure is immediately necessary and why the necessity for it was not foreseen.

**NOTE 1** -The term “sanctioned budget estimates” as used in this rule is held to refer to the Demands for Grants relating to the Defence Services as voted by the parliament in respect of which an appropriation bill has been passed by the Parliament and assented to by the President.

**NOTE 2** - Pending detailed consideration and voting of the demands for grants for the full year by the Parliament expenditure (other than on new services) may be incurred to the extent provided for in the ‘Vote on Account’ after it has been passed by parliament and connected appropriated bill enacted.

102. It is of great importance that all concerned should exercise the most careful supervision over expenditure and on no account should money be spent simply because it is available.

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103. Even sanctioned expenditure shall not be incurred until funds have been provided except as provided for in Note 2 below RULE 101.

104. The allotment under a head is intended to cover all the charges including the liabilities of any of past years which are payable during the year or which are to be adjusted in the accounts of that year. The unexpended portion of any allotment lapses on 31st March of each year and is not available for utilization in the following years, except in so far as it has been anticipated and re-included in the estimates. It is irregular to draw a sum of money for any purpose during the currency of one financial year and expend or bring it to account in a subsequent year.

105. It is contrary to the interest of the state that money should be spent hastily or in an ill - considered manner, merely to avoid the lapse of a grant. In the public interest, grants that cannot be profitably utilized should be surrendered. The existence of likely savings should not be seized as an opportunity for introducing fresh items of expenditure which might wait till next year. A rush of expenditure particularly in the closing months of the financial year will ordinarily be regarded as a breach of financial regularity.

### **Control and Regulation of Expenditure by the Ministry of Defence**

106. (i) The Ministry of Defence jointly with the Ministry of Finance (Defence) is responsible for ensuring that expenditure shall not proceed at a rate unwarranted by the sanctioned estimates. It is, through the heads of Directorates, Commands, Area Headquarters and other subordinate controlling authorities that the Defence Ministry more directly watches and controls expenditure against budget provision, with which that Ministry is concerned.

(ii) If it should appear that the total sanctioned provision (modified to date) under any defence expenditure head is likely to be exceeded, prompt information shall be given to the Ministry of Finance (Defence) and application shall be made for a further appropriation to meet the probable excess. It is the duty of the Defence Ministry to keep itself informed of the expenditure actually or likely to be incurred and to communicate to the MINISTRY OF FINANCE (DEFENCE) any circumstances tending to material modifications in the estimates of expenditure and cash requirements.

(iii) The principles upon which the control, internal audit and account of defence expenditure are conducted are minute scrutiny of the estimates, a careful examination of all demands for money or stores, before supply, a strict control over the application of funds and stores to

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the service for which they are supplied, a concurrent check and internal audit of the account of such expenditure when rendered.

(iv) To ensure, the correct appropriation of money and stores, definite limits, are previously assigned to the aggregate as well as to the details of defence expenditure. The duty of enforcing these limits rests with (a) controlling authorities (b) Controllers of Defence Accounts, and lastly with (c) Ministry of Defence in conjunction with Ministry of Finance (Defence).

**Control and Regulation of Expenditure by Authorities other than the Ministry of Defence**

107. Subordinate authorities will not be required (or in fact be in a position) to exercise any control over expenditure which represents obligatory charges and unavoidable commitments and is compiled under 'Centrally Controlled Heads'. Accordingly, no distribution is made for purposes of budgetary control.

108. Expenditure compliable under the 'locally controlled heads' is in general susceptible to control against budget provision by various administrative and executive authorities subordinate to the Government of India. This control is exercised as stated in the following rules.

109. The ultimate responsibility for watching the progress of expenditure and for seeing that the expenditure does not exceed the corresponding budget allotment rests on the senior officer at Armed Force Headquarters or the Ministry of Defence within whose general administrative control the relative activities fall. This responsibility is usually undertaken on this behalf by the Director or other officer of corresponding status who directly administers the activities concerned. Thus, the Director of Military Training is responsible, under the chief of the General staff, for controlling expenditure on specialized training institutions and schools, Directors General of Ordnance Factories under the MINISTRY OF DEFENCE for controlling that on various factories, and so on. The amounts provided for in the budget estimates under the Locally Controlled Heads, are allotted to Commands and lower formations by these officers.

Soon after, the Demands for Grants are presented in the parliament, the authorities at Armed Forces Headquarters and other central controlling authorities will notify to lower formations, the allotment under the various locally controlled heads, These allotments will be treated as "Provisional" and no expenditure against them can be incurred until the Demands for Grants are voted by the Parliament and the connected Appropriation Bills are assented to by the President. Expenditure in the first instance will be restricted to the extent authorised to be incurred on 'Vote on Account' which is sanctioned by the Parliament, pending the detailed examination of the Demand for Grants Intimation regarding the 'Vote on Account ' and the President's assent to the

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Appropriation Bill will be sent to lower formations by the Central Controlling authorities. The provisional allotment will be confirmed soon after the Demands for Grants are finally voted by the Parliament and the connected Appropriation Bill is assented to by the President.

**NOTE** - The 'Vote on Account' normally covers the requirements for the month of April only. The purpose of a 'Vote on Account' is to keep the Government functioning pending the voting of the Demands for Grants for the full year. Expenditure on 'new services' should not, therefore, be incurred before the grants for the full year are voted and the connected Appropriation Bills enacted.

110. The authorities responsible for distributing funds to lower formations will in the first instance keep back a certain amount as a reserve to meet any unforeseen calls from formations. But the actual amount so withheld initially in each particular case will be settled by the Armed Forces Headquarters controlling officer in consultation with the Ministry of Finance (Defence).

It is left to authorities at lower stages in the chain of control to decide whether they in their turn should also keep a portion of the allotments as an undistributed reserve at their disposal.

111. All communications of initial allotments will be issued with the concurrence of the Ministry of Finance (Defence) and copies of Communications will be endorsed to the Accounts and the Audit Officers concerned. Sub-allotments by command or formation Headquarters will also be notified to these Officers.

### **Watching Expenditure against Allotments**

112. It is the responsibility of the authorities to whom allotments are made to watch the progress of expenditure and to see that expenditure does not exceed the allotments. In order to help the controlling authorities to exercise proper control over expenditure against allotments, the Controllers of Defence Accounts will, excepting in the case of Military Engineer Services, render to the allottees monthly statements showing the serial numbers of claims admitted in audit and the amounts debited against the allotment by the 25<sup>th</sup> of the month following that to which they relate. Bills, etc, sent to Controllers of Defence Accounts for payment will, excepting in the case of Military Engineer Services, the instructions laid down in the Regulations for the MES will be followed. Controlling officers will also submit the details of expenditure furnished by spending officers with periodical reports showing actual expenditure (including liabilities incurred but not paid) against allotment for the control of which they are responsible. These figures of expenditure collected departmentally will be reconciled by them with those intimated by the Controllers of Defence Accounts.

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113. To enable the administrative branches of Armed Forces Headquarters and the Ministry of Finance (Defence) to watch the progress of expenditure against allotments, the Officer - in - Charge, Hollerith Section, Meerut, will furnish to them relevant extracts, of compiled actual from the printed All India Compilation for Service Heads in the third week after the end of the month to which the actual relates.

114. The Controllers of Defence Accounts are also entrusted with the duty of keeping a watch on the progress of expenditure against sanctioned allotments and to bring to the notice of the allottees and the immediate higher authorities, cases in which the progress of expenditure is, in the opinion of the Accounts authorities, abnormally heavy or unusually low. However, the administrative authority controlling an allotment and not the Controller of Defence Accounts is primarily responsible for the control of expenditure against the allotment, but whenever cases of abnormally heavy or unusually low expenditure are brought to the notice of the controlling authorities, they will take immediate action as indicated below:-

(i) Where expenditure in the past has been heavy they should regulate their future expenditure so as to be within the allotment or obtain from the higher authorities additional allotment explaining fully their reasons for asking for an additional allotment. Where should be taken sufficiently early in order to avoid delay in the settlement of claims, as Controllers of Defence Accounts may have to refuse payments in excess of the sanctioned allotment save in exceptional cases where in the opinion of the Controller s of Defence Accounts provisional payment in excess of the allotment is justified.

(ii) Where savings can be foreseen, they should immediately surrender such portion of the allotment as is not likely to be necessary for the rest of the year.

115. Where additional allotment is asked for, the authorities competent to sanction this additional allotment will do so either from the reserve held by them or from the surrenders reported to them. In cases where the reserve is not sufficient for the purpose and no surrenders have been reported to them by the lower authorities, the additional allotment may be sanctioned with the concurrence of the Controllers of Defence Accounts concerned in anticipation of provision of funds. All such sanctions should be reported to their higher authorities. When additional allotments are required to be sanctioned by the Armed Forces Headquarters such sanctions should be issued with the concurrence of the Ministry of Finance (Defence).

Applications for additional allotment and reports of surrenders required to be sent to the Central controlling authorities should be routed through the Controllers of Defence Accounts, EXCEPT in the case of MES expenditure. In

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the case of the latter, such applications and reports are not required to be routed through the Controllers of Defence Accounts.

**Re-appropriation of Funds**

116 Re-appropriation, which implies the transfer of funds from one primary unit of appropriation to another such unit within a grant, can be sanctioned under formal orders of a competent authority, only when it is known or anticipated that the appropriation for the unit from which funds are to be diverted will not be utilized in full, or that savings can be affected in the appropriation for that unit. In no case is it permissible to re-appropriate from a unit with the intention of restoring the diverted appropriation to that unit when savings become available under other units in the year. Any allotment or re-appropriation within a grant or appropriation may be authorised at any time before but not after the expiry of the financial year to which such grant or appropriation relates.

117. Powers of re-appropriation are exercised only by the Government of India and by officers of:-

- (a) Central Controlling authorities;
- (b) Command Headquarters;
- (c) Independent Area Headquarters;
- (d) IAF Commands; and
- (e) Independent Stations.

118. (i) An authority can only re-appropriate in respect of savings arising out of allotments, placed at his disposal.

(ii) In respect of direct controlling officers of Headquarters referred to at item (a) to (c) of rule 117, re-appropriations are applicable only between control heads falling under the same sub-head. In the case of Navy, powers of re-appropriation between different detailed heads of a minor head and between minor heads falling under the same sub-head will be exercised by Naval Headquarters. In the case of Air Force, the controlling officers at Commands and Independent stations can re-appropriate between detailed heads falling under the same minor head under Sub HEAD 'D' upto a limit of ₹ 500 in each case under intimation to CDA (AF) and Air Headquarters and in the case of Controlling Officers at Air Headquarters, re-appropriation is permissible only between detailed minor heads falling under the same sub-head.

(iii) The powers of re-appropriation between different sub-heads falling under the same Main Head will be confined to Principal Staff Officers

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except in the case of Military Engineer Services which are governed by separate orders on the subject.

(iv) Re-appropriations between different Main Heads and between different sub-heads where no Main Head exists under a Major Head, eg Major Head 80-Navy, Major Head 81- Air Force, or in case in which more than one PRINCIPAL STAFF OFFICER is concerned, will be made by the Government of India.

(v) No formal re-appropriation should be carried out by controlling authorities at Armed Forces Headquarters, in respect of normal excesses under ordinary charges; as such excesses will be taken into account in the modified appropriations which will be sanctioned by the Financial Adviser, Defence Services at the close of the year.

(vi) Re-appropriations are permissible only between the "expenditure heads". Thus, excess receipts and recoveries which are required to be accounted for as such cannot be utilised to meet expenditure in excess of the sanctioned grant.

(vii) No re-appropriations are permissible between funds allotted for "charged" items of expenditure in terms of Article 112(3) of the Constitution and 'voted' items of expenditure.

(viii) Any excess or savings anticipated, after re-appropriation between the detailed heads of the same minor head have been carried out will be reported to the authorities controlling the expenditure at Armed Forces Headquarters through the preliminary estimates, which, if accepted, should be viewed as modified appropriation for limiting expenditure. Any major changes to the Preliminary Revised Estimates will be reported through the Revised Estimates. The acceptance of the Preliminary Revised Estimates and Revised Estimates, submitted by lower formations, together with the changes, if any, made by central controlling authorities will be communicated to the local controlling authorities so as to reach them by 15<sup>th</sup> December and 15<sup>th</sup> February respectively of each year. If any expenditure is to be incurred in the meantime, the procedure laid down in Rule 115 should be followed.

(ix) No formal re-appropriation is necessary for transferring funds under the same control head between Commands, Areas, Sub-Areas, Institutions, Depots, etc. Such transfers are affected by the withdrawing savings surrendered by one command etc, and then re-allotting as required.

(x) The sanction of the Government of India is required to any re-appropriation which affect the following:-

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(aa) Savings due to non- expenditure of provisions for a specific measure.

(ab) An error in estimates.

(ac) Re-appropriation to meet expenditure on any new activity.

(xi) The above rules apply to appropriations for expenditure in India.

(xii) Re-appropriations to and from the head "expenditure in England" will be sanctioned by the Financial Adviser, Defence Services.

(xiii) For powers regarding allotments of funds for works expenditure and re-appropriations thereof, see Regulations for the MES and any special instructions that may be issued on the subject from time to time.

119. All re-appropriations will be formally sanctioned as indicted below:-

	<b>Sanctioning authority</b>	<b>Form of sanction</b>
(a)	Controlling officer at Command, Independent area IAF Command or Independent Station	IAFA-786 or IAFW-1832 suitably modified a copy of which will be forwarded to the central controlling authority. In the case of Air Force, a copy will also be endorsed to CDA (AF).
(b)	Central Controlling; Authority	Monthly consolidated re-appropriation statement in IAFA-786 or IAFW-1832 suitably modified which will also incorporate all re-appropriations for the month reported by the command authorities as indicated against (a) above. In the case of Air Force, it will be submitted in triplicate to Air HQ through CDA (AF) and after sanction a copy will be returned to the originator, a copy to the Controller and copy retained at Air HQ.
(c)	Principal Staff Officers	Branch Memorandum endorsed to the Ministry of Defence (Finance)
(d)	Govt of India, Ministry of Defence	Office Memorandum endorsed to the Ministry of Defence (Finance).

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**Excess over Estimates**

120. In cases where excesses over modified allotments under locally controlled heads are noticed after the close of the year they should be brought to the notice of the local authorities by the Controller of Defence Accounts concerned. Local authorities will report all such excesses with full explanations for the excesses to the controlling authority at Armed Forces Headquarters through the Controller of Defence Accounts concerned. When this has been done, the Controller of Defence Accounts can remove his objection to the excesses.

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Annexure II  
(Refers to Para 6 & 39 of Chapter IV)

**EXTRACT OF MES REGULATIONS 1968**

**SECTION 10- FINANCIAL CONTROL**

**“.....General Principles**

176. Financial control ensures that:-

(a) the total estimate for each service is not exceeded beyond permissible limits :

(b) no expenditure or liability is incurred until funds to meet it are available (but see paras 14, 15 and 183).

(c) the funds are expended on those duly authorised services for which they are allotted and on no others; and

(d) the funds allotted in any year, and available under any head or sub-division of that head, are not exceeded.

177. Funds for engineer services are provided under the various budget heads and sub-heads shown in Appx C.

178. When engineer services are carried out by the CPWD or any other agency on behalf of the Defence Services, Funds are provided in the Defence Services Budget.

179. Careful control is essential to ensure that allotments are economically spent and that expenditure is spread evenly over the periods during which work is possible. Every effort will be made to avoid" a rush of expenditure at the end of the financial year. Before deciding upon the programme of new major works for the year, the capacity for expenditure of each Command should be considered and allowance made for the time that will be taken in planning, concluding contracts, etc. Once a work has been commenced, it should be completed as rapidly as possible, with due regard to economy, as available funds will be better used in this manner than in commencing new works.

180. After the 15<sup>th</sup> of November, no allotment of funds will be made for any new major work not included in the current year's programme unless the work can be entirely financed during that year or unless it be on grounds of urgent military or medical necessity. New major works from the next year's programme may however be taken in hand against anticipated surrenders in the current year.

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181. Funds must be definitely allotted to each service before execution is commenced (but see Para 14 and 15). As allotment can be authorised at any time before but not after the expiry of the financial year, and is intended to cover all the charges, including the liabilities of past years, to be paid or adjusted, during that year. After the close of the financial year, any unspent balance lapses.

No funds will be spent' uneconomically merely to prevent them from lapsing.

182. Funds which are not required for the purpose for which granted, or which have otherwise become available, and which are not required to be transferred for other purposes for which they may be used under rule, will be surrendered as soon as they become available.

By the 1st of February all funds which it is anticipated cannot be spent economically during the current year must be surrendered to Army HQ, and any anticipated excess which cannot be met by transfer must be reported to Army HQ with an explanation.

183. In order that full advantage may be taken of a twelve months building season, liabilities for payment in the next financial year may be incurred on minor works and maintenance services, during the last financial quarter, upto the average quarterly appropriation for current year, without any allotment of funds. In the case of a major work in progress, liabilities may be incurred upto the amount shown in the Schedule of Demands or ₹ 5 lakh whichever is less. The restriction upto ₹ 5 lakh, does not, however, apply to major works in progress, which are executed by Lump Sum Contracts.

184. Lump Sum appropriations are provided in the budget for minor works. From these, bulk allotment will be distributed to Commands who will make sub-allotments to Areas/Divs and they in turn to Sub Areas/Brigades. No Lump Sum allotment will be made below these formations except with the sanction of the GOC-in-C.

Allotments for individual minor works will be made sufficiently early in the financial year, normally not later than 30th September.

185. Appropriations under Sub-heads B to F of Minor head III-Works and Sub-Head K of Minor Head 104 are administered by the MES authorities under the orders of the QMG and GOC-in-C.

Lump Sum allotments under Minor Heads 104 and 111 will be made down to divisions and sub-divisions under the various detailed heads of expenditure.

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186. Bulk allotments are made separately to Commands in respect of special repairs and allotments made by them for individual projects.

187. The CE/CWE will maintain in a Register of Appropriation (IAFW -2224), a record of all allotments received by him, of all modifications made thereto, and of all allotments made by him to CWE/GEs. A similar register will be maintained in the office of each GE showing allotments received from the CWE and allotments made to sub-divisions. This register will be maintained under the supervision of the AAO (GE).

### Transfer of Funds

189. Transfer of funds may be carried out as under:-

(a) **By the QMG.** Between one major work in progress to another major work in progress and between one major work (whether in progress or new) to a new major work if the latter is administratively approved and is included in the year's works programme. Transfer to a new major work which is not included in the year's works programme is also permissible provided it is administratively approved and its cost does not exceed ₹. 5 lakhs. No other transfer of funds is permissible.

(b) **By the GOC in C**

(i) between the maintenance Sub Heads B and C excluding transfers between ordinary repairs and special repairs;

(ii) between one major work in progress and another major work in progress;

(iii) between one new major work to another new major work so long as the latter has been administratively approved and released for execution by CFA;

(iv) between a major work in progress and a new major work provided the latter is administratively approved and its cost does not exceed ₹. 2,00,000.

190. The following are the powers of MES authorities for the transfer of funds which will be exercised on behalf of the Commanders concerned.

CEs may re-appropriate between the two maintenance Sub Heads B and C, excluding the detailed heads for special repairs. Transfers may, however, be made by them between, the 'Special Repairs' detailed heads of Sub-heads B and C.

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CEs and CsWE are authorised to exercise full powers of re-appropriation, within the funds placed at their disposal, between the detailed heads under each of the Sub-Heads B, C and D, except that no re-appropriation is permissible between the detailed head 'Special Repairs' and any other detailed head.

These re-appropriations may only be carried out provided that

- (a) authorized percentages for maintenance, etc., where laid down, are in no case exceeded; and
- (b) all re-appropriations made by CEs and CsWE are reported to Army HQ before 1st March at the latest. No re-appropriation will be permissible after this date.

The CE is authorised to transfer funds placed at his disposal for maintenance of roads under Sub-Head Band for repairs to vehicles under Sub Head E from one GE's division to another, irrespective of the fact that the authorised maintenance cost per kilometer/vehicle may be exceeded thereby.

191. All transfers and allotments affecting major works or transfers between budget sub-heads will be reported immediately to the QMG.

192. A transfer within the appropriations of the year can be sanctioned at any time during, but not after the expiry of the year.

IAFW-1832 (A and B) will be used for this purpose.

### **Savings and Excesses**

193. The final cost of any service may exceed by not more than 10 percent the amount approved by the CF A for that service and expenditure may be incurred up to that limit. No action will be taken to exceed beyond the permissible limit the amount originally approved until receipt of orders from the CFA (see paras 140 and 141).

When the scope of a service is reduced for administrative or other reasons, the administrative approval need not be revised but the approved amounts for the abandoned items of the service and the total approved amount will be reduced accordingly by the CWE (or GE in the case of items not exceeding his powers of technical sanction). Details of the reductions will be sent by the GE to the CDA and all concerned.

In the case of a project costing ₹ 1 lakh or more, when the amount of the accepted contracts reduces the cost of the project as a whole below the administratively approved amount by more than 15 percent, the approved amount for that project will be reduced by the amount exceeding 15 percent by

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the CE/CWE within whose technical powers the work falls. Details of the reduction will be sent by the GE to the CDA and all concerned. The amount of 15 percent retained by the CE/CWE will be used to cover variations in cost due to technical reasons.

194. The original and any supplementary estimates (see para 140) will be treated as a single service for the purpose of dealing with excesses and savings under para 193.

195. When an excess beyond the permissible limit referred to above, which cannot be met by saving on the technical reasons, a report will be made at once to the engineer adviser of the authority who approved the work. If there is still time to curtail or modify the work, his orders should be obtained. If no modification is ordered, a revised estimate will be prepared and revised administrative approval of the CFA obtained. If the excess comes to light at such an estimate purposeless, it should be referred at once to the CFA for sanction with an explanation of the reasons for the excess. NO excess is allowed over a revised estimate as a whole. Should fresh circumstances arise which render it necessary to exceed it, another revised estimate will be submitted. A revised estimate should be so drafted as to show clearly the progress on each item of the project, the comparison between other original and revised figures and also the reasons for the excess.

196. Subject to the observance of the broad principles referred to in para 176, no audit objection will be raised on account of want of or excess over allotment

- (a) if the expenditure on a work in progress does not exceed ₹ 500;
- (b) if the expenditure in excess of the allotment for a work, or of an allotment to a sub-division in respect of a detailed head of maintenance and other heads, does not exceed ₹ 500 or 5 percent of the allotment whichever is less.

### **Schedule of Demands**

197. The rules for the submission of Schedule of Demand are contained in Appx B.

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**CHAPTER V- AIRFIELD WORKS**

**APPENDICES**

<b>APPENDIX</b>	<b>DETAILS</b>	<b>PARA No</b>
<b>A</b>	Glossary of Important Terms used in Reference to Airfields.	4
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**ANNEXURE**

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<b>I</b>	Air HQ/S 17726/2/3/ATS (BM-I) dated 01 Jan 08.	5 (I) (ii)
<b>II</b>	Guidelines of use of joint sealant E-in-C's branch letter No 95610/SOP/CRMB & PMB/ E2 Plg(Pav) dated 01 Jul 08.	5(x)
<b>III</b>	E-in-C's Branch letter No No. 37696/Gen/Pol /E2W(PPC) dated 06 Oct 06.	20(k)
<b>IV</b>	Govt of India, Min of Def letter No Air HQ/S 37873/1/2/US/D(Air-IV)/W(ALP) dated 10 Jan 2001	38
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### INTRODUCTION

1. This chapter contains information and instructions relating to the following subjects:-

- (a) Airfield Definitions.
- (b) Glossary of Important Airfield Terms.
- (c) Normal Requirements at an Airfield.
- (d) Airfield Dossier.
- (e) Siting and Layout of New Airfields.
- (f) Operational and Functional Requirements of Airfields.
- (g) Development and Resurfacing of Existing Airfields.
- (h) Categorisation and Scales of Maintenance of IAF Airfields.
- (j) Maintenance of Airfields.
- (k) Duties and Responsibilities: Airfield Works.
- (l) Flight safety requirements.
- (m) Airfield Lighting System.
- (n) Runway Rehabilitation Scheme (RRS).

### AIRFIELD DEFINITIONS

2. **Airfield** is a general term used for an area of land comprising runway, shoulders, Parallel Taxi Track, link taxi track(s), dispersal, ORAs, ORP, aprons, dispersals, helipad(s), ALG, ground run points, hangar(s), blast pens(s) and entire zone of safety surrounding the area which is used for the operations of aircraft. Airfields are described by different categories and scales of maintenance.

- (a) **Class I Airfields.** Major Fighters and/or Fighter bomber bases and forward bases from where fighter and/or fighter bomber aircrafts can operate.

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- (b) **Class II Airfields.** Bomber and/or transport bases and rear bases for miscellaneous purposes.
- (c) **Class III Airfields.** Training bases.
- (d) **Class IV Airfields.** Unmanned airfields and advance landing grounds.

(Authority: Air HQ/37532/1/W (P&C)/5051/D(Air-II) dated 22 Aug 1983).

**Note:** 07 ALGs in NE region are being activated with effect from Mar 2012, scales of maintenance for which will be revised accordingly.

3. A number of terms are used in day to day reference to airfields. These are given in the following publications:-

- (a) **'Pamphlet No. 1 (1<sup>st</sup> Revision Dec 1944) - Airfields'**, issued by the Engineer-in-Chief, Army Headquarters, New Delhi.
- (b) **'Pamphlet No.1 (Second Revision 1950) - Airfields'**, issued by the Engineer-in-Chief Army Headquarters, New Delhi.
- (c) **E-in-C's Technical Instruction No 2/87,** on 'Airfield Definitions, Dimensions and Gradients'.
- (d) **International Civil Aviation Organisation(ICAO).** Annexure 14 to the convention on International Civil Aviation-Aerodromes Volume I, Fourth Edition 2004 as amended from time to time.
- (e) **Air Staff Instruction Part III, Air Traffic Services Section.** ATC System and Procedure for the IAF - Order No. ASI Pt III/ATS/05/2008 dated 12 Aug 08. The surface markings at IAF Aerodromes are to be painted in accordance with the provisions of the ASI, as amended from time to time.
- (f) **Dall Express.** Runway Rehabilitation Scheme currently in vogue in the IAF.

### GLOSSARY OF IMPORTANT 'AIRFIELD' TERMS

4. Glossary of Important terms used in reference to airfield, definition of these terms and the areas laid down at the military aerodromes to facilitate safe and expeditious conduct of aircraft operations are given in **Appendix A**.

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**NORMAL REQUIREMENTS AT AN AIRFIELD**

**Standard Dimensions and Gradients.**

5. Standard dimensions and gradients at an IAF airfield are given in ICAO Annex 14 and IAP 3309. In addition various policy letters have been issued from time to time by Air HQ with regards to the standard components and specifications of runways and other associated aircraft maneuvering areas. The specifications covering all paved surfaces of the airfields are listed below:-

**Runway**

(a) **Dimensions & Facilities.** The facilities to be provided at the class of airfields mentioned in Para 2 above are indicated below:-

(i) **Class I Airfields.**

(aa) <b><u>Runways</u></b>	
Dimensions	9000'X150'
Width of shoulders	150'
Width of cleared zones	275'
Runway length should be increased to take in account different factors which influence the performance of ac.	
(ab) <b><u>Over Runs</u></b>	
Paved area	900'X150'
(ac) ORPs	600' to 750'X150'
(ad) ORP Blast Pens	Two at either end of runway.
(ae) Mechanical Arrestor Barriers	Mandatory
(af) <b><u>Parallel Taxi Track</u></b>	
Dimensions	9000'X75'
Width of Shoulders	50'
Width of cleared zone	90'
SGA	300'X75'
Approach Funnel Clearance	Same as applicable to non-instrument runway
(ag) <b><u>Other Taxi Tracks</u></b>	
Width	50'
Width of shoulders	30'
Width of cleared zones	90'
Width of culverts on taxiways	110'
Distance between edge of main runway and nearest edge of parallel taxiway will be a minimum of 160 m (525 ft)	
Clear distance between edge of a taxiway and nearest building or any other obstruction will be a minimum of 40 M (125 Ft)	

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Distance of cattle fencing/ boundary wall/ road/ railway crossing from end of paved over-run, must provide a minimum gradient of 1%	
(ah) Airfield lighting with standby power supply arrangements	Standard
(aj) Aprons/hand standings/ Dispersals	As required
(ak) Standby ATC	
(al) Underground Ops control centre	
(am) Domestic, adm and technical buildings	As required
(an) Storm water drain and culverts	
(ao) Ground markings	As per Air HQ Policy
(ap) Distance To Go Markers	Standard
(aq) CAP Control Tower	

**Note:**

(aa) The dimensions of the operating surfaces and associated areas of an aerodrome will be operational role specific. For guidelines, Chap 3 Vol I of Annex 14 and Chap 15 Vol II of IAP 3309 is to be referred.

(ab) In case of parallel of runways, minimum distance of 300 M /1000 Ft between runway centerlines will be applicable for VFR operations.

(ac) Attention should be paid when designing shoulders to prevent the ingestion of stones or other objects by turbine engines.

(ad) To curb bird hits due to small bird ingestion, grass on the runway and taxi track shoulders, approach and 500 yds around the aircraft operating areas are to be restricted between 6 to 10 inches. No cultivation is permitted on the approach.

(ae) Paved Over-run in IAF generally corresponds to the stopway provided at civil aerodromes.

(af) Prepared Over-run in IAF generally corresponds to the clearway provided at civil aerodromes.

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(ii) **Class II Airfields.** The airfields facilities to be provided at these airfields are the same as applicable to Class I except the following:-

(aa)	Parallel Taxi Track	Only if justified
(ab)	ORPs and Blast Pens thereon	Only if justified
(ac)	Mechanical Arrestor Barrier	Only if justified
(ad)	Standby ATC	Only if justified
(ae)	Underground Op control centre	Only if justified
(af)	CAP Control Tower	Only if justified

(iii) **Class III Airfields.** The airfields facilities to be provided at these airfields are the same as applicable to Class II except the following:-

(aa)	Runway length	As required
(ab)	Mechanical and soft ground arrestor to be provided at bases which are meant to be used by Jet Trainer aircraft	

(iv) **Class IV Airfields.** Unoccupied/ unmanned airfields meant for emergency /future use where the following facilities are retained/maintained:-

(aa)	Runways as available alongwith shoulders of and cleared zones of 150' each. Over run 600' at either end.
(ab)	Taxi tracks as available alongwith side clearance of 50' on either side.
(ac)	Aprons and hard standings alongwith side clearance of 50' on all sides.
(ad)	approach road.
(ae)	Control tower and other technical buildings as existing.

(b) **Demarcation of rigid and flexible pavements.** Requirement of rigid and flexible portion of the runway is to be decided by the BOO in accordance with the Op requirement of the base and technical / engineering considerations.

(c) **Over Run Areas (ORAs)/Soft Ground Arresters (SGAs).** It has been decided that pavement strength of the ORAs would be same as that of rigid portion of runway depending on the Op role of the stations. SGAs will be dispensed with and converted into paved area along with resurfacing of runways as and when due.

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### **Parallel and Link Taxi Track**

(d) **Dimensions.** The dimensions of the operating surfaces and associated areas of an aerodrome will be operational role specific. For guidelines, Chap 3 Vol I of Annex 14 and Chap 15 Vol II of IAP 3309 is to be referred.

(e) **Paved Shoulders.** It has been experienced that the area around runway lights continues to be neglected. The area is covered by vegetation and soil erosion takes place along the side of the runway and shoulder due to natural gradient of rain water which damages the sub soil surface under runways. Also erosion and sinking of the soil around the lamps damages AFLS. In order to overcome the above problems on a permanent basis, the following directions have been issued vide Air HQ/37066/RWRS/POL/W (P & C) dated 19 Nov 01.

(i) As part of the runway resurfacing works the flexible portion of the runway is to be extended on both sides of the runway, covering the full length of the runway including that at the ends where runway surface is rigid.

(ii) Since distance of the runway edged light is 1.2 m and a circular plinth protection of 1.0 m dia around lamps is already provided as per existing norms, the flexible portion is to be extended upto 2.2m from edge of the runway.

(iii) The flexible extension should have same slope as that for the shoulders.

(iv) The flexible protection should not be over the main electric feeder. In order to ensure this, the main cable should be laid at a distance of 0.5 m from the outer edge of this protection.

(v) The design of plinth for placing the transformer, cables etc below runway lights will remain unchanged.

### **Pavement Strength**

(f). The bearing strength of a pavement intended for aircraft of apron (ramp) mass greater than 5700 kg shall be made available using the Aircraft Classification Number - Pavement Classification Number (ACN-PCN) method by reporting all of the following information:-

(i) Pavement Classification Number (PCN).

(ii) Pavement type for ACN-PCN determination.

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- (iii) Subgrade strength category.
- (iv) Maximum allowable tyre pressure category ;
- (v) Evaluation method.

**Note :-** *If necessary, PCNs may be published to an accuracy of one-tenth of a whole number.*

(g). The PCN reported shall indicate that an aircraft with an ACN equal to or less than the reported PCN can operate on the pavement subject to any limitation on the tyre pressure, or aircraft all-up mass for specified aircraft type(s). The ACN of an aircraft shall be determined in accordance with the standard procedures associated with the ACN-PCN method.

**Note 1:-** *Attention is drawn to the procedures contained in ICAO Annex 14 (volume I) Attachment `A' and ICAO Aerodrome Design Manual, Part 3 for determination of ACN and PCN.*

**Note 2:-** *The PCN evaluation for IAF airfields is carried out E-in-C's Branch (SEMT wing of CME, Pune) using Falling Weight Deflectometer).*

(h) For the purposes of determining the ACN, the behaviour of a pavement shall be classified as equivalent to a rigid or flexible construction. Information on pavement type for ACN-PCN determination, subgrade strength category, maximum allowable tyre pressure category and evaluation method shall be reported using the following codes:-

- (i) Pavement type for ACN-PCN determination:
  - (aa) Rigid pavement : Code 'R'
  - (ab) Flexible pavement : Code 'F'

**Note:-** *If the actual construction is composite or non-standard, indicate a note to that effect.*

- (ii) Subgrade strength category:
  - (aa) High strength : Code 'A'
  - (ab) Medium strength : Code 'B'
  - (ac) Low strength : Code 'C'
  - (ad) Ultra low strength : Code 'D'
- (iii) Maximum allowable tyre pressure category:

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- (aa) High (no pressure limit) : Code 'W'
- (ab) Medium (pressure limited to 1.50 MPa) : Code 'X'
- (ac) Low (pressure limited to 1.00 MPa) : Code 'Y'
- (ad) Very low (pressure limited to 0.50 MPa) : Code 'Z'

(iv) Evaluation method:

- (aa) Technical evaluation : Code 'T'
- (ab) Using aircraft experience : Code 'U'

(j) The following examples illustrate how pavement strength data are reported under the ACN-PCN method:-

(i) *Example 1. If the bearing strength of a rigid pavement, resting on a medium strength subgrade, has been assessed by technical evaluation to be PCN 80 and there is no tyre pressure limitation, then the reported information would be:-*

PCN 80/R/B/W/T

(ii) *Example 2. If the bearing strength of a composite pavement, behaving like a flexible pavement and resting on a high strength subgrade, has been assessed by using aircraft experience to be PCN 50 and the maximum tyre pressure allowable is 1.00 MPa, then the reported information would be:-*

PCN 50/F/A/Y/U

(k) The bearing strength of a pavement intended for aircraft of apron (ramp) mass equal to or less than 5700 kg shall be made available by reporting the following information:-

- (i) Maximum allowable aircraft mass; and
- (bii) Maximum allowable tyre pressure.

**Example** - 4000 kg/ 0.50 MPa

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(l) It has been decided that with adoption of ACN-PCN method for reporting pavement strength, one common PCN cannot be made applicable to all runways. The design of pavement is dependent upon the type, all up weight, under carriage design of the air craft intended for ops and the number of movement for a given period of time. Hence, the following guidelines were issued for adherence while planning construction/ resurfacing of pavements including runways, taxiways and aprons:-

(i) Su-30 MKI shall be the reference ac for planning the pavement strength at all IAF airfield except for those mentioned in sub Para (ii) and (iii) below. While compiling the ops data for Board proceedings, each AF Stn should consider all fighter ac movements as those of Su-30 MKI and may include 5-10% increase in movements after every five years coinciding with national five year plan for each subsequent years (depending on envisaged role of the station).

(ii) FRA/AWACS/Very Heavy Transport (V He Tac) (when inducted) shall be the reference ac for planning the pavement strength of airfields where these ac are based or planned to be based and also those airfields designated vide Air HQ/S 17726/2/3/ATS (BM-I) dated 01 Jan 08 (copy annexed as **Annexure I**) When the operational data is compiled, each transport aircraft movements should be considered as that of FRA/ V He Tac. Similarly, all the fighter ac movements should be treated as those of Su-30. An incremental factor of 5-10% in traffic density after every five years coinciding with national five years plan may be projected to arrive at ops data.

(iii) For civil and military joint user airfields of the IAF, highest category of civil ac currently operating should be considered in addition to criteria given in (i) and (ii) above and the highest figure taken for planning.

(iv) The pavement strength of other maneuvering surfaces such as parallel taxiway, link taxiways, Rapid Exit Taxiways (RETs) and aprons should be planned to be equal to that of the main runway.

(v) The pavement strength of the fighter ac aprons, blast pens and loop taxiway provided for the exclusive use of fighter ac should be planned to support the operation of Su-30 MKIs.

(vi) For other surfaces such as overrun areas or paved runway shoulders, the bearing strength of these surfaces should be adequate to retain structural integrity and be capable of supporting any occasional overrunning by the heaviest locally based ac.

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(vii) The pavement strength of runways at Flying Training Establishments under HQ TC should be planned for the highest category of station based aircraft or those based at diversionary aerodromes.

### Overload Operations

(m) With the exception of excessive overloading, structural behavior of pavements is not subject to sudden failure. Overload resulting from large load or increased application or both in excess of design results in shortening the designed life of the pavement. Therefore, occasional overloading to meet ops/emergency requirements may be acceptable subject to the following:-

(i) On pavements exhibiting signs of distress/failure, overload operations should be permitted only during emergency/urgent ops commitments.

(ii) Overload movements are strictly regulated as per criteria prescribed in ICAO Annexure 14.

(iii) Pavement condition is regularly reviewed to detect any deterioration requiring rehabilitation.

### Pavement Evaluation

(n) As IAF inducts next generation, high performance ac and as the number of joint user aerodromes increases, there is a need for IAF to increasingly align with international aviation standards. Publishing the Pavement Classification Number (PCN) and related data of the runways to all operators is one such practice. To achieve this, technical evaluation of all newly laid and resurfaced pavements shall be undertaken **within six months of culmination of the construction/resurfacing**. The PCN obtained after the evaluation shall be published in relevant aeronautical publications and local orders. The PCN evaluation of the pavements should be repeated at an interval not exceeding five years to evaluate the strength and the residual life of the pavements.

(o) All future airfields of IAF should be built with the twin objectives of reducing runway occupancy time and avoiding runway crossing/incursion. Thus, all future runways shall be planned to include RETs and an underpass for vehicular movement. All new parallel taxi tracks are also to be of 150' width with prior approval of Air HQ. These guidelines supersede all policy instructions on the subject.

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### Operational Friction Measurement

(p) Runway friction measurements are part of a comprehensive runway maintenance program which includes rubber deposit removal. It is essential that adequate information on the runway surface friction characteristics/ aeroplane braking performance be available to the pilots and operational personnel in order to allow them to adjust operating technique and apply performance corrections. If the runway is contaminated with water and the runway becomes slippery when wet, the pilot should be made aware of the potential hazardous conditions and all efforts may be made to remove all contaminants as rapidly and completely as possible. Adequate runway friction characteristics are needed for three distinct purposes:

- (i) Deceleration of the aeroplane after landing or rejected takeoff;
- (ii) Maintenance of directional control during the ground roll on take off or landing in particular in the presence of cross-wind, asymmetric engine power or technical malfunctions; and
- (iii) Wheel spin at touchdown.

(q) The friction characteristics of a paved runway surface may be measured by MES periodically to ensure that they do not fall below an agreed level. When the results of measurements indicate that runway or portion of the runway surface is slippery, action may be taken to disseminate this information to the pilot through a NOTAM issued by the concerned ATS unit. The same may be broadcast on ATIS/DATIS wherever provided. At aerodromes where surface friction tester equipment is not available the periodic runway visual inspection survey will be conducted by MES to ensure that the wet runway pavement surface does not deteriorate below recommended minimum level. The periodicity of the friction maintenance programme schedule based on level of turbo jet aeroplane operations for each runway end will be as follows:

<b>Daily turbo jet Aeroplane arrival for runway end</b>	<b>Minimum friction survey frequency</b>	<b>Minimum rubber removal frequency</b>
Less than 15	Once per year	Once every two year.
16-30	Once every 6 months	Once every year.
31-90	Once every three months	Once every 6 months
91-150	Once every month	Once every 4 months
151-210	Once every 2 weeks	Once every 3 months
Greater than 210	Once every week	Once every 2 months

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### Measurement of Runway Surface Friction

(r) The friction of the runway will be calibrated periodically by the MES using a Surface Friction Tester using self wetting features on a clean surface at speeds of 65, 95, or 130 Km/ hr. The principle employed in this case is the measurement of the force acting on the measuring wheel along the distance travelled. The equipment provides a continuous register of the mean coefficient of friction values. Braking action tests will be made over the usable length of the runway, by sections of one third of the length, and at approximately 3, 6, 9 and 12 m each side of the centre line in such manner as to produce mean values for each runway.

### Reporting of Braking Action

(s) The result derived in the braking action tests will be reported in accordance with the following table:

Test Equipment	Runway Surface Minimum Friction Levels	Friction Survey Tests Speed (Km/h)	Pressure in Friction Measure Tyre (kpa)
Surface Friction Tester	0.30	95	210
Skiddometer	0.35	65	210

(t) In case of visual inspection by the MES, the Braking Action will be reported as Good/ Medium/ Poor. For the purpose of reporting braking action by ATS, each runway is divided into three sections of equal length referred to as A, B and C. Section A will always be the first third measured from that end of the runway with the lower runway designation number, in landing instruction, however, these sections will be referred to as 'first', 'second' or 'third' parts of a runway seen in the direction of landing. If the friction coefficient for any section of the runway falls below 0.30, the estimated braking action will be notified to pilots by RTF according to the above table. The information will also be disseminated by ATS through the ATIS broadcasts and NOTAM if the phenomenon is likely to persist.

**Note:** E-in-C branch is in the process of issuing a Technical Instruction (TI) on the subject which would cover Friction Testing and Rubber Removal Methods and frequency.

### Joint Sealant

(u) In case of all rigid pavements sealant compounds are required for both expansion joints as well as dummy joints to prevent water seepage, debris in to sub soil and damage to edges. The designed service life of well-sealed and well-maintained PQC pavement is 30 years. This life expectancy depends on the structural soundness of the pavements and

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the quality / durability of joint sealant compound incorporated in the work. Failed sealants allow the ingress of fluids and incompressible debris in the joints, which lead to frost heave, sub-grade settlement followed by slab corner cracking or disintegration of the slab longitudinal edges, in addition to the contamination of underground soil and water by the fluid. These factors subsequently lead to a premature reduction in pavement strength there by giving a low Pavement Classification Number (PCN) during evaluation.

(v) Ideally, a joint sealant would not need replacement until the reconstruction of the PQC pavement. i.e. it would last for more than 30 years. In olden times, replacements of joint sealants were unavoidable because of their unpredictable field performance. **This inability to predict sealant performance stems from the fact that there is no laboratory evaluation method that accurately simulates field traffic and environmental loading conditions.** Long-lasting compressible joint sealants have contributed to keeping incompressible materials out of the joints, thereby reducing the potential for joint spalling and possible longitudinal cracking. Recent studies on performance based joint sealants used in airfield pavements that experience cold climates and exposure to jet fuel or hot exhaust indicate that sealant performance will extend a minimum period of 10 years. **Hence the premature failure of joint sealants cannot be accepted at any cost.**

(w) Either of the Polysulphide or Polyurethane joint sealant will be used in new rigid pavements. The criteria for selection of the joint sealant will depend on the minimum performance guarantee of ten years offered by the firm. This performance-based selection would accrue better cost effective results rather than using a joint sealant without any guarantee. The technical specifications of the cold applied joint sealants (irrespective of whether polysulphide or polyurethane) should meet the requirements mentioned in BS-5212, BS 4254 and EN-141875-2003 (for hydrolysis/water resistance test). In addition, the movement accommodation factor (MAF) of the sealant should be minimum  $\pm 30$  %.

(x) Detailed guidelines for use and application of joint sealants have been given in E-in-C's Branch letter No 95610/SOP/CRMB & PMB/ E2 Plg (Pav) dated 01 Jul 2008, reproduced as **Annexure II**.

## AIRFIELD DOSSIER

6. Every station is to maintain an airfield dossier. This dossier is required to be maintained and updated every year by SATCO with the help of C Adm O and GE. Within six months of issue of this manual each station having an airfield is to prepare an airfield dossier containing the following information:-

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- (a) Complete data with respect to dimensions of runway, Taxi ways, dispersal, ORA, ORP, ORR, Arrester Barriers, AFLS.
- (b) History of the airfield from the year of construction, details of extensions, resurfacing and other development works done in the airfield.
- (c) Blue prints of airfield going details and dimensions.
- (d) Annual Condition Survey Report rendered by GE.
- (e) PCN evaluation report rendered by SEMT, Pune.

7. For the first time one copy of airfield dossier is to be forwarded to following addresses:-

- (a) Command Works Officer
- (b) CATCO
- (c) DAFW
- (d) D Ops (ATS)

8. Thereafter following documents are to be forwarded to these addressees as per the periodicity shown against each:-

- (a) Condition Survey Report by GE every year by 31 May.
- (b) PCN evaluation Report by SEMT, Pune once every **five** year and within six months of runway resurfacing.

### Rolling Plan for Runway Resurfacing

9. MoD, for the first time in 2008 agreed to sanction works services for resurfacing of runways as Special Projects over and above AMWP. In future roll over plan for resurfacing of five runways each year should be worked out by D Ops ATS. Thereupon, DAFW will obtain 'in principle' approval of MoD for resurfacing of runways as per the rolling plan. Processing of individual runway resurfacing projects will be done as per the procedures laid down in DWP 2007.

On obtaining the sanction of the CFA these projects will be released by Air HQ from Spl Project Code Head.

10. **Action by DAFW.** Approved plan is to be circulated to all Commands and stations by DAFW with instructions to convene BsOO as per plan and ensure finalization of BsOO accordingly. Also PDAFW (Budget) is to make projections for allocation of funds according to the plan.

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11. **Action by HQ Command.** Command Works Officer is to issue the convening order at least one year in advance and monitor the progress of BOO as per the guidelines given in Para 20 below.

### **SITING AND LAY OUT OF NEW AIRFIELDS**

12. E-in-C's Pamphlet No.1 (Second Revision) issued in June 1950, contains the requirements of a 'standard airfield', as visualized at that time. This has been amended by E-in-C's Technical Instruction No. 14 dated 01 Jul 74. Points to be included in the reconnaissance report at an airfield site are listed at Appendix 32 to E-in-C's Pamphlet No.1, First edition, Dec 44.

13. As and when an occasion for the siting/Planning of a new airfield arises, reference to the above stated publications should be guided by the following considerations:-

- (a) To the extent possible, the aim should be to develop multi-purpose airfields.
- (b) The requirements of the runways i.e. dimensions, PCN, classification, etc. should be related to the types of aircraft planned to be operated.
- (c) Land requirements should keep the following points in view:-
  - (i) Future expansion of Air Force Stations.
  - (ii) Extension of runways to cater to bigger aircraft.
- (d) Latest policy regarding the allied facilities i.e. taxi tracks, over-runs, shoulders, cleared zones, blast pens, BPIs, operations rooms, Hydrant refueling, Main and alternate ATC building, bomb dump, hangars, etc. should be examined.

#### **Siting of Runway Controller's Cabin**

- (e) Runway Controller's cabin shall be provided at the beginning of all runways used for landing and take-off. The following conditions shall govern the siting of runway controller's cabin:-
  - (i) It shall be on the opposite side of the ORP at the beginning of the runway(s). This provision is made to reduce noise level in the cabin due to ground running of aircraft on the ORP.
  - (ii) Aircraft approach path to the runway and maximum length of runway should be visible from the runway controller's cabin.

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(iii) It shall not be more than 60 m (200 ft) from the runway edge and not less than 90 m (300 ft) from the runway threshold. Preferably it should be at a distance of 45 m (150 ft) to 60 m (200 ft), so that it doesn't create obstruction on runway shoulder.

**Note:-** *Prior sanction of Air Headquarters is required for variation of these distances.*

(iv) Its siting should not adversely affect the performance of radio/ radar/ visual aids to approach and landing established at the aerodrome.

**Note:-** *Keeping in mind future installation of ILS Cat II at IAF airfields, runway controller's cabin should be located at such a distance that it should not penetrate the ILS sensitive areas/ Inner Transitional Surface/ Balked Landing Surface..*

### **Declared Distances**

(f) The aeroplane performance operating limitations require a length which is adequate to ensure that the aeroplane can, after starting take-off, either be brought safely to a stop or complete take-off safely. For this purpose, following distances shall be calculated for a runway intended for use by aircraft:-

(i) **Take Off Run Available (TORA)**. TORA is the length of runway declared available and suitable for the ground run of an aeroplane taking off. This in most cases corresponds to the physical length of runway pavement.

**Note :-** *TORA will decrease if arrester barrier at the opposite end of the runway is in raised position. It will depend on the height of the arrester barrier and the distance of arrester barrier from the end of the runway. All stations must publish in their SSO, the actual length of TORA, if arrester barrier at the opposite end of the runway is kept in raised position. This TORA must provide a climb gradient of 2 percent above the height of the arrester barrier.*

(ii) **Accelerate Stop Distance Available (ASDA)**. ASDA is the length of take-off run available plus the length of paved over-run. At civil aerodromes, ASDA is TORA plus the length of stopway.

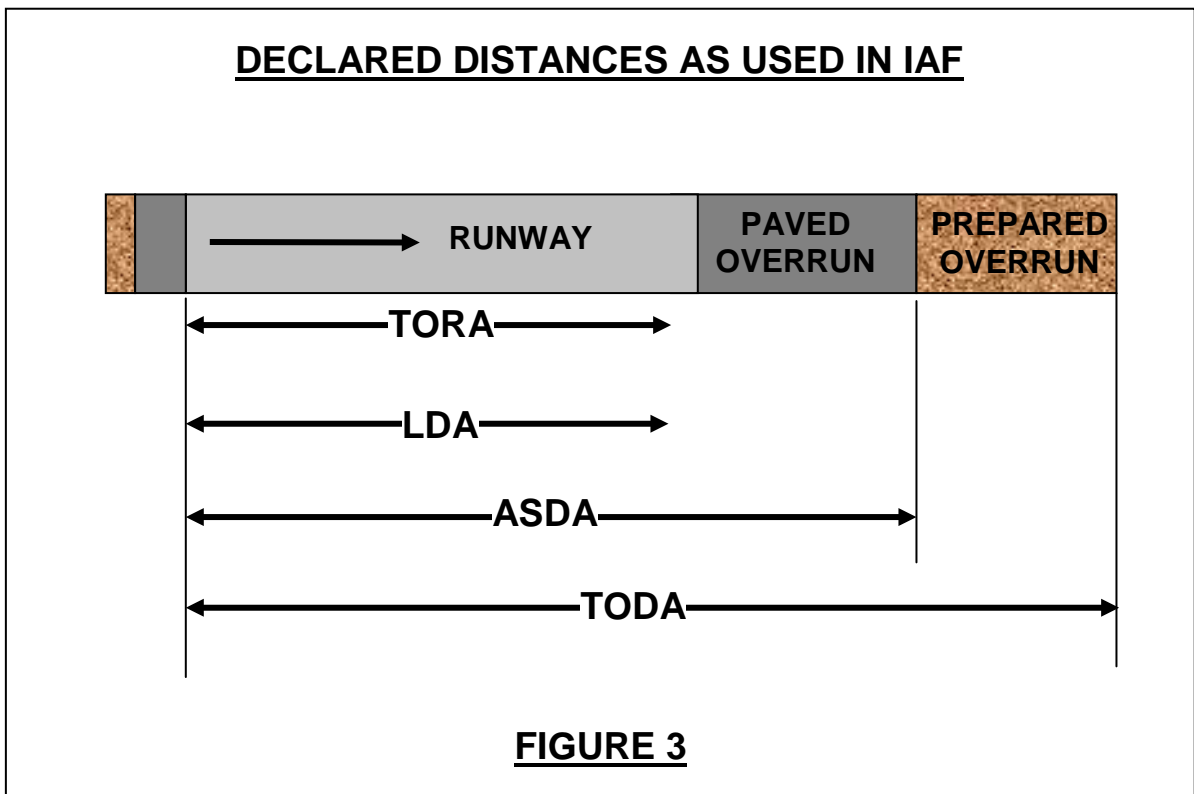
*be TORA plus the length of paved over-run and SGA.*

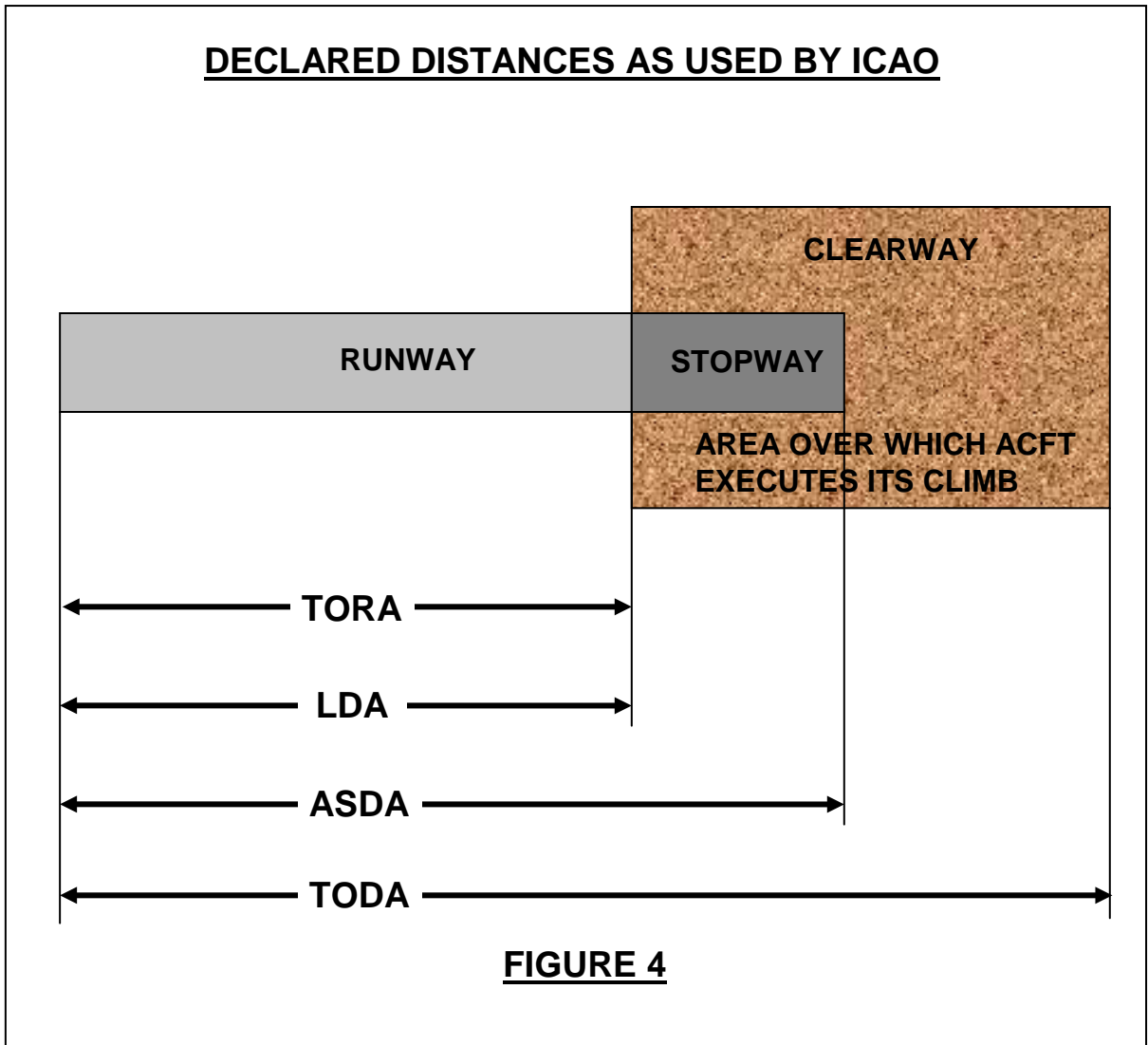
(iii) **Landing Distance Available (LDA)**. LDA is the the length of

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runway which is declared available and suitable for the ground run of the aeroplane landing. This corresponds to the distance from the threshold to the end of runway. Generally, this will correspond to the physical length of runway pavement except when runway threshold has been displaced due to obstacles on the approach path to the runway.

(iv) **Take Off Distance Available (TODA)**. TODA is the length of the take-off run available plus the length of paved and prepared over-run. At civil aerodromes, TODA is TORA plus the length of clearway.





**Publication of Declared Distances**

(g) Declared distances shall be made available in the following form:

<b>RUNWAY</b>	<b>TORA</b>	<b>ASDA</b>	<b>TODA</b>	<b>LDA</b>
	FT/ M	FT/ M	FT/ M	FT/ M
09	9000	10000	10500	9000
27	9000	10000	10300	9000

**OPERATIONAL AND FUNCTIONAL  
REQUIREMENTS OF AIRFIELD**

14. **Visual Ground Aids.** The detailed instructions with respect to visual aids for navigation, aerodrome markings, aerodrome lighting, DTGMs, Aerodrome Reference Point, Wind direction indicator, Retro-Reflective Taxiway Edge Markers and all types of Mandatory instruction signs are given in **Appendix B**

15. **Bulk Petroleum Installations**

(a) Vide letter No. F 19(5)/62/D(Air-III) dated 8 Nov 62, it was decided that IOC would construct BPIs at Air Force airfields.

(b) Vide Ministry Of Defence UO No. Air HQ/37534/55/W S(P)/3364-A/3/D(Air-IV) dated 13 Sep 65, it was decided that IOC would take over the Air Force BPIs at the airfields where IOC had constructed their own BPIs.

(c) Policy regarding the operation and maintenance of BPIs not covered by the above provisions will be intimated after its finalisation.

(d) The Station Commanders are to ensure that rent for land and buildings handed over to IOC are regularly recovered.

16. **Hangars.** Hangars are the type of OTM accommodation which is used for storage of aircraft, armament stores, technical equipment, workshops, avionics and all other types of labs, maintenance facility/bays for different types of aircraft, missiles, UAVs and Mechanical Transport etc. There are variety of designs and sizes which are in use in the Air Force depending upon the location, usage and type of aircraft or equipment for which the hangar is being proposed. It is not possible to specify any fixed type of design or size of hangars as it will vary based on the requirements.

17. **Mooring Rings.** Use of cement blocks for picketing aircraft in the open does not guarantee the complete safety of aircraft from storms. Proper mooring rings are, therefore, to be provided at all dispersals. The layout of mooring rings which, in turn, are dependent on the types of aircraft operating at an airfield is to be determined locally.

18. **Reception Facilities for Transit Transport aircrew and Waiting Rooms for VIPs.** Certain IAF airfields are sometimes used for loading offloading of service load transported in Air Force transport aircrafts and also providing landing facilities to VVIPs/VIPs/VIPs. It is desirable that suitable facilities for waiting rooms are provided for their use. While planning such infrastructure, the following points are to be kept in mind:-

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(a) Reception facility should include fully furnished sitting room, dining hall, rest room for aircrew (officers), aircrew (PBOR), toilet facility kitchen for preparation of preflight meals and refreshments, air-conditioning as per authorisation in aircrew rest rooms.

(b) VVIP Waiting Room. State Governments may be approached for assistance in the construction of buildings. However, Air HQ permission is to be obtained in each case before such construction is permitted.

(c) Furnishings for the rest rooms will normally be provided under arrangements of Command/Group Headquarters. However, an effort for obtaining the assistance of State Governments is to be made.

### **DEVELOPMENT AND RESURFACING OF EXISTING AIRFIELDS**

19. As regards the existing airfields, it is obviously not possible to carry out any re-siting. However, all concerned are required to take the following steps:-

(a) Check whether all the facilities for ensuring the availability of the airfield for meeting operational/functional requirements are available. If not, suitable works services are to be planned.

(b) As and when projects for the resurfacing of runways and improvement of operational/functional efficiency are sanctioned and released, completion of work on top priority should be ensured. Particular care must be taken to ensure that composite works services comprising following aspects of airfield infrastructure involving resurfacing of runways are included and sanctioned as one Project:-

(i) Resurfacing of main runway, Parallel Taxi Track, Link Taxi Tracks, loops, Over-run areas, dispersals etc.

(ii) Conversion of SGA and ORA of Main runway into runway specifications, where required.

(iii) Conversion of ORA of PTT into runway specifications, where required.

(iv) Construction of Rapid Exit Taxi Tracks (RETT) and fillets at the point of links joining runways, PTT of dispersals wherever required for faster clearance of runways and use of links by wide bodied aircrafts.

(v) Construction of new taxi tracks or dispersals wherever required for better functionality of operations.

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- (vi) Resurfacing of ORPs, ORP pens with rigid pavements only.
- (vii) Improvements in ORRs if required.
- (viii) Replacement of DTGMS with modern DTGMS made up of maintenance free material.
- (ix) Repair/replacement of wind sock and Landing Tee.
- (x) Addition/Alteration to Air Traffic Control Tower, Air Traffic Control Cabin (Runway Controllers Hut), DRDF huts, wherever required.
- (xi) Works services related to installation of Arrester barrier and renovation/reinstallation of AFLS.
- (xii) Works services related to runway crossing barriers, airfield drainage, and separate ducts for communication and power cables under runway and taxi track.
- (xiii) Repair/replacement of link/direction glow sign boards, runway markings and other allied works services in the aircraft maneuvering area.
- (xiv) Grading of runway/taxi track shoulders to facilitate drainage of water.
- (xv) Paving of runway and taxi track shoulders upto 2.2 mtr width on either side for protection of runway lights.
- (xvi) Works services related to installation and repair/replacement of hydrant refueling. All works services of hydrant refueling will be undertaken by oil companies as turn key projects through AOLM branch from Air Force Budget.
- (xvii) The installation of equipment procured from Defence budget i.e. arrester barriers, GCA sets, airfield lighting sets(AFLS) should also be dovetailed along with runway resurfacing work so that least disruptions take place in the operational activities. These projects should be sanctioned for execution in time bound frame and under no circumstances, should any delay be permitted, otherwise, there may be adverse affect on operations and there are chances of the non-utilisation of equipments during the warranty period, with consequential financial losses and adverse criticism by the Government.

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- (xviii) Repair/covering of rain water airfield drains.
- (xix) Connecting of Airfield drains with Rain Water Harvesting system.
- (xx) Construction of underpass for runway crossing, where required.

### **Runway Resurfacing as Special Project**

20. In order to stream line and standardize the procedure for processing the BsOO for the special projects of runway resurfacing, following guidelines and schedules is strictly adhered to:-

#### **Pre Release Planning**

(a) **Convening of Board of Officers.** The BOO must be convened in the first week of April of previous financial year i.e. if the runway resurfacing is planned in 2013-14, the convening order for the BOO should be issued by Command works officer in 1<sup>st</sup> week of Apr 2012. The convening order must mention the scope, date of assembly, special project status, year in which planned to be released and composition of BOO. The presiding officer should be the Chief Operation Officer of the station with SATCO, Stn Works Officer, SE(L) and rep of CE(AF), CWE(AF) and GE(AF) as member of the BOO. The terms of reference should be exhaustive and should cover all aspect of scope of work intended to be included in the BOO. Sample convening order and terms of reference are placed at **Appendix C**.

(b) **Pavement Design.** It is the responsibility of Directorate of Pavement at E-in-C's Branch to advise the station and Zonal CE with respect to the scope of work and proposed design for resurfacing, construction of new taxi track, dispersal or any other aircraft operating surface. For this purpose Dte of Pavement maintains complete record and history of each military runway in Air Force. However following data is required by the Dte of Pavement for preparation of design from two different agencies.

#### **Data from GE(AF)**

- (i) Condition Survey Report by GE (AF).
- (ii) Soil Data as per TI 14/87.
- (iii) PCN Evaluation Report from SEMT.

#### **Data from Station**

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- (iv) Traffic Data duly signed by COO and authenticated by Command HQ.
- (v) Critical Aircraft Characteristics.
- (vi) Meteorological Data of last 10 year.

The data as mentioned above alongwith draft scope of work must be submitted to E-in-C's branch through respective zonal CE under intimation to HQ command. The format of traffic data to be submitted to E-in-C's branch is placed at **Appendix D**. The progress of preparation of design by E-in-C's branch must be monitored and followed up by the Presiding officer, C Adm O and zonal CE. If required, personal liaison by the presiding officer be made with the office of E-in-C's branch. It may be appreciated that the design of the pavement is most crucial step in processing of BOO. AEs can not be prepared without the design. The design must be finalised by **30 May**.

(c) **Action by SE(L) & SATCO.** While the BOO for works services for resurfacing of the runway and other allied infrastructure is in progress, it is important that parallel action is initiated with respect to procurement, repair/replacement of equipment that is required to be undertaken through AF budget. For example, the stores for AFLS, equipments for Nav Aids, Arrester Barrier, wind sock, Landing TEE etc must be procured well in advance so that the same are available during the execution of works services. Similarly, infrastructure related works services which have direct or indirect bearing on the flying operations should also be taken up simultaneously alongwith the resurfacing works of runway so as to ensure least disruptions in the operations. Thus the SATCO must ensure that the works services related to ATC tower, GCA, Crash Bay, Traffic Barriers, Go No Go lights, Air Traffic Controller Cabin (runway controller huts) etc. are included in the scope of runway resurfacing work.

(d) **Vetting of Scope of Works by HQ Command.** As soon as the draft BOO is ready, the same should be forwarded to Command Works officer. The draft BOO should be forwarded to Command Systems Officer, CATCO and Air I/Air II for the specialist comments with respect to the works services required for Nav aids, arrester barriers, AFLS, ATC related works and operational aspects. Command Works Officer should ensure that the scope of work and other essential requirements for processing of the work has been complied with. Observations/comments of specialist officers should be forwarded to the station for rectification/incorporation in the BOO. This stage must be completed by **30 Jun**.

(e) **Presentation at HQ Command.** After the finalization of scope of

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works and design by E-in-C's branch, a joint presentation should be given by Station and zonal CE to AOC-in-C at HQ Command. The presentation should cover all aspects of scope of work, phasing/scheduling of various activities of work and rough cost of the project. Any clarification with regards to scope of work required by the station or MES should be sought during the presentation and the scope be frozen thereafter. This stage must be completed by **31 Aug**.

(f) **Finalisation of BOO and Preparation of Approximate Estimates.** After finalization of the scope at Command, AEs should be prepared by the Engineers and completed board proceeding alongwith AEs should be submitted to C Wks O in 9 copies by **31 Oct**. At HQ Command, the BOO should be forwarded to C Sys O, CATCO and Air I/Air II for their final scrutiny. Thereafter the BOO should be concurred by SOA on behalf of AOC-in-C and forwarded to Air HQ by **15 Nov**.

(g) **Issue of Adm Approval and Release.** The BOO is to be processed by the respective Joint Director Works at Air HQ with E-in-C's branch and MoD for issue of Adm Approval and release of funds. The observations of E-in-C and MoD are to be replied/ actioned by Zonal CE and Station authorities by personal liaison through fastest modes of communication. All efforts should be made to get the work released in the first quarter of the financial year.

### **Post Release Planning**

(h) **Works Schedule Presentation.** Immediately after the release of work, Ops, Maint and Adm staff at the station is to formulate the scheduling plan of the work in consultation with MES and informed in writing to HQ Command. Command Works Officer is to plan a joint presentation at HQ Command to apprise Ops and Maint staff at Command HQ about the tentative schedule of execution to facilitate movement of operational units and synchronization of activities related to installation of AFLS, and Arrester Barriers. The presentation is to be given by AOC/Stn Cdr/COO and Zonal Chief Engineer to AOC-in-C. SASO, SMSO, Air-I, C Sys O, CATCO, C Wks O, Planning staff of zonal CE, CWE and GE to attend the presentation. Compete scope of works tender planning, phasing of work and time period for which the operational units are required to be moved out, must be discussed and deliberated in the presentation. Ops, Maint and Works staff at Air HQ is to be informed about the planning schedule of execution of works services.

(j) **Tender Action and Tender Presentation.** Immediately on receipt of release order the zonal CE is to initiate tender planning action and keep HQ Command and Station about the tender planning schedule. The schedule of work and scope discussed during the presentation as mentioned above must be incorporated in the tenders. Rep of station and works staff at Command must be invited to attend the tender presentation.

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All requirements of the users must be incorporated. In case of any deviation or changes required in the scope of work must be brought to the notice of the Air HQ through HQ Command.

(k) **Quality Control.** All zonal CEs are to take special care in execution of runway works and ensure the guidelines enunciated in E-in-C's Branch letter No 37696/Gen /Pol /E2W (PPC) 06 Oct 06, reproduced as **Annexure III** are followed scrupulously.

(l) **Monitoring of Work by PMG.** The project is to be closed monitored by the PMG and regular feedback is to be sent to Command and Air HQ. Detailed instructions in this regard are given in Chapter II.

### **CATEGORISATION AND SCALE FOR MAINT OF IAF AIRFIELDS**

#### 21. **Scales of Maintenance**

(a) **Scale I-** Full maintenance.

(b) **Scale II**

(i)	Runways fair weather strips, shoulders overruns 200 yards at both ends, taxi tracks and roads(only those near runways), aprons, hard standings adjacent to runways, domestic administrative and technical buildings to be maintained to such a degree as to ensure serviceability when required MES plant and equipment, petrol storage installations, water services and septic tanks to be maintained in serviceable condition.
(ii)	Storm water drains and culverts will be kept clear and maintained.
(iii)	Guarding will continue.
(iv)	Dispersed taxi tracks, hard standings, blast pens and bomb dumps will not be maintained.
(v)	Basha or any other temporary structures of that nature to be maintained.
(vi)	Ground marking restricted to the following:-
	Runway designation marking
	Longitudinal line
	300 yards touch down line
	Side line
	Taxi tracks marking

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(c) **Scale III**

(i)	No maintenance except essential repairs to runway pavement to prevent further deterioration will be carried out.
(ii)	Minimum guarding only to be done
(iii)	Ground marking restricted to the following:-
	Runway designation marking
	Longitudinal line
	300 yards touch down line
	Side line
	Taxi tracks marking

22. New scales of maintenance would come into effect on revision of the present scale.

**List of Airfields**

23. Directorate of Air Force Works and D Ops(ATS) are required to maintain alphabetical list of military and civil airfields and landing grounds in India.

**Abandoned Airfields**

24. Particulars of abandoned airfields retained by the Air Force are maintained by D Ops (ATS) and DAFW. While no maintenance funds are allotted for these airfields, the Command under whose jurisdiction these airfields fall are responsible for taking the following measures :-

- (a) Nearest Air Force Station/Unit under the control of concerned Command HQ is to be made responsible to look after the abandoned airfield on charge of the Air Force.
- (b) Boundary fencing is to be provided after getting the areas vetted through local DEO.
- (c) Encroachments, if any, are to be removed and steps are to be taken to prevent further encroachments.
- (d) The airfield is to be visited at least once a month by an officer of the Station/Unit made responsible to look after it and a report is to be rendered to Command HQ.

**Helipads**

25. Instructions on the sites and specifications for helipads are contained in the following letters issued by the E-in-C's Branch:-

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(a) No.27039/10/Engr 2 Air dated 03 Jul 72.

(b) Amendments issued vide No. 27039/10/Engr 2 Air dated 7 Jul 72 and 04 Jul 73.

### **Advance Landing Grounds (ALG)**

26. Particulars of advance landing grounds retained by the Air Force are maintained by D Ops (ATS) and DAFW. While no scales have been laid down for allotment of maintenance funds for ALGs funds are allotted for the ALGs based on the realistic projection made by the station responsible for maintenance and operation of ALGs. With the GoI decision to entirely develop ALGs in NE Region, scale of maintenance is expected to be issued in due course, which shall be applicable upon such issues of guidelines. Manpower induction including officers, is expected to be undertaken by Mar 12. HQ Command exercising functional controls over ALGs is to issue the guidelines for allotment of funds for maintenance of ALGs. HQ Commands, under whose jurisdiction the ALGs fall, are responsible for taking the following measures:-

(a) Nearest Air Force Station/Unit under the control of concerned Command HQ is to be made responsible to look after the ALGs on charge of the Air Force.

(b) Boundary fencing is to be provided after getting the areas vetted through local DEO.

(c) Encroachments, if any, are to be removed and steps are to be taken to prevent further encroachments.

(d) The ALGs are to be visited at least once a month by an officer of the Station/Unit made responsible to look after it and a report is to be rendered to Command HQ.

### **Pathways, Approach Roads for Airfield and Emergency Exit Gate (Crash Gate)**

27. Pathways and approach roads to the airfields should be constructed at each major airfield from the connecting tarmac to the main approach road. This is necessary to avoid inconvenience to passengers who are in the terminal building when VVIPs/VIPs arrive/depart. Necessity of VVIPs/VIPs entering the main aerodrome building will thus be avoided.

28. In addition to the approach roads separate roads and gates are to be constructed at appropriate places to handle the emergencies of air crash at the base. The approach road and the crash gate should be wide enough to cater for the traffic of safety vehicles in case of emergency.

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**MAINTENANCE OF AIRFIELDS**

**General Maintenance**

29. The maintenance of the airfield consists of the following: -

- (a) Maintenance of runways, taxi tracks, hard-standing aprons, shoulders and over-runs.
- (b) Removal of grass from shoulders to runways and taxi tracks.
- (c) Epoxy repairs.
- (d) Joint Filling.
- (e) Painting of airfield markings.
- (f) Camouflage painting of airfield pavement, as per the policy in vogue.
- (g) Repair and maintenance of airfield storm water drains.
- (h) Repair/replacement of DTGMs, airfield signboard and barriers.
- (j) Any other work on aircraft maneuvering areas which has direct or indirect bearing on operations.

30. Chapter VI of E-in-C's Pamphlet No.1 (first Revision Dec 44) is for general guidance only.

31. Detailed instructions regarding the preparation of Annual Airfield Maintenance Program (AAMP) are given in Chapter III. It should be the endeavor of the Station Commander to prepare the maintenance program in such a manner that funds are fully utilised as per the requirement of users.

**Maintenance of Shoulders**

32. Poor state of shoulders can cause accidents to aircraft. It is to be ensured that:-

- (a) The shoulders of runway and taxi track should be maintained leveled at all times with a gradient of 1:100. There should be no obstruction or growth of vegetation on the shoulders.

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(b) All monsoon drains within the shoulder areas are to be covered with concrete slabs. The slabs should be of the specifications which are capable of bearing the weight of the aircraft in use.

(c) Repair work at shoulders, when necessary, is to be so planned that there are no ditches, debris, etc. when flying is in progress.

(d) There are no trees or obstructions on approaches to runways and parallel taxi tracks which are planned to be used for emergency landing.

### **Runways Drainage**

33. Detailed instructions on airfield drainage are given at pages 58 to 69 and page 101 of E-in-C's Pamphlet No.1 first revision (Dec 44). If water is allowed to stand on the runway, it may obstruct the vision of the pilot when thrown up in spray. It may also cause damage to the pavement. It is therefore, necessary that the Station Commander, in consultation with local MES Engineers, lays down a drill that will ensure that:-

(a) Runway drainage system is maintained in good condition, as a part of airfield maintenance.

(b) Arrangements are made within the Station resources for removing water collecting in the depressions of runway/taxi tracks surface, by sweeping, mopping, etc.

### **Sweeping of Runways and Taxi Tracks**

34. Sweeping of runways and taxi tracks is essential for ensuring that:-

(a) All FOD objects are removed.

(b) There is no accumulation of water or sand.

35. The responsibility of sweeping the runways and taxi tracks is that of the Senior Air Traffic Control Officer. The Station Commander is to ensure the availability of adequate manpower for this purpose.

36. Mechanical Runway Sweepers (MRS) wherever available are to be operated under the control of the Senior Air Traffic Control Officer.

### **Snow Clearance**

37. Responsibility of snow clearance at Air Force airfields/stations located at high altitude area is entrusted to Director General Border Roads (DGBR). The nearest units of DGBR have been entrusted with the responsibility of snow clearance at Air Force Station. All stores, tools and plants, machinery and snow cutting/clearing vehicles etc required for the task are procured from Air Force

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Capital Budget. Demand of maintenance funds for snow clearance is projected by BRO unit to PDAFW (Budget) through HQ DGBR. PDAFW (Budget) is to allot maintenance funds to HQ DGBR based on the demand received from DGBR,

with a copy to concerned unit and controlling Command. C Adm O is to liaise with the local BRO unit/detachment for projection of the requirement and execution of snow clearance work.

### **Maintenance of Airfield Lighting**

38. Air Force Stations equipped with airfield lighting are authorised for ₹ 2 lakh (Rupees two lakh) for maintenance services to be provided by MES / CPWD on demand by the AOsC / Stn Cdrs vide Govt of India, Min of Def letter No Air HQ/S 37873/1/2/US/D(Air-IV)/W(ALP) dated 10 Jan 2001. The maintenance services to be provided and the budgetary head to which this expenditure is to be debited are given in GOI letter placed at **Annexure IV**.

### **Periodical Condition Survey Reports**

39. Periodical condition survey reports of an airfield are required to be raised by the Garrison Engineer and are to be forwarded with Station Commander's remarks to C Wks O, CATCO, D Ops (ATS) and DAFW.

40. E-in-C's instructions on the subject are contained in letters No. 63233/E2/A dated 31 Oct / 02 Nov 67 and 05/11 Mar 68 (**Annexure V**).

41. The Station Commander is to vet the report before giving his remarks. While he is expected to bring out various requirements in the report itself, he should not await action on it by higher authorities in case there are urgent/important requirements. These should be put up separately.

42. CATCO and C Wks O at Command Headquarters are to scrutinise the returns and append their remarks on them before forwarding to Air HQ. Remedial measures considered necessary are to be taken on priority.

43. DAFW and D Ops (ATS) are to up-date the Airfield Dossiers from the reports and take remedial action where considered necessary.

### **DUTIES AND RESPONSIBILITIES: AIRFIELD WORKS**

44. Airfield works is a major element of works services which has a direct bearing on operations. This activity involves involvement of many different agencies, wherein each agency is required to perform their functions in highly coordinated manner. Information is required to be shared by each agency and ensure that the airfield works are planned and executed in most economical, efficient and expeditiously without compromising flight safety. AOC/Station Commander is to ensure that different functionaries perform their duties in most

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coordinated manner and not in closed compartments. With this aim the duties and responsibilities of SATCO, GE and C Adm O with respect to airfield works are given in **Appendix E,F and G** respectively. AOC/Station Commanders are to issue exhaustive duties for each important appointment depending upon local conditions.

### **FLIGHT SAFETY MEASURES**

#### **General**

45. Flight safety is a very important consideration. While detailed planning is the responsibility of the Flight Safety organisation at various levels in the Air Force, Those responsible for works services are to ensure that all works items affecting flight safety are attended to on top priority. Certain important aspects of policy nature are brought out in this Chapter. Day to day requirements and other additional policy requirements will, however, be considered at appropriate levels as and when the need for them arises.

#### **Removal of Carcasses from near the Airfield**

46. Detailed Instructions on the subject have already been issued to Command. The disposal of carcasses near the airfields is a potential flying hazard as they attract scavenger type of birds. Government had directed that efforts should be made with the assistance of State Governments and Local Bodies for the removal of carcasses away from the vicinity of airfields. Command Headquarters and Air Force Stations are responsible for taking necessary action.

#### **Arrester Barrier**

47. It is an extremely important device from the flight safety point of view and is being provided at various airfields in a phased manner. As and when Air HQ informs regarding the program for installation, the following action is to be taken by Command and the concerned station:-

(a) A Board of Officers is to be convened on top priority for determining the works services necessary which are required to be executed by MES. In case the work is being undertaken as a turn key project by ADRDE or any other executing agency, local MES is to render full support as required.

(b) Copies of board proceedings (Only in case of MES works) after vetting are to be forwarded to Air HQ (DAFW and DES). The latter would require the proceedings for determining the length of cables necessary and other technical requirements, if any.

(c) An administrative approval is to be issued for MES related works only.

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(d) Liaison is to be maintained with the DAFW for the release of the project and the allotment of funds.

(e) Liaison is to be maintained with the Engineers for the expeditious completion of the project.

**AIRFIELD LIGHTING SYSTEM (AFLS)**

48. Detailed instructions with respect to the procedure for renovation of AFLS are given in AFO 02/2002. Therefore the same are not being repeated in this Manual.

**RUNWAY REHABILITATION PLAN**

49. Detailed instructions and guidelines regarding RRS are covered in Chapter VIII (Miscellaneous) of this Manual.

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**GLOSSARY OF IMPORTANT TERMS USED IN REFERENCE TO AIRFIELDS**

**Note** :- Some of the terms defined below do not find a place in the Manual, however they have been included only for the information of the personnel to familiarize with their meanings.

1. **Aerodrome.** A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and movement of aircraft.
2. **Aerodrome Beacon.** Aeronautical beacon used to indicate the location of an aerodrome.
3. **Aircraft Classification Number (ACN).** A number expressing the relative effect of an aircraft on a pavement for a specified standard sub-grade category. The ACN is calculated with respect to the centre of gravity position which yields the critical loading on the critical gear . Normally the aft most CG position appropriate to the maximum gross apron (ramp) mass is used to calculate the ACN In exceptional cases the forward most CG position may result in the nose gear loading being most critical.
4. **Aerodrome Elevation.** The elevation of the highest point of the landing area.
5. **Aerodrome Reference Point.** The designated geographical location of an aerodrome.
6. **Aeroplane Reference Field Length.** The minimum field length required for take-off at maximum certificated take-off mass, sea level, standard atmospheric conditions, still air and zero runway slope, as shown in the appropriated aeroplane flight manual prescribed by the certifying authority or equivalent data from the aeroplane manufacturer. Field length means balanced field length for aeroplanes, if applicable, or take-off distance in other cases.

**Note** :- *Attachment A, Section 2 of ICAO Annex 14, volume I, first edition, July 1990, provides information on the concept of balanced field length and the ICAO Airworthiness Technical Manual(Doc 9051) contains detailed guidance on matters related to take-off distance.*

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7. **Aerodrome traffic density.**

(a) **Light.** Where the number of movements in the mean busy hour is not greater than 15 per runway or typically less than 20 total aerodrome movements.

(b) **Medium.** Where the number of movements in the mean busy hour is the order of 16 to 25 per runway or typically between 20 to 35 total aerodrome movements

(c) **Heavy.** Where the number of movements in the mean busy hour is of the order of 26 or more per runway or typically more than 35 total aerodrome movements.

**Note 1.** The number of movements in the mean busy hour is the arithmetic mean over the year of the number of movements in the daily busiest hour.

**Note 2.** Either a take-off or a landing constitutes a movement.

8. **Apron.** A defined area on a land aerodrome, intended to accommodate aircraft for the purposes of loading or unloading passengers or cargo, refueling, parking or maintenance.

9. **Arm.** A length of ground prepared for landing including 'Strip' and runway.

10. **Approach area.** An area extended outward from each end of a landing strip within which no natural or manmade object should project above a pre-determined safe angle of ascent or descent of an aircraft.

11. **Aircraft Stand.** A Designated area on an apron intended to be used for parking an aircraft.

12. **Air-Taxiway.** A defined path on the surface established for the air taxiing of helicopters.

13. **Altitude.** The vertical distance of a level, a point or an object considered as a point, measured from mean sea level.

8. **Bounding Lights.** Aeronautical ground lights de-limiting the boundary of landing area.

9. **Arrester Barrier.** A device used as an arrester to prevent serious damage to aircraft in case of abortive take off and during over shooting while landing. It consists of a nylon net placed across the runway end of threshold. It may either be electrically operated or hand operated.

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10. **Barrette**. Three or more aeronautical ground lights closely spaced in a transverse line so that from a distance they appear as a short bar of light.

11. **Capacitor Discharge Light**. A lamp in which high-intensity flashes of extremely short duration are produced by the discharge of electricity at high voltage through a gas enclosed in a tube.

12. **Declared Distances**

(a) **Take-off Run Available (TORA)**. The length of runway declared available and suitable for the ground run of an aeroplane taking off.

(b) **Take-off Distance Available (TORA)**. The length of the take-off run available plus the length of the clearway, if provided.

(c) **Accelerate-stop distance Available (ASDA)**. The length of the take-off run available plus the length of the stop way, if provided.

(d) **Landing Distance Available (LDA)**. The length of runway which is declared available and suitable for the ground run of an aeroplane landing.

13. **Declared Distances-Heliports**.

(a) **Take-off Distance Available (TODAH)**. The length of the final approach and take-off area plus the length of helicopter clearway (if provided) declared available and suitable for helicopters to complete the take-off.

(b) **Rejected Take-Off Distance Available (RTODAH)**. The length of the final approach and take-off area plus any additional area declared available and suitable for helicopters to complete the landing manoeuvre from a defined height.

(c) **Landing distance Available (LDAH)**. The length of the final approach and take-off area plus an additional area declared available and suitable for helicopters to complete the landing maneuvers from a defined height.

**Note** :- Refer ICAO Annex 14 Part II.

14. **Declared capacity**. A measure of the ability of the ATC system or any of its subsystems or operating positions to provide service to aircraft during normal activities. It is expressed as the number of aircraft entering a specified portion of airspace in a given period of time, taking due account of weather, ATC unit configuration, staff and equipment available, and any other factors that may affect the workload of the controller responsible for the airspace.

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15. **Elevation.** The vertical position of a point or a level, on or affixed to the surface of the earth, measured from mean sea level.
16. **Fixed Light.** A light having constant luminous intensity when observed from a fixed point.
17. **Frangibility.** A characteristic of an object to retain its structural integrity and stiffness up to a desired maximum load, but on impact, from a greater load, to break, distort or yield in such a manner as to present the minimum hazard to aircraft.
18. **Flying Gap.** An area at each end of a runway cleared of flying obstacles but not prepared for landing.
19. **Geodetic datum.** A minimum set of parameters required to define location and orientation of the local reference system with respect to the global reference system/frame.
20. **Hard standing.** Paved area adjacent to tracks, designed to take the weight of standing aircraft in all weather.
21. **Hazard Beacon.** An aeronautical beacon used to designate danger to air navigation.
22. **Hangarrettes.** Lightly roofed hangars of not more than 70 ft span (21 m).
23. **Height.** The vertical distance of a level, a point or an object considered as a point, measured from a specified datum.
24. **Helicopter clearway.** A defined area on the ground or water under the control of the appropriate authority selected and/or prepared as a suitable area over which a performance class 1 helicopter may accelerate and achieve a specific height.
25. **Helicopter Stand.** An aircraft stand which provides for parking a helicopter and, where air taxiing operations are contemplated, the helicopter touchdown and lift-off.
26. **Instrument Runway** One of the following types of runways intended for the operation of aircraft using instrument approach procedures:-
  - (a) **Non-precision Approach Runway.** An instrument runway served by visual aids and a non-visual aid providing at least directional guidance adequate for a straight-in-approach.

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(b) **Precision Approach Runway, Category I.** An instrument runway served by ILS and visual aids intended for operations down to 60 m (200 ft) decision height and down to an RVR of the order of 800 m.

(c) **Precision Approach Runway, Category II.** An instrument runway served by ILS and visual aids intended for operations down to 30 m (100 ft) decision height and down to an RVR of the order of 400 m.

(d) **Precision Approach Runway, Category III.** An instrument runway served by ILS to an along the surface of the runway and:-

A - Intended for operations down to an RVR of the order of 200 m (no decision height being applicable) using visual aids during the final phase of landing.

B - Intended for operations down to an RVR of the order of 50 m (no decision height being applicable) using visual aids for taxiing.

C - Intended for operations without reliance on visual reference for landing or taxiing.

*Note 1 :- Visual aids need not necessarily be matched to the scale of non-visual aids provided. The criterion for the selection of visual aids is the conditions in which operations are intended to be conducted.*

*Note 2 :- The IAF has only types (a) and (b) instrument runways. At type (b) instrument runways, if ILS/PRMG is not commissioned for category I operations, PAR, if installed, shall be considered a suitable alternative, provided the equipment is capable of an has been cleared for category I operations.*

27. **Kucha Landing Ground.** A length of ground prepared for fair weather landing by necessary cutting, filling, compaction and gradation of the soil at site.

28. **Landing Area.** The part of the movement area intended for the landing or take-off run of aircraft.

29. **Landing Direction Indicator.** A device to indicate visually the direction currently designated for landing and take-off.

30. **Light Failures.** A Light shall be considered to have failed when for any reason the average intensity determined using the specified angles of beam elevation, toe-in and spread falls below 50 percent of the specified average intensity of a new light.

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31. **Lighting System Reliability.** The probability that the complete installation within the specified tolerances and that the system is operationally usable.
32. **Main Runway.** The runway determined as such by the competent authority.
33. **Maneuvering Area.** The part of an aerodrome to be used for the take-off and landing of aircraft and for the movement of aircraft associated with take-off and landing, excluding aprons.
34. **Markers.** Objects other than landing direction indicators, wind direction indicators and flags, used to indicate obstruction or to convey aeronautical information by day.
35. **Marking.** Signs displayed on surface in order to convey aeronautical information.
36. **Movement Area.** That part of an aerodrome intended for surface movement of aircraft, including the maneuvering area and aprons.
37. **Non-Instrument Runway.** A runway intended for the operation of aircraft using visual approach procedures.
38. **Near parallel runways.** Non intersecting runways whose extended centerlines have an angle of convergence / divergence of 15 deg or less.
39. **Over-run.** An area in prolongation of a runway at both ends provided for emergency use by aircraft over running or under-shooting the runway.
40. **Obstruction Lights.** Aeronautical ground lights provided to indicate obstructions.
41. **Operational Readiness Platform (ORP).** An area by paved surface provided along the runway on the taxiway side of the runway ends for the aircraft to be parked in readiness state for operations, where no taxi way exists it is provided on the left side of the runway ends.
42. **Pavement Classification Number (PCN).** A number expressing the bearing strength of a pavement for unrestricted operations.
43. **Pens.** Hard standing protected by blast wall and/or without a top layer.
44. **Runway.** A defined rectangular area on a land aerodrome for the landing and take-off run of aircraft along its length.
45. **Runway Visual Range (RVR).** The maximum distance in the direction of take-off or landing at which the runway or the specified lights or markers

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delineating it can be seen from a position above a specified point on its centre line at a height corresponding to the average eye level of pilot at touch down. A height of approximately 16 ft (5m) is regarded as corresponding to average eye level of pilots at touch down.

46. **Runway Lights.** Aeronautical ground lights arranged along a runway indicating its direction or boundaries.

47. **Runway Selected Basic Length.** The length selected by the competent authority as a basic for the design of a runway and associated physical characteristic of the land aerodrome.

48. **Runway End Safety Area (RESA).** An area symmetrical about the extended runway centre line and adjacent to the end of the strip primarily intended to reduce the risk of damage to an aeroplane undershooting or overrunning the runway.

49. **Runway Threshold Marking.** Markings placed as to indicate the longitudinal limits of that portion of the runway used for landing.

50. **Signal Area.** An area on an aerodrome used for the display of ground signals.

51. **Signaling Lamp.** A device used for directing lights signals at individual targets.

52. **Slush.** Water saturated snow which with a heel and toe slapdown motion against the ground will be displaced with a splatter; specific gravity: 0.5 upto 0.8.

**Note:** - Combinations of ice, snow and /or standing water may, especially when rain, rain and snow, or snow is falling, produce substances with specific gravities in excess of 0.8. These substances, due to their high water/ice content, will have a transparent rather than a cloudy appearance and, at the higher specific gravity, will be readily distinguishable from slush

53. **Snow (on the ground).**

(a) **Dry snow.** Snow which can be blown if loose or, if compacted by ground by hand, will fall apart again upon release; Specific gravity: upto but not including 0.35.

(b) **Wet snow.** Snow which, if compacted by hand will stick together and tend to or form a snowball; Specific gravity: 0.35 upto but not including 0.5.

(c) **Compacted snow.** Snow which has been compressed into a solid mass that resists further compression and will hold together or break up into lumps if picked up; Specific gravity: 0.5 and over.

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54. **Shoulders.** An area adjacent to the edge of a paved surface so prepared as to provide a transition between the pavement and the adjacent surface for aircraft running off the pavement.
55. **Threshold.** The beginning of that portion of the run-way usable for landing.
56. **Taxi holding position.** A designated position at which taxing aircraft and other vehicles may be required to hold in order to provide adequate clearance from a runway.
57. **Taxiway.** A defined path on a land aerodrome established for the taxiing of aircraft and intended to provide a link between one part of the aerodrome and another; including
- (a) **Aircraft Stand Taxilane.** A portion of an apron designated as a taxiway and intended to provide access to aircraft stands only.
  - (b) **Apron Taxiway.** A portion of a taxiway system located on an apron and intended to provide a through taxi route across the apron.
  - (c) **Rapid Exit Taxiway.** A taxiway connected to a runway at an acute angle and designed to allow landing aeroplanes to turn off at higher speeds than are achieved on other exit taxiways and thereby minimising runway occupancy times.
58. **Taxiway Strip.** An area including a taxiway intended to protect an aircraft operating on the taxiway and to reduce the risk of damage to an aircraft accidentally running off the taxiway.
59. **Taxi - way Lights.** Aeronautical ground lights arranged along a taxi - way to indicate the route to be followed by taxiing aircraft.
60. **Thresh-hold lights.** Aeronautical ground lights so placed as to indicate the longitudinal limits of that portion of a runway, channel or landing path usable for landing.
62. **Very High frequency Direction finder (VHF DF).** A radio device for ascertaining the direction of an aircraft in flight.
63. **Strip.** A length of ground prepared for fair-weather landing by the necessary operations of cut, fill, compaction, and grading of the soil at site.
64. **Paving.** Any material, imported or at site, that has been procured, or processed by means in addition to those of definition 1, and which is usable in all weathers by the traffic for which it is intended. Thus, the soil wrapped up in a

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Hertzberg Matters would become paving material, as would any other "Stabilized soil".

65. **Approach Funnel.** The zone of approach or take off of aircraft at each end of an arm, defined horizontally by the flying gap, and contained above the approach angle. This funnel must be free of all flying hazards.

66. **Taxi.** Aircrafts are said to taxi along the ground when they move under their own power.

67. **All weather Apron.** A prepared area, normally paved, suitable for parking a number of aircraft in all weathers.

68. **Fair Weather Apron.** A prepared area, suitable for parking a number of aircraft in fair weather only.

69. **Cut – Off.** A waterproof layer used to prevent the passage of moisture through soil at paving edges by capillary action or other means.

70. **Approach Area.** This area shall consist of:-

(a) An inner edge of 300 M i.e. on either side or perpendicular to the centre line of runway at a distance of 60 m measured horizontally, from the threshold away from the direction of landing.

(b) Two sides originating at the two ends of the inner edge and diverging outwards at 15 %, so that its width at 20 Km is 6.3 KM and then running parallel till reaching 22 km from the inner edge.

### **AREAS LAID DOWN AT MILITARY AERODROMES TO FACILITATE SAFE AND EXPEDITIOUS CONDUCT OF AIRCRAFT OPERATIONS**

51. **Movement Areas.** Movement areas are that part of an aerodrome intended for the surface movement of the aircraft. These are paved areas and include runways, taxiways, dispersal areas, aprons and operational readiness platforms.

52. **Flight Strip.** It is the rectangular portion of an aerodrome containing the runway and paved over-runs along with the shoulders and cleared zones associated with these areas. **[Figure 1 below]**

53. **Runways.** Runways are paved surfaces intended for take off and landing run of aircraft. The number and orientation of runways at an aerodrome will depend upon the volume of traffic, runway occupancy time and climatological data on surface winds. When siting the runways, proximity of other aerodromes or ATS routes, air traffic control and missed approach procedures are also taken

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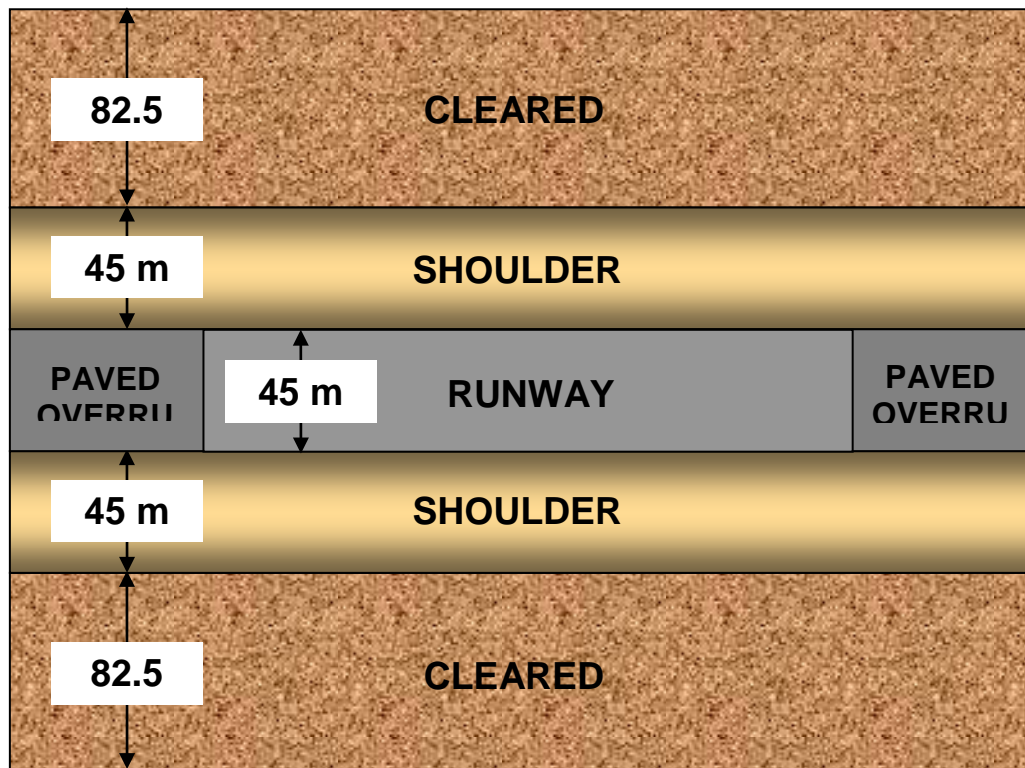
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into account. The actual runway length to be provided for a primary runway should be adequate to meet operational requirements of the aeroplanes for which the runway is intended. Runway surface should provide good braking action and co-efficient of friction under all surface conditions. The runway should be able to withstand the aeroplanes it is intended to serve. The surface should be constructed without irregularities.

**Note:-** Refer ICAO Aerodrome Design Manual Part I as amended for corrections to the basic length for elevation, temperature and slope.

**FLIGHT STRIP (FIGURE 1)**



54. **Aerodrome Reference Code** The intent of the Aerodrome Reference Code is to provide a simple method for inter-relating the numerous specifications concerning the characteristics of aerodromes so as to provide a series of aerodrome facilities that are suitable for the aeroplanes that are intended to operate at the aerodrome. The code is not intended to be used for determining runway length or pavement strength requirements. The code is composed of two elements which are related to the aeroplane performance characteristics and dimensions. Element 1 is a number based on the aeroplane reference field length and element 2 is a letter based on the aeroplane wing span and outer main gear wheel span. A particular specification is related to the more appropriate of the two elements of the code or to an appropriate combination of the two code elements. The code letter or number within an element selected for design purposes is related to the critical aeroplane characteristics for which the facility is provided.

55. An aerodrome reference code – code number and letter – which is selected for aerodrome planning purposes shall be determined in accordance with the characteristics of the aeroplane for which an aerodrome facility is intended. The aerodrome reference code number and letters shall have the meanings assigned to them in **Table 1** below. The code number for element 1 shall be determined from **Table 1**, column 1, selecting the code number corresponding to the highest value of the aeroplane reference field lengths of the aeroplanes for which the runway is intended. The code letter for element 2 shall be determined from Table 15-A, column 3, by selecting the code letter which corresponds to the greatest wing span, or the greatest outer main gear wheel span, whichever gives the more demanding code letter of the aeroplanes for which the facility is intended.

**Note 1.** **Aeroplane Reference Field Length.** The minimum field length required for take-off at maximum certificated take-off mass, sea level, standard atmospheric conditions, still air and zero runway slope, as shown in the appropriate aeroplane flight manual prescribed by the certifying authority or equivalent data from the aeroplane manufacturer. Field length means balanced field length for aeroplanes, if applicable, or take-off distance in other cases. (Refer Attachment A Section 2 of Annex 14 for the concept of Balanced Field Length).

**Note 2.** The determination of aeroplane reference field length is solely for the selection of a code number and is not intended to influence the actual runway length provided.

**Note 3.** Guidance to assist the appropriate authority in determining the aerodrome reference code is given in the Aerodrome Design Manual, Part 1 and 2.

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**TABLE 1: AERODROME REFERENCE CODE**

<u>CODE ELEMENT 1</u>		<u>CODE ELEMENT 2</u>		
Code Number	Aeroplane Reference Field Length	Code Letter	Wing Span	Outer Main Gear Wheel Span <sup>a</sup>
(1)	(2)	(3)	(4)	(5)
1	Less than 800 m	A	Up to but not including 15 m	Up to but not including 4.5m
2	800 m up to but not including 1200 m	B	15 m up to but not including 24 m	4.5 m up to but not including 6 m
	1200 m up to but not including 1800 m		24 m up to but not including 36 m	6 m up to but not including 9 m
	1800 m and over		36 m up to but not including 52 m	9 m up to but not including 14 m
			52 m up to but not including 65 m	9 m up to but not including 14 m
			65 m up to but not including 80 m	14 m up to but not including 16 m
<b>a.</b> Distance between the outside edges of the main gear wheel				

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**VISUAL AIDS FOR NAVIGATION**

**AERODROME MARKINGS**

**General**

1. Aerodrome markings consist of signs on surface of movement areas to convey aeronautical information.
2. Runway markings shall be white.

**Note 1:-** *On runway surfaces of light colour, the conspicuity of white markings can be improved by outlining them in black.*

**Note 2:-** *The risk of uneven friction characteristics should be reduced in so far as practicable by the use of a suitable kind of paint.*

**Note 3:-** *At aerodromes where operations take place at night, pavement markings should be made with reflective materials designed to enhance the visibility of the markings.*

3. Taxiway markings and dispersal markings shall be yellow.
4. Aerodrome ground markings shall consist of the following:-
  - (a) Runway markings.
  - (b) Taxiway markings.
  - (c) Dispersal markings.
  - (d) VOR aerodrome check-point marking.
  - (e) Mandatory instruction marking.
  - (f) Information marking.
5. In addition, the following markings shall be displaced on the movement areas to indicate those areas unfit for the surface movement of aircraft:-
  - (a) Closed markings.



- (b) Markings to indicate non-load-bearing surfaces.

**Runway Markings**

- 6. Runway markings shall consist of:-
  - (a) Runway designation markings.
  - (b) Runway centre line markings.
  - (c) Runway threshold markings.
  - (d) Runway aiming point markings.
  - (e) Runway touch down zone markings.
  - (f) Runway side stripe markings.

7. **Runway Designation Markings**

(a) Application. Runway designation markings shall be provided on all runways.

(b) Characteristics. Runway designation markings shall consist of a two-digit number and on parallel runways shall be supplemented by a letter. The two-digit number shall be the whole number nearest to one tenth of magnetic azimuth of centre line measured clockwise from magnetic North when viewed from direction of approach. When the above rule gives a single digit number, it shall be preceded by zero.

(c) Parallel Runways. In case of parallel runways, the runway designation number shall be supplemented by a letter in the order shown below from LEFT to RIGHT when viewed from the direction of approach.

(i) For two parallel runways : L R

(ii) For three parallel runways : L C R

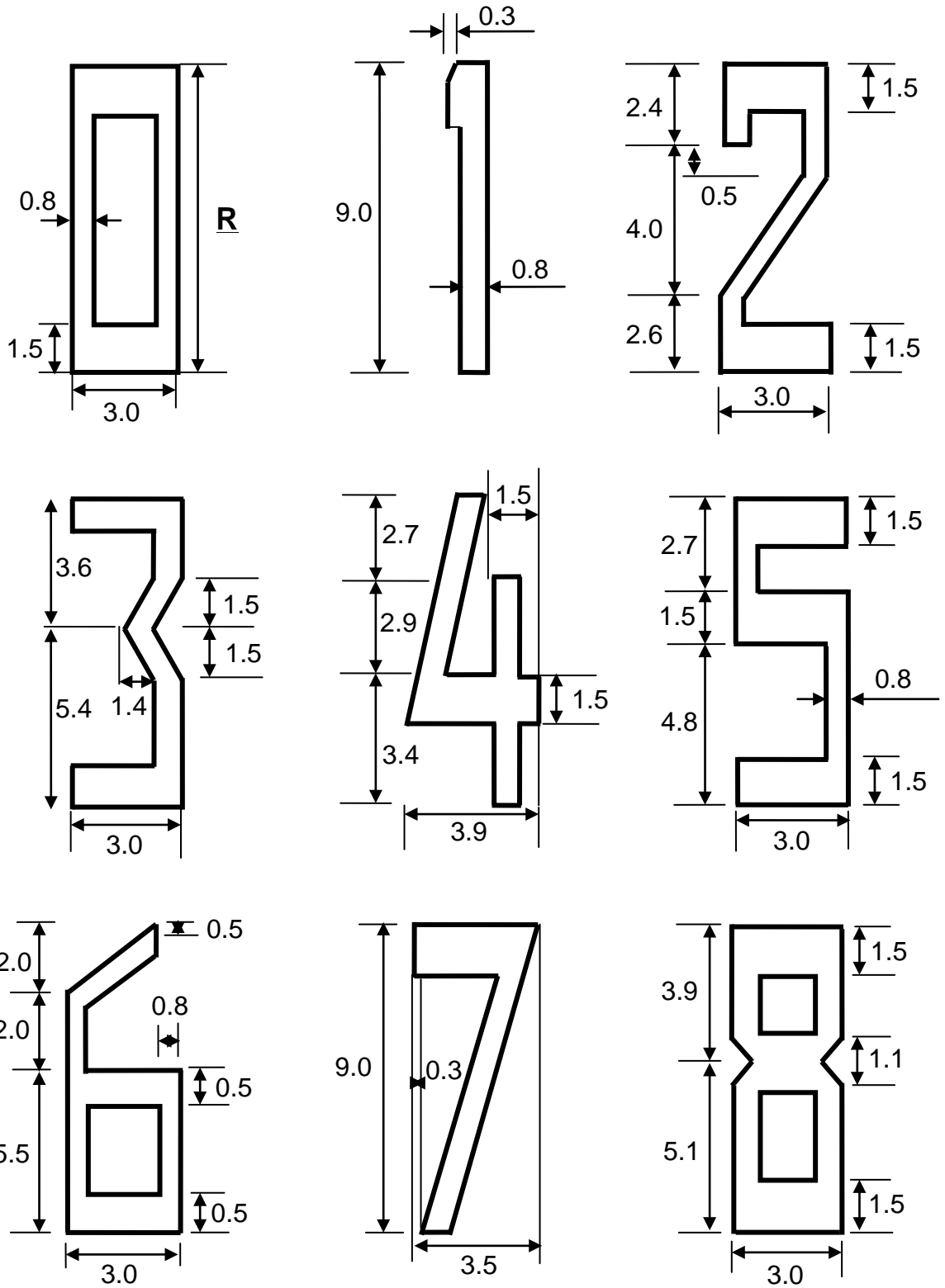
(d) Dimensions. Dimensions of figures and letters shall conform to specifications given in **Figure 1 & 2**.

(e) Location. Runway designation markings shall be located at beginning of runway after the threshold markings [**Figure 3**].

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**FORM AND PROPORTIONS OF NUMBERS AND LETTERS FOR  
RUNWAY DESIGNATION MARKINGS**

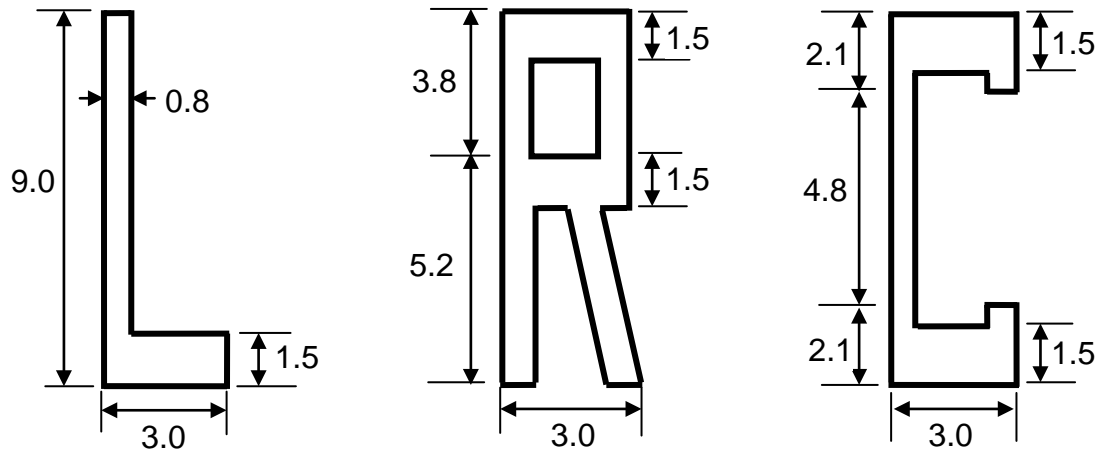
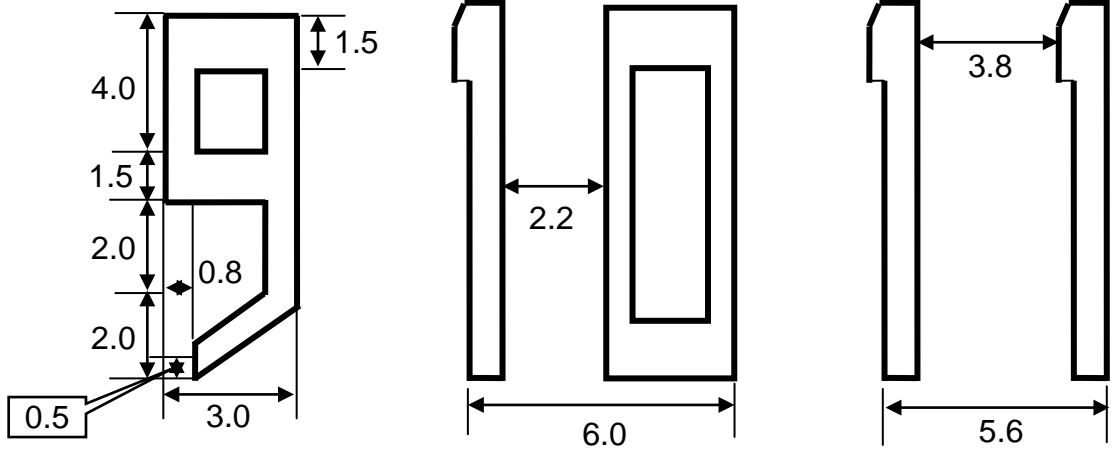


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**FIGURE - 1**



**FIGURE 2**

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8. **Runway Centre Line Markings**

(a) Application. Runway centre line markings shall be provided on all runways.

(b) Location and Dimensions. Runway centre line markings shall consist of a series of broken longitudinal lines along the runway centre line and extending along the whole length of the runway between the two runway designation markings except when interrupted in compliance with **Para 13**. The dimensions of longitudinal lines shall be 30m (100 ft) long and 0.9m (3 ft) wide spaced with a gap of 15m (50 ft) [**Figure 3**].

9. **Side Stripe Markings**

(a) Application. Side stripe markings shall be provided on all paved runways.

(b) Characteristics. These markings shall consist of two lines extending the length of the runway between the two threshold markings. However, if the runway width is more than 45 m or where feasible, the side stripe markings shall be extended along the whole length of the runway upto the threshold. The two lines shall be parallel to and equidistant from runway centre line. These are continuous lines of 0.9m (3 ft) width. The distance between two lines shall be 42 m (140 ft) [**Figure 3**].

10. **Threshold Markings**

(a) Application. Threshold markings shall be provided on all paved runways.

(b) Location. The longitudinal stripes of the threshold marking shall commence 6 m (20 ft) from the runway threshold.

(c) Characteristics. The markings shall consist of a series of longitudinal stripes of uniform dimensions symmetrically placed on both sides of runway centre line and extending laterally to 1.5 m (5 ft) from the edge of runway. The spacing between the stripes shall be equal to the width of stripes except that a double spacing shall be provided between the stripes nearest to the centre line. The dimension of stripes shall be 30 m (100 ft) long. The width of the strips shall be approximately 1.8 m (6 ft) [**Figure 3**]. The number of strips shall be in accordance with the runway width as follows:

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<b>Runway Width</b>	<b>No. of Strips</b>
18 m	4
23 m	6
30 m	8
45 m	12

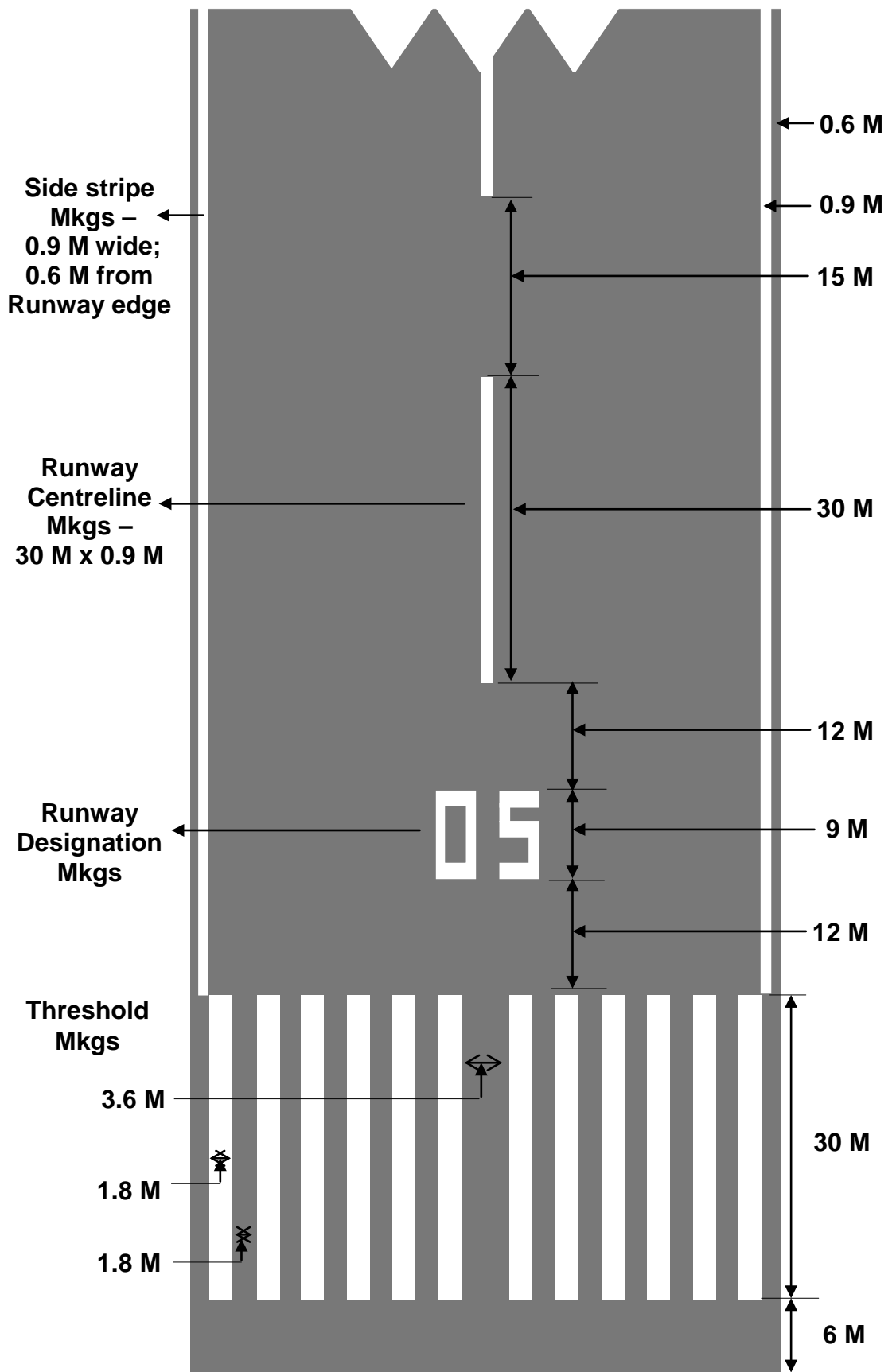
(d) Displaced Threshold Markings. Where a runway threshold is permanently displaced, arrows conforming to **Figure 4** shall be provided on the portion of the runway before displaced threshold. When a runway threshold is temporarily displaced from the normal position, it shall be marked as shown in **Figure 4** or **Figure 5** and all markings prior to the displaced threshold shall be obscured except the runway centre line markings, which shall be converted to arrows.

**Note 1:-** When the runway before a displaced threshold is unfit for the surface movement of aircraft, closed markings, as described in **Para 23**, are required to be provided. Threshold marking in this case shall commence after leaving 60 m of usable portion.

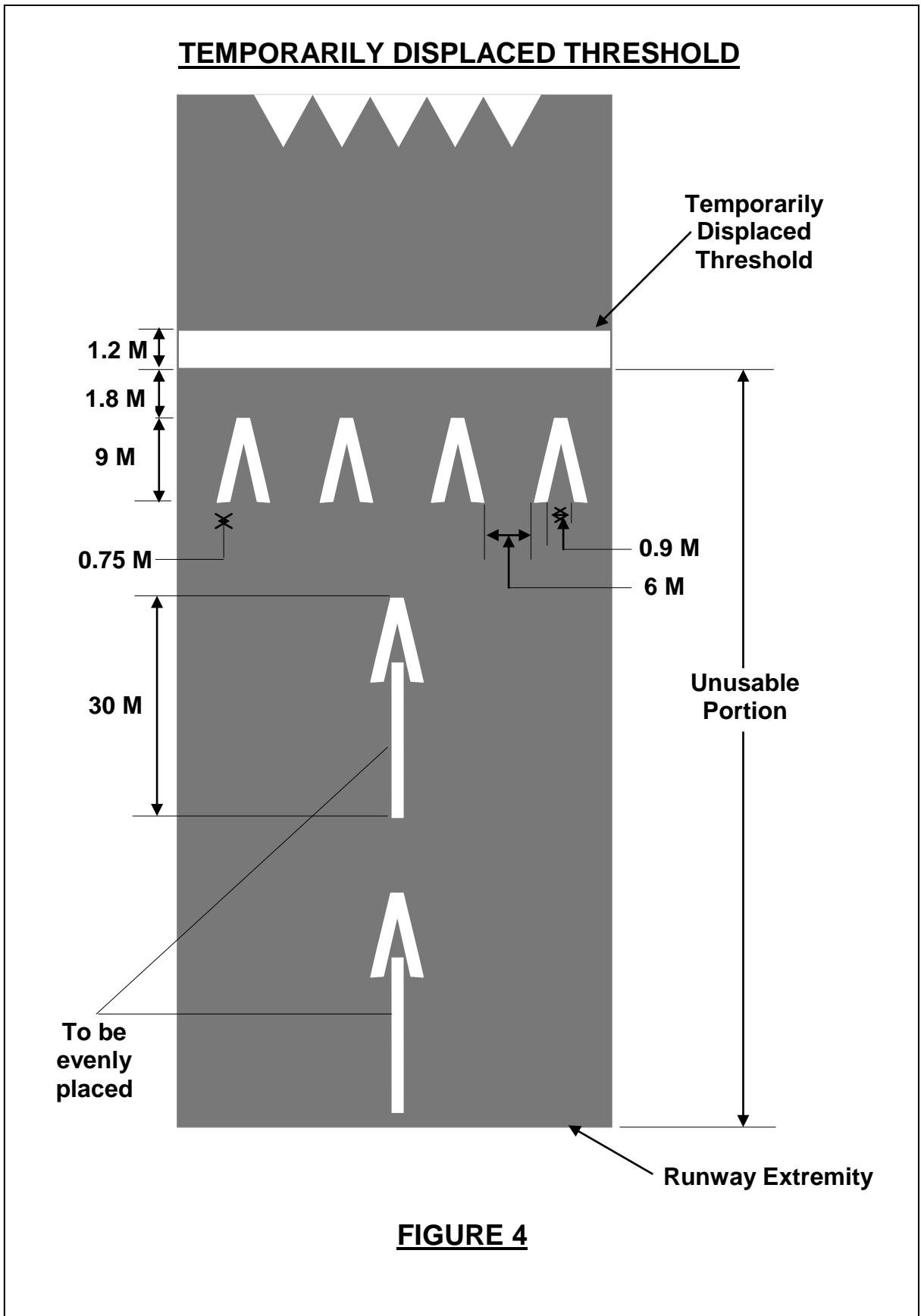
**Note 2:-** Where a threshold is temporarily displaced for only a short period of time, suitable markers in the form and colour of a displaced threshold marking may be used, rather than attempting to paint this marking on the runway. (It is recommended that all Stations should get these markers made from the Airfield Maintenance Fund and use these markers as and when required.)

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**RUNWAY DESIGNATION, CENTRE LINE, SIDE STRIPE AND THRESHOLD MARKINGS**



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**FIGURE 3**



**FIGURE 4**

TEMPORARILY OR PERMANENTLY  
DISPLACED THRESHOLD

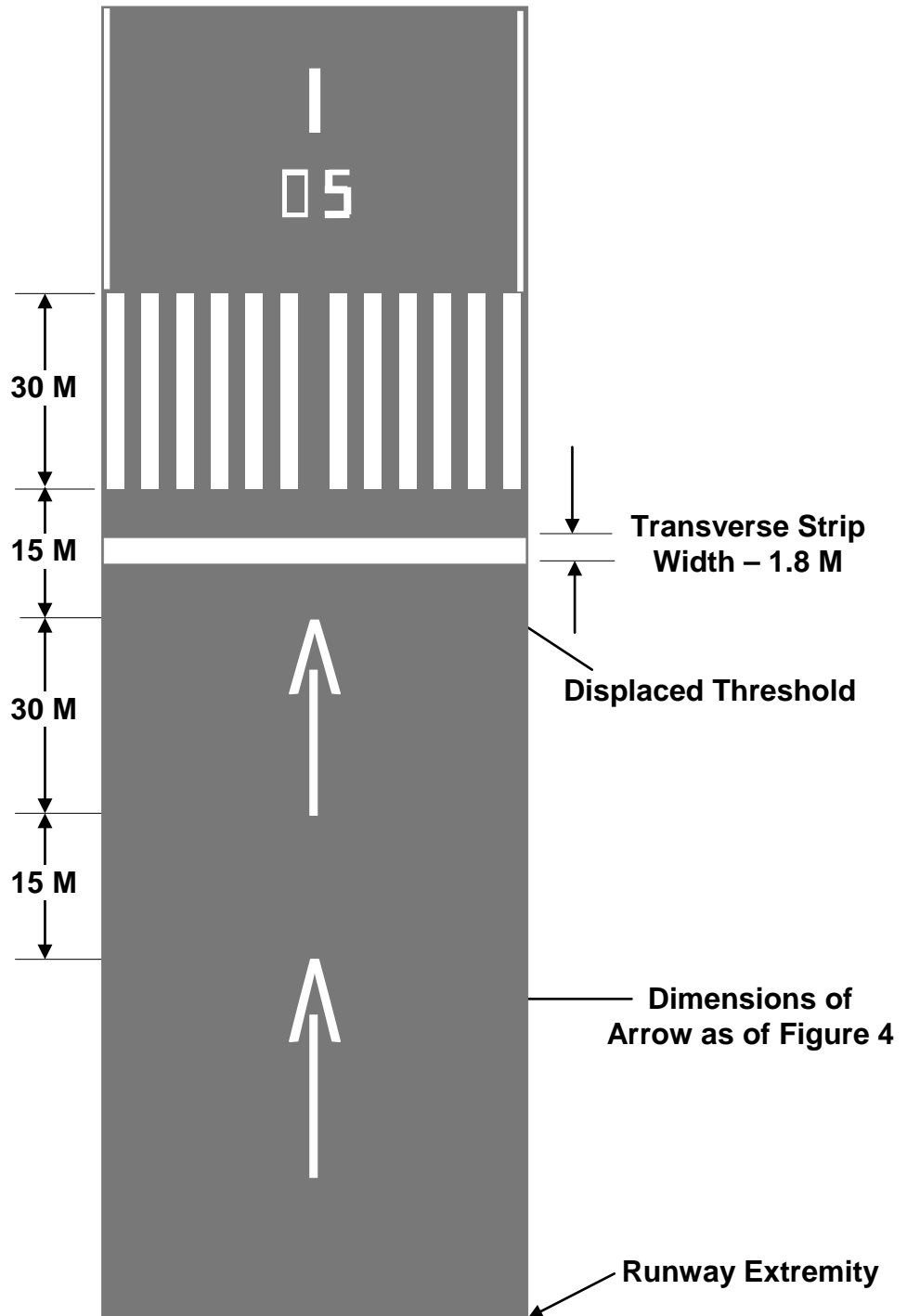


FIGURE 5



11. **Aiming Point Markings**

(a) Application. An aiming point marking shall be provided at each approach end of a paved runway where the code number is 3 or 4 (Runway length is 1200 m (4000 ft) or more).

(b) Location. Aiming point marking shall be located at a distance of 300 m (1000 ft) from the threshold of the runway.

(c) Characteristics. An aiming point marking shall consist of two conspicuous stripes. The length of the stripes shall be 45 m (150 ft) and the width of the stripes shall be 6 m (20 ft). The lateral spacing between the inner sides of the stripes shall be 18 m (60 ft). **[Figure 6]**

12. **Touch Down Zone Markings**

(a) Application. Touch down zone markings shall be provided on all precision approach runways. If desirable, it may be provided for other runways for additional conspicuity of the touch down zone.

(b) Location. Touch down zone markings shall be located over the first 600 m (2000 ft) for runways of length less than 2400 m (8000 ft) and over the first 900 m (3000 ft) for runways of length 2400 m (8000 ft) or more. The pairs of markings shall be provided at longitudinal spacing of 150 m (500 ft) beginning from the threshold, except that pairs of touch down zone markings coincident with an aiming point marking shall be deleted from pattern. These markings shall be provided with distance coding as shown in **Figure 6**.

(c) Characteristics. These shall be longitudinal stripes marked symmetrically on both sides of the runway centre line. Dimensions of touch down zone markings shall be 22.5 m (75 ft) long and 1.8m (6 ft) wide with a gap of 1.5 m (5 ft) between subsequent stripes. Gap between two innermost stripes shall be 18 M (60 ft)**[Figure 6]**.



**Interruption of Runway Markings**

13. At an intersection of two (or more) runways the markings of the more important runway, except for runway side stripe marking, shall be displayed and the markings of the other runway(s) shall be interrupted. The runway side stripe marking of the more important runway may be either continued across the intersection or interrupted.

14. The order of importance of runways for the display of runway markings should be as follows:-

- (a) 1<sup>st</sup> - Precision Approach Runway
- (b) 2<sup>nd</sup> - Non-Precision Approach Runway
- (c) 3<sup>rd</sup> - Non-Instrument Runway

15. At an intersection of a runway and taxiway the markings of the runway shall be displayed and the markings of the taxiway interrupted, except that runway side stripe markings may be interrupted.

***Note:- Refer Para 17 regarding the manner of connecting runway and taxiway centre line markings.***

**Taxiway Markings**

16. These markings shall consist of:-

- (a) Taxiway centre line marking.
- (b) Runway holding position marking.
- (c) Intermediate holding position marking.

17. **Taxiway Centre Line Marking.**

(a) Application. Taxiway centre line marking shall be provided on a taxiway, in such a way to provide continuous guidance between the runway centre line and aircraft stands. Taxiway centre line shall also be provided on a paved runway when the runway is part of a standard taxi route and:-

- (i) There is no runway centre line marking: or
- (ii) Where the taxiway centre line is not coincident with runway centre line.

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(b) Location.

(i) On a straight section of a taxiway, the marking shall be located along the taxiway centre line. On a taxiway curve the marking shall continue from the straight portion of taxiway at a constant distance from the outside edge of the curve.

(ii) At an intersection of a taxiway with a runway where the taxiway serves as an exit from the taxiway, the taxiway centre line marking should be curved into the runway centre line marking **[Figure 7]**. The taxiway centre line marking should be extended parallel to the runway centre line marking for a distance of at least 60 m (200 ft) beyond the point of tangency.

(iii) Where taxiway centre line marking is provided on a runway in accordance with sub-para (a) above, the marking should be located on the centre line of the designated runway.

(c) Characteristics. A taxiway centre line marking shall be 15 cm (6 ") in width and continuous in length except where it intersects with a runway-holding position marking or an intermediate-holding position marking.

18. Runway-Holding Position Markings.

(a) Application. A runway-holding position or positions shall be established:-

(i) On the taxiway, at the intersection of a taxiway and a runway;

(ii) At an intersection of a runway with another runway when the former runway is part of a standard taxi-route; and

(iii) On a taxiway if the location or alignment of the taxiway is such that a taxiing aircraft or vehicle can infringe an obstacle limitation or interfere with the operation of radio navigation aids.

(b) Location. The location of runway-holding position marking shall be 45 m (150 ft) from the nearest edge of the runway. The longitudinal spacing between successive runway-holding position markings, if provided, shall be 45 m (150 m).

***Note:- The runway holding position markings may be located at a greater distance from the edge of runway wherever it is found necessary to hold aircraft or vehicles farther from a runway so as to avoid interference with radio-aids. Special care should be taken while marking runway-holding position markings at aerodromes,***

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*where ILS Cat II operations are contemplated, to ensure that Inner transitional surface and ILS critical and sensitive areas are not infringed.*

(c) **Characteristics.**

(i) At an intersection of a taxiway and non-instrument, non-precision or take-off runway, the runway-holding position marking shall be 'Pattern A' marking, as shown in **Figure 7 and 8**.

(ii) Where a single runway-holding position is provided at an intersection of a taxiway and a precision approach category I, II or III runway, the runway-holding position marking shall be 'Pattern A' marking. Where two or more runway-holding positions are provided at such intersection, the runway-holding position closer (closest) to the runway shall be 'Pattern A' marking and the markings farther from the runway shall be 'Pattern B' marking, as shown in **Figure 7 and 8**.

(iii) **Pattern A Marking.** These markings shall consist of four lines of 0.15 m (6") width each with spacing of 0.15 m (6"). These markings shall be painted for entire width of taxiway at right angle to its centre line. Two lines closer to the runway shall be broken lines of 0.9 m (3 ft) length stripes, with spacing equal to the length of the stripes. Two lines farther from the runway shall be continuous lines. [**Figure 7 and 8**].

(iv) **Pattern B Marking.** These markings shall consist of two lines of 0.3 m (1 ft) width each with a spacing of 0.6 m (2 ft). These markings shall be painted for entire width of taxiway at right angle to its centre line. The two lines shall be joined by longitudinal stripes of 0.3 m (1 ft) width each with spacing of 0.3 m (1 ft). [**Figure 7 and 8**].

19. **Intermediate Holding Position Marking.**

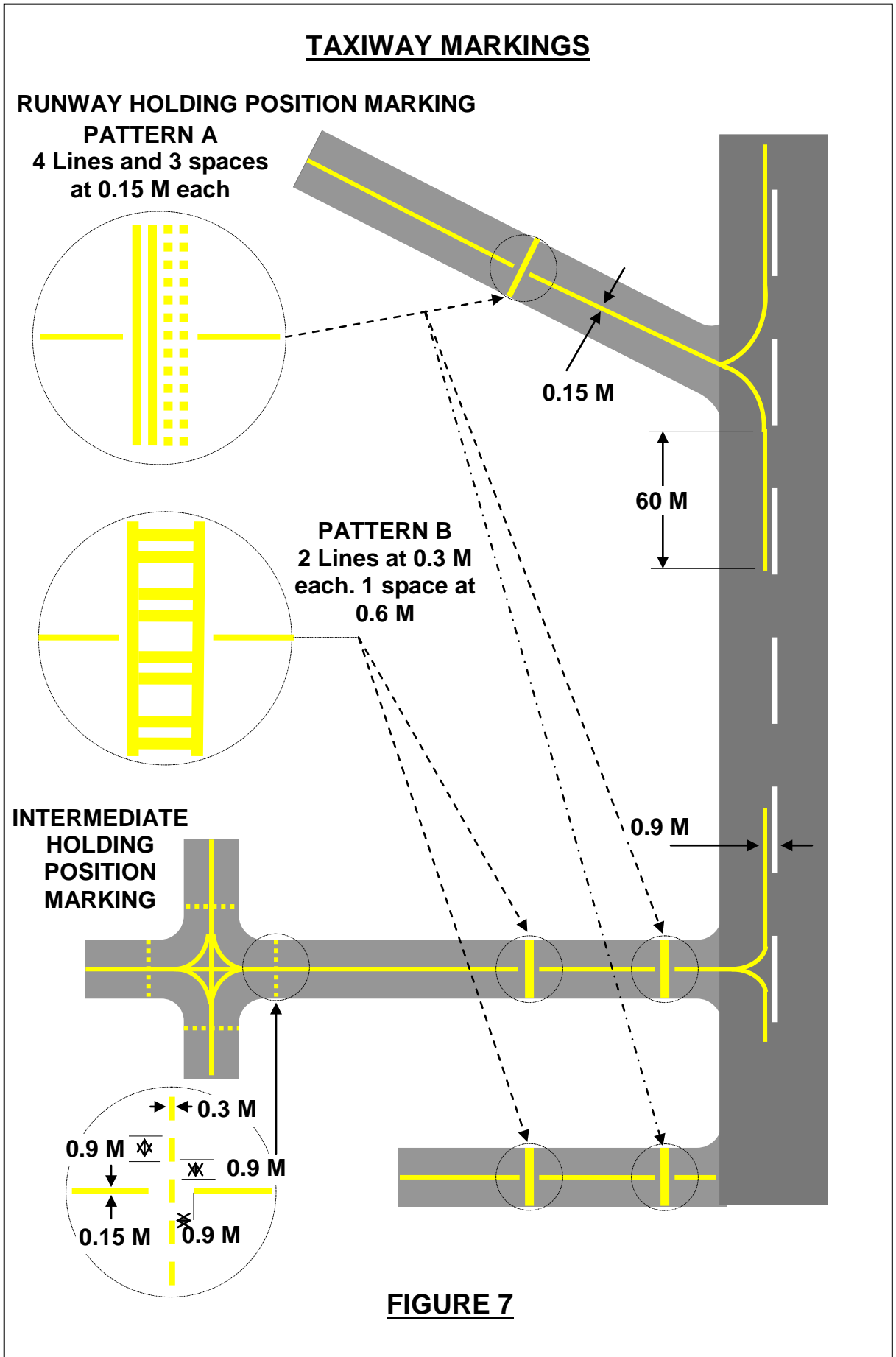
(a) **Application.** An intermediate holding position should be established on a taxiway at any point other than a runway-holding position where it is desirable to define a specific holding limit.

(b) **Location.** Where an intermediate holding position marking is displayed at an intersection of two paved runways, it shall be located across the taxiway at sufficient distance from the near edge of the intersecting taxiway to ensure safe clearance between taxiing aircraft. It shall be coincident with a stop bar or intermediate holding position lights, where provided.

(c) **Characteristics.** An intermediate holding position marking shall consist of a single broken line of width 0.3 m (1 ft) across the width of the taxiway, at ninety degrees to the taxiway centre line marking. The length of the stripes in the line shall be 0.9 m (3 ft) with an equal lateral spacing

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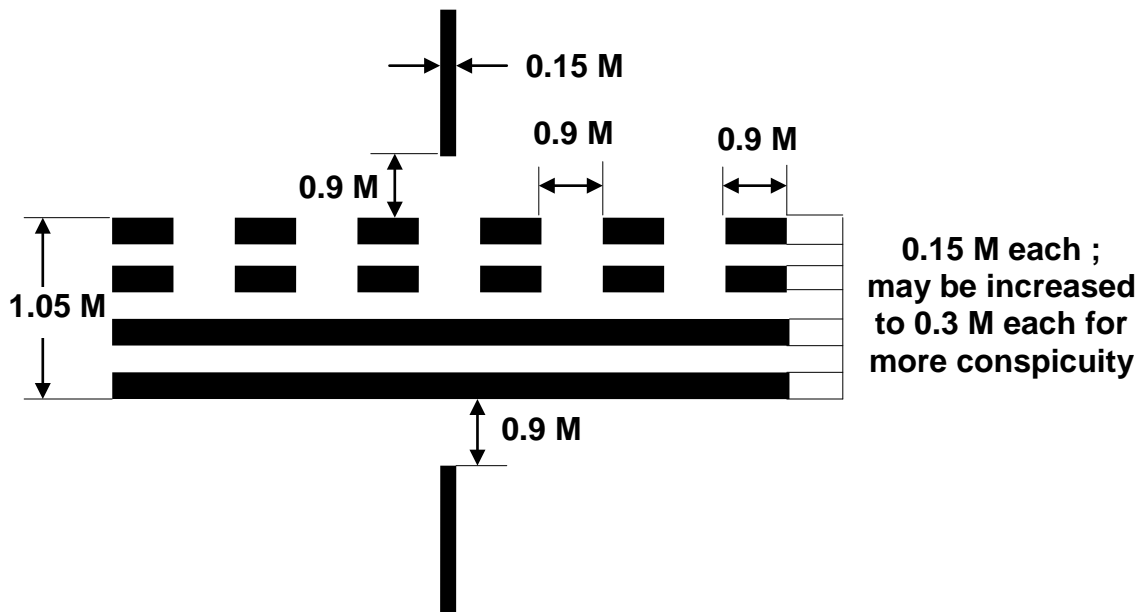
between the stripes, as shown in **Figure 7**.



**RUNWAY HOLDING POSITION MARKINGS**

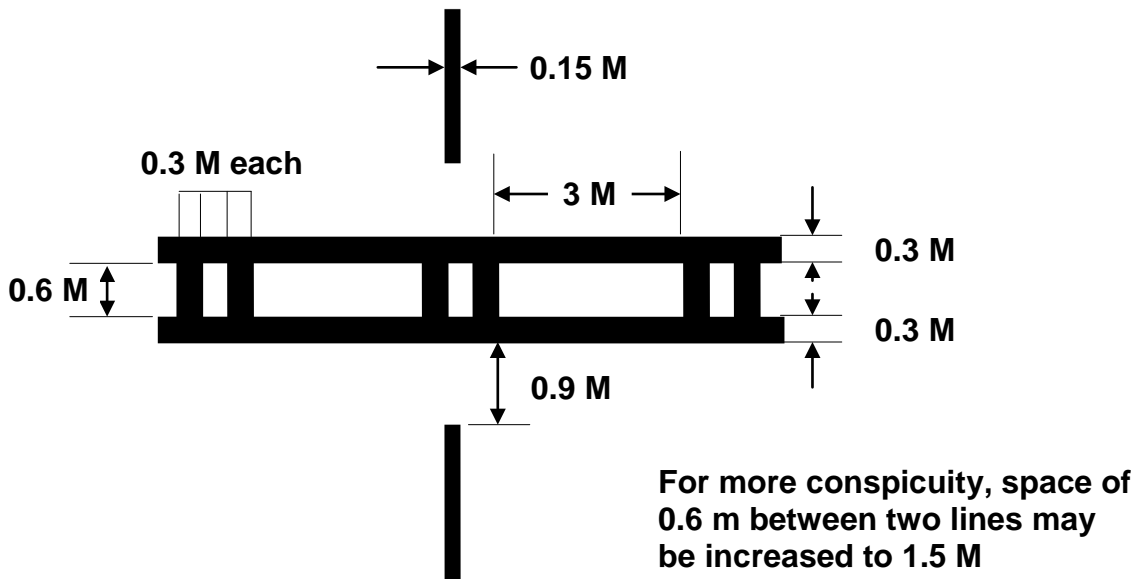
**PATTERN A:**

4 Lines and 3 Spaces at 0.15 M each



**PATTERN B:**

2 lines at 0.3 M each. 1 space at 0.6 M



**NOTE:** All markings in yellow colour.

**FIGURE 8**

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### **Dispersal Markings**

20. **Squadron Dispersals.** Squadron dispersal markings shall be done according to the specifications of the type of aircraft operating from the squadrons.

21. **Visiting Aircraft Dispersal.** Visiting aircraft dispersal shall display the aircraft stand markings to provide guidance to the taxiing in or taxiing out aircraft. The main objective is to provide:-

- (a) Safe maneuvering of aircraft on the stand; and
- (b) Precise positioning of aircraft.

22. Markings shall provide the lead in/ lead out markings to aircraft entering/ exiting the dispersal. Markings must provide minimum clearance of 36 m (120 ft) between the maneuvering aircraft and other building and obstacles. The lateral spacing between the aircraft stand markings shall be such that a minimum clearance of 7.5 m (25 ft) exists between the wing tips of two aircraft, parked adjacent to each other. This clearance of 7.5 m is adequate for all aircraft currently on the inventory of IAF except for IL-76. Additional marking may be provided specifically for IL-76.

### **VOR Aerodrome Check-point Marking**

*(For guidance material on the pre-flight checking of VOR airborne equipment, refer Annex 10 Vol I Attachment E)*

23. **Application.** When a VOR aerodrome check-point is established, it shall be indicated by a VOR aerodrome check-point marking and sign.

24. **Site Selection.** The check-point should, within the limits of operating convenience, be located away from buildings or other reflecting objects (fixed or moving) which are likely to degrade the accuracy or stability of the VOR signal. The signal strength of the nearby VOR has to be sufficient to ensure satisfactory operation of a typical aircraft VOR installation. In particular, full flag action (no flag showing) must be ensured. The observed VOR bearing at any selected point should ideally be within plus or minus 1.5 degrees of the bearing accurately determined by survey or chart plotting.

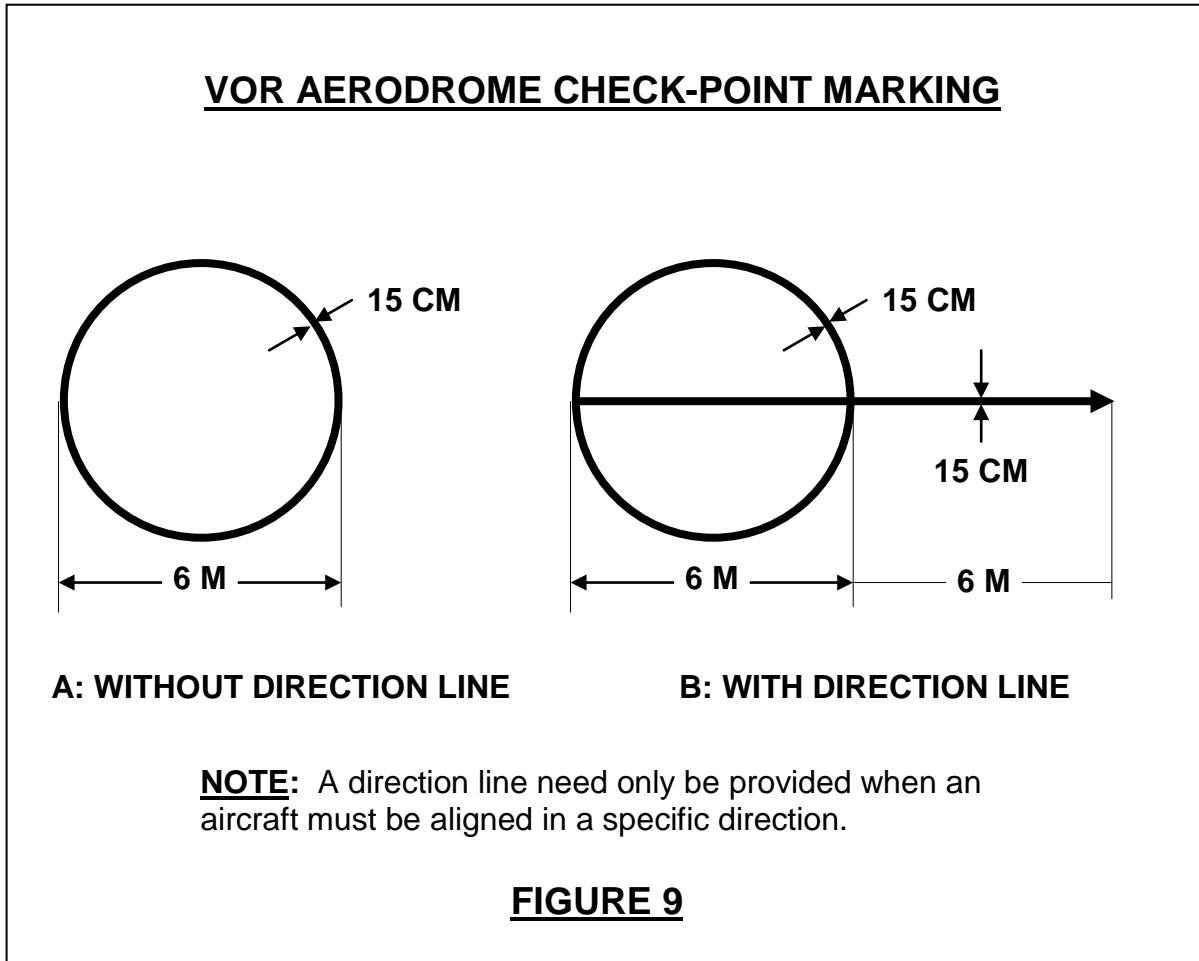
25. **Location.** A VOR aerodrome check-point marking shall be centred on the spot at which an aircraft is to be parked to receive the correct VOR signal.

26. **Characteristics.** A VOR aerodrome check-point marking shall consist of a circle 6 M (20 ft) in diameter and have a line width of 15 cm (6 inches) **[Figure 9 (A)]**. When it is preferable for an aircraft to be aligned in a specific direction, a line should be provided that passes through the centre of the circle on the desired azimuth. The line should extend 6 m (20 ft) outside the circle in

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the desired direction of heading and terminate in an arrowhead. The width of the line should be 15 cm (6 inches) [Figure 9 (B)]. The marking should preferably be white in colour, but should differ from the colour used for the taxiway markings.



**Closed Markings**

27. Closed Runways or Taxiways or parts thereof.

(a) Application. A closed marking shall be displayed on a runway, taxiway or a portion thereof, which is closed to the use of all aircraft. Such marking may be omitted if the closure is of short duration and adequate warning by air traffic services is provided.

(b) Location. On a runway a closed marking shall be placed at each end of the runway, or portion thereof, declared closed, and additional markings shall be so placed that the maximum interval between markings does not exceed 300 m (1000 ft). On a taxiway a closed marking shall be placed at least at each end of the taxiway or portion thereof closed.

(c) Characteristics.

(i) A closed marking displaced on a runway shall be in the form of cross. The width of the stripes shall be 1.8 m (6 ft). The length of the cross shall be 36 m (120 ft) and the width of the cross shall be 14.5 m (50 ft). The cross shall be of white colour [**Figure 10**].

(ii) A closed marking displace on a taxiway shall be in the form of cross. The width of the stripes shall be 1.5 m (5 ft) and the length of the stripes shall be 9 m (30 ft). the cross shall be at an angle of 45 degree to the taxiway centre line. The cross shall be of yellow colour [**Figure 10**].

(iii) When an area is temporarily closed, frangible barriers or markings utilizing materials other than paint or other suitable means may be used to identify the closed area.

(iv) When a runway or taxiway or portion thereof is permanently closed, all normal runway and taxiway markings shall be obliterated.

(v) Lighting on a closed runway or taxiway or portion thereof shall not be operated, except as required for maintenance purposes.

(vi) In addition to closed markings, when the runway or taxiway or portion thereof closed is intercepted by a usable runway or taxiway which is used at night, unserviceability lights shall be placed across the entrance to the closed area at intervals not exceeding 3 m (10 ft).

28. **Non-load-bearing Surfaces.**

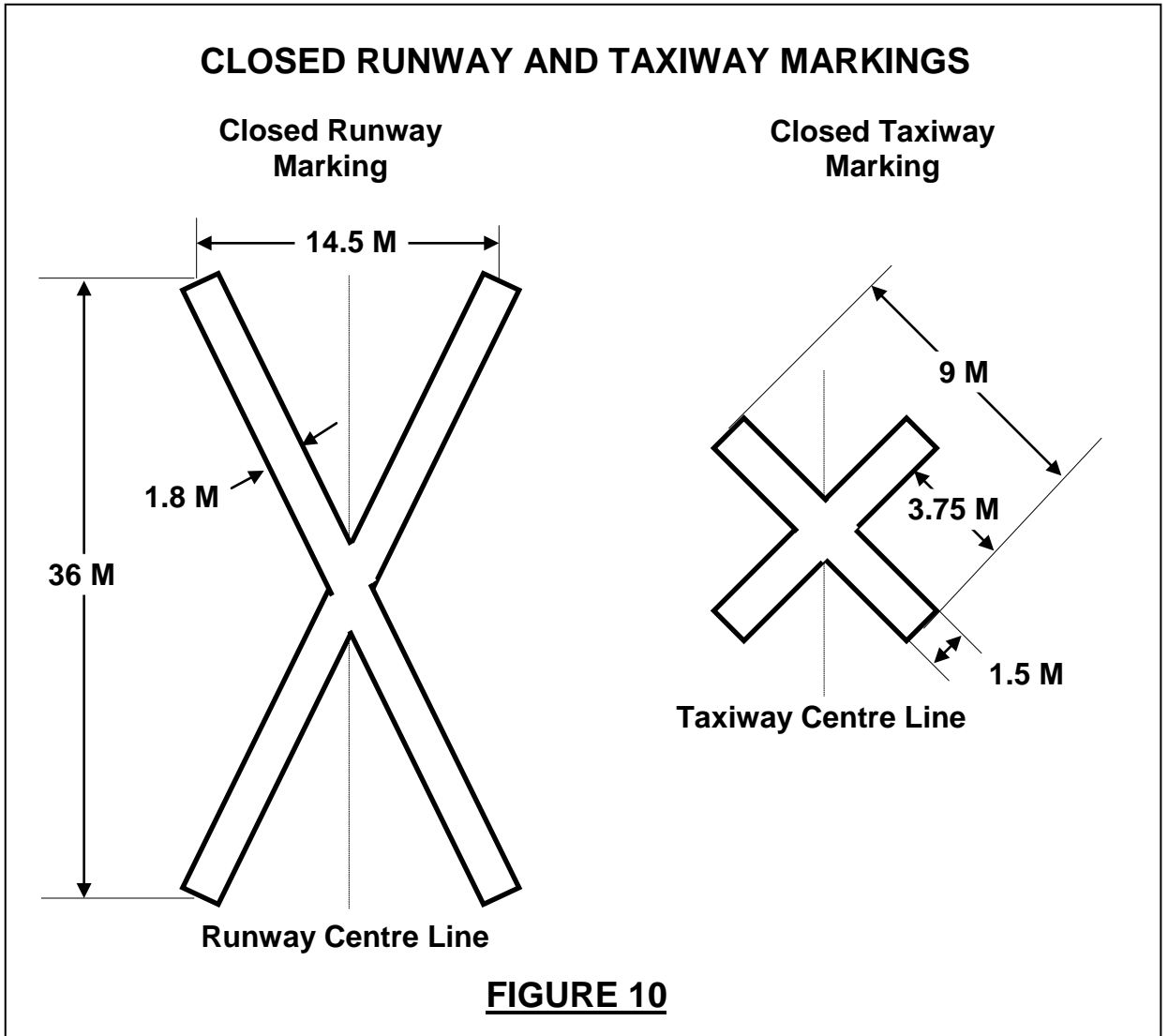
(a) Application. Shoulders for taxiways, holding bays and aprons and other non-load-bearing surfaces which cannot be readily distinguished from load-bearing surfaces and which, if used by aircraft, might result in damage to the aircraft shall have the boundary between such areas and the load-bearing surface marked by a taxi side stripe marking.

(b) Location. A taxi side stripe marking shall be placed along the edge of the load-bearing pavement, with the outer edge of the marking approximately on the edge of the load-bearing pavement.

(c) Characteristics. A taxi side stripe marking shall consist of a pair of solid lines, each 15 cm (6") wide and spaced 15 cm (6") apart and of the same colour as the taxiway centre line marking.

**Aerodrome Markings at Operational Airfields**

29. Certain markings as mentioned above, are eliminated at operational aerodromes during peace and war. Detailed instructions and specifications for such aerodromes are laid down by Air HQs from time to time.



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**AERODROME LIGHTING**

**General**

30. A non-aeronautical ground light which might prevent or cause confusion in the clear interpretation of aeronautical ground lights should be extinguished, screened or otherwise modified so as to eliminate such possibility.

31. A high intensity electrical lighting system shall be installed at all aerodromes intended for operation at night, in dusk or poor visibility conditions by day. At AF aerodromes, the OWL lighting system (Czech type) has been in use. Emergency lighting system consisting of gooseneck flares/ I-Lights and marker lamps should also be conveniently available at least on the primary runways in the event of failure of normal lighting system.

32. The electrical lighting shall comprise of the following:-

- (a) Runway edge lights
- (b) Runway threshold identification lights
- (c) Runway end lights
- (d) Over-run lights
- (e) Runway approach lights
- (f) Taxiway edge lights
- (g) ORP/Turning pad lights
- (h) Aerodrome beacon
- (j) V A S I S
- (k) Landing direction indicator
- (l) Wind direction indicator
- (m) Remote control panel

33. Where ILS Cat II or III Precision Approach System is planned to be installed, the following additional lights shall be installed:-

- (a) Precision Approach Category II and III Lighting System

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- (b) Runway Centre Line Lights
- (c) Runway Touchdown Zone Lights

34. The following lights may be installed if considered necessary, for ILS Cat II or III Precision Approach System:-

- (a) Taxiway Centre Line Lights
- (b) Stop bars
- (c) Intermediate Holding Position Lights
- (d) Road Holding Position Lights

35. **Runway Edge Lights**. The lights are to be placed along the full length of the runway and shall be in two parallel straight lines equidistant from the centre line of the runway. The lights shall be placed not less than 1.5 m (5 ft) and not more than 4.5 m (15 ft) from the edge of the runway. The lights shall be uniformly spaced in rows at intervals of 60 m (200 ft). When runway is intersected by another runway or taxiway, lights may be spaced without conforming to 60 m (200 ft) spacing to meet the specific requirement. Each case should be examined to ensure that pilots are not misled. Touch down points will be indicated by double lights on either side of the runway at distance of 300 m (1000 ft) from the threshold. The lateral distance between two lights shall be 3 m (10 ft). Half way markings shall be indicated by providing five additional lights on either side of the runway. The lateral distance between these lights shall be 3 m (10 ft).

**Note:** - *Each runway light for the primary runway shall be three aspect lights and shall consist of one omni-directional (45 watt) and two unidirectional lights (65 watts each). For the secondary runway, only omni-directional lights will be fitted. All runway lights are to be clear lights, except that the last 1/3 of the runway at both ends will be provided with amber filters facing the direction of landing. This will enable a pilot to determine the distance to go while on the landing run and also the distance covered during take-off.*

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RUNWAY EDGE, THRESHOLD, END, HALFWAY, TOUCHDOWN AND OVERRUN LIGHTS

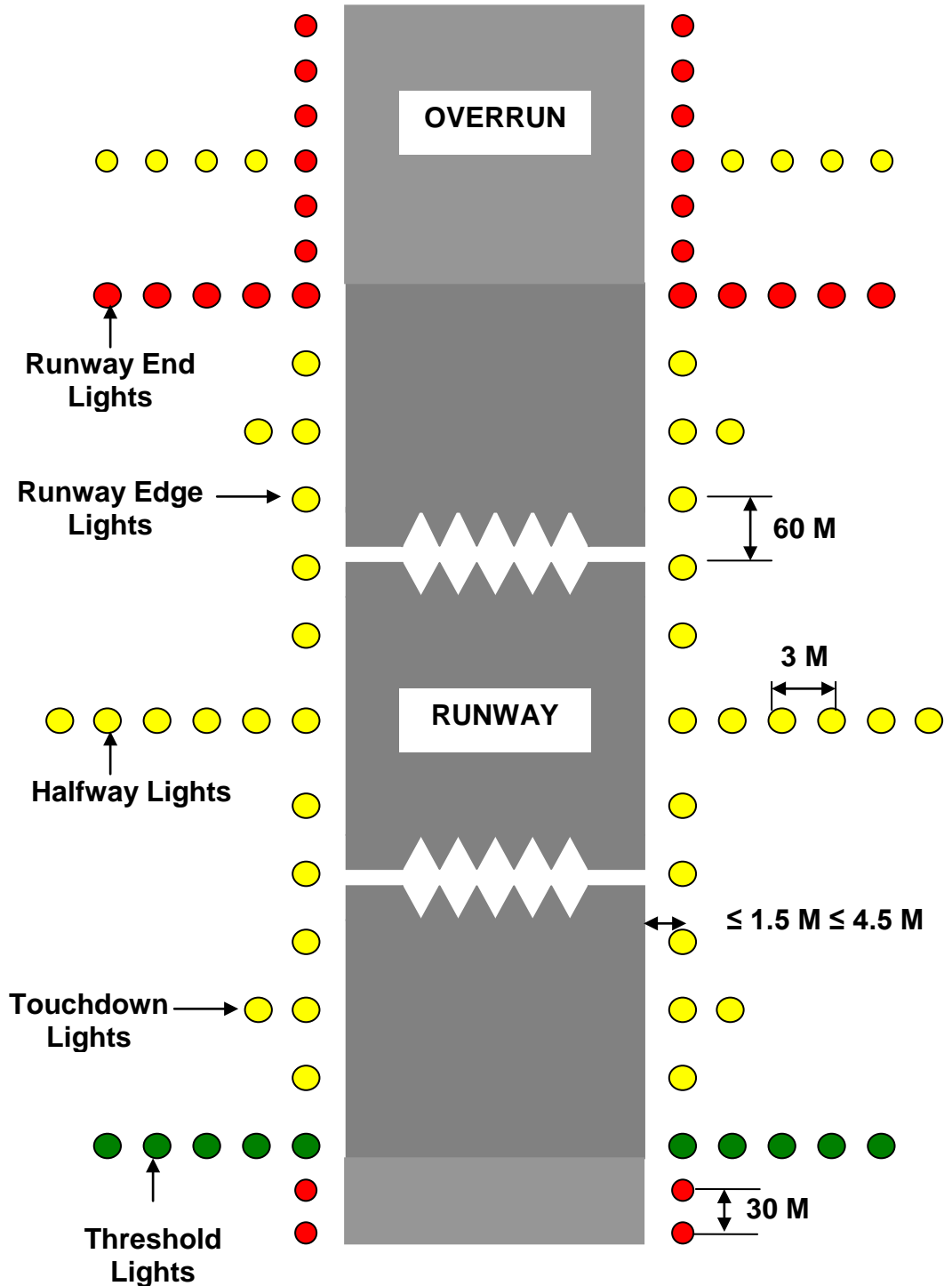


FIGURE 11

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36. **Runway Threshold Identification Lights.** Five lights shall be provided on either side of the runway to indicate the threshold and visible in the direction of approach. The inner most light shall be in line with the runway edge light and the lateral distance between the threshold lights shall be 3 m (10 ft). These lights shall be of the same pattern as runway lights i.e. three aspect for the primary runway and omni for the secondary runway. The uni-directional lights facing the approach direction shall have green filters. The unidirectional lights facing the runway shall have red filters (refer Para below). The omni-lights shall correspondingly have half red/ half green filters.

37. **Runway End Lights.** When both thresholds of a runway are at the runway extremities, fittings serving as runway threshold identification lights and provided with red filters in the direction of landing, are used as runway end lights (refer Para above). Where thresholds have been shifted from runway ends, additional lights may be provided for this purpose.

38. **Over-run Lights.** These lights will be placed along the length of over-run in two parallel straight lines and shall be in line with the runway edge lights. The longitudinal spacing of the lights will be 30 m (100 ft), commencing 30 m (100 ft) from the threshold. These lights are three aspect lights and have red filters to indicate the over-run area. In addition, the fifth row from the threshold will be supplemented on either side by four clear lights. The lateral distance between the clear lights shall be 3 m (10 ft). For aerodromes which do not have the standard 300m (1000 ft) over-run, the following procedures shall be followed:-

(a) For 270 m (900 ft) over-run, clear lights denoting half-way position shall be same as for 300 m over-run i.e. in line with the fifth row from the runway end.

(b) For 330 m (1100 ft) or 360 m (1200 ft) over-run, clear lights denoting half-way position shall be in line with sixth row from the runway end.

(c) If over-run is less than 270 m (900 ft), the clear lights denoting half-way are to be dispensed with.

39. **Approach Lights.** These are high-intensity uni-directional clear markers with a narrow vertical and large horizontal spread, suitable for ground or pole mounting. Each light is of 200 watt. Their layout will be as follows:-

(a) **Instrument Approach Runway.** A culvert centre line and crossbar approach lighting system, designed to serve as an aid to pilots during approach shall be followed. It shall consist of a row of lights on extended centre line of the runway extending over a distance of 900 m (3000 ft) from the runway threshold with five cross bars at 150 m, 300 m, 450 m, 600 m and 750 m from the runway threshold. The centre line approach lights shall commence at the end of the SGA. The first cross bar shall be at 150 m from threshold if over-run and SGA combined are less than 150

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m; or at 300 m (1000 ft) from the threshold if over-run and SGA combined are less than 300 m (1000 ft), otherwise it shall be at 450 m (1500 ft). The length of cross bars should be such that the outer lights of the cross bars converge at the touch down point (300 m) ahead of threshold. [Figure 12 ]

(b) Non-Instrument Approach of Primary Runway. Six lights 30 m (100 ft) apart shall be provided on the extended centre line of the runway. The first light will be placed at a distance of 30 m (100 ft) from the end of SGA.

(c) Secondary Runway. Lead-in-lights in the form of 'TEE' shall be installed on the approach of all secondary runways. There shall be a total of ten lights commencing 90 m (300 ft) from the end of the over-run area. Their spacing shall be 30m (100 ft) longitudinally and 6 m (20 ft) laterally.

40. Fitment and Adjustment of Lights. All runway uni-lights are set at 4 degree upward and 2½ degree inwards (toe-in). Threshold and overrun lights are set at 5 degree upwards and 2½ degree inwards. Approach lights upto second bar are set at 6 degree, from second to third bar at 7 degree and from fourth bar to end at 7½ degree upwards.

41. Taxiway Lights. These are omni-directional lights with blue filters and are to be so arranged as to provide a clear and continuous indication of the taxiing route to be followed. Each light is of 45 watt. The lights are to be placed on both sides of taxiway and as near to the edge as possible, but not more than 1.5 m (5 ft) away. The spacing of the lights in a straight line should be 60 m (200 ft), but should be reduced on curves for clear indication of the route to be followed. These lights shall be provided on main and link taxiways only.

42. ORP/ Turning Pad Lights. Three sides of the ORP will be provided with taxiway lights (45 watt), while the remaining i.e., runway side will have no lights. The distance between the taxiway lights will be 15 m (50 ft).

43. Aerodrome Beacon. The aerodrome beacon shall be located on or adjacent to the aerodrome. The location of the beacon shall be such that the beacon is not shielded by the objects in significant directions and does not dazzle pilots approaching to land. The aerodrome beacon shall show green flashes alternating with white flashes. The frequency of total flashes shall be from twenty to thirty per minute. The light from the beacon shall show at all angles of azimuth. The vertical light distribution shall extend upwards from an elevation of not more than 1 degree to an elevation sufficient to provide guidance to the maximum elevation at which the beacon is intended to be used.

44. Visual Approach Slope Indicator Systems (VASIS). The visual approach slope indicator system is intended for use by aircraft in all weather conditions during day and night for making visual approaches. The VASI System is two colours (white & red) type of installation, which gives the pilot visual guidance in regard to correct angle of approach. When the runway, on which

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VASI system is provided, is equipped with ILS/ PAR, the siting and elevation of light units shall be such that visual approach slope conforms as closely as possible to the glide path of ILS/ PAR. The beam of light produced by light units of VASIS shall be such that in clear weather, the effective visual range of the system shall be at least 7.4 Km (4 NM). The standard visual approach slope indicator system consists of the following:-

- (a) VASIS and AVASIS. Suitable for aeroplanes having eye-to-wheel height not exceeding approx 4.5 m (15 ft) in the flare attitude.
- (b) 3-Bar VASIS and 3 Bar AVASIS. Suitable for aeroplanes having eye-to-wheel height not exceeding approx 16m (52 ft) in flare altitude.

45. VASIS and AVASIS. The VASIS shall consist of twelve light units arranged in upward and downward positions and symmetrically dispersed along the runway centre line in the form of two pairs of wing bars with three light units in each wing bar as shown in **Figure 13**. Each light unit consists of three, 200 watt lights. The AVASIS shall consist of four, six or eight light units as shown in **Figure 13**. The lights can either be placed on one side of the runway or symmetrically along the runway centre line. The light units placed on both sides of centre line symmetrically will provide the roll guidance indication to the pilot. The beam of light produced by the light units shall show through an angle of at least 1 deg 30 sec above and below the mean of the transition sector both by day and by night and in azimuth through at least 10 deg by day and 15 deg by night. A suitable intensity control shall be provided so as to allow adjustments to meet the prevailing ambient conditions and to avoid dazzling the pilot during approach and landing. The pilot of an aircraft during approach will:-

- (a) When above the approach slope, see all the lights to be white;
- (b) When on the approach slope, see the downwind lights white and upwind lights red; and
- (c) When below the approach slope, see all the lights to be red.

46. 3-Bar VASIS and 3-Bar AVASIS. The 3-Bar VASIS shall consist of the VASIS plus the installation of a pair of additional upwind wing bars symmetrically disposed about the runway centre line and with atleast two light units in each additional wing bar as shown in **Figure 14**. The 3-Bar AVASIS shall consist of an AVASIS with three light units in each wing bar and an additional wing bar with at least two light units, as shown in **Figure 14**.

47. Indication to the Pilot on 3-Bar Systems

- (a) When flying the aeroplanes with eye-to-wheel height not exceeding 4.5 m (15 ft) in flare attitude, the indication will be :-

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- (i) When above the approach slope, see either the downwind and middle lights white and the upwind lights red or when further above, all the lights white;
- (ii) When on the approach slope, see the downwind lights white and the middle and upwind lights red; and
- (iii) When below the approach slope, see the downwind, middle and upwind lights red.

(b) When flying aeroplanes with eye to wheel height not exceeding approx 16 m(52 ft) in flare attitude, the indication will be :-

- (i) When above the approach slope see the downwind, middle and upwind lights white.
- (ii) When on the approach slope, see the downwind and middle lights white and the upwind lights red; and
- (iii) When below the approach slope, see either the downwind lights white and the middle and upwind lights red or when further below, all the lights red.

48. **PAPI and APAPI.** The Precision Approach Path Indicator (PAPI) system shall consist of a wing bar of four sharp transition multi-lamp (Red and White) equally spaced. The system shall be located on the left side of the runway unless it is physically impracticable to do so. The APAPI system shall consist of a wing bar of two sharp transition multi-lamp (or paired single lamp) units. The light units shall be located in basic configuration shown in **Figure 15**. The wing bar shall be constructed and arranged in such a manner that a pilot making an approach will: -

- (a) When on or close to the approach slope, see the two units nearest to the runway as red and the two units farthest from the runway as white;
- (b) When above the approach slope, see the one unit nearest the runway as red and the three units farthest from the runway as white; and when further above the approach slope, see all the units as white; and
- (c) When below the approach slope, see the three units nearest to the runway as red and the unit farthest from the runway as white; and when further below the approach slope, see all the units red.

**Note:** - *Where a runway is used by aircraft requiring visual roll guidance which is not provided by other external means, then a second wing bar may be provided on the opposite side of the runway.*

49. **Landing Direction Indicator (Landing 'T')**. This will be located adjacent

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to the signal square to indicate the runway in use. The remote control switch will be provided in the control cabin so that the direction of the Landing TEE can be changed electrically by the aerodrome controller, with the change of the runway.

50. **Wind Direction Indicator.** Special lights are to be provided to illuminate the main windsock so that it can be seen during night. A complete set shall be provided as part of the aerodrome lighting system.

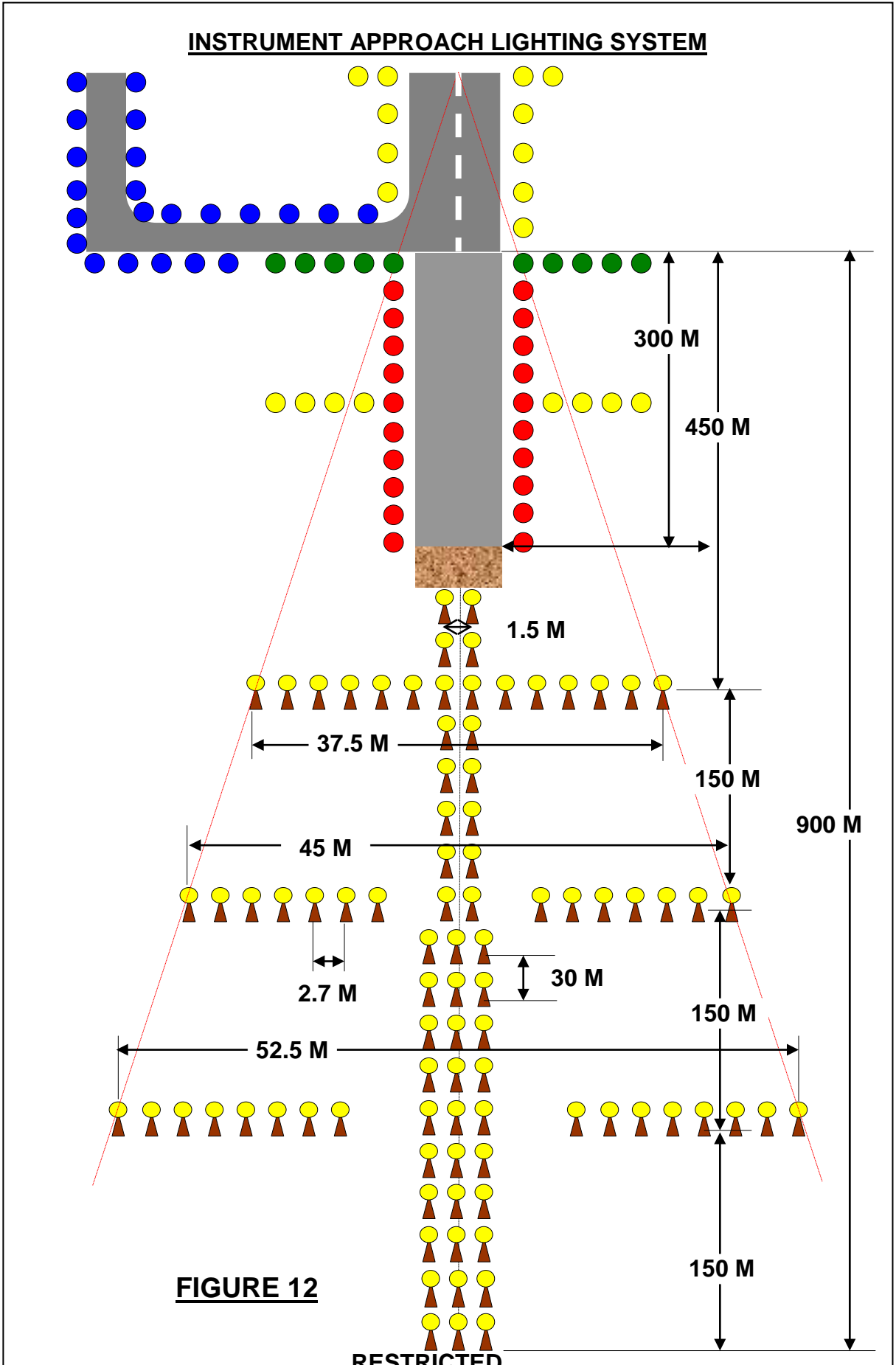
51. **Remote Control Panel.** Remote Control Panel for selection of various components of aerodrome lighting and control of intensity shall be located in the control cabin for operation by ATS personnel. Arrangements for provision of this panel at the alternate ATC should also be made.

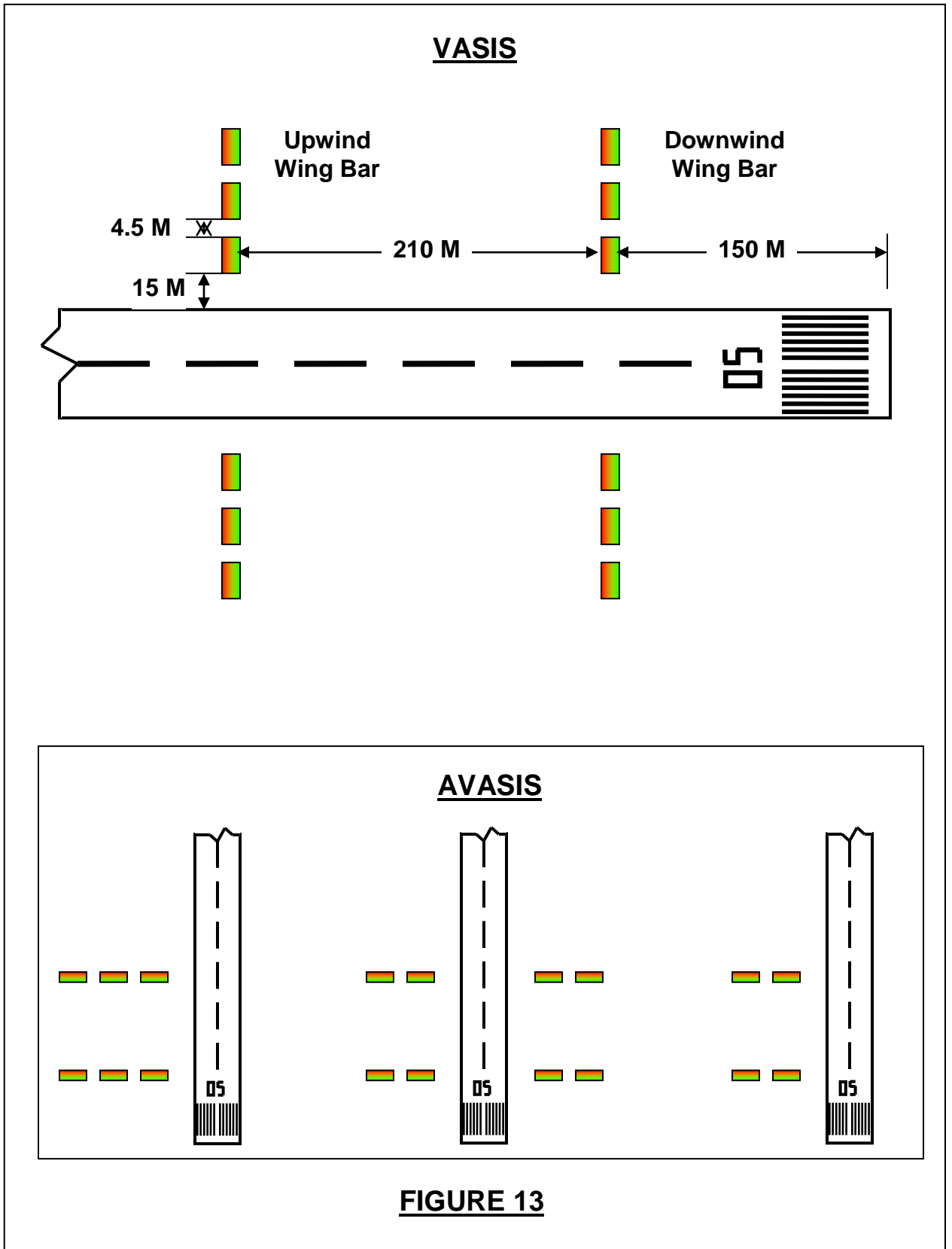
52. **Apron Lighting.** Floodlights should be provided on the apron, intended to be use at night. It should be located in a manner so as to provide adequate illumination with minimum glare to the pilots and controllers.

### **Emergency Lighting**

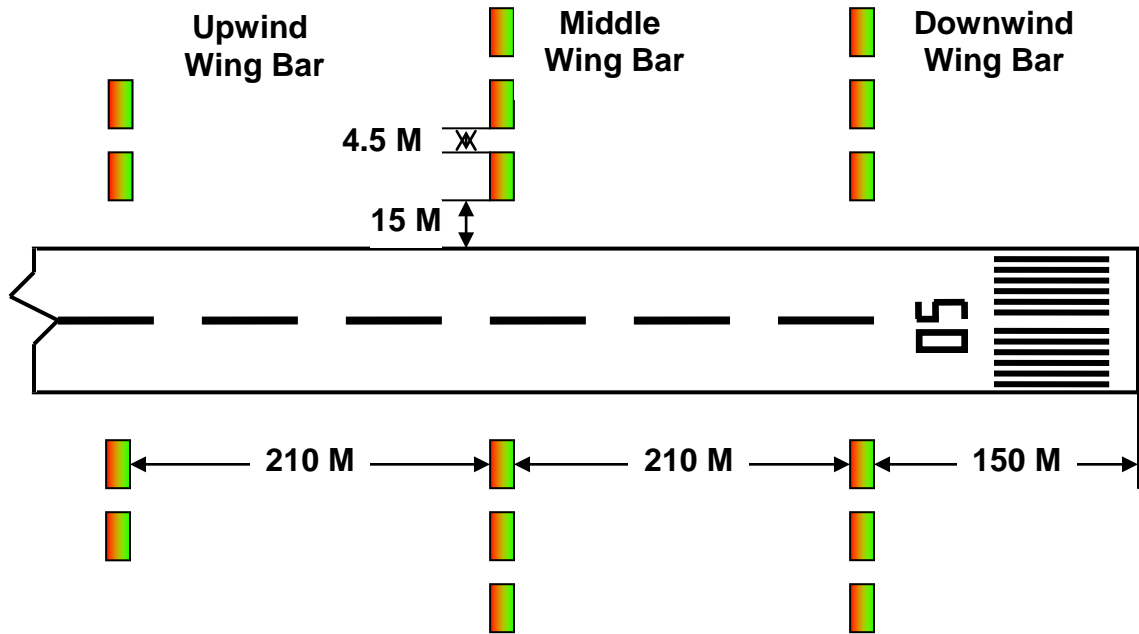
53. In the event of a sudden power failure and to provide some guidance to the pilots of an aircraft on the final stages of the approach during the momentary period of darkness before the standby service comes into operation, it may be desirable that some form of guidance is provided to the pilot. Instructions for use of goosenecks/ I-lights or some other form of lighting will be decided by Command HQ on station to station basis.

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THREE BAR VASIS



THREE BAR AVASIS

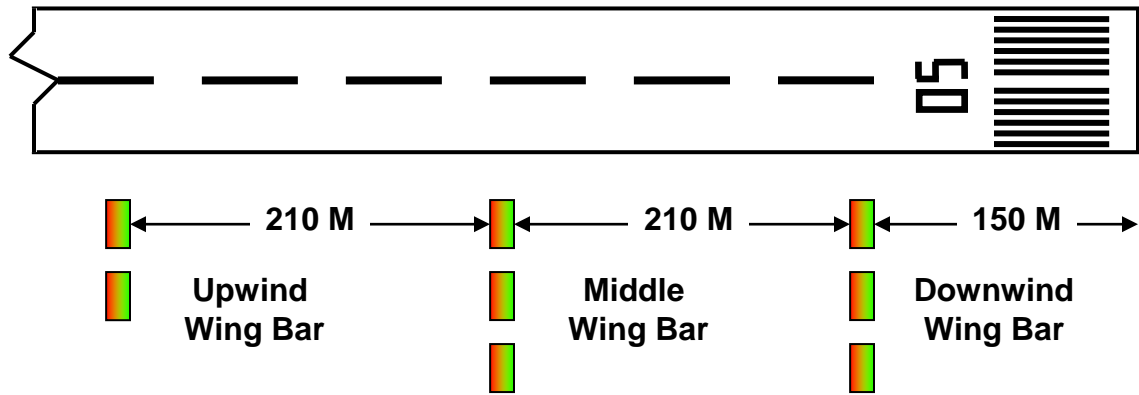


FIGURE 14

PAPI AND APAPI

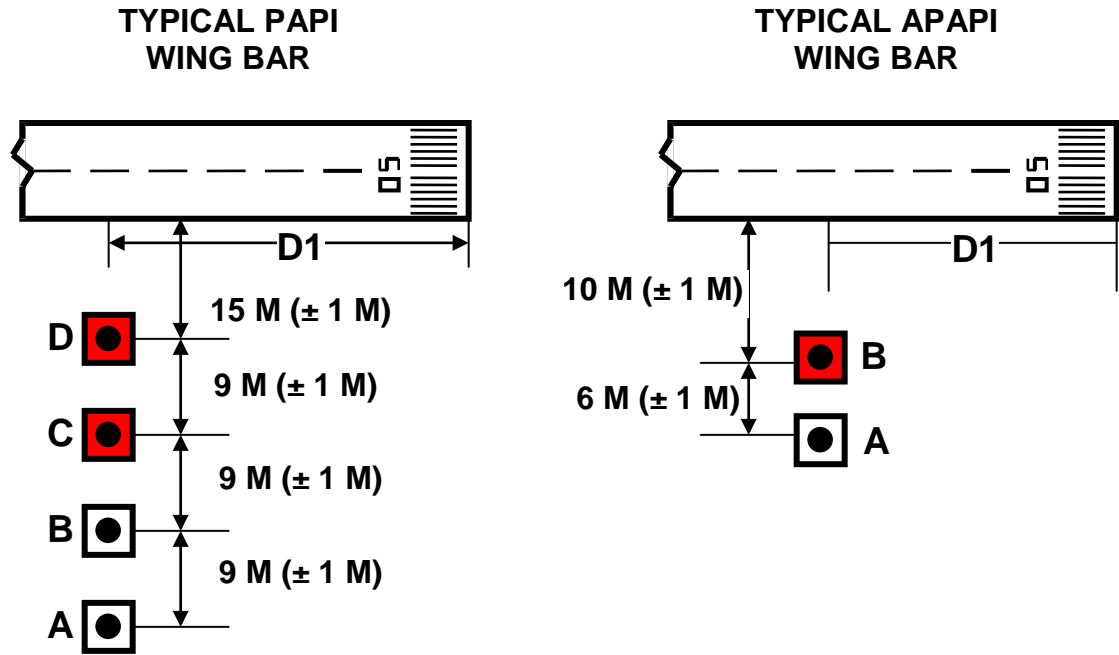


FIGURE 15



LIGHT BEAM AND ANGLE OF ELEVATION SETTING OF PAPI AND APAPI

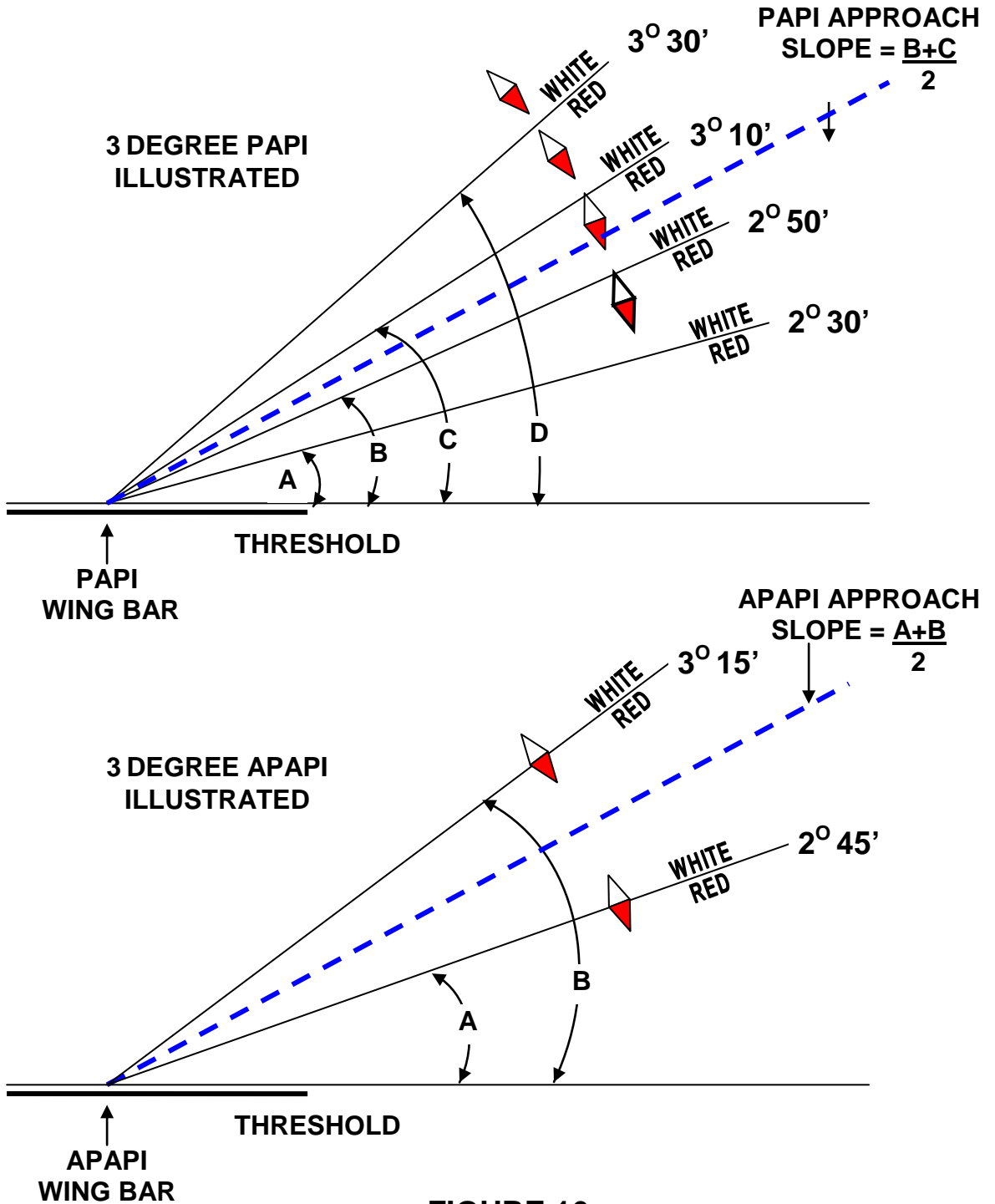


FIGURE 16

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### **Additional Mandatory and Optional Airfield Lighting Requirements for Cat II and III ILS Operations.**

54. In addition to the normal runway and approach lighting, as given in preceding paragraphs, the following additional lights are mandatory for Cat II ILS operations.

55. **Runway Centre line lights.** They shall be located along the centre line of the runway, except that the lights may be uniformly offset to the same side of the runway centre line by not more than 60 cm, where it is not practicable to locate them along the centre line. The light shall be located from the threshold to the end at a longitudinal spacing of approximately 15 m or 30 m. They shall be fixed lights showing variable white from the threshold to the point 900 m from the runway end; alternate red and variable white from 900 m to 300 m from the runway end; and red from 300 m to the runway end.

56. **Runway Touch down Zone Lights.** They shall extend from the threshold for a longitudinal distance of 900 m. The pattern shall be formed by pairs of barrettes symmetrically located about the runway centre line. The lateral spacing between the innermost lights of a pair of barrettes shall be equal to the lateral spacing selected for the touchdown zone markings. The longitudinal spacing between pairs of barrettes shall be either 30 m or 60 m. The barrette shall be composed of at least three lights with spacing between the lights of not more than 1.5 m and the total length of the barrette shall be between 3 m to 4.5 m. They shall be fixed uni-directional lights showing variable white.

57. **Precision Approach Category II and III Lighting System.** The ALS shall consist of a row of lights on the extended centre line of the runway, extending, whenever possible, over a distance of 900 m from the runway threshold. In addition, the system shall have two side rows of lights, extending 270 m from the threshold and two cross bars, one at 150 m and one at 300 m from the threshold. (The length of 900 m may be reduced upto 300 m to support Cat II operations, but it may impose restrictions on Cat I operations.) The lights forming the centre line shall be placed at longitudinal intervals of 30 m with the innermost light located 30 m from the threshold. The lights forming the side rows shall be placed on each side of the centre line, at a longitudinal spacing equal to that of centre line lights and with the first light located 30 m from the threshold. The lateral spacing between the innermost lights of the side row shall be not less than 18 m nor more than 22.5 m, preferably 18m, but in any event shall be equal to that of touchdown zone lights.

58. The crossbar provided at 150 m from the threshold shall fill in the gaps between the centre line and side row lights. The crossbar provided at 300 m from the threshold shall extend on both sides of the centre line lights to a distance of 15 m from the centre line. Additional crossbars shall be provided at 450 m, 600 m and 750 m from the threshold, if the centre line lights are extended upto 900 m.

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59. The centre line lights for the first 300 m from the threshold shall consist of barrettes showing variable white, at least 4 m in length. Beyond 300 m from the threshold, each centre line light position shall consist of either:

- (a) A barrette as used on the inner 300 m; or
- (b) Two light sources in the central 300 m of the centre line and three light sources in the outer 300 m of the centre line;

all of which shall show variable white.

60. The side row shall consist of barrettes showing red. The length of a side row barrette and the spacing of its lights shall be equal to those of the touchdown zone lights barrettes.

61. The lights forming crossbars shall be fixed lights showing variable white. The lights shall be uniformly spaced at intervals of not more than 2.7 m.

### **Optional Lighting Requirements for Category II and III ILS Systems**

62. **Taxiway Centre Line Lights.** Taxiway centre line lights on a taxiway other than an exit taxiway and on an runway forming part of a standard taxi-route shall be fixed lights showing green with beam dimensions such that the light is visible only from aeroplanes on or in the vicinity of the taxiway. Taxiway centre line lights on an exit taxiway shall be fixed lights. Alternate taxiway centre line lights shall show green and yellow from their beginning near the runway centre line to the perimeter of the ILS/ MLS critical/ sensitive area or the lower edge of the inner transitional surface, whichever is farthest from the runway, and thereafter all lights shall show green. The lights nearest to the perimeter shall always show yellow. Where the aircraft may follow the same centre line in both directions, all the centre line lights shall show green to aircraft approaching the runway.

63. Taxiway centre line lights shall normally be located on the taxiway centre line marking, except that they may be offset by not more than 30 cm where it is not practicable to locate them on the marking. On a straight portion of a taxiway, they should be spaced at longitudinal intervals of not more than 30 m, except that large intervals not exceeding 60 m may be used where, because of prevailing meteorological conditions, adequate guidance is provided by such spacing. Taxiway centre line lights on a taxiway curve should continue from the straight portion of the taxiway at a constant distance from the outside edge of the taxiway curve. Lights should be spaced at intervals such that a clear indication of the curve is provided.

64. Taxiway centre line lights on exit taxiways should commence at the point where the taxiway centre line marking begins to curve from the runway centre line, and follow the curved taxiway centre line marking at least to the point where the marking leaves the runway. The first light should be at least 60 cm from any

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row of runway centre line lights. These lights should be spaced at longitudinal intervals of not more than 7.5 m.

65. **Stop bars.** Stop bars shall be located across the taxiway at the point where it is desired that the traffic stop. It shall consist of lights spaced at intervals of 3 m across the taxiway, showing red in the intended direction(s) of approach to the intersection or runway-holding position. Stop bars installed at a runway-holding position shall be uni-directional and shall show red in the direction of approach to the runway.

66. **Intermediate Holding Position Lights.** They shall be located along the intermediate holding-position marking at a distance of 0.3 m prior to the marking. They shall consist of three fixed unidirectional lights showing yellow in the direction of approach to the intermediate holding-position. The lights shall be disposed symmetrically about and at right angle to the taxiway centre line, with individual lights spaced 1.5 m apart.

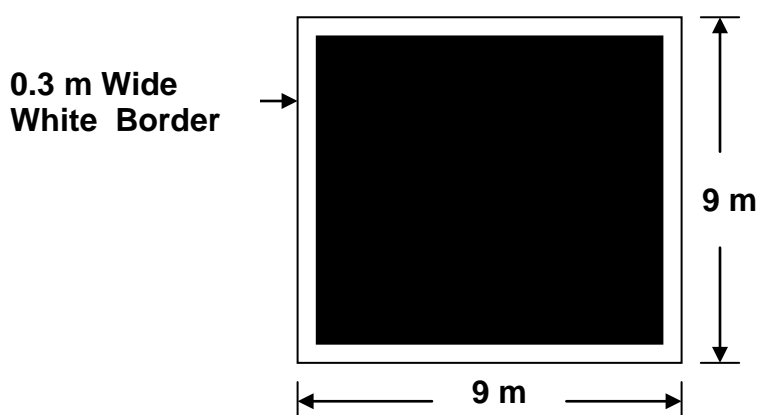
67. **Road-Holding Position Light.** A road-holding position light shall be located adjacent to the road-holding position marking 1.5 m ( $\pm$  0.5 m) from left edge of the road. It shall be unidirectional and aligned so as to be visible to the driver of a vehicle approaching the holding position. It shall comprise:

- (a) A controllable red (stop)/ green (go) traffic light; or
- (b) A flashing red light (flash frequency shall be between 30 and 60 per minute).

### **INDICATORS, SIGNALS AND MARKERS**

68. **Signal Square.** Signal Square is an area in the vicinity of ATC building where visual signals are displayed to convey aeronautical information to aircraft in flight or on ground.

- (a) **Location.** The signal square should be located so as to be visible from all angles of azimuth above an angle of 10 deg above the horizontal when viewed from a height of 300 m.
- (b) **Characteristics.** The signal square shall be an even horizontal surface of size 9 m square surrounded by a white border 0.3 m wide [Figure 18]. Signal square area will be painted black.

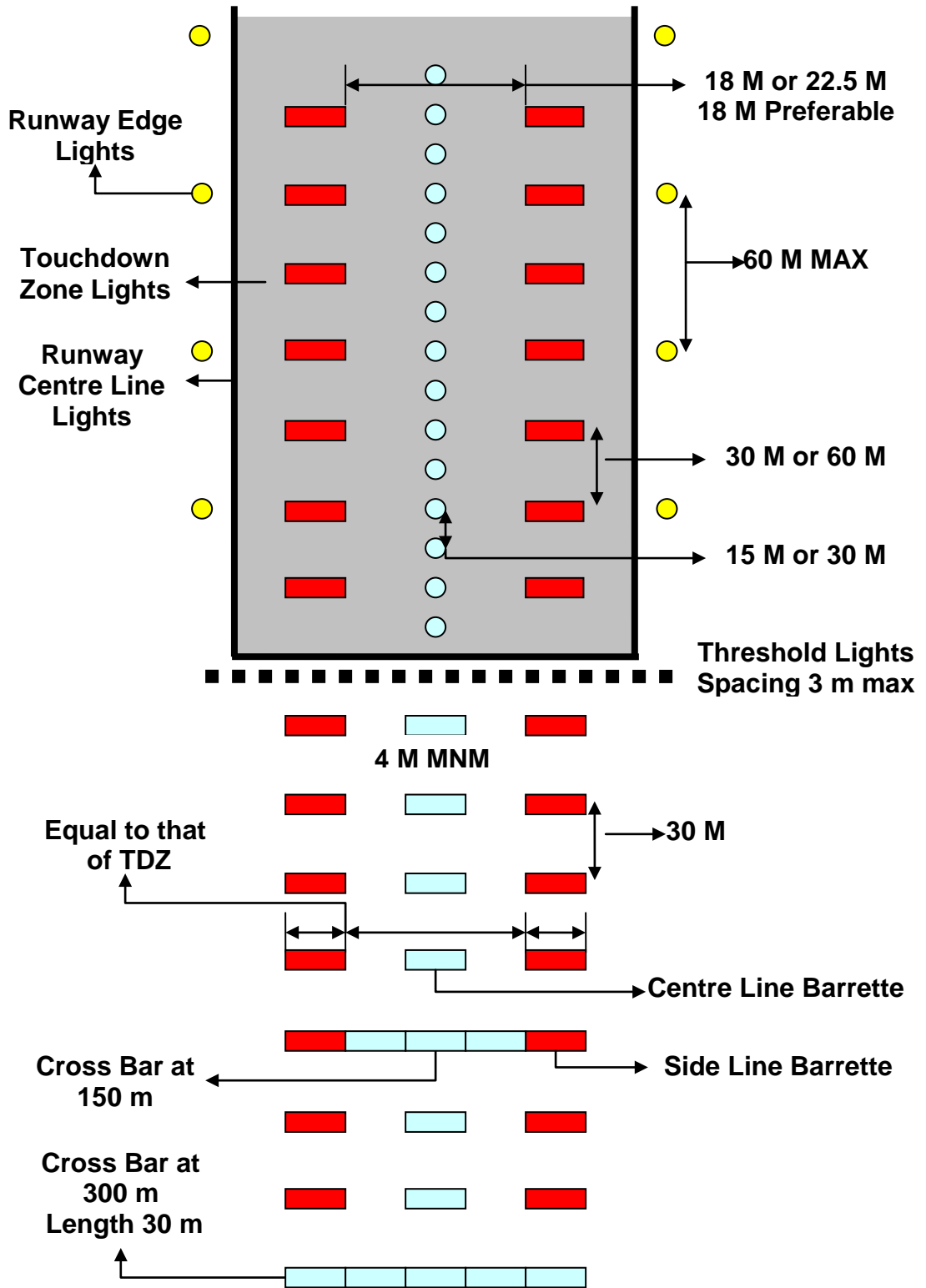


69. **Landing Direction Indicator (Landing 'TEE')**.

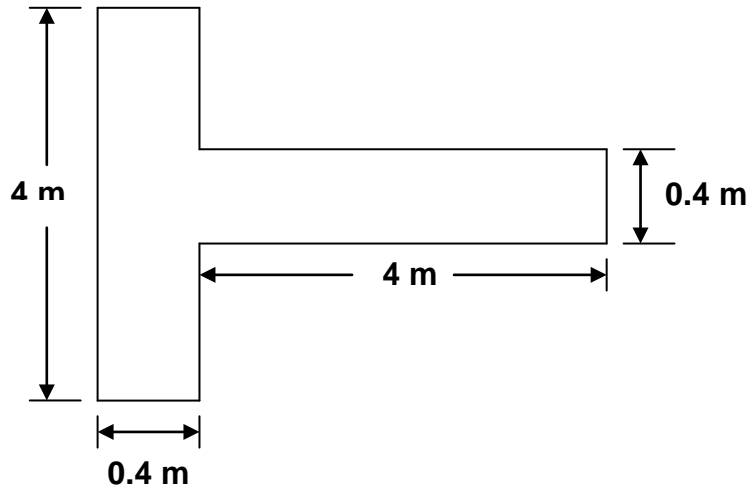
(a) Location. Landing direction indicator shall be located in the signal square.

(b) Characteristics. It is a white or orange letter displayed to indicate the direction of landing and take-off. Dimensions of Landing 'T' are given in **Figure 19**.

**INNER 300 M APPROACH AND RUNWAY LIGHTING FOR PRECISION  
APPROACH RUNWAYS CATEGORIES II AND III**



**FIGURE 17**

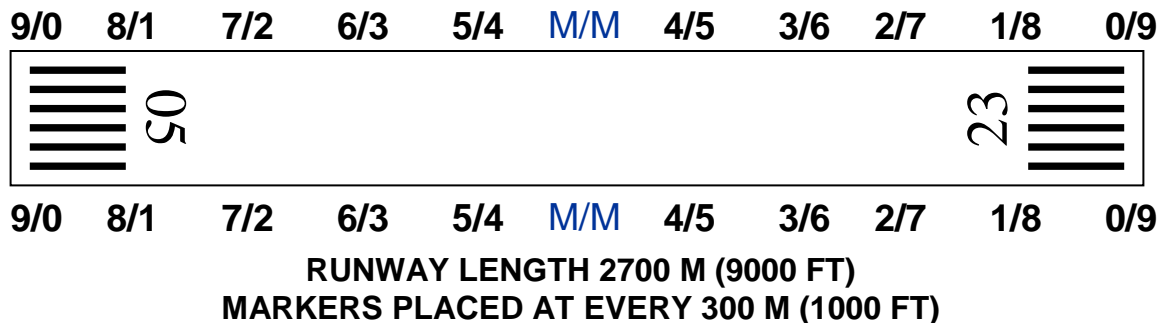


**FIGURE 19 – LANDING ‘TEE’**

**Distance-to-go Markers**

70. Aim. Distance-to-go markers are designed to assist pilots to determine length of runway remaining during take-off and landing.

71. Layout. Distance-to-go markers shall be installed on both sides of a runway at a distance of 15 m (50 ft) from its edge to indicate remaining runway distance in thousands of feet to a pilot during take-off and landing. In addition, at operational aerodromes, markers will be installed at a distance of 15 m (50 ft) on one side of 22.5 m (75 ft) wide parallel taxiway intended for use for landing and take-off in emergency. The distance between consecutive markers shall be 300 m (1000 ft). The thousand digit of distance remaining on runway shall be painted on the markers in conformity with **Figure 20**. Half way marker shall be painted with capital letter `M'.



**FIGURE 20**

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72. **Design and Material.** Distance-to-go markers shall have three sides arranged in a triangular shape. Black PVC pipes of 3 cm diameter will be used for fabrication of vertical faces of the markers. The pipes are to be nailed/ screwed individually on the three wooden frames 2" x 1/2" to form two vertical faces. Pipes at the three corners of the markers are to be 0.6 m (2 ft) longer than the other pipes. The longer pipes are to be embedded in the ground so that 1.5 m X 1.2 m (5' x 4') rectangular portion is above the ground. The upper 1.2 m X 1.2 m (4' x 4') area will be used for writing the numeral/ letter with orange paint/ orange retro reflecting tape. In case reflecting tape is used, the same will be affixed on a soft wood base of the dimensions of the numeral/ letter and nailed/clamped on the vertical face of the marker. The lower one 0.3 m (1 ft) portion of vertical faces are not to be used for writing numeral/ letters to cater for the growth of grass/ vegetation on runway /taxiway shoulders. Design and dimensions of markers and numerals/letter is given in **Figure 21** and **22** respectively.

### **Aerodrome Reference Point (A R P)**

73. ARP is the designated geographical location of an aerodrome. This is established at each aerodrome by the department of Survey of India. The aerodrome reference point shall be located near the initial or planned geometric centre of the aerodrome and shall normally remain where first established. The position of the ARP shall be measured and given to the nearest second of latitude and longitude. The elevation of the ARP is also established and given to the nearest metre and foot. The official elevation of the aerodrome will be the elevation of the ARP.

74. The area of 1.5 m (5 ft) radius around the ARP should be cleared and spread with gravel and made compact. In the centre a cement slab of 0.6 m (2 ft) cube should be constructed and a brass/ aluminium/ steel plate of 0.3 m X 0.3 m X 7.5 cm (1'x 1'x 1/4") showing the latitude, longitude and elevation of the aerodrome shall be embedded on to the concrete slab.

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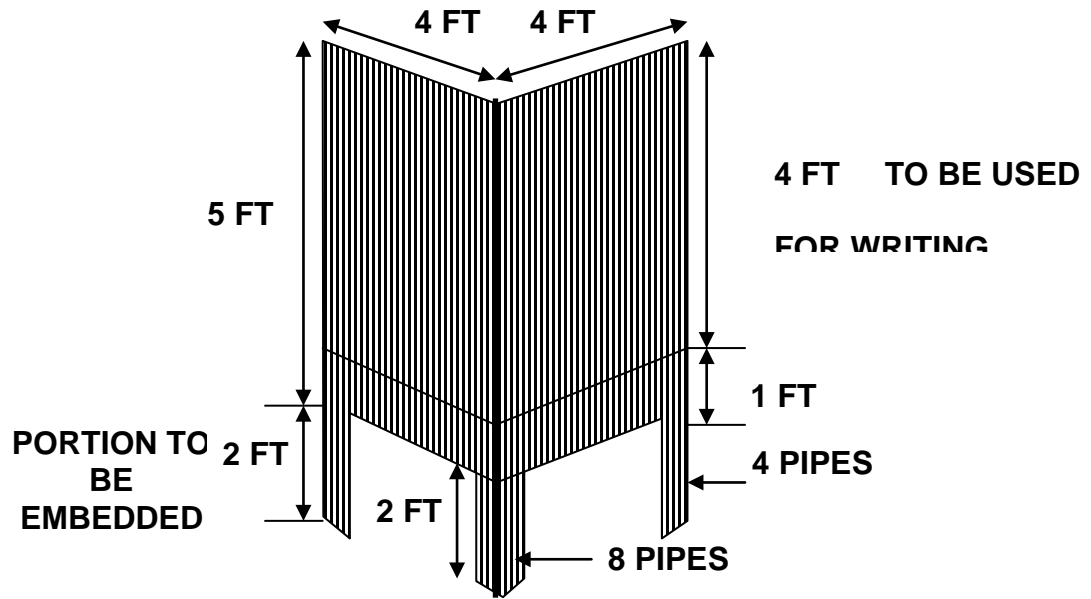
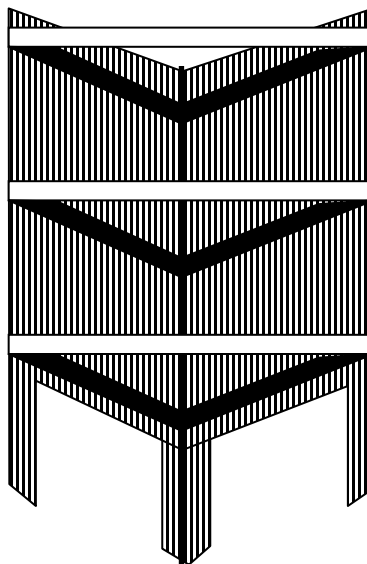


FIGURE 21



2 in x 1/2 in x 4 ft  
Wooden frame

FIGURE 22

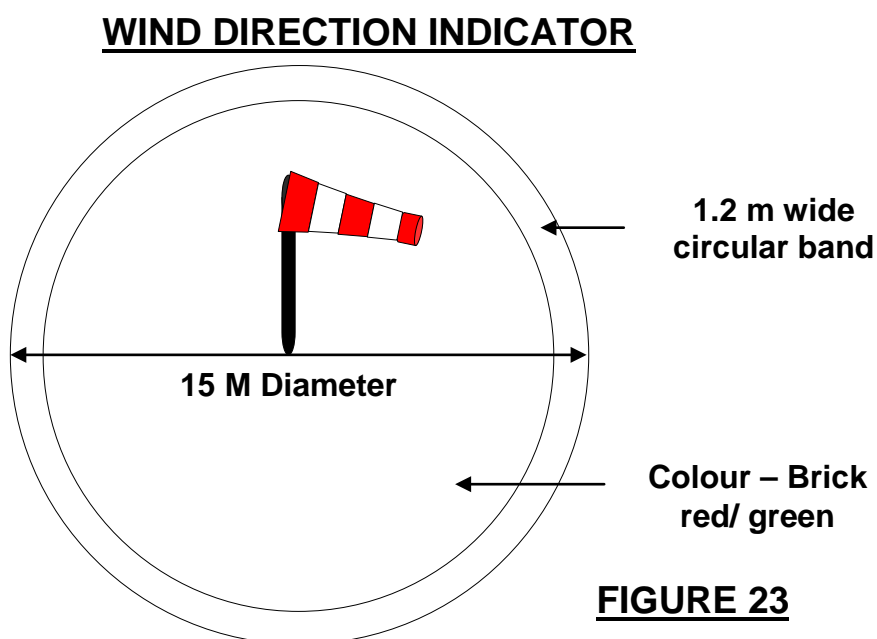
**Wind Direction Indicator**

75. All aerodromes shall be equipped with at least one wind direction indicator. Provision should be made to illuminate at least one wind direction indicator at each aerodrome intended for use at night.

76. Location. Wind direction indicator shall be located so as to be visible from aircraft in flight or on the movement area and in such a way as to be free from the effect of air disturbances caused by nearby objects.

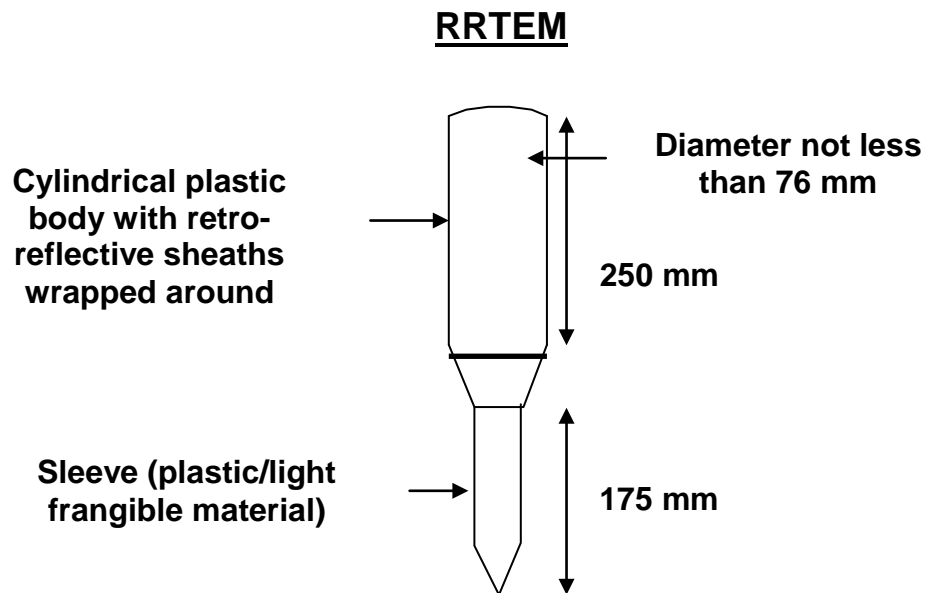
77. Characteristics. The wind direction indicator should be in the form of insulated cone made of fabric and should have length of not less than 3.6 m (12 ft) and diameter at the larger end, of not less than 0.9 m (3 ft). It should be constructed in such a way that it gives a clear indication of direction of surface wind and general indication of wind speed. A single colour, preferably white or orange should be used. Where a combination of two colours is required, to make it conspicuous against changing background, they should preferably be orange and white and should be arranged in five alternate bands, the first and the last bands being the darker colour.

78. Markings. The location of at least one wind direction indicator provided at aerodromes should be marked by a circular band 15 m (50 ft) in diameter and 1.2 m (4 ft) wide. The band should be centred about the wind direction indicator support and should be in white colour with red/ green colour in the circular area [Figure 23].



**Retro-Reflective Taxiway Edge Markers**

79. The taxiways leading to blast pens have not been provided with electrical lights as passive air defence measures, though the requirement of taxiway guidance exists on these taxiways as well. Retro-Reflective Taxiway Edge Markers have been scaled for all IAF flying stations for such taxiways. Each flying station is authorised for 150 markers (120 blue and 30 red) as class 'C' store. These markers can be installed on taxiways by insertion into pre-embedded cylindrical pipes or by driving into ground with spikes fitted to the batons [Figure 24]. These can also be used for providing additional guidance on blind turns, bifurcation of taxiways, ends of aircraft parking areas/ aprons, additional obstruction markers and also on taxiways not provided with electrical lights. These markers are effective on taxiways upto width of 15 m (50 ft) when placed at a distance of maximum of 30 m (100 ft). The spacing needs to be reduced on bends, curves and zones/ areas requiring additional prominence.



**FIGURE 24**

**SIGNS**

**Application**

80. Signs shall be provided to convey a mandatory instruction, information on a specific location or specific location or destination on a movement area or to provide other information for surface movement guidance and control system.

**General Characteristics**

81. Signs shall be frangible. They shall be rectangular, as shown on **Figure 25 and 26** with the longer side parallel to the ground. The horizontal length will depend upon the wordings of the sign. The vertical height should be kept to a minimum consistent with good legibility. Those located near a runway or taxiway shall be sufficiently low to preserve clearance for propellers and the engine pods of jet aircraft. Consideration must also be given to blast from engines and clearance from snow. The installed height of the sign shall not exceed the dimension show in the appropriate column of **Table 1**. The only signs on the movement area utilizing red shall be mandatory instruction signs.

Sign Height (mm)				Perpendicular distance from taxiway edge to near side of sign	Perpendicular distance from runway edge to near side of sign
Runway Length	Legend	Face (min)	Installed (max)		
Less than 1200 m	200	400	700	5 – 11 m	3 - 10 m
	300	600	900	5 – 11 m	3 – 10 m
1200 m or more	300	600	900	11 – 21 m	8 – 15 m
	400	800	1100	11 – 21 m	8 – 15 m

**TABLE 1 – LOCATION DISTANCES FOR TAXING GUIDANCE SIGNS**

82. The inscriptions on a sign shall be in accordance with the following:-

(a) Inscription height shall be as follows:-

Runway Length	Minimum Clearance Height		
	Mandatory Instruction Sign	Information Sign	
		Runway exit and runway vacated Signs	Other Signs
Less than 1200 m	300 mm	300 mm	200 mm
1200 m or more	400 mm	400 mm	300 mm

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(b) Arrow dimensions and stroke width for single letter shall be as follows:-

<b>Legend Height</b>	<b>Stroke Width for Arrow/ Single Letter</b>
200 mm	32 mm
300 mm	48 mm
400 mm	64 mm

(c) The forms of characters, i.e. letters, numbers, arrows and symbols shall conform to those as given in Appendix 4 to Annex 14 Vol I.

(d) The face width of signs shall be determined using Figure B, except that, where a mandatory instruction sign is provided on one side of a taxiway only, the face width shall not be less than:-

- (i) 1.94 m where the runway length is 1200 m or more; and
- (ii) 1.46 m where runway length is less than 1200 m.

(e) **Borders.**

(i) The black vertical delineator between adjacent direction signs should have a width of approximately 0.7 of the stroke width.

(ii) The yellow border on a stand-alone location sign should be approximately 0.5 of the stroke width.

83. Signs shall be retro-reflective and shall be illuminated when intended for use:-

- (a) In runway visual range conditions less than a value of 800 m; or
- (b) During night.

**Mandatory instruction signs**

84. **General.** A mandatory instruction sign shall be provided to identify a location beyond which an aircraft taxiing or vehicle shall not proceed unless authorized by the aerodrome control tower. Mandatory instruction sign shall include:-

- (a) Runway Designation Signs

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- (b) Category I, II of III Holding Position Signs
- (c) Runway-Holding Position Signs
- (d) Road-Holding Position Signs
- (e) NO ENTRY Signs

### **Runway Designation Signs**

85. Location. A runway designation sign at a taxiway/ runway intersection or a runway/ runway intersection shall be located on each side of the runway-holding position marking facing the direction of approach to the runway. A runway designation sign at a taxiway / runway interaction should be supplemented with a location sign in the outboard (farthest from the taxiway) position as appropriate.

86. Characteristics. The inscription on a runway designation sign shall consist of the runway designation of the intersecting runway properly oriented with respect to the viewing position of the sign, except that a runway designation sign installed in the vicinity of a runway extremity may show the runway designated of the concerned runway extremity only.

### **Category I, II of III Holding Position Signs**

87. Location. A Category I, II or III holding position sign shall be located on each side of the runway-holding position marking facing the direction of the approach to the critical area.

88. Characteristics. The inscription on a category I ,II, III or joint II/III holding position sign shall consist of the runway designator followed by CAT I , CAT II, CAT III of CAT II/III, as appropriate.

### **Runway-Holding Position Signs**

89. Location. A pattern "A" runway-holding position marking shall be supplemented at a taxiway/ runway intersection or a runway/ runway intersection with a runway designation sign. A pattern "A" runway-holding position marking established on a taxiway for the protection of obstacle limitation surfaces or ILS/ MLS critical/ sensitive area shall be supplemented with a runway-holding position sign.

90. A pattern "B" runway-holding position marking shall be supplemented with a category I, II of III holding position sign.

91. A runway-holding position sign shall be located on each side of the runway-holding position established to protect obstacle limitation surfaces or ILS/

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MLS critical/ sensitive area. The sign should be facing the approach to the obstacle limitation surface or ILS / MLS critical/sensitive area, as appropriate.

92. Characteristics. The inscription on a runway-holding position sign established to protect obstacle limitation surface or ILS/ MLS critical/ sensitive area shall consist of the taxiway designation and a number.

### Road-Holding Position Signs

93. A road-holding position sign shall be provided at all road entrances to a runway. A road-holding position sign shall be located 1.5 m from the left edge of the road at the holding position. The inscription on a road-holding position sign shall be in conformity with the local traffic regulations and shall include the following:-

- (a) A requirement to stop; and
- (b) Where appropriate:
  - (i) A requirement to obtain ATC clearance; and
  - (ii) Location designator.

### NO ENTRY Signs

94. A NO-ENTRY sign shall be provided when entry in to an area is prohibited, such as the exit of a one-way taxiway. A NO ENTRY sign shall be located at the beginning of the area to which entrance is prohibited on each side of the taxiway as viewed by the pilot. The inscription on a NO ENTRY sign shall be in accordance with **Figure 25**.

95. Where appropriate, the following inscription/ symbol shall be used :

<b>Inscription / symbol</b>	<b>Use</b>
Runway designation of a runway extremity	To indicate a runway-holding position located at a runway extremity
Runway designation of extremities of a runway	To indicate a runway-holding position located at other taxiway/ runway intersections or runway/ runway intersections
25 CAT I (Example)	To indicate a category I runway-holding position at the threshold of runway 25

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25 CAT II (Example)	To indicate a category II runway-holding position at the threshold of runway 25
25 CAT III (Example)	To indicate a category III runway-holding position at the threshold of runway 25
25 CAT II/III (Example)	To indicate a joint category II/III runway-holding position at the threshold of runway 25
NO ENTRY (Symbol)	To indicate that entry to an area is prohibited
B2 (Example)	To indicate a runway-holding position established to protect OLS/ ILS/ MLS critical/ sensitive area

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MANDATORY INSTRUCTION SIGNS

LEFT SIDE



LOCATION/  
RUNWAY DESIGNATION

RIGHT SIDE



RUNWAY DESIGNATION/  
LOCATION



RUNWAY HOLDING POSITION



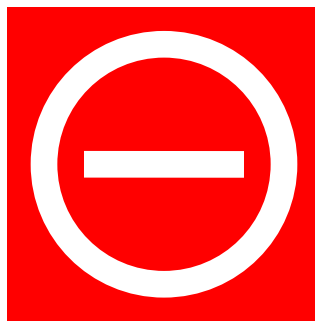
RUNWAY DESIGNATION/  
CATEGORY II HOLDING POSITION



LOCATION/  
RUNWAY DESIGNATION

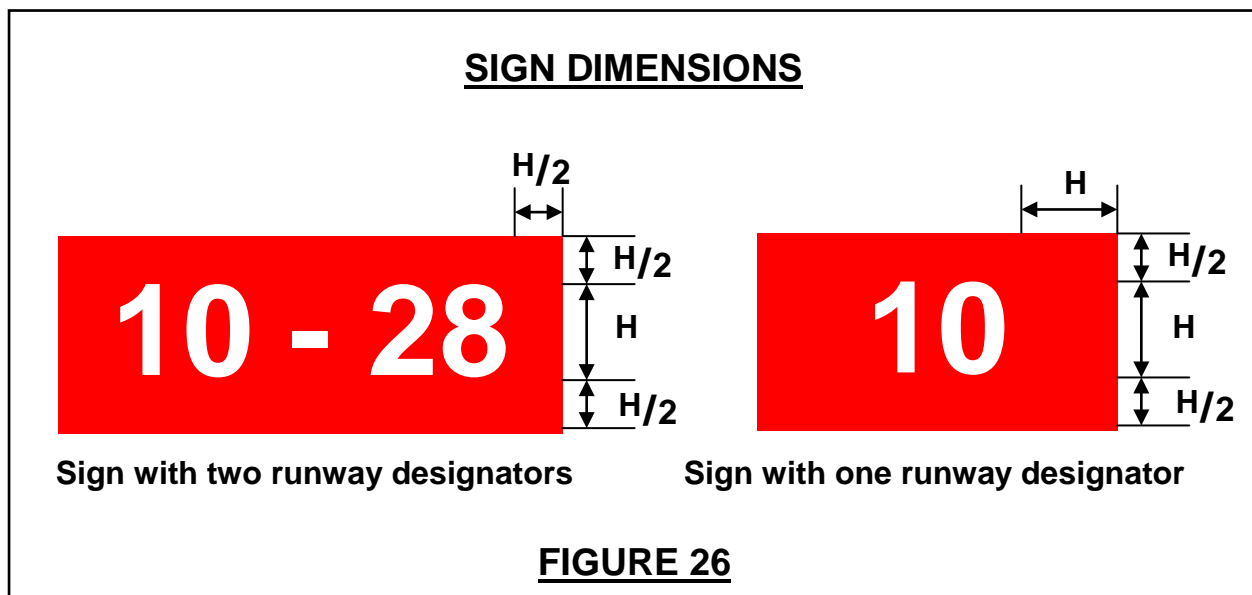


RUNWAY DESIGNATION/  
LOCATION



NO ENTRY

FIGURE 25



**Information signs**

96. An information sign shall be provided where there is an operational need to identify by a sign, a specified location, or routing (direction or destination) information. Information signs shall include

- (a) Direction signs
- (b) Location signs
- (c) Destination signs
- (d) Runway exit signs
- (e) Runway vacated signs
- (f) Intersection take-off signs

97. **General.**

- (a) A runway exit sign shall be provided where there is an operational need to identify a runway exit.
- (b) A runway vacated sign shall be provided where the exit taxiway is not provided with taxiway centre line lights and there is a need to indicate to a pilot leaving a runway the perimeter of the ILS/ MLS critical /sensitive area or the lower edge of the inner transitional surface whichever is farther from the runway centre line.

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- (c) An intersection take-off sign should be provided when there is an operational need to indicate the remaining take-off run available (TORA) for intersection take-offs.
- (d) Where necessary, destination signs should be provided to indicate the direction to a specific destination on the aerodrome, such as cargo area, general aviation, etc.
- (e) A combined location and direction sign shall be provided when it is intended to indicate routing information prior to a taxiway intersection.
- (f) A direction sign shall be provided when there is an operational need to identify the designation and direction of taxiways at an intersection.
- (g) A location sign shall be provided in conjunction with a runway designation sign except at a runway/ runway intersection. It shall also be provided in conjunction with a direction sign, except that it may be omitted where an aeronautical study indicates that it is not needed. Where necessary a location sign should be provided to identify taxiway existing an apron or taxiways beyond an intersection. It should be provided at an intermediate holding position.
- (h) Where a taxiway ends at an intersection such as "T" and it is necessary to identify this, a barricade, direction sign and/ or other appropriate visual aid should be used.

### 98. **Location.**

- (a) Information signs shall, wherever practicable, be located on the left hand side of the taxiway in accordance with **Table 1**, except that, a runway exit sign shall be located on the same side of the runway as the exit is located (i.e. left or right).
- (b) At a taxiway intersection, information signs shall be located prior to the intersection and in the line with the taxiway intersection marking. Where there is no taxiway intersection marking, the sign shall be installed at least 60 m from the centre line of the intersecting taxiway where there the runway length is 1200 m or more and at least 40 m where the runway length is less than 1200 m.

***Note:*** - A location sign installed beyond a taxiway intersection may be installed on either side of a taxiway.

- (c) A runway exit sign shall be located prior to the runway exit point in line with a position at least 60 m prior to the point of tangency where the runway length is 1200 m or more and at least 30 m where the runway length is less than 1200 m.

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(d) A runway vacated sign shall be located at least on one side of the taxiway. The distance between the sign and the centre line shall be not less than the greater of the following:

(i) The distance between the centre line of the runway and the perimeter of the ILS/ MLS critical/ sensitive area; or

(ii) The distance between the centre line of the runway and the lower edge of the inner transitional surface.

(e) Where provided in conjunction with a runway vacated sign, the taxiway location sign shall be positioned outboard of the runway. A taxiway location sign installed in conjunction with a runway designation sign shall be positioned outboard of the runway designation sign.

(f) An intersection take-off sign shall be located at the left-hand side of the entry taxiway. The distance between the sign and the centerline of the runway shall not be less than 60 m where the runway length is 1200 m or more and not less than 45 m where the runway length is less than 1200 m.

(g) An information sign other than location sign shall not be collocated with a mandatory instruction sign. A destination sign should not normally be collocated with a location or direction sign.

(h) A direction sign, barricade and/or other appropriate visual aid used to identify a "T" intersection should be located on the opposite side of the intersection facing the taxiway.

### 99. **Characteristics.**

(a) An information sign other than a location sign shall consist of an inscription in black on a yellow background.

(b) A location sign shall consist of an inscription in yellow on a black background and where it is a stand-alone sign, shall have a yellow border.

(c) The inscription on a runway exit sign shall consist of the designator of the exit taxiway and an arrow indicating the direction to follow.

(d) The inscription on a runway vacated sign shall depict the "Pattern A" runway holding position marking as shown in the **Figure 27**.

(e) The inscription on an intersection take-off sign shall consist of a numerical message indicating the remaining take-off run available in

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metres plus an arrow, appropriately located and oriented, indicating the direction of the take-off, as shown in **Figure 27** .

(f) The inscription on a destination sign shall comprise an alpha, alphanumerical or numerical message identifying the destination plus an arrow indicating the direction to proceed as shown in **Figure 27**.

(g) The inscription on a direction sign shall comprise an alpha or alphanumerical message identifying the taxiway(s) plus an arrow or arrows appropriately oriented as shown in **Figure 27**.

(h) The inscription on a location sign shall comprise the designation of the location taxiway, runway or other pavement the aircraft is on or is entering and shall not contain arrows.

(j) Where it is necessary to identify each of a series of intermediate holding position on the same taxiway, the location sign should consist of the taxiway designation and a number.

(k) Where a location sign and direction signs used in combination:

(i) All direction signs related to left turn shall be placed on the left side of the location sign and all direction signs related to right turns shall be placed on the right side of the location sign, except that where the junction consists of one intersection taxiway, the location sign may alternatively be placed on the left hand side;

(ii) The direction sign shall be placed such that the direction of the arrows departs increasingly from the vertical with increasing deviation of the corresponding taxiway;

(iii) An appropriate direction sign shall be placed next to the location sign where the direction of the location taxiway changes significantly beyond the intersection; and

(iv) Adjacent direction signs shall be delineated by a vertical black line as shown in **Figure 27**.

(l) A taxiway shall be identified by a designator comprising a letter, letters or a combination of a letter or letter followed by a number. When designating taxiways, the use of the letters 1, O or X and the use of words such as inner and outer should be avoided wherever possible to avoid confusion with the numerals 1, O and closed marking.

(m) The use of the number alone on the Manoeuvring area shall be reserved for the designation of runways.

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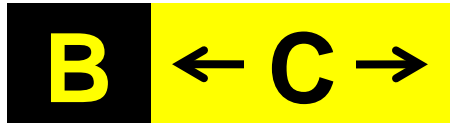
INFORMATION SIGNS

LEFT SIDE

RIGHT SIDE



DIRECTION/LOCATION/DIRECTION



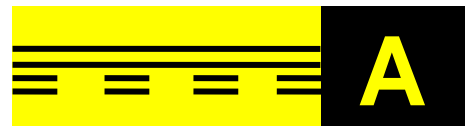
LOCATION/DIRECTION



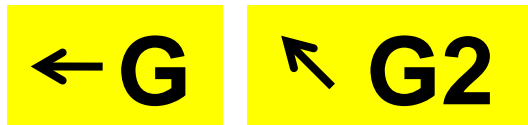
DESTINATION



LOCATION/RUNWAY VACATED



RUNWAY VACATED/ LOCATION



RUNWAY EXIT



RUNWAY EXIT



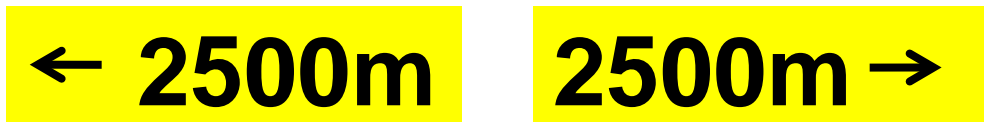
LOCATION



DIRECTION/LOCATION/DIRECTION/DIRECTION



DIRECTION/DIRECTION/ DIRECTION/LOCATION/DIRECTION/DIRECTION/ DIRECTION

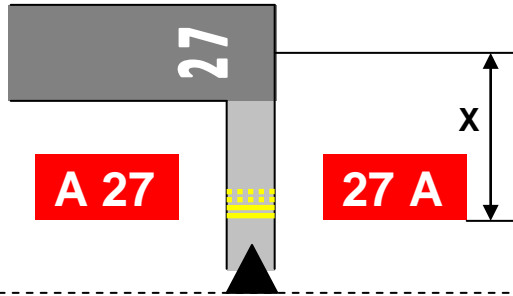


INTERSECTION TAKE-OFF

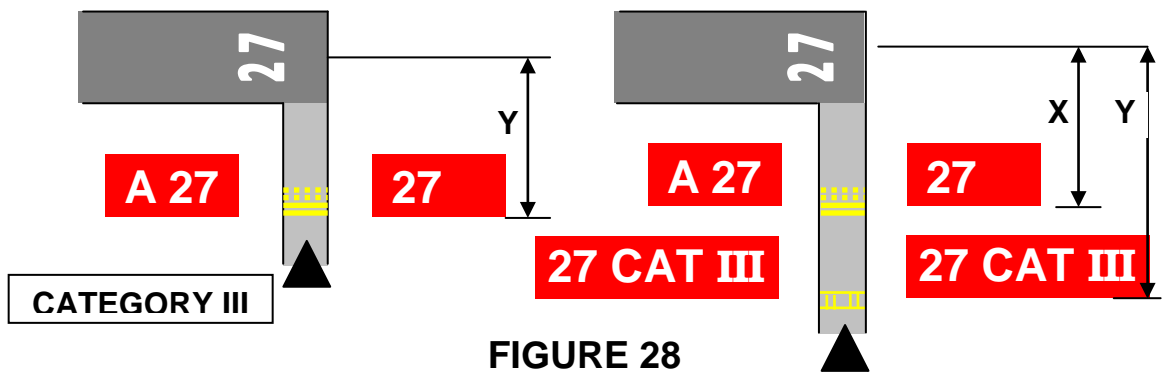
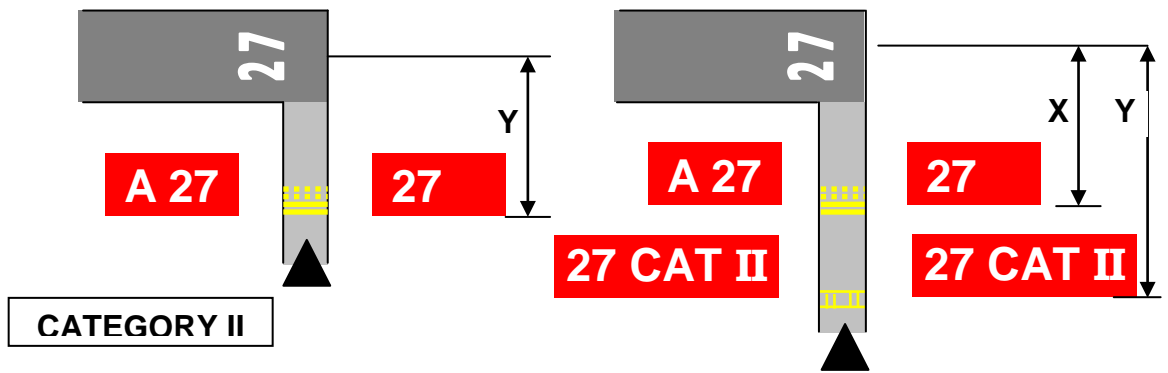
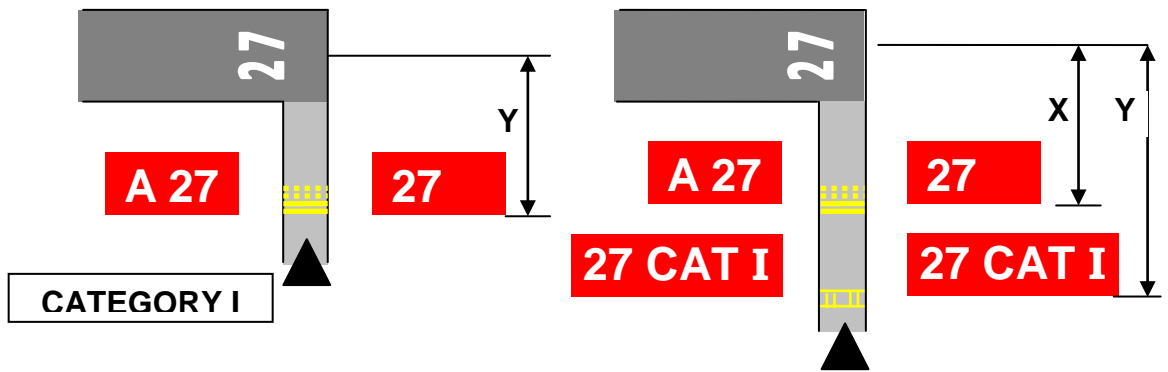
FIGURE 27

**EXAMPLES OF SIGN POSITIONS AT TAXIWAY/ RUNWAY INTERSECTION**

**NON-INSTRUMENT, NON-PRECISION, TAKE-OFF RUNWAYS**



**PRECISION APPROACH RUNWAYS**



**FIGURE 28**

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### VOR Aerodrome Check- Point Sign

100. Application. When a VOR aerodrome check-point is established, it shall be indicated by a VOR aerodrome check-point marking and sign.

101. Location. A VOR aerodrome check-point sign shall be located as near as possible to the check point so that the inscriptions are visible from the cockpit of an aircraft properly positioned on the VOR aerodrome check-point marking.

102. Characteristics. A VOR aerodrome check- point sign shall consist of an inscription in black on a yellow background. The inscriptions on a VOR check-point sign should be in accordance with one of the alternative shown in **Figure 29** in which:

- |                        |  |
|------------------------|--|
| <b>VOR</b>             | is an abbreviation identifying this as a VOR check-point;  |
| <b>116.3</b>           | is an example of the radio frequency of the VOR concerned;   |
| <b>147<sup>0</sup></b> | is an example of the VOR bearing, to the nearest degree, which should be indicated at the VOR check-point; and |
| <b>4.3 NM</b>          | is an example of the distance in nautical miles to a DME collocated with the VOR concerned.                    |

### Aerodrome identification sign

103. Application. An aerodrome identification sign should be provided at an aerodrome where there is insufficient alternative means of visual identification.

104. Location. The aerodrome identification sign should be placed on the aerodrome so as to be legible, in so far as is practicable, at all angles above the horizontal.

105. Characteristics. The aerodrome identification sign shall consist of the name of the aerodrome. The colour selected for the sign should give adequate conspicuity when viewed against its background. The character should have a height of not less than 3 m.

### Aircraft Stand Identification Signs

106. An aircraft stand identification marking should be supplemented with an aircraft stand identification sign where feasible. The sign should be located so as to be clearly visible from the cockpit of an aircraft prior to entering the aircraft stand. It should consist of an inscription in black on a yellow background.

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**VOR AERODROME CHECK-POINT SIGN**

**VOR 116.3 147<sup>0</sup>** OR

**VOR 116.3  
147<sup>0</sup>**

WHERE NO DME IS COLLOCATED WITH THE VOR

**VOR 116.3 147<sup>0</sup> 4.3 NM** OR

**VOR 116.3  
147<sup>0</sup> 4.3 NM**

WHERE DME IS COLLOCATED WITH THE VOR

**FIGURE 29**

**Mandatory Instruction Marking**

107. Application. Where it is impracticable to install a mandatory instruction sign in accordance with **Para 84**, a mandatory instruction marking shall be provided on the surface of the pavement. Where operationally required, such as on taxiways exceeding 60 m in width, mandatory instruction sign should be supplemented by mandatory instruction marking.

108. Location. Mandatory instruction marking shall be located on the left-hand side of the taxiway centre line marking and on the holding side of the runway-holding position marking, as shown in **Figure 30**. The distance between the nearest edge of the marking and the runway-holding position marking or the taxiway centre line marking shall not be less than 1 m.

**Note:** *Except where operationally required, a mandatory instruction marking shall not be located on a runway.*

109. Characteristics. A mandatory instruction marking shall consist of an inscription in white on a red background. Except for 'NO ENTRY' marking, the inscription shall provide information identical to that of the associated mandatory instruction sign. A 'NO ENTRY' marking shall consist of an inscription in white reading NO ENTRY on a red background. Where there is insufficient contrast between the marking and the pavement surface, the mandatory instruction marking shall include an appropriate border, preferably white or black.

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110. The character height should be 4 m. the inscriptions should be in the form and proportions as given in Appendix 3 to Annex 14 Vol I. The background should be rectangular and extend a minimum of 0.5 m laterally and vertically beyond the extremities of the inscription.

### **Information Marking**

111. Application. Where an information marking would normally be installed and it is physically impossible to install a sign, an information marking shall be displayed on the surface of the pavement. Where operationally required, an information sign should be supplemented by an information marking.

112. Location. The information marking should be displayed across the surface of the taxiway or apron where necessary and positioned so as to be legible from the cockpit of an approaching aircraft.

113. Characteristics. An information marking shall consist of:

- (a) An inscription in yellow, when it replaces or supplements a location sign; and
- (b) An inscription in black, when it replaces or supplements a direction or destination sign.

114. Where there is insufficient contrast between the marking and the pavement surface, the marking shall include:

- (a) A black background where the inscriptions are in yellow; and
- (b) A yellow background where the inscriptions are in black.

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MANDATORY INSTRUCTION MARKING

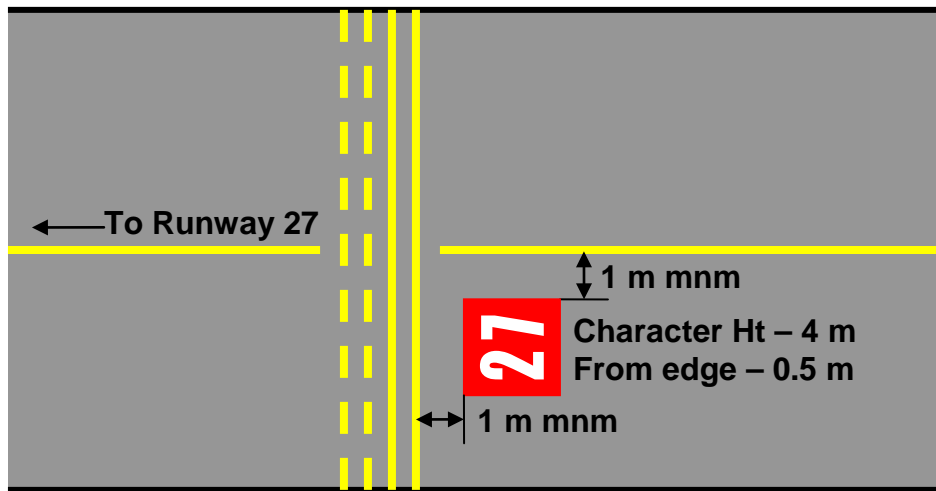


FIGURE 30

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**TYPES OF HANGARS IN THE AIR FORCE**

Sl. No	Type of hangars	Size
1.	Bellman Small	125'X 95'X27'.6"
2.	Bellman S. Medium	200'X 95'
3.	Bellman Medium	250' X 95' X 27'.6"
4.	Bellman Big	500' X 100' X 26'
5.	Callandar Hamilton	186'.6" X 100' X 34'.5"
6.	Callander Small	86' X 80'
7.	Mississippi	324' X 147'.8"
8.	S.W.P	156'X 150'
9.	A.W.D.	250' X 135' X 30'
10.	Mainhill	190' X 67'
11.	Mainhill	120' X 67'
12.	Mainhill	91'X67'
13.	B B J	500'X125'
14.	Juhu	96'X90'
15.	Belfast	193'.9"X72'.6"
16.	Bulter	160'X128'
17.	Naval	186'X120'.6"
18.	Italian Zuhu	760'X108'.6"
19.	Squadron	
20.	T.C.2	190'X122'.5"
21.	Open	
22.	Non Standard	88'X79'
23.	T.G. Shed	36'.6"X99'
24.	R & I Hamilton	85'X110'
25.	Hangrettes	90'X75'
26.	Tata R & I	360'X240"X28'
27.	Jodhpur	102'X90'
28.	Igloo	150'X204'

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Appendix C  
(Refers to Para 20(a) of Chapter V)

**SAMPLE CONVENING ORDER RUNWAY RESURFACING WORK**

Tele: xxxxxxxxxx  
Fax No. xxxxxxxxxx

XXXXXXXXXXXX  
XXXXXXXXXXXX  
XXXXXXXXXXXX

*File reference No.*

XXXXXXXXXXXX

C Adm O  
AF Stn xxx

Special Project

**CONVENING ORDER**

**BOO: TO ASSESS THE REQUIREMENT OF WORKS SERVICES FOR  
RESURFACING OF RUNWAY AND AIRCRAFT OPERATING  
AREAS AT AF Stn xxx**

1. A Board of Officers composed hereunder will assemble at ----- at a suitable date fixed by Stn Cdr, AF Stn ----- and subsequent days to assess the requirement of works services for "Resurfacing of runway and aircraft operating areas at AF Stn xxx as per the attached terms of reference.

- Presiding Officer : One Wg Cdr of Flying Branch to be detailed by AF Stn xxx(Preferably COO)
- Member : One Sqn Ldr of Adm/ATC Branch to be detailed by AF Stn xxx
- : One Sqn Ldr of AE Branch to be detailed by AF Stn xxx
- : Rep(s) of CE (AF)
- : Rep(s) of CWE (AF)
- : Rep(s) of GE (AF)

2. The Presiding Officer is to collect the terms of reference from C Adm O, --- ----- AF before assembly and board proceedings completed in all respect, duly recorded on are to be submitted to this HQ by ----- (date) in ten copies duly spirally bound with Sketch plans & Maps (Original + 09 copies). Air HQ has

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agreed in principle to undertake the resurfacing work as a Special Project in the financial year ----- and hence the time frame given for processing the BOO has been highly compressed.

3. A CD containing soft copy of BOO and RIC/AEs to be enclosed with original copy of BOO.

C Wks O  
For SOA

Annexure: As stated.

Copy to:-

Addl Dir Pav : You are requested to expedite the preparation  
E-in-C's Branch of designs for runway and aircraft operating  
Areas.

CE (AF) ..... }  
CWE (AF)..... } With a copy of ToR. It is requested that your  
GE (AF)..... } rep(s) be detailed and made available at \_\_\_\_  
on stipulated date and time as intimated by the  
Station.

Internal Copy to:

Ops 1 A }  
C Sys O } With a copy of ToR. You may like to advise /  
CATCO } issue directions on ops channel if considered  
necessary.

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### TERMS OF REFERENCE

1. To assess the requirement of “**Works services for repair and resurfacing of main runway and Parallel Taxi Tracks (Flexible), Link Taxi Tracks, Dragon loop, Lance tarmac, Over-run areas, dispersals and other allied works services in the aircraft maneuvering areas**” as considered essential from operational point of view at AF Stn xxxxxxx.
2. To assess the requirement of conversion of SGA and ORA into runway specification **in terms of Air HQ letter No. Air HQ/S 17720/ATS (Ty BM – XXXIII) dated 24 Jan 07 and Air HQ/37532/126/W (P&C) dated 11 Jul 08.** Any requirement of additional Taxi track, apron, RET on account of conversion of SGA and ORA into runway specification, is to be included.
3. To assess the requirement of shifting or relocation Nav aids if so required.
4. To assess the requirement of works services for cleaning, repairing and operationalising all underground ducts under runway, PTT, LTT etc, airfield drainage and culverts and repair / construction of new roads for operational areas, if required.
5. To assess the comparison between rigid and flexible overlay over the existing surface and to recommend the most suitable option, keeping longevity and financial effect as the decisive factor.
6. **Traffic data.** Station is to prepare traffic data and aircraft details as per format given in TI 14/87. While preparing traffic data the directions contained in Air HQ letter Air HQ/37532/126/W(P&C) dated 11 Jul 08 to be followed. All fighter operations, aircraft statistics, number of landing and passes etc. are deemed to be that of SU-30 aircraft. All fighter aircraft movements should be treated as those of Su-30 MKI and incremental increase of 5 to 10% in traffic density may be projected to arrive at Op data. Traffic and Op data is to form part of BOO.
7. **Condition survey report.** GE (AF) ----- is to prepare condition survey report which will be the guiding fact for findings and recommendations of BOO.
8. To clearly specify the scope and specification of the proposed work in findings. Details about the present condition of surface, PCN value, last resurfacing done, extract of report of Pavement Specialist / SEMT be specified and attached with BOO. Copy of the design approved by E-in-C’s branch for runway, PTT, LTT, loops, tarmac and dispersal area be attached with BOO. The design specification for LTT, PTT, loops, tarmac and dispersal areas etc wherever aircrafts are to be parked and used for taxi should cater for Su 30 ac. If PTT is used as standby runway for operations the desired strength of PTT is same as that of main runway.

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**AFLS**

9. To study and record the existing condition of AFLS with regards to its serviceability, date of installation, life span, problems being faced and repair/measures being undertaken to meet the operational requirements.
10. To assess the total requirement of stores required and confirm the present availability and serviceability of stores. Total requirement, present holding and serviceability state of stores as certified by SLO and SE(L) be attached with BOO.
11. Detailed Line plan/site plan showing existing Layout of airfield lighting cable and proposed routing of new cables be attached. Existing and proposed routing of cables be indicated in different colours. OMNI and UNI cables with Lateral and vertical separations be clearly marked.
12. Specification like depth of trenches, dimensions, and material to be used (sand, bricks or cement blocks etc) be clearly mentioned in findings with volume, thickness etc for each type of cable and material. Use of mechanized method of digging trenches be considered.
13. Drawings of DDW (ALP) Air HQ be referred and attached as authority for work in BOO.
14. To incorporate all points mentioned in AFO 2/2002 and attach required drawings of DDW (ALP).
15. To include extension of flexible portion by 2.2m wide from edge of runway for protection of runway lights as per Air HQ37066/RWRS/POL/W(P&C) dated 19 Nov 01.
16. To assess the requirement of Camouflage and runway markings as per the standard norms. The stations where civil aircrafts are operating on regular basis are to include the requirement of markings as per ICAO specifications.
17. To assess the requirement of land filling, compaction etc at the proposed location of extension of runway, if any extension of runway is proposed.
18. To consider restrictions of dumping of stores/material and erection of plant in aircraft maneuvering areas, operations of heavy machines like earth movers excavators and JCB etc with regard to flight safety.
19. The Board also to consider the following:-
  - (a) The airfield can not be closed for any period of time. It needs to open for limited period daily for operations by civil airlines and Service

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transport ac. Therefore provision of daily or periodic ramping is to be include in the BOO.

(b) Requirement of ramping on as required basis be considered to make the runway available for operations. For fighters operations a clause of availability of runways for operations at six hours notice in case of any emergent operational requirement is to be included. The requirement must be specifically justified as it has major financial implications.

(c) The runway lights would be changed or dismantled and taken out and thereafter refitted after runway resurfacing. The runway lights are to be replaced in a manner that they do not obstruct flying operations and if unavoidable, then to the barest minimum possible.

(d) Security and working hours restrictions for the contractor and his labour. Allowing 24 hours work to the contractor may be considered subject to security considerations.

(e) Location of site and facilities to be provided to the contractor by user/MES for site office, storage of material, labour camp. Site of labour camp is permitted by user inside/near airfield be clearly defined and facilities/restrictions be provided be listed

(f) Hydrant refueling for SU-30 is to be dovetailed with resurfacing work. The work of Hydrant refueling is to be undertaken by Oil company however to avoid least affect on operations the work must be executed simultaneously. Therefore detailed requirement must form part of BOO, if required.

20. To clearly spell out the responsibility of works to be undertaken by MES and AFL section.

21. To assess the requirement of works services for illuminated wind socks at appropriate places as required from ops point of view.

22. To assess the requirement of link sign boards at appropriate places as required from op point of view. Also propose laying of electric cables for provn of power supply to these glow link signages.

23. To assess the requirement of replacement of DTGMs with modern generation maintenance free PVC moulded DTGMs (Already installed at Pathankot, Jaisalmer, Chandigarh).

24. Arrester Barrier. To assess the requirement of dismantling, shifting/relocating and re-installation of arrester barrier, in terms of Air HQ letter Air HQ/S17720/ATS(BM-XXX) dated 30 Jan 09.

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25. **Phasing of Work.** To propose the requirement of phasing of resurfacing work of different areas of airfield to ensure least disturbance/movement of squadrons out of station.
26. To attach detailed 'JUSTIFICATION' for the requirement of the proposed works services in the form of SOC as Appendix A. The SOC must explain what is the present condition of runway, what are the problems being faced and how proposed work services will help to resolve the problem. Size, length, material diameter and other details of various items of works proposed must be mentioned in SOC as well as findings.
27. To prepare 'SITE PLAN' and 'LINE PLAN' on station blue print showing the location of proposed works and line diagram of runway, PTT, LTT, Dispersal and other areas where the works are proposed. Legend should be clearly marked and plan must be signed by GE and Presiding officer and attach as Appendix P & Q.
28. To prepare ROUGH INDICATION OF COST/Approximates Estimates for the work based on SSR 2009. Specific reference Number of SSR/ED rates be mentioned against each item of work in AEs part II. Market Rate (MR) or assessed rates if mentioned in RIC/AEs must be supported by quotation from authorised/genuine dealer and rate analysis. If rates are taken from earlier contract, copies of the same be attached in BOO or attach sufficient details for meaningful scrutiny by E-in-C's Branch. RIC/AEs must be signed/countersigned by appropriate authority competent for the same as specified by E-in-C's Branch.
29. To study the E-in-C's branch policy letter No 37696/Gen/Pol/E2W (PPC) dated 06 Oct 06 on airfield works. The SOC and recommendations must make reference to implementation of policy guidelines given in the letter.
30. To determine any other relevant requirement considered necessary.
31. To record 'FINDINGS' and make 'RECOMMENDATIONS'.
32. To attach questionnaire.
33. To prepare and compile BOO as per the guidelines given in Chapter III of manual of AF Works.
34. To attach engineers' appreciation'.
35. To prepare and attach SOC for "Go Ahead" sanction under Para 57(b) of DWP 2007 by the CFA to enable preparatory action by the engineers. A Copy of SOC with RIC and present status of planning of BOO is to be forwarded in advance to take up the case with MoD separately.

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36. To compile and prepare 10 copies of board of officers in spiral binding, page numbered, with signature of all members including rep of CE (AF) on IAFF (P) 28, findings, SOC, recommendations, Site Line Plans, scope of Work etc. A CD containing complete BOO alongwith RIC/AEs be enclosed with original copy of BOO.

Date :  
File No.

C Wks O

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Appendix D  
(Refers to Para 20 (b) of Chapter V)

**FORMAT FOR AIRCRAFT CHARACTERISTICS AND TRAFFIC DATA TO BE  
SUBMITTED TO E-IN-C's BRANCH**

**AIRCRAFT CHARACTERISTICS**

Ser No.	Type of A/C	Max load in KGs	Landing gear assembly	Nose wheel assembly	Take off (% Max load)	Tyre pressure (MPA)	
						Main	Nose
1	Su-30						
2	Mig						
3	MI-17						
4	IL-76						
5	AN-32						
6	AVRO						
7	DNR						
8	B-737						
9	A300						
10	A320						

**TRAFFIC DATA**

Ser No.	Type of A/C	YEARLY TRAFFIC						Total	Average of 06 years
		2003	2004	2005	2006	2007	2008		
1	Fighters (Mig-21, Mig-23, Mig-29, SU-30)	6158	6631	5522	8271	7455	5360	39397	6566
2	Transport (Dornier, AVRO, AN-32, Boeing, IL_76)	154	214	222	532	354	354	1830	305
3	Helicopters (Chetak, MI-8, MI-17, MI-26 & MI-35)	354	368	588	916	326	218	2770	461
4	Civil aircrafts	24	06	68	82	46	78	304	50
5	Total	6690	7219	6400	9801	8181	6010	44301	7382

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Ser No.	Type of A/C	<b><u>YEARLY TRAFFIC EXPECTED IN Incremental of 10% in TRAFFIC DENSITY</u></b>										Expected TOTAL movement in 10 Yrs (2009-1019)	
		2009	2010	2011	2012	2013	2014	2105	2016	2017	2018		2019
1	Fighters (Mig-21, Mig-23, Mig-29, SU-30)	6566	7222	7222	7222	7944	7944	7944	7944	7944	8738	8738	85428
2	Transport (Dornier, AVRO, AN-32, Boeing, IL_76)	305	335	335	335	368	368	368	368	368	404	404	3958
3	Heilcopters(Chetak, MI-8, MI-17, MI-26 & MI-35)	461	507	507	507	557	557	557	557	557	612	612	5991
4	Civil aircrafts	50	55	55	55	60	60	60	60	60	66	66	647
5	Total	7382	8119	8119	8119	8929	8929	8929	8929	8929	9820	9820	96024

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**DUTIES AND RESPONSIBILITIES OF SATCO**

1. SATCO is overall responsible for assessing and projecting the requirement of major works and airfield maintenance works. He is also responsible for close supervision of all airfield maintenance works and ensure flight safety aspects. He is responsible to ensure following:-

(a) To maintain an upto date airfield dossier which will contain history of the airfield since inception, expansion/additions/extension carried out since original constructions, complete details of resurfacing carried out and dimensions of every facility/infrastructure of airfield.

(b) To maintain a “to the scale” layout plan of the airfield with details of dimensions of every facilities. It is desirable that the layout plan is made available in soft copy on latest version of Auto-CAD software.

(c) To mark defect/deficiency on the layout plan depicting the requirement of maintenance works

(d) To prepare Annual Airfield Maintenance Programme (AAMP) by 31 Jan every year and submit it to C Adm O. The maintenance Programme should include the following:-

(i) **Epoxy Repairs.** Details of quantity/approximate dimensions of epoxy repair required with location and scale numbers duly marked on airfield layout plan.

(ii) **Joint Fillings.** Details of joint filling requirement duly marked on airfield layout plan with location and number of slabs.

(iii) **Painting of Runway marking and white mark of ORA/undershoot area.** Clearly spelling out the details of painting with colour and number of coats and time frame when required. Specification of paint and colour must be clearly spelt out.

(iv) **Airfield drains.** Requirement of repair, maintenance and clearing of airfield drainage be included in AAMP.

(v) **Grass Cutting.** Total requirement of grass cutting with number of tractors and jungle jim and duration of deployment on daily /weekly basis be specified.

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- (vi) **Shoulders.** Leveling of shoulders wherever required.
  - (vii) **DTGM.** Repair and maintenance of DTGM.
  - (viii) Any other requirement of airfield maintenance works which have direct bearing on operation and flight safety.
- (e) To ensure that daily inspection of complex airfield is carried out and airfield maintenance works required for safe operations are co-coordinated accordingly.
- (f) To inform C Adm O and GE/AGE well in advance about the maintenance day or non-flying periods when the airfield work can be executed.
- (g) To maintain record of jungle jim operations, contract wise details of work executed on daily basis and certify the execution of works.
- (h) Since the fund for airfield maintenance has a fixed ceiling approved by MoD depending upon the category of airfield, SATCO is to allocate priority to all maintenance work projected in AAMP.
- (j) Any major works which are beyond the financial limit of maintenance funds or likely to take away major portion of airfield maintenance funds, should be projected as Special Repairs (B&R) works in LBWP. For example major cold emulsion treatment should be taken up as special repair rather than maintenance work.

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Appendix F  
(Refers to Para 44 of Chapter V)

### **DUTIES AND RESPONSIBILITIES OF GE**

1. GE is responsible for rendering technical advice on all matters pertaining to airfield works and is the technical executing authority for finalization of contracts and ensure execution of maintenance works.
2. GE is to ensure that:-
  - (a) Technical advice with respect of quantity of work, specification of material etc is rendered while the scope of AAMP is being finalized by SATCO. Any works which are required on technical consideration for safety of runway or other infrastructure must be included in AAMP.
  - (b) Costing of complete scope of works included in AAMP is done as per SSR or E-in-C's branch instructions and total cost of AAMP is to be restricted to the ceiling of airfield base on the priorities fixed by SATCO to finalise the programme.
  - (c) Initiate immediate action to finalise contracts for all airfield maintenance works. As far as possible separate contracts should be executed for each of the following specialized work.
    - (i) Epoxy repair
    - (ii) Joint Filling
    - (iii) Painting
    - (iv) Building works (drain repair etc)
    - (v) Grass Cutting, leveling of shoulder and SGA plaguing (if required)
  - (d) At no time station should be without any runway contract for any of airfield work. Thus fresh contracts must be in place before expiry of period or exhausting of quantities of last contract.
  - (e) GE is to "present" status of airfield maintenance works, during monthly airfield maintenance work conference. He is to present the status of funds quantities of work catered in each contract, quantities executed and balance availability of items.

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(f) All contracts for airfield works should have provision for the contractor's supervision to report to ATC before commencement of work and after completion of work everyday.

(g) MES contractors, supervisors and workers abide by the station flight safety instructions and airfield work are executed under the supervision of rep of SATCO

(h) Regular condition survey is carried out and report rendered to C Adm O and SATCO.

(j) To maintain and update airfield dossier which will contain history of the airfield since inception, expansion/additions/extension carried out since original constructions, complete details of resurfacing carried out and dimensions of every facility/infrastructure of airfield.

(k) He shall give the copies of the maintenance contracts to SATCO.

(l) As a service provider, GE should co-ordinate with SATCO for smooth execution of works without compromising Flight Safety.

3. GE is to keep C Adm O apprised of the progress of all airfield maintenance works.

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Appendix G  
(Refers to Para 44 of Chapter V)

**DUTIES AND RESPONSIBILITIES OF C ADM O**

1. C Adm O is overall responsible for execution of all works services at the station and is to ensure that all requirements of airfield works are coordinated to ensure smooth and safe flying operations.
2. C Adm O is to ensure that :-
  - (a) Airfield maintenance requirements as projected by SATCO are scrutinized by him before forwarding to GE for costing.
  - (b) Airfield maintenance contracts are finalized well in advance by GE and at no given time station is without a valid/current airfield maint works.
  - (c) Regular joint inspection of airfields is carried out with MES and SATCO. Minutes recorded by SATCO in the joint inspection register are actioned well in time.
  - (d) Render specialist advice to project and plan major works for improvement/major repair of airfield if required.
  - (e) Ensure that annual condition report is submitted by GE by 31 May. Report with detailed comments of AOC/Stn Cdr is forwarded to C Wks O and CATCO by 30 Jun.
  - (f) Project the requirement of resurfacing of runway well in advance, if so required.
  - (g) PCN evaluation is carried out by SEMT once in five years.
  - (h) To maintain an upto date airfield dossier which will contain history of the airfield since inception, expansion/additions/extension carried out since original constructions, complete details of resurfacing carried out and dimensions of every facility/infrastructure of airfield.

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Annexure I  
{Refers to Para 5(g) (ii) of Chapter V}

**EXTENSION OF RUNWAYS OF IAF FOR FRA AND AWACS OPERATIONS**

1. The list of aerodromes identified for runway extension by conversion of ORAs and SGAs for FRA and AWACS operation are as follows:-

- (a) AF Stn Ambala
- (b) AF Stn Chandigarh
- (c) AF Stn Jamnagar
- (d) AF Stn Jodhpur
- (e) AF Stn Agra
- (f) AF Stn Gwalior
- (g) AF Stn Gorakhpur
- (h) AF Stn Jorhat
- (j) AF Stn Kalaikunda
- (k) AF Stn Thanjavur

2. The conversion of ORAs and SGAs into runways should be taken up along with runway resurfacing. It should be ensured that the pavement strength of the extended portion must be same as that of the main runway.

**Authy : Air HQ/S 17720/ATS(Ty BM-XXXIII) dated 01 Jan 08.**

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Annexure II  
{Refers to Para 5(p) of Chapter V}

Directorate of Works (Design)  
Integrated HQ of MoD (Army)  
E-in-C's Branch  
Kashmir House, Rajaji Marg,  
New Delhi –11

95610/SOP/CRMB & PMB/ E2 Plg(Pav)

01 Jul 2008

CE Northern Command  
CE Southern Command  
CE Western Command  
CE Central Command  
CE Eastern Command  
CE South Western Command  
All CE (AF/Navy)  
SEMT Wg, CME, Pune

### **GUIDELINES ON USAGE OF POLYSULPHIDE & POLYURETHENE JOINT SEALANT COMPOUNDS IN RIGID PAVEMENTS**

1. The designed service life of well-sealed and well-maintained PQC pavement is 30 years. This life expectancy depends on the structural soundness of the pavements and the quality / durability of joint sealant compound incorporated in the work. Failed sealants allow the ingress of fluids and incompressible debris in the joints, which lead to frost heave, sub-grade settlement followed by slab corner cracking or disintegration of the slab longitudinal edges, in addition to the contamination of underground soil and water by the fluid. These factors subsequently lead to a premature reduction in pavement strength there by giving a low Pavement Classification Number (PCN) during evaluation.

2. Ideally, a joint sealant would not need replacement until the reconstruction of the PQC pavement. I.e. it would last for more than 30 years. In olden times, replacements of joint sealants were unavoidable because of their unpredictable field performance. This inability to predict sealant performance stems from the fact that there is no laboratory evaluation method that accurately simulates field traffic and environmental loading conditions. Long-lasting compressible joint sealants have contributed to keeping incompressible materials out of the joints, thereby reducing the potential for joint spalling and possible longitudinal cracking. Recent studies on performance based joint sealants used in airfield pavements that experience cold climates and exposure to jet fuel or hot exhaust indicate that

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sealant performance will extend a minimum period of 10 years. Hence the premature failure of joint sealants cannot be accepted at any cost.

3. Either of the Polysulphide or Polyurethane joint sealant will be used in new rigid pavements. The criteria for selection of the joint sealant will depend on the minimum performance guarantee of ten years offered by the firm. This performance-based selection would accrue better cost effective results rather than using a joint sealant without any guarantee. The technical specifications of the cold applied joint sealants (irrespective of whether polysulphide or polyurethane) should meet the requirements mentioned in BS-5212, BS 4254 and EN-141875-2003 (for hydrolysis/water resistance test). In addition, the movement accommodation factor (MAF) of the sealant should be minimum  $\pm 30\%$ .

4. The following guidelines are given for the effective and cost economic application / replacement of cold applied joint sealants:-

(a) In old pavements, the existing sealant compound should be raked out of the existing joints by special tools like cutting blades / Machines and joint cleaned thoroughly with application of compressed air. Any Polysulphide joint sealant, which offers minimum ten years performance guarantee and conforming to specifications given at Para 3 above shall be incorporated in works.

(b) Where the edges of the joints are not damaged, the dummy and construction joints should be widened by 2 mm (from present 6 mm to 8 mm in case of dummy joints and from 10 mm to 12 mm in case of construction joints) by using joint cutting blades of appropriate size in order to have straight and smooth edges to achieve proper bond between sealant and the concrete surface. If width of the dummy and construction joints is more than 6 mm and 8 mm respectively, widening is still required by at least 2 mm to achieve proper bond (See Appendix A for diagrammatic explanation).

(c) When the quantity of application is more than five thousand (five thousand) running meter of joint sealants (either Polysulphide or Polyurethane) the same will be done only through mechanical means. No manual application will be permitted and the same shall be incorporated in the tender documents.

(d) In new works, before preparation of the AE's, market survey will be done and the item will be priced based on the minimum performance guarantee of ten years. The joint sealant firms (polysulphide or polyurethane), which give minimum ten years of performance guarantee, will be included in the AE. Accordingly, the type of joint sealant and the name of firms will be mentioned in the tender. The contractor should be insisted on using the same sealant and a guarantee should be obtained in

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writing from the firm and kept in records (See Appendix B for diagrammatic explanation).

(e) The selection and application of joint sealant should be on a "Supply and Apply" basis. I.e. the firm shall supply the material and employ their trained applicators to apply it. This would provide accountability and give adequate immunity to our organization in terms of warranty based on performance. This clause of "Supply and Apply" will be suitably incorporated in tender documents.

(f) Quality tests as per specifications in Para 3 will be done for every five MT from a reputed testing laboratory who has the NABL accreditations like Indian Rubber Manufacturer's Research Association's Laboratory and a record will be maintained. Original purchase vouchers should be verified before making any payment to the contractor.

(g) The joint shall be made dry and free of dirt and vacuum cleaned by a mechanical device, as well as free of oil, vegetation and other debris.

(h) Two coats of primer should be applied with a thin brush by the forward and backward movement at an interval of 30 Minutes before pouring the sealant. (I.e. one side will be brushed twice, forward and backward) with adequate quantity of primer

(j) The application temperature of the sealants should be strictly adhered to as per manufacturer's instructions.

(k) The pneumatic pressure, while application should not be too high which causes a high speed flow and results in overflowing of joints. Too low pressures form small bubbles, which can be a starting point for cohesive failures. Every air bubble that appeared on the surface should be immediately popped with a leveling tool.

5. Selection of performance based joint sealant is the need of the hour. The benefits of such a selection would create a healthy competition in terms of durability and life cycle cost analysis.

6. This letter supersedes all guidelines / directions issued by this HQ on the use of joint sealants. This letter may be disseminated down to GE level. The formations are requested to convey their experience to this office to modify the policy latest by 30 Jul 08.

Sd/xxx  
(KK Tiku)  
Brig  
DDGW(Des)  
For E-in-C

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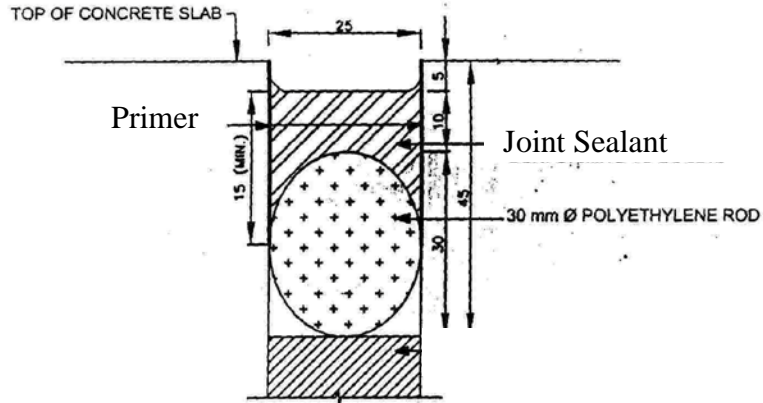
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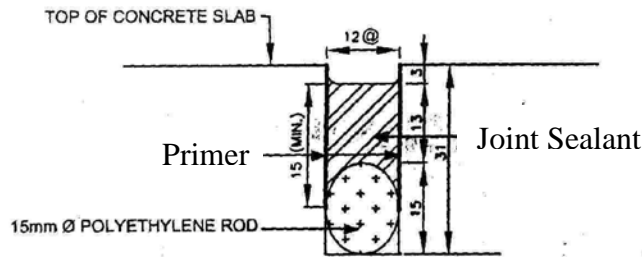
Appendix "A" to Annexure II

Refer Para 4(a) and (b) of letter No 95610/SOP/CRMB  
& PMB/ E2 Plg(Pav) dt 01 Jul 2008

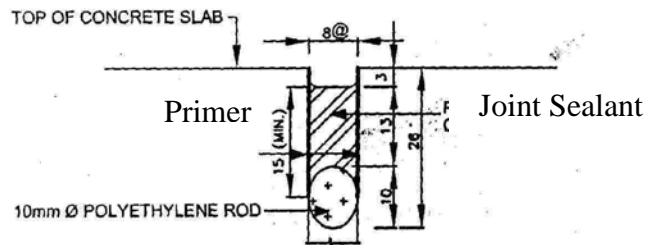
**OLD WORK**



**EXPANSION JOINT**



**CONSTRUCTION JOINT**



**DUMMY JOINT**

@ WIDTH OF EXISTING JOINTS TO BE WIDENED BY 2MM

SCALE - 1:1  
ALL DIMENSIONS IN MILLIMETERS

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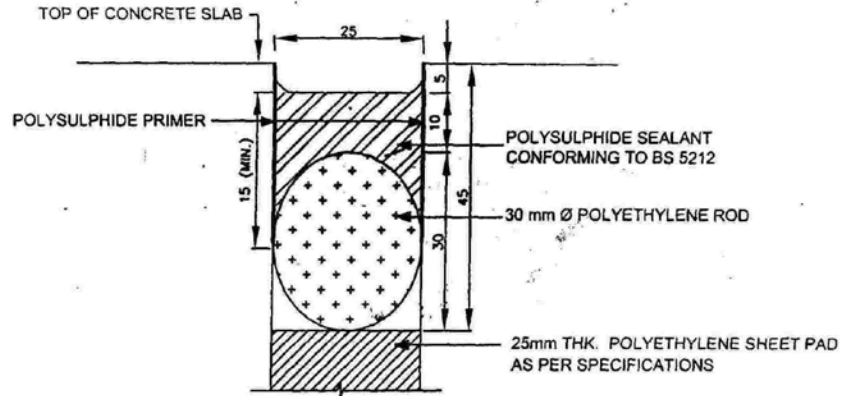
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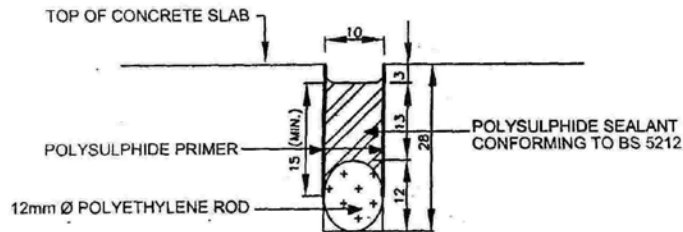
Appendix "B" to Annexure II

Refers to Para 4(d) of letter No 95610/SOP/CRMB & PMB/ E2 Plg(Pav) dt 01 Jul 2008

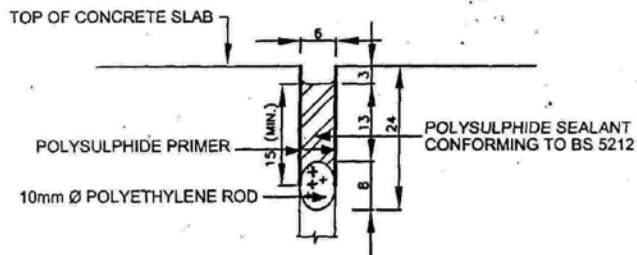
**NEW WORK**



**EXPANSION JOINT**



**CONSTRUCTION JOINT**



**DUMMY JOINT**

SCALE - 1:1  
ALL DIMENSIONS IN MILLIMETER

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Annexure III  
(Refers to Para 20(k) of Chapter V)

**POL LETTER No 17/2006**  
**TO BE HANDED OVER ON RELIEF**

Tele: 23019694

Dte Gen of Wk (PPC&Est)  
Engr-in-Chief's Branch  
Integrated HQ of MoD  
Kashmir House  
New Delhi-110011

No. 37696/Gen /Pol /E2W(PPC)

06 Oct 06

All zonal CEs (AF & Navy)

**AIRFIELD WORKS: QUALITY CONTROL**

1. Airfield construction/resurfacing is a highly specialized job and any inadequacy in quality of workmanship/material can lead to serious consequences. E-in-C during his recent visits to the work sites has noticed that adequate care is not being taken by the MES executives and the contractors in planning and execution of the works resulting in substandard construction and avoidable delays. All zonal CEs in future will take special care in execution of runway works and ensure that the guidelines enunciated in succeeding Para are following scrupulously.

**Planning Stage**

2. Selection of an experienced contractor for runway related works is a mandatory requirement and will go a long way in ensuring quality of work. Selection criteria for short listing of contractors will not merely be as per CVC guidelines/Ss Class contractor/resurfacing works as a mandatory requirement. Following guidelines will be included in Pre Qualification criteria documents:-

- (a) Firm/contractor should have satisfactorily completed at least three pavement construction works aggregating to double the cost of current work with MES/Airport auth of India/NHAI/experience in National Highway/Expressway construction. Experience for construction for State Highway/City Roads etc will not be considered.

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(b) Contractor should have executed at least two times the quantity of Pavement Quality Concrete/Bituminous concrete works as in current tender in last seven years.

(c) Minimum annual turnover of the contractors/firms should be specified at prequalification stage.

(d) Partners in working consortiums applying individually should have executed the pre qualifying works individually.

(e) Firm should possess at least following plant in the books of the firm (not on lease):-

- (i) Hot Mix plant 60-90 TPH (if Bituminous works involved).
- (ii) Truck Mounted Bituminous Sprayers.
- (iii) Full width sensor paver (at least 9.0m width).
- (iv) Concrete Batching plant of 60 cum/hr or more (if Rigid Pavement involved)
- (v) Slip Form Paver for concrete works.
- (vi) Total stations/similar category precise survey eqpt.

(f) Requirement of other plant and Machinery like tippers, vibratory road rollers etc required for the work should be listed in Pre qualification bid which the firm should be able to muster if tender awarded.

(g) Firm should ensure at least three graduate engineers should be always available on the work site whenever the work is in progress out of which one of them should be post Graduate in Pavement/Highways / Transportation Engg.

3. Prequalification criteria should be got approved from Jt DG (Contracts) in the E-in-C's Branch.

4. Source of aggregates and materials to be incorporated in works should be identified, samples obtained and tested for suitability. These sources be included in the tender documents to ensure quality and also to restrict the choice to the contractor.

5. It should be the endeavor to ensure that executives deployed for the airfield works should have executed runway works before. Under no circumstances will work commence unless above requirement is fulfilled. All executives (GEs/AGEs/JEs) executing the runway construction/resurfacing works for the first time will visit at least one of the runway works in progress and also SEM Wing, CME for training.

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### **Mobilization Stage**

6. Before commencement of work, the Zonal CE will ensure that contractor has employed qualified engineers and other technical manpower as also deployed specialized equipment and T&P as per contract provisions. The condition and serviceability of the same needs to be ensured.

7. Contractor should ensure that laboratory is established immediately on acceptance of contract with staff and complete test eqpt. All tests on construction materials and mix should be carried out as per MoRTH guidelines. The sampling frequency should be as per laid down guidelines.

8. All construction material (aggregate, cement, Bitumen etc) used in the work must be from approved source and as per specifications issued by the E-in-C's Branch from time to time.

9. Ideally, the quarry site which is the source of aggregate should be inspected regularly during stacking/supply of materials. However, in case of any doubt regarding the contractor's motives, all aggregate must be checked by GE's rep at the gate of the Aviation Base before allowing the vehicle inside. Preferably no materials should be permitted to enter inside the work/plant site after sunset.

10. Binder/bitumen should ideally be transported to the site in bowsers. In case of modified bitumen, the binder should arrive on site just prior to utilization to avoid separation of polymer/additives.

11. Design mix be obtained from IIT/approved lab/SEMT Wing, CME Pune based on provided samples. Based on this mix, design samples will be prepared at site lab and checked for their practical feasibility at site and most appropriate and practical design will be approved by the GE. This activity should take place simultaneously during the mobilization period after acceptance of contract. In case there is requirement of redesign of design mix due to change of gradation of aggregates, change of type of binder or other unforeseen reason, above procedure will be repeated.

### **Execution Stage**

12. There is a need to run a trial patch of each component of pavement before actual execution. This will ensure serviceability of Plants& eqpt, set up drills for execution and will project quality of materials.

13. Levels need to be transferred from benchmark properly and it should be ensured that levels are checked every day before commencement and after days work is completed. No cumulative errors should be permitted and cross checks be carried out at regular intervals. Levels to the sensor paver should be ensured and total Stations survey Eqpt should be deployed continuously with paver to ensure profile of surfacing.

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14. Paving Joints in bituminous surfaces are sore point and thus need to be eliminated. Following should be ensured:-

- (a) Paver employed should be as wide as possible but no case less than 9.0 m wide.
- (b) Edge of the previous run should be either heated with a blow torch (sparingly) or a fine spray of hot bitumen be added just prior to next run.
- (c) Construction joints also need to be tackled as in Para (b) above.

15. Ensuring of proper slope and profile or runway should be a Key Result Area for the executives. The values should be maintained as per annexure 14 of ICAO to facilitate quick flow of rainwater/snow.

16. Joint cutting in PQC must be done in time to avoid any kind of cracking. Care should be taken as any premature cutting of joints will damage the edges of the PQS slabs as also any delay in cutting will result in cracking of slabs. Hence, a site trail needs to be carried out to ascertain the optimum time for cutting of joints.

17. Joints in PQS must be thoroughly cleaned using compressed air and then covered with perforated masking tape to prevent clogging of joints; specified sealants should be filled earliest but not before drying slabs.

18. Proper project site management must be ensured by having all construction material dumped well away from the runway/taxi track and the area must be segregated/ screened to avoid any spilling over of aggregate on runway/taxi track.

19. Whenever, a contractor's vehicle has to cross the operational runway/taxi track a temporary tarpaulin must be laid to prevent falling of loose particles on the surface.

### **Completion stage**

20. CE zones to ensure that load testing of newly laid surface is done using only authorised/specified procedures and not by innovative adhoc measures such as skid turn of helicopters/moving loaded vehicles in circles etc. In this regard, policy enunciated by this HQ letter No. 95610/Misc/E2 Plg (Pav) dated 17 Jul 06 (copy enclosed).

21. The above measures will be read in conjunction with various TIs issued by E-in-C's Branch from time to time.

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22. Contents of this letter will be disseminated to the GE level and confirmation of the instructions having been read by all GEs/AGE(I) will be forwarded by 26 Oct 06 direct to Dy Dte Gen of Works (AF) of this HQ.

(Sanjay Sharma)  
SE  
Dir (Pol)  
For E-in-C

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Annexure IV  
(Refers to Para 38 of Chapter V)

No. Air HQ/37873/1/2/US/D(Air-IV)/W(ALP)  
Government of India  
Ministry of Defence  
New Delhi 10 Jan 2001

To  
The Chief of the Air Staff (with 50 spare copies)

Subject:- **MAINTENANCE FUND FOR AIRFIELD LIGHTING PROJECT  
REQUIRING MES ORIENTED REPAIRS**

Sir,

I am directed to convey the sanction of the President of India to revise the incurring expenditure of ₹ 1 lakh (Rupees one lakh) sanctioned vide MoD letter No Air HQ/S 37532/162/W (P&C)/1500/D(Air-IV) dated 20 Nov 87 to ₹ 2 lakh (Rupees two lakh only) annually for each Air Force unit having Czech type Airfield lighting equipment for the maintenance services to be provided by the CPWD on demand by the respective Air Force station Commander and to review the same after 10 years. The exact nature of MES oriented work to be undertaken will be intimated to the specialist officer in charge of airfield lighting.

2. The charter of responsibilities to be provided by the MEW/CPWD will be mainly confined to the following works:-

- (a) Digging, repairing or replacing the cables supplied by Air Force, relaying and closing of the trenches for the airfield lighting system.
- (b) Epoxy/Heat shrink joining U/G cables.
- (c) Earth work, Masonry and concrete works required for repairs of airfield lighting system.
- (d) Minor repairs to 11 KV/400 V Transformer and HT switch gear.
- (e) Repairs to earthing system.

3. Expenditure involved is to be debited to budgetary Head 2078, Minor Head – 111, Detailed Head-4, Sub head (e). Maint and Operation installations special repair new chargeable to code head 761/07.

4. Annual Budget demands will be submitted by Air HQ and placed at the disposal of the MES.

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5. This amount is not to be spent on repairs to B/R works and major renovation works of airfield lighting system.
6. Expenditure on maintenance of airfield lighting system will be reported by the Garrison Engineer to Air Force Station Commander through R and I Vouchers monthly.
7. This letter issues with the concurrence of Ministry of Defence (Finance/Air/P&W) U.O .No 44/P&W/Air dated 08 Jan 2001.

Yours faithfully,

Sd/-xxx  
(Shyam Sunder)  
Under Secretary to the Govt of India

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Annexure V  
(Refers to Para 40 of Chapter V)

**EXTRACT OF E-IN-C's BRANCH INSTRUCTIONS ON THE SUBJECT ARE  
CONTAINED IN LETTERS NO. 63233/E2/A DATED 31 OCT / 02 NOV 67 AND  
05/11 MAR 68**

**INSTRUCTIONS ISSUED BY THE E-IN-C's BRANCH REGARDING THE  
RENDITION OF AIRFIELD SERVICEABILITY REPORT.**

1. The GE is required to render annual serviceability report on the airfield in accordance with the instructions issued by E-in-C's Branch, on the following lines:-

- (a) Particulars of airfield
- (b) Date
- (c) Unit in occupation
- (d) Domestic accommodation capacity and condition
- (e) Runways - direction, length, LCN, specification
- (f) Taxi tracks - As for runways
- (g) Apron/Hard standing - area condition etc
- (h) Roads, Length, specifications condition
- (j) Technical buildings - description condition
- (k) E/M Installations - Particulars conditions
- (l) Remarks by GE
- (m) Remarks by Station Commander

2. It is sent to Air Headquarters, Command/Group Headquarters, E-in-C's Branch, Chief Engineer, CWE and the concerned station.

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**CHAPTER VI - FURNITURE**

**APPENDICES**

<b>APPENDIX</b>	<b>DETAILS</b>	<b>PARA No</b>
<b>A</b>	Duties & responsibilities of Barrack Warden	3
<b>B</b>	Accommodation Statement Part I	10
<b>C</b>	Accommodation Statement Part II	10
<b>D</b>	Certificate of Half yearly check by Inventory holders	42

**ANNEXURE**

<b>ANNEXURE</b>	<b>DETAILS</b>	<b>PARA No</b>
<b>I</b>	Extracts from IAP 1501 (Indian Air Force Equipment Regulations) Chapter 13, Para 13 to 32.	3 & 46 (a) (i)
<b>II</b>	Government of India, Ministry of Defence letter No. 35105/79/Pol(Wks Proc)/1135/DO-II/D(W-1) dated 09 Oct 2006.	6 (c)
<b>III</b>	GoI MoD letter No 35105/79/Pol (Wks Proc)/293/DO-II/D(W-1) dt 04 Jun 2009	6(c)
<b>IV</b>	Extracts from MES Regulations.	11,18,26,27,28, 29,46 (a) (ii) & 48
<b>V</b>	GoI MoD letter No 35105/79/Q3 (Policy-I)/1200 /DO-II/D (W-I) dt 25 Jun 97-Scale of Computer Furniture for Defence Establishments	15
<b>VI</b>	GoI MoD letter No 6435/Q3 (B-i)/237-S/D (Qtg) dated 27 Oct 1980.	30
<b>VII</b>	Extracts from 'Memorandum on Procedure, Organisation and Duties of Barrack and Stores Branch of the MES'	46 (a) (iii)

**INTRODUCTION**

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1. This chapter contains the instructions and procedure regarding authorization, demand, supply and accounting of furniture procured through works services. The Chapter is covered under following headings:

- (a) Station Organisation
- (b) Definition of Furniture.
- (c) Authorisation of furniture.
- (d) Furniture for Operational and Technical Buildings in Air Force.
- (e) Procurement, Renewal and Replacement.
- (f) Computer Furniture.
- (g) Accounting of furniture.
- (h) Maintenance.
- (j) Periodical checks.
- (k) Transfer of Furniture.
- (l) Care and Maintenance of furniture.

### STATION ORGANISATION

2. At an Air Force Station, the Adm Support Group is overall in charge of all activities connected with furniture. Wherever an Adm Officer (full time or part-time) is detailed to perform the duties of Station Works Officer or Sqn Cdr Works and Environment (ASG), he is to be made responsible for day to day administration of furniture related matters.

3. A Barrack Warden is established at each Station to act as the custodian of all buildings, barrack equipment and furniture. His duties are laid down in IAP 1501 (Indian Air Force Equipment Regulations); Chapter 13, Para 13 to 32 (**Annexure I**). C Adm O is responsible for laying down the detailed duties of Sqn Cdr Works and Environment (ASG) and Barrack Wardens. Some of the important aspects of Barrack Warden's duties are shown at **Appendix 'A'**. These can be amended to suit local conditions.

### DEFINITION OF FURNITURE

4. Furniture are the movable assets procured through works services which are essentially required to augment and supplement the non-movable assets in a building for its optimum functional use. Though it may not form part of building work but in the estimates of any new work, estimates of furniture must be included separately in the form of AEs Part II. Furniture may be classified into two categories:-

- (a) **Built in Furniture.** Some items of furniture may be provided at the time of original construction of building as permanently fixed or embedded or grouted

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in the building for specific requirement of user or better functionality. For example built in cupboards or almirahs, built in side boards, dressing tables, mirrors etc.

(b) **Movable Furniture.** All other items of furniture which are not fixed are called movable furniture.

5. While working out the Rough Cost of a work, the cost of "authorised" furniture is worked out as a percentage of total building cost. While this may be acceptable to work out the cost on not exceeding basis, however while preparing Approximate Estimates, the cost of each items of furniture must be assessed separately based on rate list circulated by Competent Engineer Authority (CEA) from time to time.

### AUTHORISATION OF FURNITURE

6. Scales have been laid down for authorization of furniture for Md Accn, OTM accommodation like Office Accn (Administrative Buildings), Messes and Single living accn and Hospitals in following publications:-

(a) Scales of Furniture for Defence Services 1989.

(b) Scales of Furniture for Armed Force Hospitals 1990.

(c) Revised scales of furniture for Married Accn for defence service personnel has been laid in GoI, MoD letter No 35105/79/POL(Wks Proc)/1135/DO-II/D(W-I0 dated 09 Oct 2006 and 35105/79/Pol (Wks Proc)/293/DO-II/D (W-I) dt 04 Jun 2009 (placed at **Annexure II & III** respectively).

(d) Any other Govt policy letters issued from time to time.

7. E-in-C's Branch has issued drawings/design for most of the furniture items authorised in above scales. Each drawing has been given a specific number. However minor variation/improvement in drawings may be carried out in consultation with local engineer authorities to suit specific local conditions.

### **Scales of Furniture for Operational and Technical Buildings in Air Force**

8. No scales have been laid for the requirement of furniture for operational and technical buildings peculiar /specific to the Indian Air Force. The requirement of such furniture items for the operational and Technical buildings is to be assessed by the Board of Officers "**on as required**" basis. Such furniture items will not have any standard drawings prepared by E-in-C's Branch and thus be referred as "**Special**"

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*items of furniture*” but will **not** be considered as “ **Special Work**”. Special items of furniture assessed by BOO “*on as required*” for operational and technical building are **authorised works** in terms of Para 52.1 of Scales of Furniture for Defence Services 1989.

9. The Board of Officers recommending the specialized furniture for operational and technical buildings “*on as required*” is also to give specification, Parameters of quality, dimensions and suggested drawing/design of each item of furniture with justification and usage.

**PROCUREMENT, RENEWAL AND REPLACEMENT**

**Initial Procurement**

10. The initial procurement of furniture against authorised scales is to be done by sanctioning of a new **original work** i.e. Major Work or Low budgeted Capital Work or Major Revenue or even Minor Work depending upon the cost. Generally initial procurement of furniture is to be sanctioned as a part of original capital work for the building work. However any additional requirement of furniture that has emerged due to Addn/Altn or permanent re-appropriation of a surplus building or as a result of any change in scale may be sanctioned as a separate work. However, whenever any work of procurement of furniture is to be sanctioned, the existing holding of furniture at the station must be taken into account while working out the net deficiency. For this purpose authorisation is to be worked out on the basis of the Accommodation Statement Part I and II. A sample of Accommodation Statement Part I and II is attached at **Appendix ‘B’ and ‘C’** respectively. Authorisation in respect of each item is to be calculated based on the Scales of Furniture for Defence Services 1989 and specific Para of table is to be quoted as authority.

11. Under normal circumstances, furniture will be manufactured in accordance with the general description and dimensions approved by the Government of India. However, the E-in-C is authorised to vary the actual designs in accordance with the provisions of Para 649 of MES Regulations (**Annexure IV**). The procurement of furniture may be done either by manufacture or purchased by MES, in accordance with the policy laid down from time to time by the E-in-C. Suggestions circulated vide E-in-C’s branch letter No. 37696/Fur/POL/E2W (PPC) dated 04 Jul 05, be borne in mind for formulation of furniture drawings for OTM furniture.

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### Renewal, Replacement and Procurement against Surveyed off/Condemned/BER

12. As per Para 9(a) (v) of DWP 2007 in case of furniture, replacement of furniture of value up to 50% of annual allotment of funds for maintenance of furniture on station basis **subject to a ceiling of ₹.4.00 lakh per annum to be allowed only in respect of furniture declared as condemned /beyond economic repairs by the appropriate authority.** Renewal, in the case of furniture, is the manufacture or purchase of a new furniture article in replacement of a similar article held on charge, which has been declared unserviceable. The superior design and latest specification are admissible in renewal/replacement.

13. Renewal of furniture upto the financial limits specified in Para 9(a) (v) of DWP 2007 will be treated as ordinary repairs and no administrative approval is required. Allotment of funds under maint head of furniture i.e. Major Head 2078, Minor Head 111, Sub Head (d), Code Head 760/06 is to be treated as authority for execution of work subject to technical sanction. Renewal of furniture beyond this financial limit is to be sanctioned as Special Repairs (B&R). Procedure applicable for original works is to be followed for issue of Administrative Approval by the CFA. Funds are to be released under Major Head 2078, Minor Head 111; Sub Head (d), code head 760/07.

14. For every work of Special Repair/renewal of furniture against surveyed off/condemned/declared BER a copy of approved Technical board declaring the furniture as surveyed off/ condemned/BER must be attached with BOO.

### COMPUTER FURNITURE

15. Scale of computer furniture for defence establishments is specified in GoI, Ministry of Defence letter No 35105/79/Q3 (Policy-I)/1200/DO-II/D(W-I) dated 25 Jun 1997 placed at **Annexure V**. According to the provision of this letter, necessary furniture for computers and their accessories stores are authorised. Chairs / seating requirement will also form part of computer furniture. The exact requirements based on individual needs at various units shall be specified by the actual users through a BOO and approved by CFA. These will be sanctioned as original work. Repairs and renewals of computer furniture will be carried out as applicable to other furniture.

16. It is advisable that CFA's at all levels avoid purchase of such items from IT grant as it does not effectively contribute towards IT proliferation (Reference GS branch letter No B/04001/Policy/DDG IT(T&P) dated 18 Mar 2005).

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**ACCOUNTING OF FURNITURE**

17. Complete furniture procured either through original works as initial procurement or procured as Special Repair or ordinary repairs against renewal/replacement is to be held on the charge of Barrack Store Officer under GE (Air Force). BSO is responsible for procurement, Quality check, BOC action, storage, issue, receipt, repair, maintenance, survey off, stock holding, preparation of estimate for new furniture and all other accounting matters with regard to furniture.

18. Accounting of furniture is done by MES in accordance with Para 666 to 671 of MES Regulations (**Annexure IV**).

19. The AOC/Station Commander is to ensure that accounting instructions given in MES regulations and in this Chapter are followed by the Station Administration with regard to furniture.

**Issue and Receipt**

20. **Barrack warden.** BSO is to issue bulk furniture to **Barrack Warden** of each self accounting independent unit for further distribution to the lodger units, sections and married quarters for PBORs. Internal distribution of furniture is the responsibility of the unit. Barrack warden is the custodian of all the furniture issued to him by BSO. A barrack warden is expected to be thorough in scales and responsible for numbering, authorization, holding, issue, returning, and maintenance of records, repairs, polishing, replacements and periodical checks in respect of furniture and barrack equipment. All sections and lodger units are to have inventory holders whose names will have to be published in SROs during the first week of Jan, Apr, Jul & Oct every year. Inventory form as per IAFF (O) 304 is to be displayed in each room of each section displaying the furniture inventory authorised to be present in that room.

21. **Officers' Mess and Officers' Married Quarters.** Issue and accounting of furniture to officers' married quarters will be done directly by BSO as handing/taking over of officers' married quarters is done by him. Since officers' mess has now been authorised for free issue of furniture as per Scales of furniture 1989, the issue of furniture to officers' mess and living in officers' accommodation will **also** be done through Barrack Warden now and not through BSO.

**Return of Furniture and Exchange**

22. In the case of furniture issued to officers' quarters, its return to MES is the responsibility of the officer concerned. This should be done when he hands over the quarter.

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23. As regards the furniture to be returned to Barrack Warden and by him to MES, local procedure is to be laid down in Station Standing Orders and wide publicity to be given through regular SRO entries. When unserviceable furniture is reported by Section/Squadron Commanders or individuals, the Station Administration should endeavor to provide immediate relief by an on the spot exchange. When this is not possible, the un-serviceable article is to be taken on charge by the Barrack Warden and early repair is to be arranged. In case of damage to furniture is caused due to misuse or gross negligence, responsibility for the same must be fixed and barrack damage where applicable is to be raised.

**Computerisation of Furniture Inventory Management System**

24. As large quantity of furniture is being held on charge of Barrack Warden with very limited resources in terms of manpower and office organisation, it is difficult to maintain accurate and updated record of furniture inventory. This has resulted in deficiency of furniture at many Air Force Stations. With Computers having become the order of the day, AOC/Station commander are to design indigenously or procure software for total computerisation of furniture inventory at the station. The software should be robust and capable of having following minimum features:-

- (a) Computerisation of complete furniture inventory of barrack warden and BSO.
- (b) Building wise and furniture item wise holding against authorization i/r/o each section, office, messes, institutes, living in accommodation and married quarters of PBOR's and officers.
- (c) Records of year/date of procurement and cost of procurement etc.
- (d) Record of each transaction of issue, return and exchange by every inventory holder.
- (e) Inventory holder should be able to lodge complaint/submit requirement of return/exchange of furniture on line using computer connected on Air Force Net using his personal ID and Inventory details. Based on the requirements of issue and returns of furniture received from users, the Barrack Warden should be able to consolidate the requirement and tie up with BSO and MT section for exchange days, time and transport arrangements. Such arrangements are then communicated to each user who has submitted complaint with regards to date and time when the transport will come for collection of old furniture and issue of new furniture so that user is prepared and available at stipulated date and time.
- (f) Online updation of inventory after every transaction of furniture.
- (g) Record of multiple inventories by various inventory holders.

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- (h) Provision of C Adm O or any other authority to check on line distribution and availability of any item of furniture to meet the requirement of collection of furniture for special requirements of organised functions like Sports meet, Air Force day functions, Melas, examinations etc.
- (j) Records of periodical checks, and computerize the BOO for annual stock taking.
- (k) Record of surveyed off/BER furniture.
- (l) Preparation of maint program and planning of maint funds.
- (m) Any other feature depending upon local conditions.

**Transport for Issue, Exchange and Return of Furniture**

25. To ensure that the tasks connected with the issues, return and exchange of furniture are satisfactorily carried out, it is necessary that suitable transport is provided to the Barrack Warden. The requirements should be worked out in a manner that will ensure the best possible coordination on station basis in providing effective services to the individual allottees of house as well as section/squadron commanders.

26. Rules regarding the carriage of furniture issued by MES are given in Para 663 of MES Regulations (**Annexure IV**).

27. Issues of furniture to civilian personnel paid from Defence Services Estimates are governed by Para 661 of MES Regulations (**Annexure IV**). They may be issued with furniture only when it is surplus to normal requirements of the Station or if the articles issued to them are obsolete. Where surplus or obsolete articles of furniture are not held, no issues are to be made to civilian personnel.

**Furniture in Hired Buildings**

28. As laid down in Para 262 of MES Regulations (**Annexure IV**), rent for furniture taken over with hired buildings will be paid out of Major Head 271 Minor Head 6, Detailed Head-General Charges.

**Hiring Charges**

29. Hiring charges for furniture will be in accordance with Para 669 to 701 of MES Regulations (**Annexure IV**).

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30. Gol has clarified vide their letter 64335/Q3(B-i)/237-S/D(Qtg) dated 27 Oct 80 (reproduced as **Annexure VI** ) that compensation in lieu of furniture at the rate of 2.5% of pay is to be paid to JCOs/ORs and their equivalent in the Navy and Air Force. The policy is still valid and rates have not been amended so far.

**MAINTENANCE**

31. Fund for maintenance of furniture is to be projected by the GE (AF) in the Annual Maintenance Programme as per the authorisation and scales. Allotment of funds will be made by respective HQ Command out of the bulk allotment received from Air HQ under Major Head 2078, Minor Head 111, sub head (d) Maintenance of building and communication, Code Head 760/06 – Furniture Maintenance. Allotment of funds is the authority for undertaking maintenance of furniture and ordinary repair/renewal of furniture as per Para 9 (a) (v) of DWP 2007.

32. Maintenance of furniture includes the following:-

- (a) Procurement of new furniture against surveyed off (BER) subject to the ceiling of 50% of total annual allotment of maint funds for furniture (Max. ₹. 4 Lakh per annum on station basis)
- (b) Re-stringing of charpoys.
- (c) Re-caning of chairs.
- (d) Polishing and Varnishing.
- (e) Repairs of all kinds including Oiling, greasing of hinges, repair of locks, repair/replacement of keys handles, railing etc.
- (f) Painting of steel furniture including lettering and security markings on the shutters as required.
- (g) All type of upholstery and tailoring work for cushions of sofas, chairs etc.
- (h) All type of labeling, bar coding and stickers etc required for accounting of furniture.

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**Maintenance Programme**

33. In order to ensure timely and proper utilization of maintenance funds , AOC/Stn Commander is to ensure that complete requirement of maintenance of furniture is to be incorporated in Station Annual Maintenance Programme well in time in consultation with BSO and GE. Besides the known requirements, bulk provisioning of stores required for repair and maint is to be made to cater for repair and other maintenance items that will become necessary from time to time.

34. In order to utilize full 12 months period of a financial year, GE is to plan maintenance contracts well before the beginning of financial year without waiting for formal allotment of funds. Full use of the provision of Carryover liabilities as admissible under Para 183 of Regulation for MES be made by GE with prior approval of AOC/ Stn Cdr/C Adm O.

35. The maintenance / repair programme for repair of furniture be prepared on the basis of the following inspections:-

- (a) Annual furniture stock taking by Stn BOO.
- (b) Transaction registers of issue, receipt and exchange of furniture.
- (c) Routine inspection of the GE and CWE.
- (d) Annual joint inspection by medical authorities and MES rep in hospitals.
- (e) Senior officer's visits cum inspection.

36. **Utilisation of Maint Funds.** The maint funds allotted for furniture must be utilized judiciously on maint of existing furniture as well as on renewal/replacement of BER furniture. Proportional allocation of funds is to be made based on the following priorities:-

<b>PRIORITY</b>	<b>MAINT WORKS</b>
First	Repair and re-taping of charpoys GI pipe/Newars /Beds
Second	Repair to wooden furniture for md accn PBORs
Third	Re-caning of chairs, painting of steel furniture
Fourth	Repairs to furniture for OTM accommodation
Fifth	Repairs to sofa-sets and other furniture of officers
Sixth	Renewal against condemned articles of furniture

37. In case of furniture, GE has condemnation power to a tune of ₹ 40,000/- per quarter on the basis of life. Which means old and unserviceable furniture worth ₹ 1.60 lakh as per current book value can be declared BER in one financial year. Considering the book value of old furniture being very low, this amount is very large to meet the

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genuine requirements of the station. However, if still found inadequate then the financial powers of CWE and unlimited powers of zonal CE may be utilised. Deficiency generated on account of declaration of this BER furniture could be made good through replacement/renewal out of maintenance grant as mentioned above. Hence stations are to maintain record of deposit registers properly and keep track of deposited furniture which falls in the category of BER. Computerisation could be a boon for such activity.

### **Repair/Replacement**

38. Like minor defects in buildings i.e. leaking taps, unserviceable fans/lights etc, and non-attendance to defective articles of furniture is a definite source of irritation, particularly in respect of the furniture issued to living-in and living-out personnel for their personal use. The Station Commander is personally responsible for laying down a procedure that will cater for the following:-

- (a) Manner in which the personnel report the un-serviceability of furniture.
- (b) Daily check of entries regarding un-serviceability of furniture by Barrack Warden and Sqn Cdr Works.
- (c) Action to be taken by the Station Administration for ensuring that either alternative article is issued from available stock as a replacement or immediate repair action is taken.

39. The above stated procedure is to be a part of the Station Standing Orders and is to be published in Station Routine Orders at intervals; not exceeding three months. However much higher user satisfaction could be achieved if the computerisation of furniture inventory and exchange system with robust software as mentioned in Para 24 above is put in place.

40. The concurrent Board of Officers detailed as per Chapter III is to be made responsible for carrying out a check of the execution of maintenance programme.

### **PERIODICAL CHECKS**

41. Over a period of time it has been experienced that it is practically not possible to follow too many periodical checks as laid down for furniture. It has therefore been decided that there will be only following periodical checks of furniture to be carried out:-

- (a) Half yearly Check by renewal of loan card by the inventory holder.
- (b) Annual Physical verification and stock taking.

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**Half yearly Inventory Check**

42. This check is to be carried out on 01 Oct and 01 Apr every year. The check is to be carried out by each inventory holder himself. The check is to include 100% physical check of all the furniture items held on his charge by each loan card holders / inventory holders himself and the inventory holder is to confirm the same to Barrack Warden in writing as per the certificate given in **Appendix 'D'** duly countersigned by his section commander or CO as applicable. On receipt of the certificate Barrack Warden is to renew the loan card/inventory. Barrack Warden is to maintain record of all these certificates in the order of Serial Numbers of Loan Card/Inventory number. This confirmation action is to be completed by **20 Oct** and **20 Apr** every year. On **01 Nov** the barrack warden is to confirm through C Adm O on note on file to AOC/Station Commander about the completion of half yearly check. The check of April is to be clubbed with annual physical verification check. Living out personnel are exempted from furniture checks as they are personally responsible for it in their respective quarters.

43. Sqn Cdr Works is to prepare a suitable programme for the half yearly check and publish in Station Routine Orders on the following lines:-

- (a) Duties and timings of check in different sections.
- (b) List of loan Card holders/Inventory holders.
- (c) Action to be taken in case of furniture found unserviceable or deficient.
- (d) Dates of Submission of certificates.

44. **Annual verification Check.** Annual verification of the furniture held on charge will be carried out by actual counting in the unit lines, during the months of January to March according to a programme to be published in Station Orders. This Check is to be ordered by CWE (AF) and to be carried out by a BOO including a MES officer other than from the station. This annual verification Board has following two distinct parts:-

- (a) **Internal Annual Physical Verification Check.** Annual Physical Verification of all the furniture held by the entire inventory /loan card holders who have been issued furniture by Barrack Warden by an internal station BOO.
- (b) **Annual Physical Verification Check With External MES Rep.** Annual Physical Verification of all the furniture held by all the inventory /loan card holders who have been issued furniture directly by BSO including Barrack Warden by an external Station BOO with a MES rep detailed by CWE.

**Internal Annual Physical Verification Check**

45. Internal Annual Physical Verification Check is to be carried out on **01 Apr** every year by a Board of Officers. This verification is to be done based on **Total** holding of all type of furniture held by Barrack warden at station level. The following will be its composition:-

- (a) **Presiding Officer.** An Air Force Officer, other than C Adm O or Adm Officer Flt Cdr (Quartermaster) or any other officer, who, during the preceding 12 months was required to perform any duty connected with Air Force Works Services at the Station.
- (b) **Members.**
  - (i) An officer of Superintendent or Supervisor Grade I of MES.
  - (ii) Additional Air Force members from each major Unit/Section as considered necessary. (They may be officers or MWOs/WOs or civilians of equivalent status).
- (c) **In Attendance.** Barrack Warden.

46. This check is to be carried out in accordance with the following terms of reference:-

- (a) To carry out 100 % physical verification of furniture in accordance with the instructions laid down in the following publications:-
  - (i) IAP-1501, Chapter 13 (**Annexure I**).
  - (ii) MES Regulations, Para 670 (**Annexure IV**).
  - (iii) Memorandum, Para 62 (**Annexure VII**).
- (b) To list deficiencies in Barrack Warden store.
- (c) To list deficiencies against issues made to sections/sites/individuals.
- (d) To list unserviceable articles of furniture to be manufactured /purchased against the following:-
  - (i) Initial supply by sanctioning major/minor works.
  - (ii) As a part of maintenance programme for the replacement of unserviceable articles.
- (e) To make recommendations.

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**Annual Physical Verification Check With External MES Rep**

47. This Check will be an extension of the internal check to ascertain the physical holding of furniture by the agencies who have been issued furniture directly by BSO and stock holding of BSO. This verification is to be done based on total holding of all type of furniture held by BSO at station level and will be carried out by the Barrack/Stores Branch and Unit representatives. The copies of the Unit Distribution Ledger (IAFW-1814) held by the Barrack/Stores Branch and the Unit will be signed by the BOO including external MES rep and BSO at the conclusion of the verification.

**TRANSFER OF FURNITURE**

48. Rules on the subjects are contained in Para 656, 657, 662, 672 and 736 of MES Regulations (**Annexure IV**). The following points are to be kept in mind by the Air Force authorities:-

- (a) As long as furniture is not held surplus to the requirements of an Air Force Station it should not be moved out of the Station.
- (b) In case an Air Force Squadron/Unit moves out of its location to another location, the move of furniture for use by the squadrons/unit will be permitted after the following conditions are satisfied:-
  - (i) After the move of the squadron/unit furniture will be surplus to the requirements of other units located at the Station. The surplus furniture will be determined after checking the requirement of the Station and other units in accordance with the laid down scales.
  - (ii) A written confirmation is obtained from Air Force/MES authorities at the new location that furniture is not available to meet the requirements of the unit moved there.
  - (iii) The cost of transportation is ascertained from the MES.
  - (iv) A consolidated case is put up to HQ if the transfer is within units under same command or Air HQ in case of inter command transfer through laid down channels and prior permission of concerned authority is obtained.

49. HQ Command will approve with advice of zonal Chief Engineer and DAFW is to seek the advice of the E-in-C's Branch before issuing authority for the transfer of furniture within commands.

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50. Transfer of furniture from one station to another station will be done through MES and not directly by Air Force Stations. The furniture to be transferred is to be returned to MES who will make necessary arrangements for its transportation to the new location.

51. Transfer of furniture procured from Air Force budget to Army/Navy unit or other organizations looked after by the MES is not permissible without obtaining Air HQ permission, even if such transfers are proposed between Air Force and Army units located at the same place.

**CARE AND MAINTENANCE OF FURNITURE**

**General Problems and Suggestions**

52. Furniture is one of the important aspects of barrack services. In general all personnel expect not only the best furniture but also speedy replacements. In order to provide best of services, it is essential to identify the problem areas and educate the personnel on proper care and maintenance of furniture items issued to them. Station administration is to educate the personnel through SROs and welfare Parades. Recovery actions will have to be initiated, should there be a need. Centralised collection and distribution by station authorities wherein personnel can exchange their furniture close to their respective quarters. Station is to ensure a proper yard for both serviceable and unserviceable furniture so that it does not become BER. Regular inspection visits by station authorities to furniture yards is a must to ensure the same. It is very important that every user of service furniture not only ensures physical safety and accounting but also ensure proper utilisation. Some of the points that need to be brought to educate all personnel through repeated SRO entries, notices, slogans, are listed below:-

- (a) During postings and local shifting, personnel are not to resort to unauthorised shifting or exchange of furniture.
- (b) Personnel are to immediately deposit unserviceable furniture for repair and re-caning etc.
- (c) Furniture is not to be left in open areas exposed to sun and rain.
- (d) Personnel are not to sign vouchers or any other documents for polishing or varnishing of furniture without actually getting them done.
- (e) Furniture items are not to be used to keep coolers or other heavy items.
- (f) Sofa cushions are to be regularly dusted and kept in neat and clean condition.

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**FUNCTIONS OF STATION BARRACK WARDEN**  
**IN RESPECT OF FURNITURE**

1. As the designation implies, the Barrack Warden is the custodian of all buildings, barrack equipment and furniture on the Station.
2. Brief particulars of duties are given in the succeeding Paragraphs. While performing these duties, he is to bear in mind the following points:-
  - (a) Acts as the medium through which the MES buildings and furniture for all purposes, except for the Officers Married Quarters are taken over by the Station.
  - (b) Acts as the medium through which the Barrack Equipment is issued by the Equipment Section.
  - (c) All the buildings, furniture and barrack equipment which are not, issued in an authorised manner to the authorised persons are his personal responsibility.
  - (d) He is to carry out all his duties under the direct supervision of the Sqn Cdr Works.
  - (e) At no time he is to leave the Station on posting, temporary duty, leave etc. without properly handing over his duties as well as the charge of buildings, furniture and barrack equipment to another individual to be detailed by the Sqn Cdr Works/ C Adm O.
  - (f) While carrying out his duties, he is to bear in mind rules and regulations laid down in the following. Satisfactory execution of all these duties, under the supervision of the Sqn Cdr Works / C Adm O is his responsibility.
    - (i) IAP 1501 (Indian Air Force Equipment Regulations) Chapter 13, Para 13 to 32.
    - (ii) Memorandum on procedure, Organisation and Duties of Barrack / Stores Branch of the MES (For guidance in regard to the duties of MES).
    - (iii) IAP 1503 Part 'B'.



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- (iv) Scales of furniture for Defence Services 1989.
  - (v) Scales of furniture for Armed Forces Hospitals 1990.
  - (vi) Letters, rules, regulations and orders issued by the Government of India, Air Headquarters etc.
3. Details of duties/procedure related to detailed aspects of the Barrack Warden's duties will be issued separately by the Station Commander. Briefly, the Barrack Warden is responsible for carrying out the duties stated in succeeding Paragraphs.
4. The Barrack Warden is the custodian of all the furniture on the Station, with the exception of furniture issued to Married quarters for officers.
5. **Scales.** Scales of furniture are issued from time to time. Unless specifically authorised by the Sqn Cdr Works / C Adm Oin writing, the issue of furniture to section, married quarters, etc are not to exceed the authorised scales. The amendments to additional scales issued from time to time by the government of India are to be implemented in time.
6. **Numbering of Furniture.** Each items of furniture is to be serially numbered in paint or with Bar Code.
7. **Authorisation and Holding Record.** A register showing the authorization and physical holding of furniture by the Station is to be maintained, clearly showing the items and their quantities authorised, quantities held and action initiated for providing the deficient items.
8. **Issue of Furniture.** An item of furniture is to be issued on IAF Form (Q) 447 (Issue Voucher) or IAF Form (Q) 446 (Exchange Voucher), depending on whether the issue is without a similar item (same nomenclature) being returned or is in exchange of an unserviceable item of the same nomenclature. No other mode of issue is to be resorted to without a written permission of the Sqn Cdr Works / C Adm O.
9. **Return of Furniture.**
- (a) An item of furniture will be returned by an inventory holder on either of the following occasions:-
    - (i) When it requires repairs.
    - (ii) When it is to be exchanged.
    - (iii) When it become surplus to requirements.

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(b) In case a replacement of similar nomenclature is being made available at the time of return of an item of furniture, IAF Form (Q) 446 is to be raised. Other wise IAF Form (Q) 448 is to be raised.

10. **Distribution Records.** Whenever an item of furniture is issued by or returned to the Barrack Warden, the latter is to take the following action without any delay:-

(a) Form W 1814 (Internal Distribution Ledger) is to be completed.

(b) IAF Form (O) 304 (List of Furniture and Barrack Equipments) is to be duly completed /amended.

11. **Repairs of Furniture.** All unserviceable items of furniture are to be returned to the MES on Form IAF 2096. Items of furniture received from the MES either after repairs or in replacement of condemned items, are to be obtained on an appropriate MES form.

12. **Polishing and painting of Furniture.** A programme for the polishing and painting of furniture is to be finalised by the Sqn Cdr Works / C Adm O as a part of the maintenance programme of the year. Barrack Warden is to take the following action:-

(a) Publishing in the SRO's and notification to section / allottees regarding the programme of the maintenance of furniture.

(b) Maintenance of 'Polishing and Painting Programme Register', clearly recording the date of polishing each item (by serial number) each year.

13. **Replacement of furniture by the MES out of Maintenance Grant.** Items rendered unserviceable and beyond economical repairs are condemned by the MES. They are replaced out of the Maintenance Grant. Proper records are to be maintained for the following:-

(a) Particulars of items returned to and condemned by the MES.

(b) Particulars of replacements received.

14. **Periodical Checks of Furniture.** He is to advise the Sqn Cdr Works / C Adm O and take necessary steps, according to his directions, for ensuring that the following checks of furniture are carried out, as laid down in IAP 1501, Chapter 13, Para 28 to 30. He is the custodian of furniture of the Station, and is required to take active and effective steps to ensure that these checks are carried out in time and in the laid down manner:-

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- (a) Half Yearly Check by Inventory Holders.
- (b) Annual Physical Verification.

**Barrack Equipment**

- 15. The Barrack Equipment is supplied from the Air Force Equipment Channels.
- 16. Receipt and return of Barrack Equipment is to be done in a manner similar to the receipt and return of other service equipment. An inventory for the items held is to be maintained, like the other inventories of the service issues.
- 17. All items, of Barrack Equipment are to be recorded on the following, like the items of furniture:-
  - (a) IAF Form W 1814 (Internal Distribution Ledger).
  - (b) IAF Form (O) 304 (List of furniture and Barrack Equipment).
- 18. Issues of items of Barrack Equipment to inventory holders and their return are to be done in the same manner as furniture.

**Particulars of Inventory Holders**

- 19. Particulars of inventory holders for buildings, furniture and Barrack Equipment are to be published in the SROs during the first week of April and October each year with an instruction that if anyone's name is published wrongly he is to contact the Barrack Warden immediately.
- 20. In the first week of April and October each year the Barrack Warden is to personally ensure with the Section Commanders concerned that the inventory holders as per the records are on the posted strength of the Station (including lodger units). In case it is discovered that any particular inventory holder has left the Station without handing over his inventory, the matter is to be immediately reported to the Sqn Cdr Works / C Adm O.

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**Appendix 'B'**

(Refers to Para 10 of Chapter VI)

**PROVISION OF DEFICIENT FURNITURE FOR MESSSES**  
**ACCOMMODATION STATEMENT PART – I**

SI No	Rank	Authorised Establishment	Authorised % for Mess Facilities	Authorised Strength For Mess facilities	Total Authorised Strength for Mess
<b><u>OFFICERS' MESS</u></b>					
1.	Sqn Idr & Above	95	100 %	95	
2.	Flt Lt	89	100 %	89	
3.	Fg Offr	11	100 %	11	195
<b><u>SNCos' MESS</u></b>					
4.	MWO/WO	155	100 %	155	
5.	JWO	203	100 %	203	
6.	SGT	573	100 %	573	931
<b><u>NO 1 AIRMEN MESS ( 18 WING, 302 TRU, 731 SU, 443 MOF, 6 TTCU, FTU, 23 P &amp; S &amp; 1 LU)</u></b>					
7.	CPL	302	50 %	151	
8.	LAC/AC	263	65 %	171	322
<b><u>NO 2 AIRMEN MESS (108 SQN, 125(H) SQN, TECH FLT(M)</u></b>					
9.	CPL	382	50 %	191	
10.	LAC/AC	264	65 %	177	363
<b><u>NO 3 AIRMEN MESS ( 26 SQN, 2216 SQN, 2301 IGLA FLT)</u></b>					
11.	CPL	343	50 %	172	
12.	LAC/AC	185	65 %	120	292
<b><u>DSC MESS ( 4 ¾ DSC PLATOON ) = 261</u></b>					
13.	Havaldars & ORs	261	65 %	169	169

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**Appendix 'C'**  
(Refers to Para 10 of Chapter VI)

**PROVISION OF DEFICIENT FURNITURE FOR MESSES**  
**ACCOMMODATION STATEMENT PART – II**

SI No	Item	A/U	Qty Auth	Qty Req	Qty Held	Net Def.	Rate	Amount	Authority
<b>OFFICERS' MESS (STR – 195)</b>									
01.	Chair Dinning with long back	"	128	96	NIL	96	2400/-	2,30,400/-	Scale of furniture for Defence Services 1989 (Table 6.1)
02.	Side Board Large	"	04	04	-	04	6500/-	26,000/-	
03.	Sofa Set 5 Seater	"	10	-	-	10	12000/-	1,20,000/-	
04.	Table Centre Anodized Iron with Glass top (Two tier)	"	10	10	-	10	2200/-	22,000/-	
05.	Table dinning for 8 person	"	16	12	-	12	6500/-	78,000/-	
06.	Table Peg	"	40	20	-	20	500/-	10,000/-	
07.	Chair Easy Cushioned	"	48	30	-	30	1200/-	36,000/-	
<b>Total</b>								<b>5,22,400/-</b>	
<b>SNCOs MESS (STR – 931)</b>									
01.	Chair Dinning	"	360	180	34	36	880/-	31,680/-	Scale of furniture for Defence Services 1989 (Table 6.III)
02.	Side Board Large	"	15	05	-	05	6,500/-	32,500/-	
03.	Table Dinning for 6 person	"	60	30	9	21	5,000/-	10,500/-	
04.	Sofa Set for 3 person	"	15	12	07	05	5,500/-	27,500/-	
05.	Table Centre Two tier	"	15	10	-	10	1,500/-	15,000/-	
06.	Peg Table	"	30	20	11	09	500/-	4,500/-	
<b>Total</b>								<b>2,16,180/-</b>	
<b>NO. 1 AIRMEN MESS (STR – 322)</b>									
01.	Chair Dinning (1 per 2 person)	"	161	156	NIL	156	880/-	1,37,280/-	Scale of furniture for Defence Services 1989 (Table 6.IV)
02.	Table Dinning for 6 person	"	26	26	08	18	5,000/-	90,000/-	
03.	Chair Easy (10 per hall)	"	10	10	-	10	950/-	9,500/-	
<b>Total</b>								<b>2,36,780/-</b>	

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**Appendix 'C'(Cont'd)**  
(Refers to Para 10 of Chapter VI)

<b>NO. 2 AIRMEN MESS (STR – 363)</b>									
01.	Chair Dinning (1 per 2 person)	“	181	120	NIL	120	880/-	1,05,600/-	Scale of furniture for Defence Services 1989 (Table 6.IV)
02.	Table Dinning for 6 person	“	30	120	13	07	5,000/-	35,000/-	
03.	Chair Easy (10 per hall)	“	10	10	-	10	950/-	9,500/-	
<b>Total</b>								<b>1,50,100/-</b>	
<b>NO. 3 AIRMEN MESS (STR – 292)</b>									
01.	Chair Dinning (1 per 2 person)	“	146	120	NIL	120	880/-	1,05,600/-	Scale of furniture for Defence Services 1989 (Table 6.IV)
02.	Table Dinning for 6 person	“	24	120	NIL	20	5000/-	1,00,000/-	
03.	Chair Easy (10 per hall)	“	10	10	NIL	10	950/-	9,500/-	
<b>Total</b>								<b>2,15,100/-</b>	
<b>DSC MESS (STR – 169)</b>									
01.	Chair Dinning (1 per 2 person)	“	85	85	NIL	85	880/-	74,8000/-	Scale of furniture for Defence Services 1989 (Table 6.IV)
02.	Table Dinning for 6 person	“	14	14	NIL	14	5000/-	70,000/-	
03.	Chair Easy (10 per hall)	“	10	10	NIL	10	950/-	9,500/-	
<b>Total</b>								<b>1,54,300/-</b>	

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**Appendix 'D'**  
(Refers to Para 42 of Chapter VI)

**CERTIFICATE**

**Unit**

**Inventory No:**

**Section**

1. I, Service number.....Rank .....  
Name..... Trade/Branch.....certify that I have carried out  
100% physical check of all the furniture items held on my charge in respect of Inventory  
No..... I confirm that:-

- (a) All the items are physically present and there is no deficiency.
- (b) All the items are physically present except for the list of deficient items which is enclosed.
- (c) All the items are physically present except for items which have been returned for repair/replacement. The list is enclosed.

2. My loan card may be renewed.

Date

-----  
Inventory Holder

**COUNTERSIGNED BY**

Commanding Officer/Section Commander

Date

**EXTRACTS FROM IAP 1501 (INDIAN AIR FORCE EQUIPMENT  
REGULATIONS) CHAPTER 13**

**OFFICE AND TECHNICAL FURNITURE AND BARRACK EQUIPMENT**

**Scale of Furniture**

13. Furniture used by the IAF consists of:-

- (a) Barrack and hospital furniture.
- (b) Technical and office furniture.

14. The scales of issue of furniture and information as to the source of supply are contained in the following publications:-

- (a) For all types of Accommodation less MH refer to 'Scales of Furniture for Defence Services 1989' published by QMG branch, Army HQ.
- (b) For MH, refer to 'Scales of Furniture for Armed Forces Hospital – 1990'.
- (c) GoI, MoD letter No 35105/79/Pol (Wks Proc)/1135 DO-II/D(W-!) dated 09 Oct 2006 specified the revised scales of furniture for married accommodation for defence services personnel.
- (d) Barrack and Hospital Schedules.
- (e) Government policy letters issued from time to time.
- (f) Scales of Accommodation (War).
- (g) Barrack Synopsis (India).
- (h) IAP 1503, Part (B).

**Raising of Demands**

15. When the Commanding Officer directs that authorised accommodation is to be occupied, if it is not already equipped, the Station Administrative Officer is to demand items of MES supply from MES authority in accordance with scales.



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16. Items of Air Force supply are to be demanded from unit stores in accordance with the scale of issue in the same manner as any other IAF equipment and are to be issued to the special inventory held by the Station Administrative Officer and recorded on IAFF (o) 304. Items obtainable from MES are to be held on barrack ledger charge by the Station Administrative Officer or where one has not been appointed other officer appointed by the Commanding Officer. Issues and returns of articles of furniture and barrack room equipment of MES supply taking place between MES and IAF unit are affected by a transfer voucher IAFW 2253 and the issues and returns are to be recorded in the copy of MES ledger IAFW 1814 held by the officer responsible for MES furniture. These transfer vouchers are to be serially numbered from a manuscript register of numbers for record purposes. These numbers are not to be confused with issue voucher and receipt vouchers numbers used in Air Force equipment accounting and recorded in Forms (Q) 435-A and B and (Q) 436-A and B. No voucher action is necessary in the case of articles exchanged by the MES except in cases where the MES raise a charge for damage.

17. All internal issues, returns, exchanges and conversions affecting furniture and barrack equipment are to be carried out on the appropriate vouchers. Separate vouchers are to be prepared for items of IAF supply and MES supply. Regular voucher numbers are to be allotted: the vouchers forms are to be raised in single copy and are to serve solely as temporary records to support the movements of furniture.

**Furniture Distribution Records**

18. The Station Administrative Officer, or if one has not been appointed, other officer as appointed by the Commanding Officer, is to maintain 'in book form' a furniture distribution record. The vertical columns are to be headed with building or room number and a reference to the serial number of the appropriate Form IAFF (O) 304, and the horizontal lines are to show the items of furniture, as nearly as possible in the order they appear on the Form IAFF (O) 304.

**Preparation of IAFF (O) 304**

19. Form IAFF (O) 304 for MES furniture are to be prepared by the Station Administrative Officer or, where one has not been appointed, other officer as appointed by the Commanding Officer, in respect of each building, room or premises, the furniture issued to such accommodation being listed on Form, IAFF(O) 304 under separate headings namely: MES supply and 'Air Force Supply' Both copies of the Form IAFF(O) 304 are to be signed and dated by the person detailed as in charge of the accommodation concerned. The original Form (O) 304 is to be pasted on an inventory board and is to be kept available in the room or premises to which it refers, and the duplicate is to be retained by the Station Administrative Officer, or, other officer as stated above.

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20. Separate Forms (O) 304 are to be prepared for each room in which furniture and barrack equipment is held unless the grouping of, or allotment of responsibility for, separate rooms renders this course unnecessary.

21. **Flight and Section.** The Station Administrative Officer is to ascertain from the flight or section commander if a full issue of furniture and barrack equipment is required.

22. Forms (O) 304 are then to be prepared in duplicate by the Station Administrative Officer. Both copies are to be signed and dated by the Station Administrative Officer and flight or section commander. The responsibility for such equipment then becomes the responsibility of the flight or section commander. The original copy is then to be pasted in a suitable place in flight or section commander's room and the duplicate retained by the Station Administrative Officer for record. Issues subsequent to the raising of Form (O) 304 will be made on Forms (Q) 304.

23. Flight or section commander will thereafter be responsible for the preparation of demands returning or exchanging equipment held or to be held on Form (O) 304.

24. **Married Airmen's Quarters.** Demands for items of Barrack Equipment and Furniture for the initial furnishing of airmen's quarters are to be prepared by the officer in charge of these quarters and forwarded to the Station Administrative Officer for approval. Forms (O) 304 will be prepared in duplicate for each quarter and all copies of Forms (O) 304 will be signed by the occupant of the quarter.

25. On change of occupancy the quarter is to be handed over by the outgoing tenant or his representative to the incoming tenant in the presence of the Station Administrative Officer or his representative. In cases where the incoming tenant is not available the quarter is to be handed over to the Station Administrative Officer. In the event of any dispute arising over the responsibility for loss or damage the matter is to be referred to the commanding officer for a decision.

26. **Alterations to Form (O) 304.** Whenever any alteration occurs in the quantity of equipment held, the person responsible for the accommodation concerned is to forward his copy of the appropriate Form (O) 304 together with the necessary vouchers, to the officer responsible for furniture and barrack equipment. The original and duplicate Forms (O) 304 are then to be corrected, the correction on both copies being attested by the initials of the officer responsible for the accommodation. The necessary corrections are to be made to the furniture distribution book.

27. **Movement of Furniture.** No movements of furniture and barrack equipment are to be made unless prior sanction of the Station Administrative Officer or, if one has not been appointed, other officer as appointed by the Commanding Officer, has been obtained.

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### **Periodical Checks**

28. All furniture and barrack equipment in use is to be checked half-yearly at the same time as and in a manner similar to the independent check of inventories prescribed in Chapter 12, Para 78-95. In addition checks are to be carried out quarterly by the persons holding the equipment on Form IAFF (O) 304 charge. Certificates to the effect that these checks have been carried out are to be forwarded to the Station Administrative Officer who is to verify that all discrepancies are properly adjusted.

29. An annual verification of furniture of MES supply will be carried out by an officer of the MES. If possible, Commanding Officers should arrange with the MES for the annual verification to take place during the period of annual stock-taking called for by Chapter 25. The annual verification may be regarded as one of the half-yearly checks.

30. A check of the items of furniture affected is always to be carried out whenever accommodation is vacated or a change of occupant occurs. These checks may be regarded as periodical or independent checks only if they take place at a time when the periodical or independent checks fall due.

### **LOSSES AND DAMAGES**

31. Any losses of or damage to items of Air Force supply due to unfair wear and tear are to be dealt with in accordance with the rules contained in Chapter 23 read with Financial Regulations.

32. Losses of, or damage to buildings or other immovable property are to be dealt with in accordance with Para 2 of Chapter 22 as indicated below:-

(a) Whenever a loss in respect of an MES building and/or furniture and equipment occurs, the commanding officer of the unit or station concerned is to institute necessary investigation under the rules in force, and take such action as is proper against individuals who can be found directly responsible for the loss.

(b) In cases in which it is decided to effect recovery from the individuals responsible for the loss, the MES is to prepare a priced transfer voucher in respect of the items concerned and forward four copies of the voucher 'A', 'B', 'C' and 'D' together with a receivable order, to the unit. The Commanding Officer of the unit is to cause the amount concerned to be recovered from the person or persons responsible and paid into the treasury through the Reserve Bank or the State Bank of India as the case may be in favour of the C.M.A. in whose area the MES formation concerned is located. The number of treasury receipt is to be entered on all copies of the transfer voucher and copies marked 'A' and 'B' are to

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be returned together with the treasury receipt, to the MES who will then issue replacements or carry out repairs as required. Copies of the transfer voucher marked 'C' and 'D' are to be retained in the unit for record.

(c) The losses shown on the loss statements should represent the book value of buildings and furniture and not the assessed value at the time of the loss or damage. The figures of book value will be provided by the local Engineer.

(d) Form IAFA-498 in triplicate duly signed by the Commanding Officer of the unit, priced by the local MES authority and certified by MES Accountant, together with the Engineer Survey and two copies of the proceedings of the Court of Inquiry or Investigation, is to be forwarded to the appropriate IAF Command Headquarters, or in the case of a unit or station which is under the direct administrative control of Air Headquarters to that Headquarters, concerned, if the amount to be written off is beyond the financial powers of the commanding officer of the station or unit.

(e) Command Headquarters are to scrutinize the documents received from the Station or Unit Commander. If the Loss falls within their financial powers, the loss statements duly sanctioned after obtaining an audit report thereon from the CDA/JCDA concerned by those Headquarters are to be returned to the OC Station/Unit. If the amount of loss is beyond the financial powers of the Command Headquarters, the loss statements are to be forwarded to the Air Headquarters with their recommendations in the following manner:-

(i) In case, where no Court of Inquiry has been held or considered necessary, the loss statement is to be forwarded to the Air Headquarters.

(ii) In cases, however, where Courts of Inquiry etc, are involved or held the loss statement in duplicate (original and duplicate) together with original and duplicate) together with original and two copies of the Court of Inquiry proceedings is to be forwarded direct to Air Headquarters (P.S. Directorate) who will obtain an audit report from the CDA/JCDA concerned before a write off is approved. For this purpose one copy each of IAFF (P) 28 and IAFA-498 will be made available to the audit authorities for scrutiny and report.

**Note:** Forms IAFA—498 complete in all respects and supported by relevant documents should reach Air Headquarters within a month of occurrence/discovery of the loss.

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Annexure II  
{Refers to Para 6 (c) of Chapter VI}

**CIRCULATED VIDE AIR HQ/37511/204/W (P&C) dt 20 OCT 06**

No. 35105/79/Pol (Wks Proc)/1135/DO-II/D(W-1)  
Government of India  
Ministry of Defence  
New Delhi-110011

09 Oct 2006

To

The Chief of Army Staff  
The Chief of Naval Staff  
The Chief of Air Staff

**Subject: REVISION OF SCALES OF FURNITURE FOR MARRIED  
ACCOMMODATION FOR DEFENCE SERVICES PERSONNEL**

1. I am directed to convey the sanction of the President for revision of the existing 'Scales of Furniture for Defence Services -1989' for married accommodation of the under mentioned service Officers/JCOs/ORs and their equivalent ranks as per the scales indicated in Appendices A to H to this letter :-

- (a) The Chief of the Army Staff  
The Chief of the Naval Staff  
The Chief of the Air Staff - **Appendix – A**
- (b) The Vice Chief of the Army, Navy and Air Force  
and PSOs of the rank of Lt Gens and their equivalent  
ranks in the Air Force and Navy - **Appendix – B**
- (c) Lt Gens other than PSOs and their equivalent  
rank in Air Force and Navy - **Appendix – C**
- (d) Maj Gens and their equivalent ranks in Air Force  
and Navy - **Appendix – D**
- (e) Majors to Brigs and separated families  
accommodation of Maj Gens and above and their equivalent  
ranks in Air Force and Navy - **Appendix – E**

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- (f) Capts and below and separated families accommodation upto Brigs and their equivalent ranks in Air Force and Navy - **Appendix – F**
- (g) Married and separated families accommodation of JCOs and their equivalent ranks in Air Force and Navy - **Appendix – G**
- (h) Married and separated families accommodation of OR and their equivalent ranks in Air Force and Navy - **Appendix – H**
2. The Scales of Furniture for Defence Services – 1989 stand amended accordingly. This office letter No 35105/79/Q3(Policy)/349/DO II/(W-1) dated 13 May 1993 and letter No B/50448/Q3W(West)/1756/DO-II/D(W-1) dated 21 Sep 1998 and corrigendum issued vide letter No B/50448/Q3W(West)/1756/DO-II/D(W-1) dated 18 Dec 1998 are hereby superceded.
3. Certain new items of furniture have been introduced in the above-mentioned revised scales of furniture for married accommodation. Designs of certain existing items are being modified / changed to incorporate modern design features as well as to change over to durable environmental friendly material such as steel etc. whenever possible. Photographs of new items of furniture /new designs are given at **Appendix-I**.
4. Revised scales of furniture for married accommodation will be applicable to new married accommodation from the date of issue of this letter. Augmentation of the existing furniture to the revised scales will be carried out in phased manner in a time span of ten years. Existing scale of furniture falling short of new scales will not in itself be sufficient to justify the provision of additional furniture without full consideration of the need in each case. The existence of a scale will neither constitute evidence of need nor is an authority of financial sanction for procurement of new furniture or for making improvements in the existing items of furniture.
5. Built in furniture may be provided in existing married accommodation and accommodation which has been completed / DPR finalised under Married Accommodation Project (MAP) on the date of issue of these orders. Loose furniture may be provided in new married accommodation to be built / DPR approved after the issue of these orders on revision of scales of furniture for married accommodation.
6. While procuring the furniture, all out efforts are required to be made to generate competition so that benefit of competition, bulk purchase/economy of scales results in reducing the cost to the maximum extent possible.
7. This issues with the concurrence of Ministry of Defence (Fin/Wks) vide their UO No. 919/Fin/W-II/06 dated 04 Oct 2006.

Yours faithfully,

Sd/-xxxx  
(DK Sharma)  
Desk Officer

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Annexure II (Cont'd)

Appendix-A

**SCALES OF FURNITURE FOR MARRIED ACCOMMODATION FOR THE CHIEF OF THE ARMY STAFF, CHIEF OF THE NAVAL STAFF AND CHIEF OF THE AIR STAFF**

<b>Ser No</b>	<b>Description of item</b>	<b>A/U</b>	<b>Qty</b>	<b>Remarks</b>
1.	Almirah Steel	"	6	Large-2(Half hanging), Medium – 2, Small-2
2.	Bath Stool	"	6	PVC
3.	Bed Hard Double (Size 6'x6x3")	"	1	
4.	Bed Hard (Size (6'x3')	"	6	
5.	Bin linen multi purpose	"	1	With ironing board
6.	Book shelf Steel	"	1	Glazed
7.	Cabinet Bathroom	"	Built in	
8.	Chair Computer	"	1	
9.	Chair Dining	"	8	With cushioned seat
10.	Chair Easy	"	2	
11.	Chair Verandah	"	8	With hard top
12.	Chair Writing	"	1	
13.	Charpoy folding IP	"	1	With hard top
14.	Display showcase built in	"	1	Shelves with glass sliding shutter
15.	Hat stand with mirror	"	1	
16.	Ladder Aluminum	"	1	
17.	Plate Rack	"	1	
18.	Rack Shoe Steel	"	2	
19.	Receptacle	"	1	
20.	Side Board	"	1	
21.	Sofa set (5 seater Cushioned)	Sets	2	
22.	Stool Dressing	Nos	3	With cushioned seat
23.	Table Bed side	"	8	
24.	Table Centre (Size 4'x2')	"	2	
25.	Table Computer	"	1	
26.	Table Dining (8 Pers)	"	1	
27.	Table Dressing (Ladies/dressing mirrors)	"	6	3+3 Dressing mirrors
28.	Table Peg'	"	4	
29.	Table 4'x3' for Printing/Fax	"	1	
30.	Table Writing (Size 4'x2'x6")	"	1	
31.	Teapoy	"	1	
32.	Teapoy Verandah	"	2	
33.	Trolley for TV	"	1	
34.	Wooden shelves	"	2	

(Total 34 items only)

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Annexure II (Cont'd)

Appendix-B

**SCALES OF FURNITURE FOR MARRIED ACCOMMODATION FOR VICE CHIEFS OF ARMY/  
NAVAL AIR FORCE AND PRINCIPAL STAFF OFFICERS (PSOs) OF THE RANK OF  
LT GENs AND EQUIVALENT RANKS IN THE AIR FORCE AND NAVY**

Ser No	Description of item	A/U	Quantity	Remarks
1.	Almirah Steel	"	4	Large-1(half hanging) Medium – 1, Small-2
2.	Bath Stool	"	3	PVC
3.	Bed Hard Double (Size 6'x6x3")	"	1	
4.	Bed Hard (Size (6'x3')	"	4	
5.	Bin linen multi purpose	"	1	With ironing board
6.	Book shelf Steel	"	1	Glazed
7.	Cabinet Bathroom	"	Built in	
8.	Chair Computer	"	1	
9.	Chair Dining	"	8	With cushioned seat
10.	Chair Easy	"	2	
11.	Chair Verandah	"	6	
12.	Chair Writing	"	1	With hard top
13.	Charpoy folding IP	"	1	With hard top
14.	Display showcase	"	1	Shelves with glass sliding shutters
15.	Hat stand with mirror	"	1	
16.	Ladder Aluminum	"	1	
17.	Plate Rack	"	1	
18.	Rack Shoe Steel	"	2	
19.	Receptacle	"	1	PVC
20.	Side Board	"	1	
21.	Sofa set (5 seater Cushioned)	Sets	1*	*2 Sets for Vice Chiefs
22.	Stool Dressing	Nos	3	With cushioned seat
23.	Table Bed side	"	6	
24.	Table Centre (Size 4'x2')	"	1	
25.	Table Computer	"	1	
26.	Table Dining (8 Pers)	"	1	
27.	Table Dressing (Ladies/dressing mirrors)	"	2	1+1 Dressing mirrors
28.	Table Peg	"	4	
29.	Table 4'x3' for Printing/Fax	"	1	
30.	Table Writing (Size 4'x2'x6")	"	1	
31.	Teapoy	"	1	
32.	Teapoy Verandah	"	2	
33.	Trolley for TV	"	1	
34.	Wooden shelves	"	2	

(Total 34 items only)

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Annexure II (Cont'd)

Appendix-C

**SCALES OF FURNITURE FOR MARRIED ACCOMMODATION FOR LT GENs  
OTHER THAN PSOs AND EQUIVALENT RANKS IN NAVY AND AIR FORCE**

<b>Ser No</b>	<b>Description of item</b>	<b>A/U</b>	<b>Qty</b>	<b>Remarks</b>
1.	Almirah Steel	"	4	Large-1(half hanging) Medium – 1, Small-2
2.	Bath Stool	"	3	
3.	Bed Hard Double (Size 6'x6x3")	"	1	
4.	Bed Hard (Size (6'x3')	"	4	
5.	Bin linen multi purpose	"	1	With ironing board
6.	Book shelf Steel	"	1	Glazed
7.	Cabinet Bathroom	"	Built in	
8.	Chair Computer	"	1	
9.	Chair Dining	"	8	With cushioned seat
10.	Chair Easy	"	2	
11.	Chair Verandah	"	6	
12.	Chair Writing	"	1	
13.	Charpoy folding IP	"	1	With hard top
14.	Display showcase	"	1	Shelves with glass sliding shutter
15.	Hat stand with mirror	"	1	
16.	Ladder Aluminum	"	1	
17.	Plate Rack	"	1	
18.	Rack Shoe Steel	"	2	
19.	Receptacle	"	1	PVC
20.	Side Board	"	1	
21.	Sofa set (5 seater Cushioned)	Sets	1	
22.	Stool Dressing	Nos	3	With cushioned seat
23.	Table Bed side	"	6	
24.	Table Centre (Size 4'x2')	"	1	
25.	Table Computer	"	1	
26.	Table Dining (8 Pers)	"	1	
27.	Table Dressing (Ladies/dressing mirrors)	"	2	1+1 Dressing mirrors
28.	Table Peg'	"	4	
29.	Table 4'x3' for Printing/Fax	"	1	
30.	Table Writing (Size 4'x2'x6")	"	1	
31.	Teapoy	"	1	
32.	Teapoy Verandah	"	2	
33.	Trolley for TV	"	1	
34.	Wooden shelves	"	2	

(Total 34 items only)

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Annexure II (Cont'd)

Appendix-D

**SCALES OF FURNITURE FOR MARRIED ACCOMMODATION FOR MAJ GENs  
AND EQUIVALENT RANK IN NAVY AND AIR FORCE**

Ser No	Description of item	A/U	Quantity	Remarks
1.	Almirah Steel	“	3	Large-1(half hanging) Medium – 1, Small-1
2.	Bath Stool	“	3	PVC
3.	Bed Hard Double (Size 6'x6x3")	“	1	
4.	Bed Hard (Size (6'x3')	“	6	
5.	Bin linen multi purpose	“	1	With ironing board
6.	Book shelf Steel	“	1	Glazed
7.	Cabinet Bathroom	“	Built in	
8.	Chair Computer	“	1	
9.	Chair Dining	“	8	With cushioned seat
10.	Chair Easy	“	2	
11.	Chair Verandah	“	4	
12.	Chair Writing	“	1	
13.	Charpoy folding IP	“	1	With hard top
14.	Display showcase	“	1	Shelves with glass sliding shutters
15.	Hat stand with mirror	“	1	
16.	Ladder Aluminum	“	1	
17.	Plate Rack	“	1	
18.	Rack Shoe Steel	“	1	
19.	Receptacle	“	1	PVC
20.	Side Board	Nos	1	
21.	Sofa set (5 seater Cushioned)	Set	1	
22.	Stool Dressing	Nos	3	With cushioned seat
23.	Table Bed side	“	4	
24.	Table Centre (Size 4'x2')	“	1	
25.	Table Computer	“	1	
26.	Table Dining (8 Pers)	“	1	
27.	Table Dressing (Ladies/dressing)	“	2	1+1 Dressing mirrors
28.	Table Peg'	“	4	
29.	Table writing (Size 4'x2'x6")	“	1	
30.	Teapoy	“	1	
31.	Teapoy Verandah	“	1	
32.	Trolley for TV	“	1	
33.	Wooden shelves	“	As required	

(Total 33 items only)

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Annexure II (Cont'd)

Appendix-E

**SCALES OF FURNITURE FOR MARRIED ACCOMMODATION FOR MAJOR & ABOVE  
AND SEPARTED FAMILIES OF MAJ GEN AND ABOVE AND EQUIVALENT RANKS  
IN THE NAVY AND AIR FORCE**

<b>Ser No</b>	<b>Description of item</b>	<b>A/U</b>	<b>Quantity</b>	<b>Remarks</b>
1.	Almirah Steel Medium	Nos	01	
2.	Almirah Steel Large	"	01	Half Hanging
3.	Bath Stool	"	02	
4.	Bed Hard	"	05	
5.	Book Shelf built in	"	01	
6.	Bin linen multi purpose	"	01	With ironing board
7.	Chair dining	"	06	
8.	Chair Verandah	"	04	
9.	Chair writing	"	04	
10.	Chair Computer	"	01	
11.	Charpoy folding IP	"	01	With hard top
12.	Charpoy IP Nylon newar	"	01	
13.	Hat stand with mirror	"	01	
14.	Ladder Aluminium	"	01	
15.	Table Peg	"	04	
16.	Plate Rack	"	01	
17.	Receptacle	"	01	PVC
18.	Rack Shoe Steel	"	01	
19.	Side Board	"	01	
20.	Sofa set (5 seater cushioned)	Set	01	
21.	Stool Dressing	Nos	01	With cushioned seat
22.	Table Bed side		05	
23.	Table Centre	"	01	
24.	Table Dining (6 Pers)	"	01	
25.	Table Dressing (Ladies/dressing mirror)	"	03	1+2 Dressing mirrors
26.	Table writing	"	01	
27.	Table Computer	"	01	
28.	Teapoy	"	02	
29.	Teapoy Verandah	"	01	
30.	Trolley for TV	"	01	

(Total items 30 only)

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Annexure II (Cont'd)

Appendix-F

**SCALE OF FURNITURE FOR MARRIED ACCOMMODATION FOR CAPT AND BELOW  
AND SEPARATED FAMILIES UPTO BRIG AND EQUIVALENT RANKS  
IN THE NAVY AND AIR FORCE**

<b>Ser No</b>	<b>Description of item</b>	<b>A/U</b>	<b>Quantity</b>	<b>Remarks</b>
1.	Bath stool	Nos	02	
2.	Bed Hard	"	04	
3.	Book Shelf	"	01	
4.	Bin linen multi purpose	"	01	With ironing board
5.	Chair dining	"	06	
6.	Chair Verandah	"	04	
7.	Chair writing	"	01	
8.	Chair Computer	"	01	
9.	Charpoy IP Nylon newar	"	01	
10.	Hat stand with mirror	"	01	
11.	Ladder Aluminium	"	01	
12.	Table Peg	"	04	
13.	Plate Rack	"	01	
14.	Receptacle	"	01	PVC
15.	Rack Shoe Steel	"	01	
16.	Side Board	"	01	
17.	Sofa set (4 seater cushioned)	Set	01	
18.	Stool Dressing	Nos.	01	With cushioned seat
19.	Table Bed side	"	04	
20.	Table Centre	"	01	
21.	Table Dining (6 Pers)	"	01	
22.	Table Dressing (Ladies/dressing mirror)	"	02	1+1 Dressing mirrors
23.	Table writing	"	01	
24.	Table Computer	"	01	
25.	Teapoy	"	02	
26.	Teapoy Verandah	"	01	

(Total items 26 only)

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Annexure II (Cont'd)

Appendix-G

**SCALES OF FURNITURE FOR MARRIED ACCOMMODATION AND SEPARATED FAMILY  
ACCOMMODATION: JCOs AND EQUIVALENT RANKS IN THE NAVY AND AIR FORCE**

<b>Ser No</b>	<b>Description of item</b>	<b>A/U</b>	<b>Quantity</b>	<b>Remarks</b>
1.	Almirah Steel Medium	Nos	01	
2.	Book Shelf	"	01	
3.	Chair Easy(Set of 3)	Set	01	
4.	Chair dining	Nos	04	
5.	Chair Verandah	"	02	
6.	Chair writing	"	01	
7.	Charpoy folding IP	"	01	
8.	Charpoy IP Nylon newar	"	02	
9.	Bed Hard	"	02	
10.	Peg table	"	02	
11	Peg sets of 6	"	02	Built in
12.	Rack Shoe Steel	"	01	
13.	Table Bed side	"	02	
14.	Table Centre	"	01	
15.	Table dining (90x90 Cms)	"	01	
16.	Table (90x60 Cms with drawers)	"	01	
17.	Dressing mirror	"	01	
18	Table dressing (Ladies)	"	01	

(Total items 18 only)

**RESTRICTED**

**RESTRICTED**

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Annexure II (Cont'd)

Appendix-H

**SCALES OF FURNITURE FOR MARRIED ACCOMMODATION AND SEPARATED FAMILY  
ACCOMMODATION: OR AND EQUIVALENT RANKS IN THE NAVY AND AIR FORCE**

<b>Ser No</b>	<b>Description of item</b>	<b>A/U</b>	<b>Quantity</b>	<b>Remarks</b>
1.	Almirah Steel Medium	Nos	01	
2.	Chair dining	"	04	
3.	Chair Verandah	"	04	
4.	Chair school with hand board	Nos	01	
5.	Charpoy IP Nylon newar	"	04	
6.	Peg table	"	02	
7.	Rack Shoe Steel	"	01	
8.	Table dining (120x90 Cms)	"	01	
9.	Dressing mirror	"	01	
10.	Table bed side	"	02	
11	Peg sets of 6	"	02	Built in

(Total items 11 only)

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Annexure III  
{Refers to Para 6 (c) of Chapter VI}

CIRCULATED VIDE AIR HQ/37511/204/W (P&C) dt 19 Jun 09

No. 35105/79/Pol (Wks Proc)/293/DO-II/D(W-1)  
Government of India  
Ministry of Defence  
New Delhi-110011

04 Jun 2009

To

The Chief of Army Staff  
The Chief of Naval Staff  
The Chief of Air Staff

**Subject: REVISION OF SCALES OF FURNITURE FOR MARRIED  
ACCOMMODATION FOR DEFENCE SERVICES PERSONNEL**

Sir,

Reference MoD letter No 35015/79/Pol (Wks)/Proc/135/DO-II/D (W-I) dated 09<sup>th</sup> October, 2006 on the subject mentioned above.

2. Additional / change in specification of items of furniture now authorised is enclosed a per Appx 'E', 'F', 'G' and 'H'.
3. This issues with the concurrence of the Ministry of Defence (Fin/Wks) vide their U.O No.538/Def (Fin)/W-II/09 dated 13.05.09.

Yours faithfully,

Sd/-  
(Jose Thomas)  
Deputy Secretary to Govt of India

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Annexure III (Cont'd)

Appendix-'E'

**SCALES OF FURNITURE FOR MARRIED ACCOMMODATION FOR MAJ & ABOVE  
AND SEPARATED FAMILIES OF MAJ GEN AND ABOVE AND EQUIVALENT RANKS  
IN THE NAVY AND AIR FORCE**

<b>Ser No</b>	<b>Description of item</b>	<b>A/U</b>	<b>Quantity</b>	<b>Remarks</b>
1.	Cupboard/Almirah with steel built in	Nos	04	
2.	Shelves with glass sliding shutter built in	"	02	
3.	Kitchen shelves built in	-	-	As reqd

Appendix-'F'

**SCALES OF FURNITURE FOR MARRIED ACCOMMODATION FOR CAPT AND  
BELOW AND SEPARATED FAMILIES UPTO BRIG AND EQUIVALENT RANKS IN  
THE NAVY AND AIR FORCE**

<b>Ser No</b>	<b>Description of item</b>	<b>A/U</b>	<b>Quantity</b>	<b>Remarks</b>
1.	Almirah Steel Medium	Nos	01	
2.	Cupboard/Almirah with steel built in	"	03	
3.	Shelves with glass sliding shutter built in	"	02	
4.	Kitchen shelves built in	-	-	As reqd

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Annexure III (Cont'd)

Appendix-'G'

**SCALES OF FURNITURE FOR MARRIED ACCOMMODATION AND SEPARATED FAMILY ACCN : JCOs AND EQUIVALENT RANKS IN THE NAVY AND AIR FORCE**

<b>Ser No</b>	<b>Description of item</b>	<b>A/U</b>	<b>Quantity</b>	<b>Remarks</b>
1.	Table dining (120 x 90 cms) (amended size)	Nos	01	Size amended for (90x90 cms)
2.	Almirah / Cupboard built in	"	02	

Appendix-'H'

**SCALES OF FURNITURE FOR MARRIED ACCOMMODATION AND SEPARATED FAMILY ACCN : OR AND EQUIVALENT RANKS IN THE NAVY AND AIR FORCE**

<b>Ser No</b>	<b>Description of item</b>	<b>A/U</b>	<b>Quantity</b>	<b>Remarks</b>
1.	Almirah / Cupboard built in	Nos	02	

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Annexure IV  
{Refers to Para 11, 18, 26, 27, 28, 29,  
46(a) (ii) & 48 of Chapter VI}

**EXTRACTS FROM MES REGULATIONS FOR THE MES 1968 ON 'FURNITURE'**

**Minor Head (c)- Furniture**

246. To this head is chargeable the expenditure on repairs and renewals to furniture.

(a) A renewal in the case of furniture is the manufacture or purchase of a new article in replacement of a similar article held on charge, which has been declared unserviceable.

(b) All renewals, irrespective of costs, are treated as ordinary repairs.

**SECTION 39—FURNITURE**

**General**

648. The MES are responsible for the provision, maintenance, issue and accounting of all articles of furniture of MES supply. Approved scales of these articles are laid down in Barrack and Hospital Schedules or other Government orders issued from time to time. These authorised scales will not be exceeded without the prior sanction of the G of I except as provided in this section.

649. Furniture will be constructed in accordance with the general description and dimensions approved by the G of I. The E-in-C may vary the actual design provided the general principles are not altered and the cost is not materially increased. Details of articles, other than those of special pattern authorised for specific purposes are given in the 'List of Articles of Barrack and Hospitals Furniture of MES Supply, a departmental publication issued by the E-in-C.

650. The MES is responsible for the maintenance and upkeep of furniture supplied as free gifts by the Red Cross or other societies to military hospitals. The furniture will remain in charge of the medical authorities and will not be replaced by the MES. When no longer serviceable it will be struck off the books.

651. The MES will be responsible for the storage of that portion of the mobilization equipment of General Hospital Schedules.

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652. The MES will maintain within each Division certain reserves of furniture as prescribed in Barrack and Hospital Schedules.

653. Such articles of Ordnance supply which are issued alongwith MES items of furniture on hire will be provisioned from Ordnance by the MES and maintained by them.

**Provision**

654. The initial supply of furniture to complete scales is an authorised work and may be sanctioned either as part of a works project or separately as a major or minor work as the case may be.

“Renewals of furniture irrespective of cost, will be treated as ordinary repairs (see Para 246)”.

656. When public funds are not available to supply articles up to the sanctioned scales, units may provide the deficiencies, either by purchase through the MES, in which case no departmental charges are leviable, or from other sources. When the Government funds become available, such articles may be taken over by the MES under the orders of the Commander Area/Division., at a valuation to be fixed by the CWE, provided that they are in good condition and suitable for issue in lieu of the articles shown in the sanctioned scales. Transfer of furniture within the MES will be carried out under the order of authorities mentioned in Para 736 and will be without financial adjustments, the cost of transportation and handling charges being met by the consignee and charged to the maintenance or works account concerned.

**Issue**

657. The MES will issue furniture to units in accordance with scales, the responsibility for internal distribution being that of the OC unit. Furniture will not be transferred from one unit to another without the consent of the GE.

658. Furniture will be issued to officers' quarters upto authorised scales, in accordance with their classification. Authorised furniture will not be moved once installed unless for repair or under exceptional circumstances. Hire charges will be assessed as laid down in Para 699 and recoveries effected in accordance with 'Quarters and Rents'.

659. In case where articles authorised under the scales are deficient, similar articles suitable for the purpose, but shown under different nomenclature can be issued in lieu, if surplus and available, to make up the deficiencies.

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660. Furniture which is temporarily surplus to authorised station requirements, cannot advantageously be moved elsewhere, may be issued to officers on hire in excess of authorised scales. Rent at the rate of 12 ½ per cent per annum of the capital cost of furniture (see Para 699) will be recovered in such case.

661. Articles of furniture which are surplus to military requirements or which are obsolete may be issued to civilian personnel paid from Defence Services Estimates occupying Government accommodation within the scales authorised for corresponding military personnel, on condition that they will be returned to the MES in case they are at any time required for use by troops. Hire charges will be recovered as laid down in Para 699 et seq. This provision will also apply to personnel of the Defence Accounts and Audit Departments employed at military stations or when they visit such stations on tour. Expenditure on furniture hired in this manner will be limited to repairs and will not be on incurred replacement.

662. Where furniture is permanently surplus at a station it should be transferred to make up deficiencies in near by stations when practicable and economical, failing which, it should be disposed of to the best advantage of the State.

663. The MES will arrange for the carriage of furniture to quarters of Service officers governed by the New Pay Code, barracks, etc., to complete scales prior to handing over accommodation. The carriage of all subsequent supplies and exchanges of furniture, including those for of Service Officers governed by the New Pay Code, will be the responsibility of the unit concerned except that, in the case of formation without adequate transport facilities, carriage will be arranged by the Station Commander. In the hills the carriage of furniture within the station will, when practicable, be undertaken by military Fatigue parties if available, in which case they will be arranged for under the orders of the Station Commander. In all other cases where rent is recovered, the carriage of furniture will be the responsibility of the tenant.

“When furniture is hired by officers under private arrangements, within authorised scales or otherwise, transportation charges will not be borne by the State”.

664. The Commander Area/Division/Independent Sub-Area may authorise the issue, if available, of furniture on loan for purely temporary purposes for bonafide military use.

He may also authorise the issue on loan of such articles of furniture as can be ;made available from surpluses, etc. when required by units of the Regular Army and TA for use at training camps, staff or regimental exercises, maneuvers etc. A separate distribution ledger for such loan issues will be maintained to watch the timely return of articles.

“The expenditure in connection with transportation of articles issued on loan will not be charged to MES funds. All losses and reconditioning of the articles and any other incidental expenses connected therewith will, however, be borne by the MES”.

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**Maintenance**

665. The condition of furniture will be examined at the time of quarterly inspections (see Para 73) and necessary repairs arranged.

When units send furniture for repair to the MES yard they will present two copies of voucher (IAFZ-2096) conveying the articles. All articles received will be entered in the Furniture Deposit Register (IAFW-1830) and either exchanged on the spot or retained for repair and reissue on a subsequent specified date. Exchanges will be noted on the voucher and MES representatives, one copy of the voucher being retained by each. No ledger transaction is involved in this procedure. Damages or breakages which MES consider are not due to fair wear and tear will be charged as barrack damages in accordance with the normal procedure.

**Accounting**

666. In each Sub-division or station the following ledgers will be maintained:-

(a) Station Register of Authorised Furniture (IAFW-1811). This shows the quantities authorised by regulations for each unit or formation in the Station.

(b) Station Furniture Register (AFW-3279). This register records the total quantity of furniture on charge in the Station. All receipts and issues will be shown therein. Articles supplied as free gifts by the Red Cross or other societies to military hospitals and their capital value as assessed by the GE, will be entered separately at the end of this register. The articles will also be included in the Annual Furniture Return.

(c) Units Distribution Ledger (IAFW-1814). This is compiled induplicate separately for each unit, one copy being in the possession of the unit. It shows the total amount of furniture held on charge by a unit and any changes in distribution which are supported by temporary vouchers. The two copies of the distribution ledgers will be reconciled at the time of quarterly inspections of furniture and signed by both the MES and unit representatives. The temporary vouchers will be destroyed after the annual verification.

(d) Station Furniture Distribution Leger. This is the same as (c) above and shows the distribution by units and formations of articles on charge in the station as well as the serviceable articles awaiting write-off sanction. The totals should invariably reconcile with (b) above.

667. An Annual Furniture Return (IAFW-2219) will be compiled from the Station Furniture Distribution Ledger and, after the UA has checked the values, it will be forwarded by the GE to the CWE in support of the furniture Schedule of Demands.

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668. A District Furniture Ledger (IAFW-1829) will be maintained in each GE's Office for exercising control over provision, etc. of furniture. This will show the overall position of surpluses and deficiencies of furniture in the District, by articles and by stations, and will be brought up-to-date half yearly on 1<sup>st</sup> April and 1<sup>st</sup> October from data furnished by GEs on the same form.

669. A Furniture Note List (IAFW-2307) will be maintained by the GE and will show the value of each article held on charge. Values will be approved by the GE. The list will be revised annually to bring the rates in line with the current market prices and copies forwarded to the CWE with the Annual Furniture Return. The revised rates will take effect from the 1<sup>st</sup> April of each year and will be used as data for estimates, budget demands and barrack damages.

670. In addition to the half-yearly inspection an annual verification of the furniture held on charge of units, formations and installations will be carried out by actual counting in unit lines, unit pool quarters, hospitals and so on during the months of April and May according to a programme to be published in the Station Orders. This verification will be done by a Stock Taking Team consisting of two MES officers selected by the CWE from two different GE formations other than stock holding GE, one representative from the Station HQ and one from the unit concerned. The Unit Distribution Ledgers (IAFW-1814) held by the MES and the units will be signed by the Stock Taking Team at the conclusion of the verification.

The annual verification by actual counting is not required in respect of furniture issued to married officers, civilians and separated families who are allotted married accommodation in the station pool. Based on the balance in the Distribution Ledger and their acceptance by officers, civilians, separated families and so on, a certificate of annual verification will be endorsed by the BSO on the Distribution Ledger.

The verification by actual counting of balance furniture in store will be done by another Stock Taking Team consisting of two MES officers selected by CWE from two different GE formations other than the stock holding GE, and one representative from the Station HQ.

Stock Taking Report (IAFW-2221) in respect of all articles of furniture held in stock will be promptly prepared by the Stock Taking Team during the stock verification and necessary certificate endorsed in Station Furniture Register (IAFW-2279).

A copy of the Stock verification report will be sent to the Local Audit Officer or the Regional Audit Officer as the case may be through the AAO MES for audit purposes. Regularisation action for any discrepancies found will be taken without delay, in accordance with the normal procedure.

671. Ledgers for furniture in the offices of the E-in-C and CEs will be maintained by the CAO, Ministry of Defence and CEs respectively (see Para 267).

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**Disposal**

672. Surplus furniture, as revealed by the annual furniture returns, will be utilized as far as economically possible, to make up deficiencies within Districts and Commands under orders of the CWE and CE concerned. The balance on being declared surplus by CEs will be disposed of by any of the following methods:-

- (a) By sale to other Government departments; under order of CEs.
- (b) By public auction.
- (c) By sale by private treaty.

“The powers of disposal are as laid down in **Table B**. The disposal rate/minimum reserve price (MRP) will be assessed by the GE. Taking into consideration depreciation and rates for similar articles in the local market and approved by the authority within whose financial powers for disposal the total book value of the surplus furniture falls. For disposal by public auction, the procedure detailed in Para 821 to 826 will apply. Sale by private treaty will be resorted to only when reserve prices are not attained in public auctions or when, in the opinion of the CWE, disposal by public auction is not considered suitable or advantageous to the State”.

“All departmental markings on surplus articles will be effectively defaced before disposal”.

673. Serviceable timber and ironmongery will be salvaged from all unserviceable articles of furniture and the balance broken up and offered to the nearest ASC supply unit on payment, as firewood, failing which it will be auctioned.

**SECTION 42—RECOVERY OF HIRE CHARGES FOR FURNITURE**

690. Unless otherwise provide for, the hire charges for furniture will be 10 per cent per annum of the capital cost of the articles supplied, as ascertained from:-

- (a) The ‘List of Articles of Barrack and Hospital Furniture of MES Supply’ issued by the E-in-C.
- (b) The ‘Vocabulary of Ordnance Stores’ in the case of articles of ordnance supply.
- (c) The book value in respect of non-standard or special articles not-included in (a) or (b).

700. The recovery of rent of furniture will be made in the same way and together with the recovery of rent of buildings.

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701. The hire charges for furniture will be rounded off in the same manner as the rent for a building and will be charged for the period during which an occupant is liable to pay rent for the quarter occupied, or, in the case of an officer whose emoluments include lodging allowance as a 'separate item' up to the date from which he becomes eligible to draw his allowance.

**Internal Transfers**

736. The internal transfers of stores within the MES, i.e. between Commands, Districts and Divisions may be ordered by the E-in-C, CEs and CsWE respectively and transfers within a Division by the GE. The adjustments of costs and freight charges will be governed by the rules contained in Para 700, 777 and 805.

**Note:-** Budgetary Heads reference to above have been superseded by new budgetary heads shown in Chapter IV.

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Annexure V  
(Refers to Para 15 of Chapter VI)

35105/79/Q3 (Policy-I)/1200/DO-II/D (W-I)  
Government of India  
Ministry of Defence  
New Delhi the 25<sup>th</sup> June, 1997

To

The Chief of the Army Staff,  
The Chief of the Naval Staff,  
The Chief of the Air Staff  
New Delhi

Subject: Scale of Computer Furniture for Defence Establishments

Sir,

I am directed to refer to Ministry's letter No 35105/79/Q3W (Policy-I)/627/DO-II/D (W-I) dated 11 Aug 89 and to convey the sanction of the President of India for addition of following paragraph in the Scales of Furniture for Defence Services, 1986- Page No 37, Table 7.IV between "Other Ministerial Staff" and "Stationery Room":-

Computer Furniture

"Necessary furniture for computers and their accessories / stores are authorised. Chairs / seating requirements will also form part of computer furniture. The exact requirements based on individual needs at various Units shall be specified by the actual users through a Board of Officers and approved by CFA. These will be sanctioned as original work. Repairs / renewals will be carried out as applicable to other furniture".

2. This issues with the concurrence of Ministry of Defence (Fin) vide their UO No 940/W-II of 1997.

Yours faithfully,

Sd/-  
(Kabindra Joshi)  
Desk Officer

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Annexure VI  
(Refers to Para 30 of Chapter VI)

64335/Q3 (B-i)/237-S/D (Qtg)  
Government of India  
Ministry of India  
New Delhi, the 27<sup>th</sup> October 1980

To,

The Chief of the Army Staff  
The Chief of the Naval Staff  
The Chief of the Air Staff

**Subject: GRANT OF COMPENSATION IN LIEU OF FURNITURE TO JCOs/ORs  
AND THEIR EQUIVALENTS IN THE NAVY AND AIR FORCE WHILE  
RESIDING IN HIRED ACCOMMODATION**

Sir,

I am directed to convey the sanction of the President to the grant of compensation in lieu of furniture to JCOs/ORs and their equivalents in the Navy and Air Force to the extent of 2½ percent of pay while residing in Government hired building. The compensation will be admissible to those personnel who are not provided with MES furniture.

2. This issues with the concurrence of the Ministry of Finance (Defence).

Yours faithfully,

Sd/xxx

(Aditya Kumar)

Under secretary to the Govt of India

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Annexure VII

{Refers to Para 46(a) (iii) of Chapter VI}

**EXTRACTS FROM 'MEMORANDUM ON PROCEDURE, ORGANIZATION AND  
DUTIES OF BARRACK/BRANCH OF THE MES**

14. (ii). Quarterly inspection of buildings should be thorough and regular, and necessary repairs should be promptly carried out, in accordance with rules. Inspection of buildings and installations will be done by B/R and E/M Branches and of furniture by the Barrack/Stores Branch.

**Barrack Damages for Furniture**

57. The Barrack/Stores Branch will be responsible for assessing and recovering Barrack damages in respect of furniture only. Recovery of Barrack Damages in respect of other items (Buildings, E/M will be progressed by the B/R or E/M Branches).

59. **Furniture.** The Barrack/Stores Branch are responsible for the provision, maintenance, issue and accounting of furniture.

60. **Procedure for repairs.** Furniture for repairs will be sent by units to the furniture godown on the day and at the time allotted to the Units in Station Orders. Units will present two copies of voucher (IAFZ-2096) covering the articles. The Barrack/Stores Branch will enter all articles received in a Furniture Deposit Register, and either exchanges the articles on the spot or retain them for repair and re-issue on a subsequent specified date. A form for the Deposit Register is at Appendix 'H' for guidance. Exchanges will be noted on the vouchers and on the register and signed by the unit and Barrack/Stores Branch representatives: one copy of the voucher will be retained by each. No ledger transaction is involved in this procedure. Damages or breakages which the Barrack/Stores Branch representative considers are not due to fair wear and tear will be charged as Barrack damages in accordance with the normal procedure.

61. **Quarterly Inspections.** The Barrack/Stores Branch representative, in collaboration with Unit representative will carry out quarterly inspections of furniture in Units lines, according to a programme to be published in Station Orders. Copies of the Unit Distribution Ledger (IAFW-1814) held by the Barrack/Stores Branch and Unit, will be signed by both the representatives at the conclusion of the inspection. The condition of furniture will be examined at the time of these quarterly inspections and necessary repairs arranged.

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62. **Annual verification.** Annual verification of the furniture held on charge will be carried out by actual counting in the unit lines, during the months of January to March according to a programme to be published in Station Orders. This will be carried out by the Barrack/Stores Branch and Unit representatives. The copies of the Unit Distribution Ledger (IAFW-1814) held by the Barrack/Stores Branch and the Unit will be signed by both the parties at the conclusion of the verification.

This memorandum was issued under the authority of Ministry of Defence letter No. 29469/111/E2A/2134/Deng) dated 14 Apr 51.

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