REPORT

OF

M. E. S. REVIEW COMMITTEE

(February 1957)

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CHAPTER I

INTRODUCTION

1. APPOINTMENT AND TERMS OF REFERENCE—The Government of India, in the Ministry of Defence, by their Office Memorandum No. F. 276/55/D (Coord), dated the 9th September 1955, reproduced as Appendix I, set up a Committee for reviewing the work of the MES Organisation, with the following terms of reference :—

(i) To examine the procedure for the execution of works, the system of selection of contractors, the scope for carrying out departmental works, the procedure for obtaining materials, the adequacy of checks exercised on prices and standard of work and generally to review the entire works procedure with a view to discovering any defects which may be responsible for waste, inefficiency and delay in the execution of works and to suggest remedies.

(ii) To examine whether administrative, financial and technical powers are adequately delegated at all levels to ensure speed and efficiency.

(iii) To examine whether any avoidable delay occurs in obtaining sanctions for works and whether the procedure for obtaining sanctions can be simplified.

(iv) To make an estimate of the capacity of the existing staff to undertake works and make suggestions as to how the capacity may be increased.

(v) To examine the organisation and the system of recruitment in the MES with reference to its requirements and available manpower.

2. COMPOSITION AND SUBSEQUENT CHANGES.

Chairman

Shri N.N. Wanchoo, I.C.S., Joint Secretary.

Members

Shri N.G. Dewan, I.S.E., Addl. Chief Engineer, Central Public Works Department.

Shri R. Bhaktavatsalu, Joint Financial Adviser.

Brigadier P.S. Chowdhury, QMG's Branch.

Brigadier A.D. Verma, Director of Works, E-in-C's Branch.

Member-Secretary

Shri K.C. Jain, Deputy Secretary, Ministry of Defence.

Assistant-Secretary

Shri R.S. Vohura, Under Secretary, Ministry of Defence.

When the Committee's work was proceeding, Shri N.N. Wanchoo was appointed Controller General of Defence Production in addition to his duties as Joint Secretary in the Ministry of Defence. As the work entrusted to Shri Wanchoo was very heavy and as he could not devote sufficient time to the Committee's work on account of his new assignment, it was found necessary to relieve him from the Chairmanship of the Committee. Ministry of Defence, therefore, by their Memorandum No. F. 276/55/D (Coord), dated the 17th February 1956, appointed Shri Surjit Singh Majithia, Deputy Defence Minister, as Chairman of the Committee. Towards the end of February 1956, Shri R.S. Vohura was replaced by Shri R.K. Sundaresan, Under Secretary.

Shri N.G. Dewan, Addl. Chief Engineer, Central Public Works Department, proceeded on leave from the 16th May 1956 and Shri B.K. Guha I.S.E., Addl. Chief Engineer, Central Public Works Department, was co-opted for a few meetings along with Shri Dewan, as it was first thought that he would become member in place of Shri Dewan. But the Ministry of Works, Housing & Supply decided subsequently to substitute Shri V.D. Bhandari I.S.E., Addl. Chief Engineer, Southern Zone, for Shri N.G. Dewan.

The Committee would, however, like to place on record its appreciation of the valuable services rendered in its initial stages by Sarvashri N.N. Wanchoo, N.G. Dewan and R.S. Vohura.

3. TIME ALLOWED TO THE COMMITTEE—The Committee was originally asked to submit its recommendations within six months, i.e. by the middle of March 1956. A comprehensive review of the activities of the MES had not been carried out in the recent past. Adequate statistics were not readily available and had, therefore, to be collected. Apart from examining the work of the MES organisation, the Committee had to conduct, according to its terms of reference, enquiries into the delays in obtaining sanctions for projects, expansion of the existing capacity of the MES, system of recruitment to the MES, payment of final bills of contractors and several other cognate matters. Further, as all the members of the Committee had to perform their normal duties in addition to their work on the Committee, it was not practicable for them to meet very frequently. On account of all these factors, the Committee could not submit its report by the date initially contemplated.

4. PROCEDURE ADOPTED BY THE COMMITTEE—The Committee consisted entirely of officials and functioned as a Departmental Committee. Before drafting its questionnaire the Committee had to spend considerable time in examining in detail the organisation of the MES and the procedure being followed for obtaining administrative approvals to projects and executing them. During the early stages brief

notes on certain important issues relating to the internal working of the MES organisation and 'Q' procedure for works were submitted by the Engineer and the QMG's representatives on the Committee. A comprehensive questionnaire was then drawn up and issued in the month of January 1956 to the various officers of the Army, Air Force, Navy, Defence Accounts Department, MES and Ministries of Finance and Defence. A copy of the questionnarie is reproduced as Appendix II to this report. The questionnaire was sent to 62 officers (Appendix III) and replies were received from 47. Although replies were requested by 1st February 1956, addressees actually could not comply with the request of the Committee because of the complex character of some of the questions. The names of the officers who replied to the questionnaire will be found in Appendix IV.

After examining various replies to the questionnaire, the Committee visited Deolali, Bombay, Poona, Bangalore, Wellington and Cochin in the Southern Command and Simla in the Western Command for an "on the spot" examination of works either in progress or recently completed and also for examining certain officers verbally who were concerned with either securing Administrative Approvals or execution of works.

On analysing the views and suggestions contained in the answers furnished by various officers to the questionnaire, it was considered desirable to seek further elucidation through personal discussions. The Committee, therefore, invited 30 officers for oral examination. A list of persons who appeared before the Committee is at Appendix V. In some cases the evidence was taken when the Committee was on tour.

5. Layout of the Report—While drafting the report, the Committee has proceeded on the assumption that the great mass of the material it has collected is already available to the Government in one form or other in the various branches of the Armed Forces Headquarters. In the report, therefore, we have endeavoured to draw attention only to such facts as are necessary and relevant to our conclusions. In the second chapter the procedure for obtaining sanctions for work and allotment of funds had been reviewed and in order to cut down delays and to ensure that Administrative Approvals for the projects submitted to the Ministry are issued as early as possible, we have recommended the establishment of a Central Works Planning Committee in the Ministry of Defence. Chapter III deals with general problems connected with the execution of works. Chapter IV has been devoted to the system of contracts and other allied matters. The factors affecting inspection of works, including checks at various levels have been analysed in Chapter V. The main criticism from the contractors is in regard to delays in payment and what they considered to

be one sided nature of some of the MES contracts, resulting ultimately in arbitration. These subjects have been dealt with in Chapter VI. We have dealt with the work-load under the Second Five Year Plan which MES has to undertake in Chapter VII. The principal issues in regard to the delegation of administrative and technical powers to lower formations have been dealt with in Chapter VIII and Chapter IX deals with the scope, functions and capacity of the MES, its set-up and system of recruitment. At the end, there are appendices which have been referred to in appropriate places in the body of the report.

6. ACKNOWLEDGEMENTS—We conclude this Chapter by expressing our thanks to the various senior officers in the Ministries of Defence and Finance and also the Armed Forces Headquarters, some of whom had actively participated in our discussions and whose wide knowledge and experience had been of immense value to us in arriving at our conclusions on the problems involved in our enquiry. We are also thankful to Dr. G.S. Duggal, President, Builders' Association who gave valuable evidence before the Committee.

We are greatly indebted to our Member-Secretary, Shri K.C. Jain, who has been of considerable assistance to us not only in our deliberations but also in writing this report.

The Committee also wishes to place on record its appreciation of the help it received in its work from Shri R.K. Sundaresan, Under Secretary in the Ministry of Defence.

CHAPTER II

PROCEDURE FOR OBTAINING SANCTION FOR WORKS AND ALLOTMENT OF FUNDS

7. Under the existing procedure there are two stages involved in the sanction of works projects, viz., the Acceptance of Necessity and the issue of Administrative Approval. The Acceptance of Necessity implies acceptance of necessity of the project at a stated cost by the competent authority, whereafter the user can go ahead with the preparation of site plans, including estimates, etc., with the help of the engineers, and the Administrative Approval implies final sanction for a project after which expenditure can be incurred on it. We propose to discuss these two stages separately in the following paragraphs :—

(A) Pre-Acceptance of Necessity stage

(i) Recce Boards

8. The present procedure requires convening of user's recce (which includes rough costing) and key plan/costing recce (which includes skeleton layout plan), indication of cost and engineer appreciation before a proposal is put up for Acceptance of Necessity. From the replies received to the Committee's questionnaire and during verbal discussions with the witnesses examined by the Committee, it was clear that the practice in the matter of convening user's recce and the key plan/costing recce differed in the various Services. For instance, in the case of Ordnance Factories projects these two recces were almost invariably combined, whereas in the Navy, user's recce usually preceded the key plan/costing recce. The reasons advanced for such variations were that whereas in the case of Factories the projects were located in the Factory Estates where no preliminary recce was necessary, in the case of the Navy their projects were located, in most cases, in new places and it was, therefore, essential to carry out user's recce in order to avoid waste of effort and unnecessary work all round. Similarly, the Committee were told that even in the Army the general practice was to combine the user's recce and the key plan/costing recce, although according to the instructions issued by Army Headquarters, these two recces are to be held separately.

9. It was also brought to the notice of the Committee that there was waste of effort in giving first an indication of cost and engineer appreciation before Acceptance of Necessity and then a detailed layout plan and approximate estimate before according Administrative Approval.

On the civil side, administrative and financial sanctions for works are accorded on the basis of a preliminary estimate of cost which is accompanied by a layout and line plans of the work. A suggestion was accordingly made that Acceptance of Necessity might be given on the basis of a rough cost which should be correct within 20%. Yet another view which was put forward by the QMG before the Committee was that in cases where KLP had been finalised, the establishment of a unit/formation was firm and the scales of entitlement were known, cost should not be the main criterion for accepting the necessity of a project. As the preparation of the indication of cost took considerable time, it was suggested that in such cases the necessity should be accepted straightaway and the recce and costing boards should be convened only thereafter to get Administrative Approvals. It was emphasised that the Government's responsibility to provide accommodation for the troops and officers had been accepted in such cases at the time the KLP was finalised and it was, therefore, hardly necessary that the procedure at present prescribed for Acceptance of Necessity should be complied with in such cases. The view that was urged against this suggestion was that the finalisation of KLP could not really be regarded as Acceptance of Necessity because other factors like the maximum use of existing accommodation and land in a particular station and the rough cost of construction of new accommodation or acquisition of new land had to be given careful thought before the Government could agree in principle to a project.

10. After giving careful consideration to the various views placed before the Committee, we are of the opinion that it is not possible to lay down any hard and fast rule whether the user's recce and the key plan/costing recce should be combined or held separately or even dispensed with altogether, as was urged by the Q.M.G. There might be no objection to combining these two recces either in small projects where the engineer effort involved is not very appreciable or where operational/strategic reasons warrant such a combination. In other cases no general rule can be applied and each case will require consideration on its own merits.

11. The Committee would, however, like to emphasise that in order to make the best use of the available engineer capacity the users must give careful consideration to the necessity of a project and, wherever necessary, obtain decisions of the Ministries of Defence and Finance on matter of policy before asking the engineers to give engineer appreciation and indication of cost. We were informed that at present a lot of engineer effort is being wasted because the engineers are asked to prepare estimates for projects which are not ultimately put up to the competent authorities even for Acceptance of Necessity.

12. In this connection, it may also be mentioned that at the Acceptance of Necessity stage the project should be examined more closely to see whether the user's requirements are inescapable and emphasis need not be laid on the examination of costs while at the Administrative Approval stage emphasis should be on costs and not on user's requirements.

(ii) Delay in convening Recce Boards

13. In the matter of convening recce boards we were told that normally no delays occur but sometimes due to the difficulty in getting all the members together at a time owing to their other pre-occupations and due to scanty terms of reference to the boards, delays do occur. Non-finalisation of Establishments and the absence of firmness in the user's requirements are also stated to be contributory factors for such delays. For instance in one case, about 18 months were taken to produce the indication of cost as the establishment was not firm and the requirments of class rooms and training accommodation were not finalised. To obviate such delays, it is essential that the finalisation of establishments and Key Location Plans should receive the foremost attention. When this is done, the users will find it easy to estimate their requirements and to convene the recce boards, etc., in a planned manner, which will eliminate avoidable delays. A case was brought to our notice where several recce boards were called and cancelled, some even after they had produced indication of cost, mainly because the Key Location Plan had not been finalised. Such cases involving infructuous work all round could be avoided if KLPs were finalised.

(iii) Indication of user's requirements at the acceptance stage.

14. In the case of some projects, we noted that user's requirements are set out in very broad terms and not in great detail, because the user himself generally is not sure of his full requirements. This leads to delays in the scrutiny and acceptance of the necessity of the projects. It was also stated that in some cases timely advice was not given by engineers. The user's ideas about requirements of administrative and technical accommodation also vary with (a) personalities and (b) locations. Projects were often reviewed and substantially modified, even the location/site was changed with the change in the Commanders. There is, in general, a lack of firmness in user's requirements at the recce stage when engineers are required to give an indication of cost with the result that often more details are added and/or modifications made to the originally conceived project at the time of the key plan/costing recce stage. The modifications asked for are usually some subsidiary items and amenities not visualised earlier. Special requirements, such as swimming pools, welfare centres, regimental schools, additional roads and services, aboriculture, play

grounds, are also added at this stage. The tendency to 'overbid' by the users— whether due to lack of knowledge of scales and authorised works or in the hope that by overbidding something extra would be sanctioned — is also a contributory factor for the modifications/alterations made at this stage. The user's requirements are, therefore, often supplemented/curtailed by detailed examination during the costing recces.

15. While we admit that certain changes at key plan/costing recce stage are bound to occur, however, firmly the user's requirements are set out initially, we feel that normally no drastic modification/alteration should be necessary, as the user is supposed to have taken the advice of the local engineer regarding feasibility of the scheme and whether or not it is authorised and/or economical, before he submits it for consideration.

(iv) Planning of Recce Boards

16. There does not seem to be proper planning all the year round to ensure that too many recce boards (users as well as key plan/costing) are not required to be held at the same time. This has particularly been the case with the Army works. The statistics collected in this connection for the financial year 1953—54 and 1954—55 from various Commands revealed that the boards were not uniformly distributed over the year and very often there was overlapping of recce boards. A large number of recce boards is held between March and October, throwing engineer planning completely out of gear.

We understand that during the current year all recce boards for factory works were to be completed within a particular period, viz., between 1st of May and the 30th June 1956, and indications of cost prepared between 1st July and 31st August 1956. Adherence to this time schedule, although might have been essential from the user's point of view, was bound to throw abnormal volume of work on the engineers.

On the Air Force side, the number of recce boards was not very large. The total number of boards held for Air Force works during the year 1954—55 was only sixteen. Planning was confined to those major projects where the key location plan had been finalised. The limited number of projects thus made planning easy. Similarly, in the case of Naval works planning was done all the year round. During 1953—55 only 22 boards were held in a few concentrated places.

17. While the Committee appreciates that it might be difficult to spread the recce boards over the year uniformly as they have to be convened as and when warranted by circumstances, endeavours should be made to spread the boards as much as possible. Co-ordinated

planning on a 'continuous cycle' basis spread over the whole year should, therefore, be attempted.

(v) Proportion of cases accorded 'Acceptance of Necessity'.

18. From the statistics collected by us, we noticed that a fairly large number of projects initiated by the DGOF, Air Force and Navy received Acceptance of Necessity. The proportion in respect of the Army works, however, was very small. In Eastern Command, 21 Indications of Cost were submitted during 1953-54, out of which only 9 were accepted; in 1954-55 out of 29 only four were accepted. In Western Command, during the year 1955 out of 63 cases for which Indications of Cost were given only ten received Acceptance of Necessity. In the Southern Command, out of 30 projects initiated in 1953-54, only three received the Acceptance of Necessity. It will thus be seen that there was a tremendous waste of engineer effort which could otherwise have been more profitably utilised. In the Army, the Engineers are called upon to produce the estimates as soon as the projects ar conceived regardless of the prospect of the necessity of the projects being accepted by Government. The position has been further aggravated by the fact that the MES are called upon to do planning sometimes at the utmost priority, e.g., in April 1955 the MES were rushed to plan for married accommodation at Ambala and Jullundur, but due to various causes this project was not sanctioned. Similarly, in a workshop project, the MES planning was infructuous because the project was shelved. Thus, much of the engineer's time had been spent on infructuous work and since the termination of the last war this tendency seems to have been on the increase. It was explained that the main reason for the rejection or non-acceptance in the past of the many of the Army projects initiated by users was that the PEs/WEs and KLPs had not yet been finalised. Now that most of the PEs/WEs and KLPs had been finalised, it was likely that the proportion of projects initiated by Army users which do not receive the Acceptance of Necessity will be appreciably reduced. We would suggest that efforts should be made to finalise KLPs, etc., expeditiously so that the works can be planned properly and the Engineer effort utilised to the best advantage of the State.

(vi) Time taken for issue of 'Acceptance of Necessity'

19. The time taken in submitting a project to Service Headquarters for Acceptance of Necessity depends on the scope, nature and the cost of the project and varies considerably. It further depends upon the time taken in convening the recce boards and the preparation of the Indication of Cost by engineers. A project based on standard designs normally does not take much time whereas a project which is to be planned on non-standard designs naturally takes longer. Generally, it

takes about a year from the date of initiation of the demand to the date of receipt of Indication of Cost at Service Headquarters for Acceptance of Necessity, though in a few cases it had, we were told, taken much longer. This period is not satisfactory and efforts must be made to reduce it.

20. As regards the time taken by Service Headquarters and Governmental machinery to issue Acceptance of Necessity for projects submitted to them, we were informed that in the case of Army projects, the period varied from 3 to 12 months from the date of receipt in Army Headquarters. As an example, a case was brought to our notice where a project was initiated in Ambala Area and documents submitted to Service Headquarters but Acceptance of Necessity had not been issued although over two years had passed. In the case of factory pojects, Acceptance of Necessity was generally issued in six to nine months of the submission of Indication of Cost. Naval projects are accepted in three to ten months. It was represented to us that the delays occurred more in the Ministries than in the Service Headquarters. The reasons for such inordinate delays were attributed by representatives of the Services to piecemeal queries by the administrative and/or Finance Ministries. On the other hand, representatives of the Ministries contended that the delays were due to haphazard planning, lack of firmness in user's requirements, absence of Master Plans, lack of sufficient details to illustrate the project and above all the inability of the Service Headquarters themselves to answer queries without making further references to the lower formations. It was suggested that such delays could be avoided by the association of a representative each from QMG's Branch, E-in-C's Branch and Ministries of Finance and Defence in the user-cum-costing recce boards for important proj . A great majority of officers who have responded to our questionnaire are in favour of this suggestion. In a subsequent sub-section we are recommending the setting up of a Central Works Planning Committee, and we feel that if this recommendation is implemented, the time which elapses at present between the date of receipt of a project at Service Headquarters and the issue of Acceptance of Necessity will be reduced very considerably.

(vii) Indication of Cost

21. The Indication of Cost furnished by Engineers at the Acceptance of Necessity stage is stated to be reasonably accurate, although it is not always accompanied by sufficient details of user's requirements to facilitate examination of the project. According to the existing Works Procedure, Acceptance of Necessity and Administrative Approval are two distinct stages, but in actual practice these stages are being combined with the result that AEs and not Indications of Cost are

generally available when a project is considered by Government. However, whenever the Indication of Cost is submitted separately, a clear picture of the user's requirements should be submitted with it.

(B) Post-Acceptance of Necessity stage

(i) Siting Boards

22. While in the foregoing paragraphs we have dealt with the procedure followed in obtaining Acceptance of Necessity and suggested that improvements should and could be effected, we now examine what happens after the necessity of a project has been accepted. Under the present procedure after Acceptance of Necessity, a siting board is convened which deals with the project in its full details, prepares site plan and approximate estimates for obtaining Administrative Approval. The Committee was informed that the deliberations of these siting boards and the vetting of their proceedings need considerable improvement. For proper planning of projects it is essential that officers with specialised knowledge should be associated with these boards more intimately at the very beginning. For example, an ordnance officer should have considerable say in the matter of planning ordnance depots or an EME officer should be associated with the design of EME workshops.

(ii) Approximate Estimates

23. The necessity of paying due attention to the preparation of Approximate Estimates cannot be over-emphasised. Under-estimation leads to delays in the execution of projects as Government has to be approached again for revised Administrative Approval and, possibly, also for allotment of additional funds. Over-estimation is equally bad as it leads to over-budgetting, involving surrender of funds at the end of the year, which invites criticism from the Parliament and also prevents the Government from implementing some other project or scheme during the financial year. Approximate Estimates were found to vary within 10 to 50 per cent above the completion cost and in certain completed projects, the actual cost turned out to be lower than the AE by 10% or over, thereby resulting in savings and possibly in surrenders as will be evident from the figures given below. We strongly recommend that urgent steps should be taken to ensure that Approximate Estimates, on the basis of which Administrative Approvals are issued, are prepared more carefully so that the actual cost does not vary by more than 5% from the AE. Another point we would like to discuss in connection with the preparation of Approximate Estimates is that although under the rules GEs are competent to prepare estimates for projects costing up to Rs. 40,000/-, CsWE up to Rs. 1 lakh (certain selected CsWE are authorised to prepare estimates up to Rs. 2½ lakhs), CEs up to Rs. 10 lakhs and E-in-C above Rs. 10 lakhs, in actual practice

the junior officers are required to undertake such work even though it is beyond their limits. The result of this is that GEs and CsWE are detracted from their normal duties. We would strongly recommend that the estimates should be prepared by those engineer officers who are competent to do so under the rules, although GEs may be asked to give such information regarding the local conditions e.g., availability of materials, existing essential services such as roads, water supply etc.

Services	Case of works where estimates exceeded				Projects where completion cost was lower than AE by 10% or over			
	1953--54		1954--55		1953--54		1954--55	
	No.	% of excess	No.	%of excess	No.	%of saving	No.	%of saving
Factory Works*	4	23% in one case 31% in 2nd case 14% in 3rd case 50% in 4th case	3	58% in one case 28% in 2nd case 119% in 3rd case	5	32.5% in one case 32% in 2nd case 25% in 3rd case 43% in 4th case 20% in 5th case		
Army Works†	9	Below 10% — 2 Between 10% and 24% — 1 Between 25% and 50% — 5 Between 50% to 100% — Nil Over 100% — 1	7	Below 10% — 1 Between 10% and 25% — 3 Between 25% and 50% — 3	16	Not given	22	Not given

* Figures given by DGOF

† Figures given by QMG's Branch representative.

In the case of the Naval and Air Force projects, we are informed that the actual costs did not vary much from the AEs.

(iii) Time taken in issuing Administrative Approval after Acceptance of Necessity

24. We were told that on an average a period of 6 to 12 months elapses between the Acceptance of Necessity and receipt at Services Headquarters of relevant documents for obtaining Administrative Approval. On receipt of these documents at Services Headquarters, the papers pass through various channels for further detailed checking viz., QMG's Branch, E-in-C's Branch, the user's Directorate, Sections of the

Ministry of Defence concerned with the user's Directorate, the affiliated DFA, Ministry of Defence and DFA(W). Sometimes, some of these proposals are returned either by Finance or Ministry of Defence with certain queries which are either answered by the Army Headquarters or referred back to the lower formations for obtaining further clarification. The project then travels agai' r a second time through the various authorities. All this takes co erable time, a nd occasionally there is a change of the occupying uni its Commander and the projects are recast to suit the requirements new unit or the wishes of the new Commander.

25. From an analysis of certain works furnished to the Committee by the parties who responded to our questionnaire it is observed that on an average it takes any thing between six months to two years to obtain Administrative Approval after the documents, including Approximate Estimates, are received at Service Headquarters, which means a period of 12 months to 3 years after the Acceptance of Necessity. In some cases the time is more than two years after the receipt of documents at Service Headquarters. A few examples are quoted below :—

Particulars of case	Case submitted in / AEs submitted in	AA issued in	Time taken in months
(i) *Halwara*—Domestic accommodation.	December 1953	April 1955	16
(ii) *Adampur*—Domestic accommodation.	December 1953	March 1955	15
(iii) Provision of accommodation for DSSC, Phase I.	October 1952	January 1954	16
(iv) Provision of married OR Quarters for MH, Agram.	May 1950	November 1952	31
(v) Provision of married OR Quarters for 15, Supply Coy., ASC.	July 1951	September 1952	15
(vi) Improvements to Water Supply, Faizabad.	May 1951	October 1955	53
(vii) Provision of married accommodation for JCOs/ORs in Military Hospital, Mhow.	October 1951	November 1955	49
(viii) Provision of permanent accomodation for Headquarters, Training Command, IAF, Bangalore.	October 1952	March 1955	29
(ix) Improvement to Runways, Poona.	September 1953	August 1955	23
(x) Provisioning of Air conditioning in Military Hospital, Jullundur.	December 1953	September 1955	21

The above examples reveal the unsatisfactory state of affairs.

(iv) ELIMINATION OF DELAYS

26. Broadly speaking, delays fall under two categories—(1) delays during the pre-Acceptance of Necessity stage, i.e., from the date of initiation of a project to the time of Acceptance of Necessity and (2) delays during the issue of Administrative Approval stage i.e., from the time of Acceptance of Necessity to the date of issue of Administrative Approval. There are also delays which occur after the issue of Administrative Approval. We shall deal with that aspect in a subsequent chapter. Here we shall analyse the various causes of delays in obtaining Administrative Approval and suggest certain remedial measures.

27. Earlier we have mentioned the main causes of delay in obtaining Acceptance of Necessity for works and have suggested that KLPs and Peace/Interim/War Establishments should be finalised at an early date. Protracted correspondence between the Service Headquarters and Ministries of Defence and Finance should be avoided. To ensure this, the case should be prepared very carefully and full details furnished initially to avoid back-references by the Ministries for elucidation of essential points. A project should be considered as a whole and isolation of certain phases should not be attempted. For example, the housing of a Brigade is not an isolated project in itself but depends upon housing of the rest of the formations with particular reference to Divisional troops. Or again, the project for covered accommodation for vehicles is affected not only by the scales and types of vehicles to be accommodated, but also by the necessary workshop coverage. We hope that the setting up of a Central Works Planning Committee, suggested in para 34, will help in eliminating these piece-meal planning and consequential delays and in accelerating the issue of Acceptance of Necessity.

28. One of the reasons for the delay in submission of the relevant documents to Service Headquarters after the Acceptance of Necessity was attributable to the fact that the AEs prepared by Engineers are at present subjected to further checks by higher engineer authorities at all levels. Thus, the estimates prepared by GEs and CsWE are routed through CWE/CE/EinC and are finally scrutinized by Ministries of Defence and Finance. Too many checks naturally lead to delays at every stage and are quite unnecessary. We recommend that the number of checks on the estimates prepared by the Engineer authorities should be curtailed to only one. In other words, AEs prepared by the authorities competent to give technical sanction should be subjected to only one check by the next higher authority. If, however, the GOC/GOC-in-C/Army Headquarters/Ministry of Defence or Ministry of Finance (Defence) require any information on any specific points, they could refer the matter to the appropriate Engineer authority who could

then examine the estimates and furnish the required information, if necessary, after consulting the authority which prepared the estimates. It is hoped that the necessity to resort to such clarifications/check by the top level authorities will not be a regular feature. We have discussed this suggestion with the Engineers as well as Users and all of them agreed with it.

29. The factors responsible for impeding expeditious disposal of projects after their receipt by Services Headquarters, with approximate estimates, for obtaining Administrative Approvals, which were disclosed during our enquiry, are :—

(i) Inadequate planning initially;

(ii) Non-finalisation of the KLPs and peace/interim/war establishments and holdings of depots;

(iii) Changes in requirements by users; and

(iv) Objections raised piece-meal by Finance.

30. As regards (i) above, we have already dealt with this aspect under the Heading 'Siting Boards' We would only reiterate that great care should be taken while planning a project, because if a project is well planned it saves work all round subsequently and reduces the queries which may be raised by the Ministries of Defence or Finance.

31. As regards (ii) the Committee were informed that most of the KLPs and establishments as well as depot holdings had been finalised and that difficulties on this account should not arise in future. We can only reiterate our earlier recommendation that energetic steps should be taken to finalise KLPs, Establishments, Depot Holdings, etc., wherever they have not yet been finalised.

32. As regards (iii) normally users should not be permitted to make any changes after the approximate estimates are prepared and it should be in rare cases that such changes should take place. Even then the changes should be minor. If, however, for any reason major changes have to be made, then it should be treated as a new measure and Government approval should be obtained afresh even for Acceptance of Necessity.

33. As regards (iv) during the course of verbal evidence before the Committee, it was explained by representatives of the Finance that most of the objections raised by them were due to the fact that the documents which were submitted with the Approximate Estimates were incomplete and not accompanied with sufficient details to enable them to take a final view. In the absence of a complete picture about the station plans and services (for example, water supply, roads, drainage

etc.), it was not possible to accept isolated projects with the result that they had to be returned to the Services Headquarters with queries. In some cases even when projects were returned back with certain queries by Finance, the delay that occurred in the Services Headquarters was quite considerable, because, not being posted with all the developments, they were unable to reply to the queries and, therefore, had to go down to the lower formations for collecting the information. The protracted correspondence took considerable time and even then when the replies were received they were not illuminating or complete and led to more queries. The Finance representatives also quoted a few instances to show how cases were received by them and which when sent back for some information never came up again and they were subsequently told that the projects had either been abandoned or postponed.

34. After a careful examination of the procedure being followed at present for the Acceptance of Necessity and the issue of Administrative Approval, we have come to the conclusion that to speed up the issue of final sanctions for the projects, a Central Works Planning Committee should be established in the Ministry of Defence to examine all contemplated proposals relating to all major works which require the approval of the Government of India. The composition and functions of the proposed Central Works Planning Committee should be as follows :—

COMPOSITION

Chairman — A Joint Secretary in the Ministry of Defence.

Members — (1) One representative each of Service Headquarters at Director's level and of DGOF
(2) Deputy Secretary (Works) in the Ministry of Defence
(3) Deputy Financial Adviser (Works)
(4) User's Deputy Financial Adviser
(5) Director of Works, E-in-C's Branch.

Secretary — Deputy Secretary (Works) in the Ministry of Defence.

FUNCTIONS

(1) To examine and approve the Five Year Plan works of the three Services and the DGOF;
(2) To ensure that proposals are actively pursued up to the AA stage;
(3) To make recommendations for the annual bulk allotment of funds and watch progress of expenditure;
(4) To ensure that the works are progressed according to the time-scheduled.

35. Once the necessity for a project has been accepted by the Committee in principle, it may be left to the discretion of the Service Headquarters or of local Commanders to decide whether the various recce boards should be convened or all or any of them should be combined in a particular project. The Acceptance of Necessity and Administrative Approval for projects may similarly be obtained in one process or separately as Service Headquarters may find it convenient. We hope that delays which now occur in obtaining Acceptance of Necessity and Administrative Approval for works will, with the establishment of the proposed Committee, largely be eliminated.

36. In this connection we were given to understand that of late the QMG has been holding meetings periodically which are attended by representatives of Ministries of Defence, Finance (Defence) and Engineers. At these meetings various outstanding projects which had already come up for issue of Administrative Approvals are discussed and endeavours made to get them through quickly. These meetings may no doubt be useful but they are more for the purpose of chasing cases which are ripe for the issue of Administrative Approval and the scope of these meetings is limited to Army works only. The Central Works Planning Committee which we have now recommended will, on the other hand, deal satisfactorily with work projects of all the Services and also attempt to observe a uniform policy.

(v) Allotment of Funds

37. The Schedule of Demands is prepared in accordance with the Army Headquarters letter No. 1507/27447/E-5, dated the 22nd September 1948, as amended from time to time and takes into account the expenditure likely to be incurred on :—

(a) Major Works (including furniture projects) in progress;
(b) New Major Works;
(c) Minor Works; and
(d) Maintenance of existing buildings, electrical installation, military roads and furniture.

38. Allotment of funds for the ensuing financial year is determined on the basis of this Schedule of Demands. Variations in Demands are adjusted at the time preliminary revised estimates, revised estimates and final estimates.

39. It was brought to our notice that for the last several years the funds allotted for woks programme have never been utilised in full and consequently every year funds had to be surrendered, which is unsatisfactory. One view was that the allocation of funds will be more realistic if it is based on sanctioned works instead of on the projects which

are hoped to be sanctioned for a particular year. This view seems reasonable Another view favoured the idea of non-lapsing allotment for Major works, which really cuts across the idea of an annual budget and cannot, therefore, be commended for acceptance. To overcome this situation, we recommend reversion to the old practice of indicating new works in the Budget and providing for a small Reserve for unforeseen urgent projects. Further, no project for which land has not been acquired should be included in the next year's Budget to avoid lapse of funds.

40. It was also represented to us that under the existing procedure the actual allotment of funds to the GEs etc., is not made earlier than the end of May with the result that they cannot spend any money on new projects during the first two months of a financial year, which is also the best season for construction work. The delay in the allotment of funds to the GEs, etc., was ascribed to the fact that on receiving the the Parliament's approval, allotments are made by the Ministry to Service Headquarters, who in their turn allot the funds to Commands, and the latter in turn make the allotments to their subordinate formations. Monsoons then further hinder construction work which actually commences in October or November. Thus, the new projects are indirectly delayed by six months. To overcome this difficulty, we recommend that the engineer officers should be required to give information regarding the funds which would be needed by them, through the normal channels, but the actual allotment of funds to the GEs, etc., should be made direct by Service Headquarters on the basis of information already received by them and copies of the allotment letters should be endorsed to intermediary formations for their information. If this course is adopted, the actual allotment of funds to GEs should be possible by the middle of April each year.

41. Under paragraph 53, MES Regulations, it is permissible to incur liabilities for payment in the ensuing financial year on works and maintenance services during the last quarter of a financial year up to 25% of the provisional budget notification for the following financial year. The question whether this rule has been of any practical value in progressing works and maintenance services and if not whether it could be abolished or alternatively modified to suit the present conditions has been examined by us.

42. In the evidence before us, different views were expressed about the practical utility of this provision. Some agreed that the existing para was helpful. Others stated that to make it more helpful, engineers should be permitted to make payments from 1st April up to 25% of the previous year's budget allotment for the particular project and

that they should also be allowed to to incur some expenditure on new major works. The CTE and E-in-C observed that the existing rule was of little practical value. The Finance representatives pointed out that the system of issuing provisional budget notifications which was in vogue when the rule was framed in the pre-war days, was no longer operative. In the present day Parliamentary control over grants, the rule was out of date and they suggested the following measure in lieu of the existing rule :—

(1) For new major works, a small percentage of total cost may be provided for in the budget grant of the year preceding that in which the work is to be taken up to admit of tenders being called for and other preliminary action being taken. This would be in consonance with the pre-war practice.

(2) In the case of works in progress and other services, the liabilities incurred in the last quarter of a year can as well be cleared from surrenders which are usually made every year. It is not necessary to carry over liabilities to be cleared from the next year's allotments.

43. We have considered this matter carefully and are convinced that it will be advisable to retain the existing rule and suggest that it should be re-constructed as under :—

"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 major works and maintenance services, during the last financial quarter upto the average quarterly appropriation for the 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 demand or Rs. 5 lakhs whichever is less"

44. It was also brought to our notice that according to para 30-A of the works procedure, the amount of the Administrative Approval should be reduced if the percentage in the accepted contract is less than the percentage added when preparing the estimates, leaving a margin of 15% (of the estimate at par) to cover variations in cost due to technical reasons. The majority of Engineer officers who responded to our enquiry felt that the application of para 30-A was not possible because Administrative Approvals are issued on Approximate Estimates and not on Project Estimates. They thought that so long as the intention of the rule, viz., not to deviate from the sanctioned project was not violated there was no necessity for this para and, therefore, they suggested its deletion. A few others while admitting that the rule was workable and satisfactory, desired a modification to

45. After a careful examination we have come to the conclusion that there is no case for the deletion of para 30-A of the Works Procedure. The main object of this para is to prevent the utilization of the amount of savings towards improvement of specifications, etc., without the sanction of the competent authorities. The Administrative Approval is a complete unit and for the purposes of contracts it is just possible that it may have to be split up and separate tenders invited for various works according to conveniences. Any saving in a particular technical sanction should not result in reduction of the amount of the Administrative Approval but the reduction should be on the basis of all the technical sanctions taken together for the project as a whole. We feel that this intention is not clearly expressed in the para as it stands, and therefore, recommend that it should be reconstructed as under :—

"In the case of estimates costing Rs. one lakh or more when the amount of accepted contracts reduces the cost of the service below the administratively approved amount by more than 15 per cent, the approved amount for that service will be reduced by the amount exceeding 15% by the CE/CWE within whose technical powers the work falls. The details for reduction will be sent to the CDA and all concerned. The amount of 15% retained by the CE/CWE will be used to cover variations in cost due to technical reasons."

(vi) Tolerance

46. In their evidence before the Committee, Engineer and other Service officers stressed that a certain percentage of tolerance over the approximate estimates should be allowed to the Engineers to cover unforeseen expenditure and to avoid hold-ups in the construction and the consequential delays in completion of projects where the actual cost exceeded the approximate estimate. An excess of 10% over the amount of the Administrative Approval was allowed prior to the war and during the war it was raised to 20%. Under the existing procedure no excess is allowed to engineers in the MES, although in the CPWD tolerance upto 5% is allowed. The Committee feels that a certain latitude should be given to the engineer officers in this matter. There is bound to be a time lag between the preparation of an AE and the commencement and completion of the work and during this period, the cost may vary on account of increase in the prices of materials (both indigenous and imported) and wages of labour and as a result, the contractors tendered percentage may vary. In some cases, delay in acquisition of land or handing over of site to the contractor and other unpredictable factors, such as adverse weather and labour troubles may also delay the progress of the works and consequently affect the costs in the long run. To approach once again the Government for sanction for a slight increase in the amount mentioned in the

AA will mean following the long and cumbersome procedure and further delay in the completion of the project. To avoid all this, we recommend that a tolerance of five percent on the Administrative Approval, subject to a maximum of Rs. 2½ lakhs, and 10% on the Indication of Cost should be allowed. The tolerance on Indication of Cost should not, however, cover any additional user's requirement. Further *ad hoc* increases in the percentage of tolerance on AA for interim periods may be examined separately by Government as and when necessary.

If the 5% tolerance on AA is allowed, the Committee hopes that the present tendency on the part of Engineers to over-estimate by providing indirectly under 'Contingencies' will gradually disappear and the estimates will be more accurate.

(vii) Project Estimates

47. The Committee went into the question of reviving the pre-war practice of obtaining Administrative Approval on the bases of the project estimates. While the project estimates doubtless will afford more time to the Engineers to plan in greater detail, its introduction at this stage, when the construction programme is very heavy, is not feasible. During the pre-war days there were not many projects coming up simultaneously and consequently sufficient time was available to the Engineers for preparing detailed estimates and designs before AA. But conditions have since changed. There are many projects to be planned and undertaken in a comparatively shorter period and the preparation of Project Estimate, based on complete details, specifications and designs; is really not possible. Moreover, unless designs and drawings are standardized, the pre-war practice cannot be revived. In the circumstances we are of the opinion that the present time is inopportune for reverting to Project Estimates.

(viii) Re-appropriations

48. Under the existing procedure re-appropriation of funds in respect of maintenanee, minor works and major works in progress is being made by Commands in the case of Army works and by DGOF in the case of Factory works, while re-appropriations from one Service to another under the Capital Head 86 are being done by the Government. While the procedure in vogue for re-appropriations in respect of maintenance, minor works and major works in progress is satisfactory, the Committee recommends that the Services Headquarters may release some new major works for commencement during the current financial year, subject to availability of funds and engineering capacity and that the GOC-in-C should have powers to re-appropriate funds from a major work in progress to such a new major work.

Summary of Recommendations

(1) It is not possible to lay down any hard and fast rule whether the user's recce and the key plan/costing recce should be combined or held separately. This will depend upon the magnitude and urgency of the project.

(Para 10)

(2) Decisions of the Ministries of Defence and Finance on matters of policy, if any, should be obtained by the users before the Engineers are asked to give an engineer appreciation and indication of cost.

(Para 11)

(3) Finalisation of establishment and key location plans should receive the foremost attention.

(Paras 13 & 18)

(4) No drastic modifications/alterations in the user's requirements should be made at the key plan/costing recce stage.

(Para 15)

(5) Co-ordinated planning of recce boards on a "continuous cycle" basis spread over the whole year should be attempted.

(Para 17)

(6) Endeavours should be made to reduce the time that elapses between the initiation of a project and its submission to Service Headquarters for issue of Acceptance of Necessity and between the date of receipt by Service Headquarters of the Indication of Cost and the issue of Acceptance of Necessity.

(Paras 19 & 20)

(7) A clear picture of the user's requirements should invariably be submitted with the Indication of Cost.

(Para 21)

(8) It is essential that officers with specialised knowledge should be associated with Siting Boards more intimately from the very beginning.

(Para 22)

(9) Approximate Estimates should be so prepared that the actual cost does not vary by more than five per cent from it.

(Para 23)

(10) The Estimates should actually be prepared by the Engineer officers who are required to do so under the rules and not be left to the lower officers.

(Para 23)

(11) (i) Cases for Acceptance of Necessity should be prepared by

(ii) A project should be considered as a whole and isolation of certain phases should not be attempted.

(Para 27)

(12) The number of checks on the estimate prepared by Engineers should be curtailed to only one, namely, by the next senior authority.

(Para 28)

(13) Normally users should not be permitted to make any changes after the AEs. have been prepared. Where major changes are necessary, the project should be treated as new one.

(Para 32)

(14) To speed up the issue of final sanction for the projects, a Central Works Planning Committee should be established in the Ministry of Defence.

(Para 34)

(15) Reversion to the old practice of indicating new works in the Budget and providing for a small Reserve for unforeseen urgent projects would minimise heavy surrenders at present being made at the end of the year

(Para 39)

(16) To avoid delay in the allotment of funds to the GEs., etc., allotment should be made direct to GEs., etc., by Service Headquarters, with copies of such letters to intermediary formations.

(Para 40)

(17) Para 53 of the MES Regulations and Para 30-A of the Works Procedure should be reconstructed.

(Paras 43 & 45)

(18) A tolerance of 5% on Administrative Approval, subject to a Maximum of Rs. 2½ lakhs, and 10% on Indication of Cost should be allowed.

(Para 46)

(19) The present time is not opportune for reverting to Project Estimates.

(Para 47)

(20) The GOC-in-C should have powers to re-appropriate funds from a Major work in progress to a new Major work which may be released by Service Headquarters for commencement during the current year subject to availability of funds and engineering capacity.

(Para 48)

CHAPTER III

EXECUTION OF WORKS

(i) Planning and preparation of contract documents

49. Before the actual execution of a project commences, engineers have to do a lot of planning and prepare drawings and cantract documents. It was brought to our notice that the issue of Administrative Approval was not sufficient authority for the engineers to start planning and preparation of contract documents and that such action was taken by them only after a project was released by Service Headquarters for execution. This meant that in most cases several months elapsed after issue of the Administrative Approval before the engineers actually started planning and preparation of drawings with the result that the execution of a project could not be commenced in the beginning of the ensuing financial year. We would accordingly suggest that as soon as the Administrative Approval is issued, the Services Headquarters/DGOF should issue a certificate to the effect that the project will be started during the following financial year, so that the engineers could take in time the preliminary action regarding preparation of drawings, issue of tender notice, preparation of contract documents and procurement of controlled items of stores. Some of them may also be released for commencement during the current financial year subject to the availability of funds and engineering capacity.

50. In this context we have examined the question of time lag between the issue of Administrative Approval and the commencement of work. The replies received revealed that, on an average, the time lag varied from six months to two yesrs. This period is not satisfactory. It was explained that in the case of projects for which standard types designs already existed, it may take six months to actually commence the work, but if the project is of a specialised nature for which special drawings and other equipment are to be made available, it may take a year or so. We agree that the time factor is dependent upon the magnitude and nature of work and the allotment of funds in time, but we do not think that a period of 6 to 24 months or even 6 to 12 months from the date the Administrative Approval is issued should be necessary for commencing the work. We consider that it should be possible to commence all works, irrespective of their nature and size, within six to eight months from the date of issue of Administrative Approval. This period, in our view, is reasonable and endeavours should be made to adhere to it. The main causes of delay in starting the work, as intimated to us, were (i) the shortage of drawing staff and (ii) procurement of controlled stores, e.g.,

steel, cement, etc. The shortage of drawing staff is equally applicable to all engineering agencies because there is an overall shortage of such technical personnel in the country and we have taken this into account while recommending period mentioned above. As regards the shortage of steel and cement, we understand that the maintenance of a three months' reserve of these stores is authorised but the MES has not yet been able to build it up due to the acute shortage of these materials. In this connection, we can only say that special efforts should be made to build up the reserve and to resort to forward indenting on a scale which will enable the engineers to commence without any delay works administratively approved.

It was also mentioned by some officers that the present procedure of applying for revised AAs in cases where the contractors' tendered percentage is higher than that assumed in the Approximate Estimates, and consequently the estimated cost exceeds the amount of Administrative Approval, was also a contributory factor for the delay in commencing the work. With the introduction of the system of tolerance, as recommended by us earlier, this cause of delay will not arise in a large number of cases.

(ii) Time allowed in MES contracts

51. There is apparently a lack of uniformity at present in allowing time for completion of contracts. From the various replies we have received, we gather that normally a period of 15 to 24 months was allowed to the contractors for completion of works of a reasonable magnitude, but very often the time allowed originally was not adhered to and extensions were often allowed. The internal audit has reported that the cases in which extension of time was granted to the contractors were far too many. In 1954-55, extensions were granted in as many as 130 contracts. A few examples of grant of long extensions of time are quoted below :—

Period as per contract		Period of extension over & above the original period	
Months	Days	Months	Days
10	—	16	16
8	—	14	25
6	—	8	15

52. The period of completion stipulated in the contract loses its meaning and significance if extensions become inevitable in almost all cases. We are aware that there cannot be a hard and fast rule for

arriving at the time required for completion of a project, as many factors, like climatic conditions, availability of local labour (skilled, semi-skilled and unskilled), availability of materials (such as bricks, sand), transport difficulties, would determine the period during which a work could be completed. The time which may be allowed to a contractor in a particular project would also depend to some extent on the urgency of the user's requirement. In determining the time to be allowed in a contract these two aspects should, therefore, be given due consideration. Too much time should not be allowed to a contractor in cases where, although it might result in some economy, it will not achieve the object of the user, viz., early completion of the project. On the other hand, allowing too little a time to the contractor will not only push up the cost but also ultimately lead to sub-standard work by the contractor or to a failure on the part of the contractor to complete the work in time. The engineers must, therefore, give very careful consideration to all these aspects before stipulating in the contract the period of completion.

53. One solution to the above problem which was suggested to us was that the contracts should be awarded to big and renowned contractors who, with their adequate resources and equipment, could obviously do a job in less time than small contractors. While this suggestion may result in reducing the time that is at present allowed for completion of works, it would not only amount to ignoring the claims of smaller contractors altogether, but might also prove more expensive, because the smaller contractors can execute works at a lower cost.

54. We were told that this matter had been engaging the attention of the CPWD also for a long time and they have recently evolved a time schedule for the various types of works which is being followed by them in concluding contracts. A copy of this schedule is reproduced as Appendix VI. We have examined this schedule, in consultation with the MES officers, and consider that the periods laid down by the CPWD are realistic and the MES works could be completed within these periods provided other factors, such as pocurement of steel, iron, cement and other Government controlled items, do not give rise to insurmountable difficulties. We accordingly recommend that this time schedule should be adopted in the MES with such modifications as may be considered essential by the E-in-C. We, however, like to make it clear that the modifications or alterations, if any, to the time schedule should be sanctioned only by the E-in-C and that applications for extensions should not normally be entertained. Instructions should be issued by the E-in-C to his CEs that any extensions in the contract period should not be dealt with as a matter of

course, but should be scrutinized very carefully and allowed only in cases where the delay is due to reasons beyond the control of the contractors.

In this connection we would like to record, for information, that in reply to our specific question whether, if Administrative Approval for the work costing say rupees five lakhs or below, is given six months before the close of the financial year, the work could be physically completed in the succeeding financial year, we were informed by the MES officers that this could be done.

55. We have also examined the desirability of retention/deletion of the clause in the contracts which authorises the engineer officers to suspend the work. The power of suspending the work is likely to be abused and we understand that in the CPWD there is no clause in the contract authorising the engineers to suspend work. The contract is either closed or the contractor is allowed extension of time. There is, however, a clause in the contract according to which the contractor is required to keep in touch with the stores supply position and regulate his labour accordingly, so that there are no claims for idle labour. In the peculiar conditions under which MES are sometimes called upon to work, it may not be possible to entirely do away with suspension orders. All the same, we feel that the issue of suspension orders should be resorted to only in exceptional cases where no work could be done for an indefinite period or where there is doubt whether the work will at all be executed. Suspension order should thus be restricted to the minimum and issued, if necessary, with the permission of the Chief Engineer only.

(iii) Designs and specifications

56. We consider it essential that the MES should have standardized specifications and designs for all types of works, as such standardization will go a long way in eliminating delays in planning. We have been told that the work of standardization of specifications and designs is progressing but not yet complete. The scales in some cases, e.g., hospitals, have not yet been settled and the existing scales in many cases are scattered in various books/orders and they require proper consolidation, some of them have become even obsolete. Further, there are several scales on the same subject which conflict with one another, with the result that the financial scrutiny becomes impossible unless clarifications are obtained from the officers concerned. These difficulties will not disappear until the scales are properly drawn up and consolidated. We would, therefore, emphasise urgency of settling the scales. Type designs in the case of domestic accommodation, magazines and garages seem to have been finalised. In some cases the existing type designs may require modifications to suit local and

ground conditions and this aspect should receive immediate attention. Specifications for MES works have been standardized, but they are being reviewed by another Committee set up by the Ministry of Defence. Types of contracts and general conditions applicable to each type are also stated to have been standardized. Although, fairly good progress has been done in this respect much remains to be covered because of new types of accommodation, particularly technical and specialised buildings on the Air Force and Naval sides. Service Headquarters should, therefore, make an all-out effort to complete the work relating to the standardization of designs, specifications and bills of quantities and drawing up of scales, etc.

(iv) Schedule of Rates

57. After Administrative Approval for a project has been accorded and it is released for execution, the engineers proceed with the preparation of detailed plans and Costed Schedules of work. These Costed Schedules are mainly based on the Schedule of Rates maintained by the MES. This Schedule is a compilation of rates for each item of work commonly executed by that organisation and is compiled on the basis of a proper study of labour and material costs in various areas. For this purpose, the country has been divided into seven zones and the Schedules were brought up-to-date by the MES in 1955. They are stated to be comprehensive and realistic and hence satisfactory.

58. The need for increasing the number of Schedules so as to serve smaller areas was considered and we were informed that further Subdivision of regions would create additional work without a corresponding benefit. In this context we also examined the question of utilising the Schedules of the State Governments for the localities for which MES Schedules did not exist. The majority of officers who responded to our questionnaire and whom we examined verbally were of the opinion that adoption of Schedules of State Governments would not be desirable nor feasible for the following reasons :—

(1) MES methods of measurements are different from those of the State PWDs;

(2) The units of work and the terminology of specifications in the MES and State PWDs are different;

(3) In view of constant interposting of MES Staff from one State to another the MES officers would have to spend considerable time in familiarizing themselves with numerous Schedules of Rates and methods of measurements which will mean delay and cause confusion to some extent.

We feel that the difficulties pointed out above are real and it would not be advisable for the MES to adopt the State PWDs Schedules of

Rates. Attempts should, however, be made to draw up further Schedules of Rates for particular stations where MES is working and the present Schedules do not work satisfactorily.

59. The Schedule of Rates is more or less the foundation on which depends the correct estimate of a work and economical execution thereof and, therefore, great importance has to be attached to its compilation. Since the cost of materials and labour fluctuates from time to time, a periodical review of the Schedule is very desirable to ensure that by and large it is not unrealistic. The current Schedule was published in 1955 after a lapse of eight years and we were told that there were no instructions regarding its periodical review, which is not satisfactory. Amendments to Schedules necessitated by violent fluctuations in prices were also not issued from time to time but were only reflected in the contractor's percentage over the Schedule. One argument for not revising the Schedule periodically was that the labour involved in compiling it was enormous and, therefore, such revision should be undertaken only when majority of the items in the Schedules become out of date. We, however, consider that if the Schedule of Rates is revised periodically, it will help the engineers in preparing more accurate estimates. We accordingly recommend that the Schedule of Rates should be reviewed and republished once in five years and amendments, numbered serially, should be issued as and when necessary.

60. We have also examined the feasibility of having a common Schedule of Rates for all Engineer organisations under the Central Government. While this may not be practicable on account of large variations amongst them in terminology, units of work, etc., there should not be a wide disparity in the Schedules drawn up by the Railways, CPWD and MES at least in regard to the common items of works. With a view to establishing closer proximity between the Schedules of Rates published by the various Engineering organisations under the Central Government, it is essential that close liaison should be established between them.

(vi) Procurement of materials

61. We understand that normally the contractors supply their own materials with the exception of controlled items, like steel and cement. The controlled items are collected in advance under departmental arrangements and issues are made to contractors on "as required basis". We were told that cement is obtained on supply orders placed against the Rate Contracts concluded by the DG,S & D and supported by authorisation certificate issued by the Regional Honorary Cement Adviser while indents for the supply of steel are

placed on the DG, S & D; through the Iron and Steel Controller. The DG, S & D then places Acceptance of Tenders on producers against the detailed planning instructions issued from the Iron and Steel Controller at controlled rates.

62. It has been represented to us that the time lag involved in the initial allocation of quota certificates and the formalities of getting R.H.C.A. authorisation delay placement of supply orders, and consequently full supply in a particular quarter is not ensured thereby resulting in lapses of the allotted quotas. It was, therefore, suggested that the allotment for a particular quarter should reach the CWE at least a month before the beginning of a quarter for which the supply order is to be placed.

63. In regard to steel, since it takes considerable time for the supply to materialise, it was suggested that some stock of steel of common sections should be kept as a reserve centrally for use in urgent projects. The E-in-C suggested that he should be allowed to place a firm demand 12 months in advance of consumption for steel and 6 months in advance for cement. The necessity for building up a reasonable reserve of steel of standardised sections cannot be over emphasised. We were told that at present very small reserves of these commodities for maintenance and minor works are kept. One view which was placed before us was that the steel prices were not likely to come down during the next few years and, therefore, there should not be any difficulty even from the finance point of view to build up reserves of the steel requirements of the next 3 years. We recommend that indents for the whole year should be placed by the end of September in the preceding year, split up as far as possible on a quarterly basis.

64. Further, we recommend that as soon as the Administrative Approval for a project is issued and the necessary certificate is issued by the QMG's Branch/Naval HQs/Air HQs/DGOF that the project would be included in the following years' programme the MES should shift 50% of the requisite quantity of materials from the stores Depots to the site without waiting for the allotment of funds for the project. This will minimise delay in the commencement of construction work.

65. In this context, the question of using or disposing of the war time stocks of building materials held in the Engineer Store Depots was considered by us. Large stocks of fans, sanitary wares etc., are stated to be still lying in these Depots unutilised. It is high time that either the stocks are utilised in the new constructions or disposed of to the best advantage of the State. The MES should retain such of the stores as are serviceable and can go into their works within the next 2 years.

Such Stores should be used by the MES by supplying them to the contractors. It should be the general policy of the MES to specifically stipulate in the contracts that such stocks will be supplied to the contractors and tenders from the contractors should be invited on that basis. The stores which can not be utilised for the MES works within 2 years should be declared immediately to the DG, S & D for disposal.

(viii) Agencies for Execution of Works

66. At present the MES works are normally executed through the following two agencies :—

(a) Departmentally by employing departmental labour ; and

(b) Through contractors.

67. We were informed that works were executed through the departmentally employed labour in the following types of cases :—

(i) Urgent maintenance works.

(ii) Works where it is undesirable to enter into contracts.

(iii) Where contractors are unwilling to undertake the work at reasonable rates or where there is reason to believe that free competition was not operative.

(iv) In cases where difficulty was expected in assessing the work to be done and in measuring the work on completion.

68. It will be observed from the above that execution of works through departmentally employed labour is done on a comparatively small scale in the MES. It was pointed out to us that while the work carried out through the departmentally employed labour was very much superior in quality to that done by the contractors, the cost of the work was very much higher.

We have examined the possibility of enlarging the scope of works executed through departmentally employed labour. Some of the officers of the Ministry of Defence who gave evidence before the Committee were of the opinion that a greater amount of work should be done departmentally even if it involved higher costs. The Engineer officers who had responded to our questionnaire and who were examined by us verbally were, however, unanimously opposed to this suggestion. The considerations urged by the Engineers against this proposal are summarised below :—

(a) As the work load will not be uniform throughout the year, there will be frequent occasions when labour become surplus to requirements and it will be difficult, almost impossible, to discharge the surplus labour.

(b) Shifting the labour from one station to another will involve avoidable extra expenditure.

(c) Once the labour is employed by Government, they will demand all the concessions admissible to other Government servants, e.g., residential accommodation, medical facilities, etc.

(d) The supervisory staff in the MES will have to be increased and in view of the present shortage of technical personnel, it will present a difficult problem.

(e) The Stores Organisation in the MES will have to be strengthened and procurement and accounting of stores, which is at present done by the contractors themselves, will then have to be done by the MES personnel. It might give scope for corruption and even delay the projects because the contractors at present take personal interest in securing materials which may be in short supply. It will not normally be done by the MES personnel.

69. We have given careful consideration to the advantages and disadvantages of executing works through departmentally employed labour and have come to the conclusion that this course should be resorted to only in the following circumstances :—

(i) To break up a ring formed by the contractors ;

(ii) For executing works of special nature where measurements are not possible ;

(iii) For carrying out petty repairs;

(iv) For store handling; and

(v) In certain exceptional cases which may arise.

Extension of the scope of executing works through departmentally employed labour beyond this would not be advantageous to the State.

70. In this context we have also examined the possibility of reducing the cost of works carried out through departmental labour. It was pointed out to us that no reduction in cost would be possible unless the piece work rate system is introduced in the MES. We were further informed that the introduction of such a system would present practical difficulties and would not be feasible in view of the present conditions that prevail in the country.

71. After careful consideration of this matter, the Committee is inclined to agree with the engineers that under the present conditions it will not be possible to reduce the cost of works carried out through departmental labour.

72. In this connection, we have also considered the possibility of supplementing the capacity ef the MES by employing other agencies, such, as :—

(i) The Central PWD

(ii) The State PWDs

(iii) The Consulting Architects with their own supervisory staff.

It was pointed out to us by many users and engineers that it would not be advisable to employ other Governmental agencies for carrying out works for the Defence Services as it would result in confusion and cause administrative difficulties. It was mentioned that during the last war the CPWD and the State PWDs were entrusted with certain works for the Defence Services and difficulties had been experienced in the matter of keeping proper accounts. It was further pointed out that in connection with the works which were entrusted to the Hyderabad State PWD during the police action, the accounts still remained unsettled. Further, the civil Governmental agencies were not fully conversant with the peculiar requirements of the Defence Services and in any case, they would not be in a position to advise the users from the time a project is initiated. Work in connection with the projects up to the Administrative Approval stage would therefore, still have to be carried out by the MES.

73. Further, even the other Governmental agencies execute their works through contractors and the only help that they could possibly render to us by undertaking the execution of projects on our behalf would be by way of relieving the MES of the responsibility for supervision of the works in progress and making payments to the contractors.

74. Apart from the above difficulties, it was brought to our notice that the CPWD and State PWDs were equally heavily loaded with work in connection with the implementation of the Second Five Year Plan and they would not be in a position to accept any substantial work on behalf of the Defence Services without augmenting their own technical staff.

75. In view of the position explained above, we do not think that the CPWD or State PWDs will be able to help the MES to any great extent in executing works for the Defence Services. They may, however, be utilised in cases where the MES is not established and where they may be in a position to undertake the work on our behalf.

76. As regards employing Consulting Architects with their own supervisory staff for executing works for the Defence Services, while some of the officers who gave evidence before us were in favour of such a course, it was pointed out to us by engineers that unless MES were relieved of all responsibilities, including the preparation of rough estimates, indication of cost and approximate estimates and also the final passing of the bills presented by the private architects, it would

not to be of much help to the MES. It was also pointed out to us by the Engineer member from the CPWD on the Committee that by experience they had found that even the Consulting Architects do not come up to the requisite standards and that handing over the works solely to them would lead to a lot of delays and unending troubles. Apart from the trouble that the Government had to face with private Consulting Architects, their employment had always been more expensive. It was further mentioned by the MES officers that unless they were relieved of a substantial portion of a work in a station, entrusting of work to private architects will not add to the capacity of the MES because the latter will have to keep its staff in the station. It was pointed out by them that in a few cases the MES had taken the advice of eminent architects and they would continue to do so as and when necessary. It was also mentioned that the number of Consulting Architects with adequate supervisory staff who could usefully be employed to supplement the MES capacity was small.

77. Having regard to all the factors mentioned above, we are of the view that there is no need at present to entrust the execution of works to Consulting Architects. Such a possibility may be examined only when the MES reaches the maximum capacity to which we are referring in a subsequent chapter. In the meantime, the MES should continue to employ private architects in a consulting capacity whenever necessary.

(viii) Maintenance

78. The present basis on which funds are allotted for the maintenance of buildings, roads and installations is as follows :—

(a) Permanent buildings including water supply fixtures, etc; but excluding internal electrical installations built upto 31-12-1942	...	2¾% of capital value.
(b) -do- built after 31-12-1942	...	1⅜% -do-
(c) Tempy. buildings including water supply fixtures, etc; but excluding internal electrical installations	...	1½% -do- for 1st year.
		3% -do- 2nd year.
		5% -do- thereafter.
(d) Internal electrical installations in permanent buildings (also perimeter and external lighting) built upto 31-12-1942		11% of capital value.

(e) Internal electrical installations in permanent buildings (also perimeter and external lighting, built after 31-12-1942 ... 8% of capital value.

(f) Internal electrical installations in temporary buildings (also perimeter and external lighting) ... 11% -do-

(g) Military Roads ... Rs. 1840/- per mile.

The above percentages for buildings are only for normal maintenance and we understand that special repairs are catered for separately.

79. The percentages recommended by Kasturbhai Lalbhai Committee for buildings maintained by CPWD were as follows :—

Office buildings	*Built prior to 1946*	*Built in 1946 and thereafter*
(a) Pt. & substantial buildings of the standard of Sectt buildings & Parliament House	½ % of capital cost.	¼ % of capital cost.
(b) Other Pt. Office buildings	1 % -do-	¼ % -do-
(c) Temporary buildings	2½ % -do-	2 % -do-
Residential buildings		
(a) Pt. buildings	3 % of capital cost.	2 % of capital cost.
(b) Temporary buildings	5 % -do-	4 % -do-
Electrical maintenance	8 % -do-	6 % -do-

80. The percentages for maintenance of Government Buildings followed by CPWD at present are as follows :—

Constructed	Pre 31.3.42	1.4.42 to 14.8.47	After 15.8.47
ANNUAL REPAIRS			
1. *Office Buildings*			
(a) Permanent high class such as Sectt. block	0.6	—	—
(b) Other permanent buildings	2.75	1.75	1.25
(c) Temporary	3.5	3.0	2.5
2. *Residential Buildings*			
(a Permanent	2.75	1.75	1.25
(b) Temporary	3.50	3.00	2.5
Special Repairs			
(a) Monumental types	0.25	—	—
(b) Permanent	1.00	1.00	1.00
(c) Temporary	1.50	1.00	1.00

Constructed	Pre 31.3.42	1.4.42 to 14.8.47	After 15.8.47
Annual Repairs (Elect,	8.0	7.00	5.00
Special repairs elect. with fans.	3.50	3.25	3.00
Special repairs without fans.	2.00	1.75	1.50

81. It will be seen that the basis of allotment of funds for the maintenance of buildings etc., in the MES is different from that in the CPWD. This is due to the fact that the MES has the responsibility to maintain much of the war-time constructions which require more funds to keep them in proper condition. However, by and large the maintenance charges in the MES are reasonable. We were informed that the amount fixed for the maintenance of roads by the MES was really inadequate and that the E-in-C has already taken up the question of increasing the rate of allotment for maintenance of roads with the Ministry of Finance.

82. We have also examined as to what should be regarded as "normal" and "special" repairs in the case of buildings. We recommend that repairs costing less than Rs. 20,000/- for any one single building as recorded in the MES registers should be regarded as normal repairs and repairs costing Rs. 20,000/- or more should be termed as 'special repairs'. 'Special Repairs' are defined as 'renewals' costing more than Rs. 20,000/- each. It will be treated as original works for the purposes of AA and technical sanctions.

Summary of Recommendations

(1) As soon as the Administrative Approval is issued, Service Headquarters/DGOF should issue a certificate to the effect that the project will be started during the following financial year, to enable the Engineers to take all preliminary action.

(Para 49)

(2) All works of whatever nature and size should commence within six to eight months from the date of issue of Administrative Approval.

(Para 50)

(3) (i) The time schedule followed by the CPWD is realistic and should be adopted by the MES with such modifications as may be considered essential by the E-in-C.

(ii) Applications for extension should not normally be entertained.

(Para 54)

(4) Suspension orders should be restricted to the minimum and issued when necessary with the permission of the CE only.

(Para 55)

(5) Service Headquarters should make an all-out effort to complete the work relating to the standardization of designs, specifications and bills of quantities and drawing up of scales, etc.

(Para 56)

(6) It will not be advisable for the MES to adopt the State PWDs Schedules of Rates, but attempts should be made to draw up further Schedules of Rates for the particular stations where MES is working and the present Schedules do not work satisfactorily.

(Para 58)

(7) Schedule of Rates should be reviewed and republished once in five years and amendments, numbered serially, should be issued as and when necessary.

(Para 59)

(8) Liaison should be established among the various Engineering Organizations under the Central Government to ensure close approximation between the Schedules of Rates published by them.

(Para 60)

(9) The requirements of the Defence Services for iron and steel should be worked out on yearly basis and forward indents placed.

(Para 63)

(10) The MES should shift 50% of the requisite quantity of materials from the stores depots to the site without waiting for the allotment of funds in respect of projects released to them for the ensuing financial year.

(Para 64)

(11) Such of the war time building materials held in the Engineer Store Depots as can be utilised within the next two years should be retained and the rest should be declared to the DGS & D immediately for disposal.

(Para 65)

(12) Execution of works through departmental labour should be resorted to only to break up a ring formed by the contractors or to carry out petty repairs or where work is of a special nature and measurements are not possible.

(Para 69)

(13) CPWD/State PWDs will not be able to help the MES to any great extent but their services should be utilised where the MES is not established.

(Para 75)

(14) There is no need at present to entrust the execution of works to Consulting Architects.

(Para 77)

(15) Repairs costing less than Rs 20,000 for any one single building as recorded in the MES registers should be regarded as "normal" repairs and those costing Rs. 20,000 or more as "special" repairs.

(Para 82)

CHAPTER IV

TENDERS AND CONTRACTS

(i) Registration of contractors

83. The present procedure relating to registration of contractors is given in para 170 of the MES Standing Orders. A letter forwarding the enrolment form (IAFW 2190) is addressed to those who wish to be included in the list of approved contractors for the MES. The intending contractors furnish all the particulars as required in the form and these are varified by making references, where necessary, to other departments if they have carried out works for them. Thus, after their financial, engineering and other resources are checked, and after they have given the requisite income tax clearance certificate and agree to execute a security bond according to the class in which enlistment is desired, they are registered under various financial limits for different types of works. We were informed that the different monetary limits under which the contractors are enlisted are as under :—

Class	*Financial Limit*	*Enlisting authority*
A	No limit	CE
B	Rs. 10 lakhs	CE
C	Rs. 5 lakhs	CE
D	Rs. 2 lakhs	CE
E	Rs. 1 lakh	CWE
F	Rs. 40,000/-	GE

In the above classes, the contractors are further classified for different types of works such as Building, Road, Electrical, etc. The lists of contractors are reviewed, although not periodically, as and when necessary, and those who do not secure any work in the year or who produce sub-standard work are either removed or downgraded and those with satisfactory performance certificates are upgraded and fresh contractors added. Confidential reports on the work of the contractors by the GEs are available and these are filed with the officer on whose list the contractor is borne. We were informed that tenders are invited even from those contractors who are on the approved lists of CPWD, State PWD and Railways, but the contractor has to register himself with the MES before the contract is awarded to him. The unrestricted issue of tenders to approved contractors of all the Government agencies stimulates keen competition. We were told that tenders were occasionally issued even to unregistered contractors of repute on the understanding that they would get themselves registered before the contract was awarded to them.

84. We are satisfied that the present system of registering contractors in the MES is satisfactory and requires no modifications. In this connection, we would suggest that a list of big contractors registered with all the Central Government Engineer authorities, together with their records of performance, should be kept with one central authority, say the CPWD. This will save time and labour in obtaining information about the performance of a known contractor.

85. We also examined whether the black-listing, suspension, etc., of a contractor by one department was effective in all other departments. We were informed that black-listing was done with the approval of the Ministry of Home Affairs and was intimated to all departments and a contractor who was black listed could not be awarded any contract by any department. Suspension or removal of a contractor by one department is, however, not at present intimated to other engineer agencies under the Government of India. We appreciate that suspension/removal of a contractor by one engineering agency need not necessarily result in his suspension/removal by other agencies also. If, for instance, a contractor is registered simultaneously with the CPWD and MES and the latter for some reason or the other suspends or removes him from their list and communicates the action taken to the CPWD the former cannot, and should not, suspend or remove him from their approved list unless his performance with them has also been found unsatisfactory. It is, however, necessary that there should be co-ordination between the MES, CPWD, Railways and State PWDs in this matter so that they are more careful in awarding works to contractors who are suspended or removed by the other department. We understand that the Works, Housing and Supply Ministry had set up a committee to frame a common set of rules regarding black-listing etc., of contractors and that the draft rules prepared by that committee are at present under consideration in the Ministries of Defence, Home Affairs, Irrigation and Power, Transport and Railways. We had communicated our views to Section D (Coord) of the Ministry of Defence and we hope they will be given due consideration by Government before taking a final decision on the code prepared by the committee set up by the Ministry of Works, Housing and Supply.

(ii) System of inviting tenders

86. Tenders are invited by advertisement in newspapers if the value of work to be executed exceeds Rs. 1 lakh and by displaying notices on notice boards if the value is less than a lakh of rupees. All eligible contractors registered with the MES, CPWD, Railways or States PWDs can apply for the tender documents.

87. The time normally allowed for submission of applications for tender documents, as revealed in the replies received from many officers in

response to our enquiry in this connection is about a fortnight. This period is satisfactory. It is understood that in CPWD contractors are not required to apply for the issue of tender documents. The tenders are issued to the approved contractors straightaway after the advertisement/notice appears in the newspapers and on the notice boards respectively and can be issued up to the last date fixed for this purpose. It was suggested that the adoption of the same procedure by the MES may result in the saving of some time. We have examined this suggestion. We were informed that the present practice in the MES was to go to the press long before all the tender documents were actually ready for issue and the period for submission of applications for tender documents was utilised for the preparation of such documents. Thus there was no wastage of time in the process of calling for applications for tender documents from the intending tenderers.

88. We recommend that the present system of inviting tenders should be retained with the modification that in all cases of works of Rs. 1 lakh and over the advertisement should appear at least once in one local vernacular paper and twice in English papers and if the value of the work is more than Rs. 10 lakhs, it should be advertised in important papers of other big towns also. This will create keener competition.

(iii) Issue of tender documents

89. We have been given to understand that in certain cases tender documents are not issued to the contractors who apply for the same. We were told that in cases where a contractor's performance in the past had been unsatisfactory or had already too much work in hand or if it was considered that the value of the work was appreciably above his financial limit, tender documents were not issued to him. The reasons for not issuing tender documents were recorded by the issuing authority. We noticed that there had not been any complaints from the contractors about the non-issue of tenders.

90. The question whether the elimination of ineligible or unsuitable contractors should be done at the stage of issuing tender documents or at the stage of awarding a contract was considered by us. The consensus of opinion amongst those who replied to our questionnaire is that the elimination of such contractors should be done at the time of issue of tender documents; otherwise the accepting authority will find itself in an embarrassing position if such contractor is found to be the lowest tenderer. This will also obviate chances of receiving freak tenders.

91. We have given consideration to all the factors mentioned above and recommend that the present system of eliminating ineligible or

unsuitable contractors should be continued, but the Competent Engineer Authority should be authorised to reject applications for tenders only on the following grounds which should be recorded in writing :—

(1) The contractor was already overloaded;
(2) The performance of the contractor had not been satisfactory in the past;
(3) Serious irregularities were committed by the contractor in the past (such irregularities should be mentioned in brief).

Barring the above cases, the Competent Engineer Authority should issue tender documents to all other eligible contractors.

(iv) Period allowed for submission of tenders

92. We were informed that in the past due to the rush of events and the need to save time, adequate time had not been allowed to the tenderers for submission of the tenders. The period allowed varied from two to six weeks, depending upon the amount and nature of the work. This did not work satisfactorily, as the contractors were not able to acquaint themselves with site conditions. We recommend that normally a period of four to six weeks must be allowed for submission of tenders after the issue of the tender documents, except in cases where the contractors are required to submit their own designs and specifications and where the work is of a complicated nature, when the time allowed should be longer.

93. The replies received in response to our questionnaire reveal that the occasions where the authorities had to allow extension of time for the submission of tenders were rare. Such extensions were allowed only when amendments or changes in the tender had to be made. During 1954-56, out of 41 contracts concluded in a Command only in one case extension of time had to be allowed. It was then extended by six days. While extensions may become necessary, particularly when amendments have to be issued to the tender documents, we would emphasise that the tender documents should be prepared very carefully and the need for amending or altering the tender documents should not arise at all.

(v) Opening of tenders

94. All tenders, which are required to be submitted before the date and time fixed for the purpose, are to be either deposited in a sealed tender box or sent by registered post so as to reach before that date and time. Those received by registered post are also deposited in the sealed tender box by the office receiving them.

95. The tenders are opened at the stipulated time by a panel of two officers who then prepare a comparative statement of the offers

received. At present all the tenders are not being opened in the presence of the contractors. We understand that in the case of item rate and percentage rate contracts, however, tenders are usually opened in the presence of the contractors and the rates are announced. Many of the MES officers are not in favour of the idea of opening the tenders in the presence of the public, for the following reasons :—

(1) Very often freak rates were tendered, for which detailed analysis was asked for from the contractor. If this contractor was present at the time of opening of tenders and knew the rates of other contractors he would be in an advantageous position to amend his rates when asked to do so.

(2) The rates quoted by the various contractors would be known to them, which might help them in forming a ring in future.

96. We have gone into this question and we are unable to agree with the views expressed by many of the engineer officers. We feel that opening of tenders in the presence of such contractors as may like to be present is the best way of avoiding any misapprehensions amongst the contractors and unnecessary criticism from them and also of eliminating the chances of interpolation by the subordinate staff. We, therefore, recommend that the tenders should be opened in public but it should be made clear at the time of announcing that they were subject to checking.

97. The tenders, we understand, are opened immediately after, or within an hour of the time at which the tender box is closed. This position is satisfactory. The question of time at which the tenders should be opened was examined by us and we recommend that the time should be so fixed that all registered posts would have come in by that time and the tenders should be opened half an hour after that time. The ideal time for opening the tender box will, therefore, be 4 P.M.

(vi) Late tenders

98. In the MES, late tenders were invariably not entertained and were returned to the tenderers themselves unopened. The frequency of re-inviting tenders in the MES was also not high, but such cases occasionally occured when sufficient tenders were not received or when the lowest bid was unreasonably high, or when there was reason to believe that free competition was not operative. In the Southern Command, MES had to re-invite tenders 16 times during 1953-54 and 29 times in 1954-55.

99. In the CPWD, the late tenders are also opened but not considered. If the lowest bid is found amongst the late tenders then the CPWD

considers the desirability of going out to tender again. Thus, it will be observed that the late tenders are sometimes very useful in arriving at a reasonable amount to be allowed for a contract. We favour this idea and recommend that such late tenders as had left the tenderers before the actual time of opening but had not reached in time may be opened and filed in the office instead of returning them to the tenderers. The late tenders should, however, on no account, be considered but on the basis of rates quoted therein the appropriate authority should consider the desirability of going out to tender again.

(vii) Negotiations with tenderers

100. Normally no negotiations are entered into with the tenderers. Cases, however, occur when errors and discrepancies are noticed while scrutinizing tenders and it becomes necessary to address tenderers for clarification. In the true sense, these references to tenderers cannot be considered as negotiations. Negotiations with contractors are not a healthy practice and should not, as a rule, be permitted. If, however, in certain cases negotiations become inevitable, prior permission of the Ministry of Defence should be obtained.

(viii) Single Tender Contract

101. Under para 392, MES Regulations, as modified by para 31 of the memorandum on procedure for the execution of Works Services, issued with the late Defence Department letter No. 9623/21/Q3/A(Wiii), dated the 9th June 1947, as amended from time to time, recourse to Single Tender Contracts may be made in exceptional cases where the work is extremely urgent or when work is of a specialist nature or when recourse to repeated tendering has not resulted in a reasonable tender being submitted. CE/CWE has powers to enter into a Single Tender Contract up to rupees one lakh and GE up to Rs. 500/-. The reasons for entring into Single Tender Contract and the method of determining the rates have to be placed on record in writing. We recommend that the powers for concluding Single Tender Contracts should be as follows :—

G.E.	Up to Rs. 500/-
C.W.E.	Up to Rs. 1 lakh
C.E.	Up to Rs. 2 lakhs
E-in-C	Up to Rs. 10 lakhs.

(ix) Freak Rates and genuine errors

102. We have examined how the freak rates quoted by tenderers are dealt with, i.e., whether the contractors are asked or permitted to amend such rates and, if so, under what circumstances. From the replies received by us from the MES authorities, we have observed that there is no uniform practice in this matter. While some of the

replies showed that the tenderers were not asked or permitted to alter the freak rates, the majority of the replies showed that action was taken to alter the freak rates. We have given consideration to this matter and recommend that the freak rates suould not be corrected except for the purposes of deviations. Where freak rates are not corrected, deviations should be strictly controlled and kept very low. When engineers observe a freak rate particularly one which affects a major portion of the tender, they should consider the advisability of accepting such a tender.

103. We have also examined how freak rates are distinguished from genuine errors and how the latter are generally dealt with. We were informed that genuine errors were distinguished from freak rates by examining each case on its merits and that the genuine errors were corrected in consultation with the Accounts authorities and the contractors. We recommend that genuine errors in calculations, but not in rates quoted by contractors in lump-sum contracts, may be corrected and the lump-sum altered, if necessary.

(x) Rejection of the lowest tender.

104. Under the rules, CEs have the power to reject the lowest tender after consulting the Controller of Defence Accounts, wherever possible, but they have to record the reasons for their decisions. From the evidence tendered before us, we observed that in practice the lowest tender was ignored in very few cases where it was ridiculously low and the next higher tender was accepted with the concurrence of the Accounts authorities. The proportion of such cases to those where the lowest tender was accepted was negligible.

(xi) Interval between the opening of tenders and issue of work orders

105. The evidence tendered before the Committee showed that the time which normally elapsed between the opening of tenders and the decision to award a contract was one week and the time lag between the award of a contract and the issue of work orders was generally two to three weeks. There were a few cases where owing to the special nature of work, the time lag between the opening of tenders and awarding a contract was longer than a week, particularly where the tenderers were required to submit their own designs and/or specifications. We consider that on the whole the present practice in this respect is satisfactory.

106. In this connection, we have examined the question whether only one work order was issued to cover the entire work specified in the tender as accepted or more than one work orders were issued. The

replies received to the Committee's questionnaire showed that generally one work order was issued for the whole work except in cases where work was done in phases. In the latter type of cases the programme was generally indicated in the tender documents themselves and work orders were issued accordingly. The present practice of issuing one work order to cover the entire work specified in the contract except in cases where the work was phased, is considered satisfactory.

(xii) Handing over the sites to contractors

107. We examined whether there were any delays in handing over the sites after the issue of work orders and we found that delays sometimes did occur. The main causes for the delay normally were :—

(1) In cases of abnormal repairs to existing buildings, units were not able to vacate them in time;

(2) In the case of new constructions where land had to be acquired, acquisition proceedings took more time than initially anticipated; and

(3) Occasionally there were land disputes and the lessees had to be evicted through the process of law before the site could be handed over to a contractor.

108. We recommend that in the case of new constructions, Administrative Approval should not be released for execution until the site can be made available to the engineers. In the case of abnormal repairs to existing buildings, tenders should not be invited until a confirmation is obtained from the user that the buildings will be made available to the engineers for carrying out the requisite repairs on the date required by them. Proper co-ordination between the engineers and users in this matter is essential.

(xiii) Piece-meal Contracts

109. We were given to understand that the projects are generally split up into parts or sub-projects, according to the type of work to be done. For example, separate contracts or sub-contracts were awarded for the B & R, Electrical Services, etc. It was also some time necessary to split up the Administrative Approval into several contracts of sizeable amounts for better prospects of competition amongst contractors or for the execution of certain items, such as pile or raft foundations by specialists, or in cases where certain work could be done only after completion of some other work, such as external services. Such splitting up of the projects was considered desirable and in the interest of both speedy completion of the project and economy. In our view, the splitting up of projects into several parts depending upon the type of work, is all right, provided the break-up is

done by the authority competent to technically sanction the project as a whole.

(xiv) Types of Contracts

110. The various types of contracts which are usually concluded in the MES are :—

(1) Term Contract at a fixed percentage above or below the prices given in the local MES Schedule for Minor Works and maintenance up to a limit of Rs. 10,000/- and for a certain period ;

(2) Lump Sum Contract, which is usually entered into for all new works and maintenance Services not given to the Term Contractor ;

(3) Percentage Rate Contract at a fixed percentage above or below the prices given in the local MES Schedule or in the special Schedule of Rates attached to the tender form. This type of contract is applicable to certain new works and maintenance services beyond the limit of the Term Contractor ;

(4) Item Rate Contract, according to which the contractor undertakes to carry out items of work in accordance with definite specifications at the rates stated in the contract; and

(5) Running Contract for supply of materials.

The view generally expressed by engineer-officers before us was that they were not experiencing any difficulties in selecting a suitable type of contract for the work to be done.

111. The Lump Sum Contracts are based on—

(i) either on a schedule pre-priced at MES Schedule of Rates and the contractors are asked to quote their percentage; or

(ii) on drawings and specifications and the contractors are required to quote lump sum price for each item shown in the schedule; or

(iii) on Bills of Quantities and the contractors are required to price the various items and quote a lump sum.

112. It was explained to us that Lump Sum Contracts with Bills of Quantities would be most advantageous. The advantages and disadvantages of this type of contract are as follows :—

(a) *Advantages*

(i) The completion cost would be known at the very outset.

(ii) No measurements will be involved except in the case of deviations and consequently there will be no delays in final payments.

(iii) It will help the contractors in quoting the rates and their quotations will be realistic.

(iv) The finalisation of the contract will be easy.

(b) *Disadvantages*

(i) It was possible that the Government might pay more or the contractor might find that he was running into loss and might, therefore, lose interest in the work.

(ii) Deviations will have to be measured and agreed to by the contractor separately.

Under the Item Rate Contract system, generally followed in the Central Public Works Department, deviations did not raise any difficulties but under this system the cost of construction was not known until completion of the project and measurements had to be taken which meant extra work and resulted in delays in the final payments.

113. After giving consideration to the advantages and disadvantages of the two systems mentioned above, we consider that Lump Sum Contracts with Bills of Quantities would be most advantageous for building works. This type of contract was, however, not being concluded at present because it takes much longer to prepare the tender documents than is the case in other types of contracts and the existing cadre of Surveyors is not adequate to cope with the increased work. The present practice, therefore, is generally to enter into Lump Sum contracts mainly on the basis of pre-priced schedules and, occasionally, on the basis of drawings and specifications. This is not very satisfactory and efforts should be made to enter into Lump Sum Contracts with Bills of Quantities as early as possible.

114. In this connection, we would also like to mention that although the Lump Sum Contract with standardized Bills of Quantities will be most suitable for repetitive types of works, like domestic accommodation, where deviations are rare or in cases where measurements might involve complications and lead to difficulties, such a type of contract would not be suitable in cases where deviations are likely to be substantial. In the latter type of cases, it would be preferable to conclude Item Rate Contracts. The Item Rate Contract would also be most suitable for furniture.

115. As mentioned above, Term Contracts are concluded for the execution of minor works and maintenance services costing up to Rs. 10,000/-. It is not permissible to entrust Term Contractors items of major work costing up to Rs. 10,000/-. It was suggested to us that this rule should be amended to permit the engineers to entrust sub-items costing up to Rs. 10,000/- of major works also. This suggestion was, however, opposed by the representative of the Finance on the following grounds :—

(1) Term Contract is essentially for items of small services and petty repairs;

(2) Term Contract by its very nature involves a certain amount of uncertain liability on the part of contractors;

(3) The technical resources of a Term Contractor are usually limited;

(4) The availability of the Term Contractor on the spot is likely to create a practice in MES to have many sub-items of major works carried out without going through the drill for concluding contracts. Such a practice would tend to eliminate competition;

(5) The discretion proposed to be vested in the MES is likely to create frequent controversies between the audit and the executive regarding the use of the discretion.

116. We have given due consideration to this matter and, while it is true that Term Contract is essentially for minor works and maintenance services, we feel that it would be advantageous administratively to permit the engineers to entrust certain items of major works within the limit of Rs. 10,000/- to Term Contractors. We accordingly recommend that the Chief Engineers should be authorised to give sub-items of a major work costing up to Rs. 10,000/- in any one project to Term Contractors before the commencement of the major work, provided such a step is to meet some urgent requirement.

(xv) Contract forms

117. In this connection it was also represented that the contract documents were very bulky and created lot of difficulties and complications. It was stated that every time there was a dispute about the interpretation of a clause in a contract, an amendment was issued to the contract form with the result that the documents became more and more bulky and complicated. It was suggested that a simplified contract document, which could easily be understood by all, should be prescribed. We have not gone into this matter in detail because we understand that the question of contract forms was recently examined by another Committee in the Ministry of Works, Housing and Supply. We would, however, like to emphasise that the contract documents should be as simple as possible, so that the officers who are to conclude contracts and operate them do not find them too complicated.

(xvi) Government's responsibility for supply of materials to contractors

118. At present Government undertakes to supply to the contractors materials in the following cases:—

(i) When the issue of stores is controlled, e.g., steel and cement;

(ii) When war-time materials are already stocked in the Engineer Store Depots; and

(iii) When surplus materials purchased against sanctioned projects are available.

We have examined the possibility of Government divesting itself of the responsibility of supplying the stores to the contractors, but have come to the conclusion that such a course would not be feasible or desirable at present. For example, the demand for steel and cement is greater than the supply and if the procurement of these materials is left to the contractors themselves, they will not be able to do so and consequently there will be inevitable delays in the completion of works. Again, if the Government desire to utilise the serviceable war-time building materials by incorporating them in their works, the contractors should not be asked to make their own arrangements for such stores.

We, therefore, consider that the time is not yet ripe for the Government to divest itself of the responsibility for the supply of certain stores to the contractors.

(xvii) Deviations

119. The extent of deviations sanctioned from the accepted contracts in the MES has been examined by us. We have noticed that the deviations varied from 10 to 25% of the value of a project. It was explained that the deviations were due to :—

(i) non-availability of the materials which were to be incorporated in the work according to the original plan;

(ii) technical reasons, i.e., changes in specifications/designs or variations in foundations due to different ground levels and types of soil; and

(iii) not infrequently administrative reasons also, i.e., additions or omissions of certain items required by the users.

120. The limits of deviation have been laid down by the E-in-C in his letter No. 40198/E8, dated 24/25th March 1954, as amended by E-in-C's Branch letter No. 40198/E8, dated 1st May 1954 and are as follows :—

(a) *Lump Sum Contracts based on Drawings and Specifications only.* Not more than 10%

(b) *For all other types of Contracts*—

(i) 25% for contracts estimated to cost up to and including Rs. 10 lakhs.

(ii) 20% for contracts estimated to cost over Rs. 10 lakhs.

The above percentages indicate the upper limits and each contract has to be considered on its merits and deviation limit fixed as low as practicable.

121. We were informed by an officer of the E-in-C's Branch that upto the 15th August 1955 the relevant portion of Condition 7 of IAFW-2249 (General Conditions of Contracts) pertaining to deviations read as follows :—

"The Accepting Officer may deviate, either by way of addition or deduction, from the works so described, provided that the Contract Sum be not thereby varied on the whole by more than the percentage set out in the tender documents. The value of all additions and deductions will be added to or deducted from, the Contract Sums."

The deviation percentages referred to in para 120 above were considered to represent net effect (algebraic sum) of all additions and deductions ordered subject to the proviso that any alteration ordered did not radically affect the scope or nature of the contract.

With a view to reducing the number of deviations and avoiding arguments with contractors on questions of deviations/amendments, Condition 7, referred to above, was revised on the 16th August 1955. The relevant portion of the revised Condition is reproduced below :—

"No work that radically changes the original nature and scope of the Contract shall be ordered as a deviation and in the event of disagreement between the Contractor and the Accepting Authority, the decision of the next higher authority (or of the Chief Engineer in case of contracts accepted by him) shall be final, conclusive and binding on the Contractor.

The Accepting Authority, or person specially authorised by him on his behalf, may vary either by way of addition to and/or deduction from the works so described, provided that the Contract Sum be not thereby varied on the whole by more than the percentage set out in the tender documents (referred to herein below as 'the Deviation Limit'), subject to the following restrictions :—

(a) The Deviation Limit referred to above is the net effect (algebraic sum) of all additions and deductions ordered.

(b) In no case shall the Additions/Deductions (arithmetical sum) exceed twice the Deviation Limit.

(c) The Deviations on any individual trade item already forming part of the Contract shall not exceed PLUS/MINUS 50% of the value of that item in the Contract as a whole or half the Deviation Limit, whichever is less.

(d) The value of addition of new trade item (s) work not already included in the Contract shall not exceed 10% of the Deviation Limit.

Note :—Trade item (s) mean individual item (s) included in the Bills of Quantities or trade item (s) forming the basis of the item (s)

of pre-period Schedule 'A' or forming basis of the Contractor's Lump Sum for the item (s) of Schedule 'A', such as Brick work, Stone work, Wood work etc.;

It was further stated that when the revised clause was introduced it was decided to watch its implementation over a period of one year and from the reports recently received from the Chief Engineers and Controllers of Defence Accounts it was noticed that the revised condition had worked satisfactorily.

122. In the Central Public Works Department, where the contracts are usually Item Rate Contracts, the powers of sanctioning deviations are as follows :—

C.E./A.C.Es—	Full Powers.
Superintending Engineers.—	Extra Items up to 10% of the contract (gross value) or 5% of the contract (net value) in respect of contract accepted by any authority. In the latter case i.e., net value, the amount should not exceed Rs. 40,000/-. Within this limit they may also sanction rates which cannot be derived either from the agreement or the standard Schedule of Rates upto 2% contract but limited to Rs. 16,000/-. Beyond this sanction of the C.E/A.C.Es would be necessary.
Executive Engineers.—	Extra Items up to Rs. 5,000 in respect of contracts accepted by any authority. Within this limit they may also sanction rates which cannot be derived either from the agreement or the sanctioned Schedule of Rates upto Rs: 1,000/- only. Beyond this sanction of the S.E. will be necessary.
Assistant Engineers.—	Extra Items Rs. 250/- or 5% of the contract whichever is less.

Notes:—(1) These powers should be exercised for technical reasons only. (2) Scale of accommodation and furniture sanctioned by higher authority should not be exceeded. (3) These powers are in respect of each contract. (4) These powers will be exercised concurrently but the higher authority will take into account the total amount of items sanctioned by the lower authority or authorities. (5) The gross value of items for which rates may be sanctioned will be determined by adding up the value of additional, substituted or altered items. The net value of the items for which rates may be sanctioned will be the total of the new items and net result of substitution or alterations.

123. It was brought to our notice that "deviations" was a fairly common feature in the MES and led to considerable delays in final payments because of the Lump Sum Contract system under which deviations have to be measured and agreed with the contractors. In the Central Public Works Department, where Item Rate Contracts are in vogue, deviations do not present the same difficulties. Deviations are likely to lead to :—

(a) delay in the execution of works because of the time in obtaining approval of the competent authority to the deviation;

(b) extra cost to the Government;

(c) delay in the settlement of final bills due to the time taken in measuring up the deviations and reaching a settlement with the contractors; and

(d) more disputes with contractors.

124. It does not, therefore, require any emphasis that deviations must be strictly controlled. We have given consideration to this matter and consider that careful planning, taking into account all factors peculiar to the particular work, preparation of the contract documents carefully, prescribing well considered specifications and strict supervision and enforcement on the contract provisions should bring the deviations to the barest minimum. Any changes in specifications or designs after the acceptance of the tender, whether desired by users or engineers, should not normally be entertained and in cases where deviatsons are sanctioned because they are unavoidable, they should be carefully scrutinized by senior engineer officers to establish their *bonafides*.

As regards the limits of deviations, the present instructions issued by the E-in-C are considered satisfactory.

125. As mentioned above, deviations lead to delay in the execution of works on account of the time taken in obtaining the approval of the competent authority which generally is the one competent to award the contract. Under the rules no powers are vested in the subordinate engineer officers for sanctioning deviations, although certain Chief Engineers have delegated some of their powers to their subordinate officers. We recommend that in order to avoid the delays in the execution of works, power should be vested in the CsWE and GEs, as in the Central Public Works Department, to sanction deviations where they are absolutely essential. The deviations sanctioned by them will, however, be subject to careful scrutiny as recommended by us earlier, by senior engineer officers.

Summary of Recommendations

(1) Present system of registering contractors in the MES is satisfactory and requires no modifications, but a list of big contractors registered with all the Central Government Engineer authorities, together with their record of performance, should be kept with one central authority.

(Para 84)

(2) There should be co-ordination between the MES, CPWD, Railways and State PWDs, in the matter of suspension/removal of contractors, so that they are more careful in awarding works to contractors who are suspended/removed by the other department.

(Para 85)

(3) The present system of inviting tenders should be retained with certain modifications regarding advertisement of works, costing Rs. 1 lakh and above, in the local vernacular papers and important papers of other big towns.

(Para 88)

(4) The present system of eliminating ineligible or unsuitable contractors at the stage of issue of tender documents should be retained, but applications for tenders may be rejected by CEs only on the following grounds to be recorded in writing:—

(a) The contractor was already overloaded;

(b) The performance of the contractor had not been satisfactory in the past; and

(c) Serious irregularities were committed by the contractor in the past.

(Para 91)

(5) Normally a period of 4 to 6 weeks must be allowed for submission of tenders after the issue of tender documents.

(Para 92)

(6) The tender documents should be prepared very carefully to avoid extension of time for submission of tenders on account of amendments or alterations to the tender documents.

(Para 93)

(7) The tenders should be opened in public but it should be made clear at the time of announcing the rates that they were subject to checking.

(Para 96)

(8) The time for opening of tenders should be so fixed that all registered post would have come in by that time and the tenders should be opened half an hour after that time. The ideal time will be 4 P.M.

(Para 97)

(9) Late tenders may be opened and filed in the office instead of returning them to the tenderers. Such tenders should, however, on no account be considered but may be taken into consideration for deciding the desirability of going out to tender again.

(Para 99)

(10) No negotiations with the tenderers should, as a rule, be permitted. Prior permission of Ministry of Defence should be obtained for negotiations.

(Para 100)

(11) The powers of concluding Single Tender Contracts should be as under :—

Upto Rs. 500/-	—	By GE
,, ,, 1 lakh	—	By CWE
,, ,, 2 lakhs	—	By CE
,, ,, 10 lakhs	—	By E-in-C

(Para 101)

(12) Freak rates in tenders should not be corrected except for the purpose of deviations. Where freak rates are not corrected, deviations should be strictly controlled and kept very low.

(Para 102)

(13) Genuine errors in calculations, but not in rates, quoted by contractors in Lump Sum Contracts, may be corrected and the Lump Sum altered, if necessary.

(Para 103)

(14) The time which normally elapses between the opening of tenders and the award of a contract is considered satisfactory.

(Para 105)

(15) The present practice of issuing one work order to cover the entire work specified in the contract, except in cases where the work was phased, is considered satisfactory.

(Para 106)

(16) (i) In the case of new construction Administrative Approval should not be released for execution until the site can be made available to the engineers.

(ii) In the case of abnormal repairs to existing buildings, tenders should not be invited until the user certifies that the buildings will be made available when required by the engineers.

(Para 108)

(17) Projects may be split up into parts or sub-projects, for awarding contracts, depending upon the type of work, provided the break-up is done by the authority competent to technically sanction the project as a whole.

(Para 109)

(18) Lump Sum Contracts with standardised Bills of Quantities will be most suitable for repetitive types of works where deviations are rare or in cases where measurements might involve complications and lead to difficulties. Item Rate Contract will be more suitable in cases where deviations are likely to be substantial, and for furniture.

(Para 114)

(19) CEs should be autharised in cases of urgency to give sub-items of a major work, costing upto Rs. 10,000/- in any one project, to Term Contractors, before the commencement of the mojor work.

(Para 116)

(20) The contract documents should be as simple as possible so that the officers who are to conclude and operate them do not find them too complicated.

(Para 117)

(21) Time is not yet ripe for the Government to divest itself of the responsibility for the supply of certain stores to the contractors.

(Para 118)

(22) Any changes in specifications or designs after the acceptance of the tender should not normally be entertained and where deviations are sanctioned because they are unavoidable, they should be carefully scrutinized by senior engineer officers to establish their *bonafides*.

The limits of deviations at present prescribed by the E-in-C are considered satisfactory.

(Para 124)

(23) In order to avoid delays in the execution of works, powers should be delegated to CsWE & GEs, as in the CPWD, to sanction deviations where they are absolutely essential. The deviations so sanctioned should be subject to careful scrutiny, vide (22) above, by senior officers.

(Para 125)

CHAPTER V

INSPECTION OF WORKS

(i) Inspection

126. We were informed that in general Supdts. Grade II were required to be in whole time supervision of any important work. Supdt. Grade I/AGE exercised daily supervision of the work. The quantum of such a supervision varied and could not be exactly stipulated. The GE was expected to have periodical checks of works and was also ultimately responsible for the correct execution and measurement of the work. The supervision of CWE/CE amounted to occasional checks at site.

127. According to the instructions issued by the Engineer-in-Chief, inspection of works in progress is required to be carried out as follows:—

CsWE.	Works above Rs. 40,000/-	—Once a month in station and at least once in 3 months in outstations.
GEs.	(a) Each original work costing up to Rs. 5,000/-.	—Twice during the execution of work.
	(b) Works between Rs. 5,000/- and Rs. 40,000/-.	—Once a fortnight.
	(c) Works above Rs. 40,000/-.	—Once at each important stage of the work.
SDOs. (AGEs or Supdt Gd.I)	Each work costing (a) Upto Rs. 5,000/-.	—Once a week.
	(b) Rs. 5,000/- to Rs. 20,000/-.	—Twice a week.
	(c) Above Rs. 20,000/-.	—Daily.

128. We were informed that inspection even according to the above schedule was not always carried out because the Engineer officers were busy with routine and office work. The E-in-C also stated that due to the mass of paper work involved in the MES and the extraneous duties the personnel of the MES were called upon to perform, it had not been possible to effect a satisfactory supervision. Most of the other Engineer officers who either responded to our questionnaire or gave verbal evidence before us were also not satisfied with the quantum of supervision that was being exercised at present. This lack of adequate supervision was ascribed to the following factors :—

(a) The mass of paper work involved in the MES which kept the Engineer officers mostly in their offices;

(b) Extraneous duties the personnel of the MES were called upon to perform by virtue of their being a part of the Armed Forces Organization;

(c) Non-availability of experienced supervisory subordinate staff;

(d) Large number of audit objections which the GEs had to answer; and

(e) Collection of rent for buildings and furniture which was not the normal function of the engineers and in respect of which most of the audit objections were raised.

129. As regards para 128 (a) above, during our visit to GE's Office in Delhi we found that his office had to prepare and submit 992 returns per year. Many of these returns or reports which were introduced long ago might not be of any practical use at present and still the GE had to submit the reports/returns. The GE explained that he had so much of paper work that he had to work for long hours in the evenings in the office as well as at his residence and that it was with great difficulty that he was managing to cope with the volume of work. In this connection, it was stated before us by one of the Engineer officers that 60% of the GE's time was normally spent on office work, including planning work; 15 to 20% on Siting Boards and 20 to 25% on inspection of works in progress. The Overseers spend about 60% of their time on supervision of works in progress and about 40% in collecting stores and other odd things.

It is apparent from the above that the technical staff at present does not get adequate time for supervision of works in progress and this state of affairs is not satisfactory.

130. As regards para 128(b) above, as stated the MES personnel are required to perform certain extraneous duties but this is inevitable because being part of the Armed Forces Organization they have to do certain things which are essentially required of all personnel in the Army, such as welfare activities, organized sports and Inquiry Boards We, however, hope that the Army and other Commanders will relieve the technical personnel of as much extraneous jobs as possible.

131. As regards para 128(c) above, it was brought to our notice that there was a shortage of 52 Overseers in the Southern Command and in spite of the best efforts it had not been possible to make up the deficiency through employment exchanges.

132. As regards para 128(d) above, it was pointed out by the E-in-C that for the various reasons stated above, supervision of works in progress was not up to the desired standard. The lack of adequate supervision led to audit objections involving extra paper work and

thus again leaving less time for supervision. This spiral went on and affected the efficiency of the organization adversely. We are dealing with this matter extensively in a subsequent Chapter.

133. As regards para 128(e) above, it was stated that the collection of rent for buildings and furniture did not require any engineering knowledge and was, therefore, not appropriately the function of the MES. As bulk of the audit objectios related to non-recovery of rent for buildings and furniture which took lot of engineer's time, it was really a waste of engineer effort to entrust this work to them. It was accordingly suggested that this work should be transferred to the Station Staff Officers. This will enable the MES officers to devote greater attention to the inspection of works.

134. We have given careful consideration to this problem and feel that unless arrangements regarding inspection of works in progress are improved and placed on a satisfactory basis, there cannot be any appreciable improvement in the quality of work or success in preventing/reducing corruption that undoubtedly exists at present, particularly in the Subordinate grades. We recommend the following measures :—

(a) The CsWE should devote more time to the inspection of works in progress and less to planning and other matters. We discussed the desirability of adopting this course with certain engineer officers and feel that it would be feasible to do so. This will, of course, mean that the CE's office will have to take on a little more planning work which is at present being done in the CWE's office.

(b) GEs should be relieved of as much paper work as possible so that they can devote a greater portion of their time to inspection of works in progress. For this purpose an *ad-hoc* Committee should be set up annually to examine the necessity of the various reports and returns that are being rendered by GEs at present and to ensure that submission of obsolete reports and returns is stopped.

(c) Where necessary, the GE should be provided with a civilian Administrative (non-technical) Officer to look after the routine correspondence in the GE's office. This will relieve the GE of lot of paper work and enable him to devote more time to inspection of works in progress.

(d) MES should be relieved of the work of collection of rent for buildings and furniture and this work should be transferred to the Station Commanders.

We hope that the adoption of the above measures, together with the implementation of the recommendation made by us earlier, viz.,

that the planning of works and preparation of estimates should be done by the Engineer officers who are required to do so under the rules and should not be left to the junior officers, will enable the GEs and CsWE to find more time for the inspection of works in progress. Further, when the type designs, etc., are standardized, the Engineer officers will not be required to prepare them for every project. Their work will, therefore, be considerably reduced and they will be able to devote more time to execution and inspection of works.

(ii) Quality of work

135. There were various complaints about the quality of work turned out by the MES. The common complaints were :—

(i) Poor seasoning of wood and inferior type of wood causing warping and cracking.
(ii) Paint not being applied properly on wooden and metal structures.
(iii) Leaking roofs.
(iv) Cracks in cement concrete floors.
(v) Hair cracks in plaster work.
(vi) Doors and windows not fitting properly.
(vii) Seepage of water through walls and foundations.
(viii) Poor finish.
(ix) Poor electric fittings.

The E-in-C's observations on this point are reproduced below :-

"The MES does not execute the work. 'Contractors' do this. There have been many complaints about the quality of work executed by MES contractors. At one time the complaint was against the wood work; although seasoned timber was stipulated, it is known for a fact that it was impossible to obtain seasoned timber. Complaints are still current about the finish and fittings of buildings. I feel in this direction improvement is called for but it will cost a fraction more."

136. Some of the defects mentioned above were due to the fact that there was a shortage of suitable building materials and seasoned timber. Another reason was that there was a paucity of trained and experienced technical personnel. Yet another reason which was put forward was that on account of over centralization of powers of punishment in respect of civilian officers, those responsible for acceptance of poor quality of work could not be punished quickly, as each case had to be referred to the Government before any punishment could be awarded.

137. We have examined this matter carefully and feel that most of the defects mentioned above are due to lack of adequate supervision. With the improvement in supervision most of these defects should

disappear. We were informed that the position had considerably improved during the last few years and the quality of work turned out by the MES contractors was comparatively better than it was two or three years ago. During our tour in the Southern Command we also noticed that the quality of work turned out by the MES compared favourably with, if it was not superior to, that of the work on the civil side. We, however, feel that there is still room for further improvement and suggest that the following steps should be taken to achieve this object :—

(i) It should be ensured that the supervisory staff is fully conversant with the contract provisions and devote time to inspection of the works in progress.

(ii) Those responsible for accepting bad work should be brought to book promptly.

For this purpose powers of punishment should be decentralised as much as possible and the CEs and CsWE be given powers to deal promptly with persons who are found responsible for accepting bad work or for any action arising out of the execution of work which shows lack of supervision and negligence.

(iii) Action should be taken against contractors responsible for the poor quality of work and entries should be made in their performance records with a view to weeding out those who repeatedly put in bad work.

(iii) Specifications

138. We were informed that the specifications at present prescribed for the MES works are based on the recommendations of the Experts Committee which was appointed by the Ministry of Works, Housing and Supply some time ago. The E-in-C stated that the specifications for structural work were satisfactory but those relating to finish were very poor. The other Engineer officers told us that the specifications were generally realistic and could be enforced. It was, however, pointed out by the Chief Technical Examiner that the specifications in some cases were laid down without proper thought to the local conditions with the result that the specifications had to be changed during the progress of the work, which in some cases resulted in undue benefit to the contractors. He thought that an intimate knowledge of the local conditions would go a long way in making the specifications realistic.

139. As the existing specifications were stated to be generally satisfactory and enforceable, we have no specific recommendation to make in this connection. We would, however, suggest that the specifications should be coordinated with the CPWD and Railways from time

to time. In fact, we understand that another Committee has been set up by the Ministry of Defence to review the existing specifications and that the Ministry of Works, Housing and Supply is represented on that Committee.

(iv) TECHNICAL EXAMINATION

140. At present, the technical examination of works is conducted by the CTE who functions under the QMG at Army Headquarters. According to his Charter as laid down in the Ministry of Defence letter No.57/11/D(E&Q)1729/E/D (E&Qtg), dated the 21st February 1955, he is responsible for :—

(1) Taking test measurements during the progress of works
(2) Checking a percentage of accepted contracts and amendments
(3) Technical Examination of MES final bills after payment
(4) Checking of casual personnel bills and Muster Rolls in respect of works carried out by directly employed labour.

141. The functions of this organisation do not include :—

(1) Any enquiry into suitability of designs, specifications or conditions of contract or any modifications made therein under the terms of the contract.
(2) Examination of the quality of workmanship or of materials except in so far as may be necessary to determine whether the proper description or schedule item is quoted and the proper price is charged under the contract.

The CTE's organisation is not permitted to deal with contractors either in person or through correspondence.

142. The Surveyor of Works cadre was introduced in India in 1934 on the lines of the U.K. organisation, and at the same time the CTE's organisation was also instituted and placed under the QMG.

Para 37 of Appendix I of R.A.I. instructions (1937 Edition) gives the charter of the CTE, which broadly cover :—

(a) making test measurements of works during their progress;
(b) test examination of works expenditure;
(c) technical examination of MES bills after payment.

During the last war, the CTE's organization was transferred to the control of the E-in-C and he continued to function smoothly under the E-in-C till June 1949, when under the authority of Government of India letter No. 50115/E8 of June 49, he was once again placed under the administrative control of the QMG.

143. The CTE, who responded to our Questionnaire and also gave verbal evidence before us, stated that his organisation had been doing

useful work in pointing out omissions and defects of the MES. During the last seven years, over-payments amounting to approximately Rs. 30 lakhs had been discovered by this organisation, in addition to a very large number of rectifications, etc., which were carried out as a result of the discrepancies pointed out by them. The Public Accounts Committee also had taken a good view of the work done by this organisation and in their report on the Accounts of 1947-48 (postpartition) and Appropriation Accounts (Civil) of 1948-49, had stated that "the system on the pattern of administrative audit in vogue in the MES should be introduced in all the major spending departments of the Government of India."

144. The Engineer officers who responded to our Questionnaire or gave verbal evidence before us were, however, generally of the view that the need for the CTE organisation had ceased to exist and if it was to continue then the CTE's charter and its method of working should be modified to suit the present-day conditions.

One view was that the advantages accruing from the CTE organisation could be realised only if the MES had adequate supervisory staff. Another view was that the inspection of works by the CTE to see how contract specifications are being met should not be included in the charter, because that gives him power to criticise without any responsibility for completing the work and it is dangerous to divorce power from responsibility. The effect of this is that the Engineer officer in charge of execution of work has to please two masters—firstly, his immediate superior Engineer officer, who from time to time makes routine inspection of works to ensure that the work is being executed in accordance with the specifications laid down and secondly, the CTE or his representative, who may inspect the work and object to some work which perhaps the superior Engineer officer has regarded as all right. The authority of the superior Engineer officer is, thus, undermined The CTE's functions should, therefore, be confined to scrutinising completed contracts and suggesting ways of improving the terms of the contract agreement for future use. A few others opined that the post-mortem examination being conducted by the CTE brought out only certain points of disagreement between the contractors and the Government.

It was further mentioned by the Engineer officers that in the interpretation of clauses for the translation of the Schedule of Prices, there was a scope for difference of opinion. Since the executive engineer on the spot knows what he is up to and as he frames his contract clauses to achieve his end, he is the best judge of what was in his mind and his actions should not be open to criticism by the CTE, as was being done at present. Some Engineer officers suggested that the comments of CTE should be made available during the currency of the works so that remedial action could be taken before it was too late.

Some others observed that since the quality of work turned out by the MES during the last few years had improved and the number of irregularities had been substantially reduced, the CTE organisation had ceased to be of practical use. It was also represented to us that the MES was finding it difficult to attract good contractors because of the fear that the CTE might raise objections long after the completion of the work and cosequently there might be demand for recovery even long after the final bill of the contractor had been paid.

145. It was further contended that the CTE's organisation had been successful only in recovering a negligible amount from the contractors years after the final payments had been made and the recovery in such cases was not always due to any defects or faults detected by the CTE, but due to certain hypothetical calculations on the grounds that specifications had not been adhered to strictly. It was suggested that if the CTE's organisation was to be of any real help, it should be asked to submit its report before the contractors got final payments.

146. The contractors also resented the idea of recovering money from them, on one plea or the other, after a lapse of long period; it was even doubtful whether it was proper to ask them to refund any amount when the work had been accepted by the Competent Engineer Authority and payment made after check by the Controller of Defence Accounts. They contended that the CE was also an engineer of the CTE's standard and status and, therefore, when he had finally accepted a certain work, it should not be questioned by the CTE, particularly after the lapse of a long period, and that the present method of recovery was certainly against business principles, the result of which was found to be that either the contractors would quote higher rates or would not quote at all for the MES.

147. The GOC-in-C, EC stated that the present practice of CTE sending his report two or three years after completion of a project was absolutely of no use. The CTE should arrange examination of the works either during or immediately after their completion and point out the irregularities, if any. He should exercise qualitative as well as quantitative check. If that was not possible, then the existence of CTE could hardly be justified.

148. It will be observed from the foregoing paragraphs that the consensus of opinion was that the part played by CTE, which was generally after the contracts were concluded and final payments to the contractors made, did not contribute much towards the efficiency of the MES and that the CTE carries out a super technical and theoretical check, in some cases long after the completion of a project.

149. The CTE, who was examined by us, stated that efforts were being made to carry out the technical examination soon after the completion of work and suggested the following steps to overcome this difficulty :—

(a) Measurements should be taken within one month of completion of work ;
(b) Bills should be paid within 3 months thereafter ;
(c) The Technical Examiner should deal with the bill within one month from the date of its payment ; and
(d) Executive engineers should extend utmost co-operation in settling the observations raised by Technical Examiners and the observations should be settled within 3 months.

150. During the course of our enquiries we were also told that the CTE's organisation did not contain engineers who had practical experience of building works and, therefore, the practical difficulties which the executive officer in charge of a project had to face in accepting material which might not conform hundred per cent, but might closely approximate, to the prescribed specifications and might be the best available in the market, were not appreciated by them.

151. During our visit to Headquarters, Western Command, it was pointed out that in the bills examined during the period from 1-1-53 to 31-12-55, amounting to Rs. 13.55 Crores overpayments amounting to Rs. 6.8 lakhs or 0.5 per cent only, were discovered by the CTE. This showed that bills prepared by the MES were correct up to 99.5 per cent. Again during the period 1-1-54 to 31-12-54, the CTE had reported overpayments to the extent of Rs. 47,539/- out of which the recovery of Rs. 26,695/- was disputed by the contractors. This had resulted in seven arbitration cases. The awards in six cases had already been received and against the amount of Rs. 23,882/-, claimed in these cases on the advice of the CTE, the arbitrators had up-held recovery of Rs. 8,800/- only. It is thus clear that the amounts of overpayment assessed by the CTE were not actually realised by the Government in many cases. On the other hand, such objections led to disputes with the contractors and resulted in unpleasant consequences. The contractors naturally wanted a stage of finality and, therefore, when once the bill had been passed by the Competent Engineer Authority, no belated recovery on the advice of the CTE should be made.

152. We have given careful consideration to the question whether it would be advisable to retain an independent CTE organisation as it exists at present. In reply to our query whether it would be advisable to place the CTE under the E-in-C, the present CTE said that such a step would help matters to a very great extent. The CTE would then

act on behalf of the E-in-C and could get answers to his queries and observations from the lower formations more quickly. If the CTE was under the E-in-C, the latter would take action to rectify the defects brought out by the CTE, otherwise the natural tendency would be to protect his officers. In that case, the Technical Examiners should, however, be directly under the CTE and not under the Chief Engineers in Commands. If the CTE is placed under the E-in-C, his report could not then go direct to the Ministries of Defence and Finance and to audit.

153. We have given due consideration to all the factors stated above and we recommend that the CTE organisation should be abolished. The work relating to scrutiny of contracts at present performed by the CTE should be transferred to the CSW. The inspection of works should be undertaken in a more intensive manner by senior Engineer officers.

SUMMARY OF RECOMMENDATIONS

1. Following measures should be adopted to improve the position regarding inspection of works in progress:—

(a) CsWE should devote more time to inspections and less to planning and other matters. CEs should take on the planning work at present done by CsWE.

(b) GEs should be relieved of as much paper work as possible. For this purpose an *ad-hoc* Committee should be set up annually to examine the necessity of various reports/returns submitted by GEs.

(c) Where necessary the GE should be provided with a Civilian Administrative (non-technical) officer to look after routine correspondence, that the GE can devote more time to inspections.

(d) MES should be relieved of the work of collection of rent for buildings and furniture and this work should be transferred to the Station Commanders.

The above measures, together with the standardisation of type designs, etc., should enable CsWE and GEs to devote more time to inspection of works in progress.

(Para 134)

2. There is room for further improvement in the quality of work turned out by MES and the following steps should be taken to achieve this object:—

(i) It should be ensured that the supervisory staff is fully conversant with the contract provisions and devote more time to inspection of works in progress.

(ii) Those responsible for accepting bad work should be brought to book promptly and for this purpose powers of punishment should be decentralised as much as possible.

(iii) Action should be taken against contractors responsible for poor quality of work and entries should be made in their performance records with a view to weeding out those who repeatedly put in bad work.

(Para 137)

3. The specifications should be coordinated with the CPWD and Railways from time to time.

(Para 139)

4. An independent organization of the Chief Technical Examiner in its present form is superfluous and should be abolished. The work relating to scrutiny of contracts at present performed by CTE should be transferred to the CSW. The inspection of works should be undertaken in a more intensive manner by senior Engineer officers.

(Para 153)

CHAPTER VI

PAYMENT TO CONTRACTORS

(i) Preparation of final bills

154. With a few exceptions, the regulations require the contractors to prepare their final bills. We were informed that in actual practice only firms of repute who maintain regular establishments undertake to prepare their own bills and that the common type of contractors leave it to the MES to prepare the final bills on their behalf. This is due to the fact that the contractors do not normally have the facilities by way of technical staff, etc. to prepare the bills. Moreover, bulk of the information required for the preparation of the final bills is to be furnished by the MES and is not available with the contractors.

155. We have examined the feasibility of diminution in the practice of MES preparing the final bills on behalf of the contractors and feel that if the contractors are forced to submit their final bills, it would result in incorrect bills being submitted and consequential further delays in the final payments. We, therefore, recommend that in the interest of quicker settlement of accounts, the present practice of the MES preparing final bills on behalf of contractors should be continued but the contractors should be encouraged more and more to take over this responsibility.

(ii) Delays in payment of final bills

156. Statistics regarding payment of final bills during the years 1954-55 and 1955-56 are as given below :—

(i) Final bills paid within 4 months after completion of work —20,980.

(ii) Final bills paid within 4 to 8 months after completion of work —5,561.

(iii) Final bills paid within 8 to 12 months after completion of work —1,282.

(iv) Final bills paid more than 12 months after completion of work —570.

It will be observed that the period that elapses between the completion of work and payment of final bills is in many cases too long.

157. The reasons for these delays are as follows:—

(i) Large number of deviations which require sanction of the competent authority, measurements and settlement of rates with

(ii) Site checks by the executives are not carried out during the progress of work or immediately on completion or are delayed for a long time mostly on the plea of rectification of defects by the contractors. According to the procedure laid down in the MES regulations, all defects are to be recorded and notified to the contractors instead of withholding the bill. The failure on the part of the executives to record this list of defects and go ahead with the bill is a major factor in the delay in payment of bills.

(iii) Contractors are not maintaining proper engineering and surveyor staff who can prepare the bills on their behalf and answer all queries.

(iv) Preparation of incomplete bills without attaching the stores statements and vouchers.

(v) Disputes with the contractors regarding the quantity of stores consumed and the period of hire of Tools and Plant and other disputes which ought to be, but are not, settled during the progress of the work.

(vi) Claims from contractors are sometimes not wholly justifiable, and after receiving a major portion of payments on running account they can afford to wait, hoping to get something out of their claims.

158. There are various stages at which delays occur which have a cumulative effect in delaying the payment of the final bill. These stages are:—

(i) Recording of measurements, where necessary, after completion of the work.

(ii) Preparation of the final bill.

(iii) Checks of the final bill by the various authorities.

159. As regards (i), i.e., recording of measurements, according to the instructions issued by the E-in-C, the measurements should generally be recorded during the progress of the work and finalised within one week after completion of the work. These instructions are, however, not followed in practice and the time taken is much longer, some time as much as 2 to 3 months. Inadequacy of the supervisory staff was mentioned as one of the reasons for the delay in the recording of measurements. The magnitude of the work involved was mentioned as another reason. Yet another reason which was mentioned was that certain deviations were not authorised by the competent authority and until such authorisation was received the deviations could not be measured.

160. We have given careful consideration to the above matter and consider that measurements must be recorded within one month of the completion of the work in all cases. Deviations not authorised by the competent authority should also be measured but it should be made clear that the measurements did not imply acceptance of work. Any disputes regarding deviations and measurements which can be settled during the progress of the work should be settled as soon as possible after they arise without postponing the settlement till the completion of the project.

161. In this connection, it was also brought to our notice there were a few cases in which contractors' signatures in token of their acceptance of the final measurements were not obtained and such failures had led to disputes later. As measurements are to be taken jointly with the contractor's representative by the MES authorities, there should be no case of non-acceptance of the measurements by the contractors. Such cases can only arise if proper notice is not served on the contractors to be present during measurements. Such cases should be avoided and there should be no cases where a contractor's signature in token of his acceptance of the final measurements is not obtained, except in cases where a contractor is not present at the time of recording final measurements even after a proper notice has been served on him.

162. As regards (ii), i.e., preparation of the final bill, according to the instructions issued by the E-in-C, a final bill should be prepared within 45 days of the completion of the work. In actual practice, however this is rarely done and it usually takes anything between 2 and 3 months, depending upon the nature of the work and the number of deviations ordered. We consider that the period prescribed by the E-in-C is satisfactory and steps should be taken to ensure that final bills are prepared within this period.

163. As regards (iii), i.e., checks of the final bill by the various authorities, a final bill has to pass through four stages as indicated below:—

(a) Technical check by SAI in the GE's office.

(b) Technical check by SW in the CWE's office.

(c) Audit check by the Unit Accountant in the GE's office.

(d) Audit check by CDA in cases where the amount of the bill exceeds Rs. 5,000/-.

164. The period laid down by the E-in-C for payment of the final bill after completion of the work is 4 months. This period is considered satisfactory but in actual practice it is exceeded in many cases as is obvious from para 162 above. It was mentioned by the Engineer

officers that the delays in many cases occurred on account of pre-audit. We examined the CDA, Southern Command, and CDA, Eastern Command, in this connection. Both of them contended that there were no delays in their offices, provided the bills submitted for audit were complete in all respects, and that the delays mostly occurred with the Engineer officers themselves. In support of his contention the CDA, Southern Command, furnished the following statistical information :—

(a) During the period of one year a total number of 2094 bills were received in his office for pre-audit, out of which 2050 bills were passed for payment within a month of the date of receipt by the Unit Accountant and the balance were referred back to the MES authorities for clarification.

(b) During April 1956, 72 bills were received in his office, out of which 61 were passed and only 5 were outstanding on the 30th April 1956. The balance were referred back for certain clarification.

Similarly the CDA, Eastern Command, informed us that during the period of October to December 1955, 107 bills were received in his office for pre-audit, out of which 46 were disposed of within 7 days, 51 within a fortnight, 8 within one month and 2 after one month of receipt in his office.

165. It is clear from the above that the delays did not really occur in the office of the Controller of Defence Accounts and the MES is largely responsible for the delays. We consider that if measurements are recorded and final bills are prepared within 45 days, as stipulated by the E-in-C, and are complete in all respects, then by and large it should be possible to effect payment of final bills within the period of four months at present prescribed by the E-in-C. These periods are satisfactory and we recommend that all possible steps should be taken to ensure that the MES authorities adhere to these periods. There can, of course, be some cases where owing to disputes with the contractors or certain other reasons it may not be possible to make final payments within three months but such cases should be few and not as many as 25 to 30% as is evident from para 156 above. Further, delegation of powers to CsWE and GEs in the matter of authorising deviations, as recommended by us in para 125 should reduce, to a certain extent, the delays in the preparation and payment of final bills.

166. As mentioned above, it was contended by the Engineer officers that one of the reasons for the delay in payment of final bills was that the bills had to be pre-audited by the Controllers of Defence Accounts. They had accordingly suggested that if the Regional Audit officers were entrusted with the pre-audit of final bills, it would result in expeditious

disposal of the bills. It was, however, explained by the Accounts officers that it would not be desirable or practicable to entrust the work relating to the audit of final bills to RAOs. The duties of these officers normally require constant touring and they would not be available at their Headquarter stations for a major portion of each month. The payment of bills, if entrusted to them, will, therefore, get delayed instead of being accelerated. Further, the offices of the RAOs are not, in all cases, located at the station where the GE,s offices are located and consequently it would not make much difference whether the bills are submitted to the CDA or to the RAO, whose Headquarters are in stations other than that of the GE.

Moreover, the RAOs are conversant with matters relating to stores and they generally check the stock books, ledgers, etc. They are not paying officers and are, therefore, not conversant with auditing of final bills. They will, therefore, find it difficult to interpret correctly the clauses of the contract where there may be any doubts and in such cases of doubt they will have to refer the cases to CDA's main office, which will result in unnecessary delays.

167. We have given consideration to the suggestion made by Engineer officers but in view of the position explained by the Accounts officers, we are satisfied that it would not be desireable or feasible to entrust the work relating to audit of final bills to the Regional Audit officers.

168. Another suggestion for reducing the delays in the payment of final bills which was made was that the existing power of GE to pay, without pre-audit, the final bills up to Rs. 5,000/- should be raised. The CDA, Eastern Command, who responded to our questionnaire and also gave verbal evidence before us, was, however opposed to the suggestion. He stated that he had examined final bills paid during the month of March 1955 by the various Garrison Engineers in the U.P. Area and the position as regards the percentage of bills within Rs. 5,000/- which were paid by the GEs without pre-audit by the CDA, was as indicated below :—

Total No. of work and requisition bills paid in March 1955	*Total No. of bills out of these in col. (1) paid by the GEs without pre-audit by this office.*	*Approximate percentage paid by the GEs without pre-audit.*
972	794	81%

It was contended by him that the Garrison Engineers were already paying about 80% of final bills subject to post-audit by the CDA. The post-audit conducted by his office also indicated that there were generally a number of irregularities in regard to such bills. When these were objected to, they remained unanswered for long. He felt

that a further delegation of powers to GEs would only tend to give rise to further irregularities and corresponding increase in the number of objections. Further, as the bills received in the office of the CDA were disposed of expeditiously, he considered that there was no necessity to increase the powers of the Garrison Engineers in regard to the payment of the final bills. The views of the CDA, Eastern Command, were shared by the CDA, Southern Command, and other Accounts and Finance officers.

169. As the delays in the disposal of final bills in the offices of the Controllers of Defence Accounts were not serious, as already mentioned by us, and as post-audit of bills exceeding Rs. 5,000/- in value is likely to lead to more audit objections and consequential additional work for GEs, we do not recommend any change in the existing powers of the GEs to pay final bills without pre-audit.

Another point in connection with payments to contractors which was raised with us by Dr. Duggal, Chairman of the Builders' Association, whom we examined during our visit to Poona, was that the first All India Conference of Building and Civil Engineering Contractors held in 1952 had suggested that the payment of the agreed amount of the final bill should be made without waiting for a decision on the disputed items so that the contractors' money was not blocked up unnecessarily. We understand that this suggestion was accepted and implemented by the CPWD, but it had not yet been done in the MES, although the then Defence Secretary had accepted the suggestion as reasonable. We also understand that in the MES payments can be made up to the full amount less 5% or Rs. 20,000/- whichever is less. We suggest that the matter be reviewed and the procedure which is now being followed in the CPWD namely, of making full payments in respect of items which were not under dispute, should be introduced in the MES also.

(iii) Arbitration

170. Disputes with contractors which cannot be settled amicably are referred to arbitration, either by the contractors or by the Government according to the provision which is invariably made in the contract. The arbitrator is an Engineer officer and is nominated by the E-in-C in CE's contracts and by the CE in other contracts. The total number of cases which were referred to arbitration during 1953-54 and 1954-55 were as follows :—

1953-54 — 75
1954-55 — 96

The total number of contracts concluded in the MES was stated to be about 2,000 every year. The proportion of cases which were

referred to arbitration during the two years mentioned above was, therefore, 4 to 5%.

171. It was suggested by the Finance and Accounts officers that the arbitration clauses in the contract should be deleted altogether and both the parties, i.e., the contractors and the MES authorities, should approach higher authorities in cases of disputes who may, if mutually agreed upon, refer the dispute to arbitration. If the disputes cannot be resolved even at a higher level, the aggrieved party may go to a court of law, if necessary. The reasons given by them in support of their suggestion are as follows :—

(a) The present procedure gives wide powers to the individual officers. Even when the award given by them is considered to be definitely unfair to Government and it is felt that the decision would have been otherwise if the case had been dealt with by a civil court, it cannot be contested successfully in a civil court as the arbitrator's decision is final and binding. In fact, in a recent case relating to contract agreement No. CEEC/24 of 1949-50, the Solicitor to the Central Government at Calcutta actually held that the arbitrator had committed a mistake in arriving at his decision, but all the same he stated that as the mistake did not appear on the face of the award, the award was binding and he would not advise going to the court of law. Accordingly the question of testing its strength in a court of law had to be abandoned. The position under the existing arbitration procedure thus is that an arbitrator can award payments not contemplated by the contract deed without Government being able successfully to contest it.

(b) The arbitrator does not discuss his reasons for giving an award in favour of the contractor, unlike a civil judge in his judgment. Accordingly the award is not susceptible of effective scrutiny. For the same reason (namely want of a reasoned out judgment) no remedial measures are also possible in cases in which the award is the result of a defective wording of the contract or of a defect in the operation of the contract.

(c) In an arbitration, the contractors raise all sorts of frivolous claims under an impression that if they claim a good amount the arbitrator is likely to award at least a portion of such amount. A few cases which occured recently showing the total amount of claims preferred by the contractors, and the awards given by the arbitrators against them, which would illustrate

the above position, are shown below :—

Sr. No.	*Amount claimed by contractor*	*Amount awarded in favour of contractor*
1.	Rs. 50,000/- approx.	Rs. 4188/-
2.	Rs. 3,55,781/-	Rs. 20,297/1/-.
3.	Rs. 33,342/-	Rs. 1990/-
4.	Rs. 75,600/-	Rs. NIL
5.	Rs. 23,361/-	Rs. 5548/4/-
6.	Rs. 49,091/-	Rs. 4709/-

In all such cases, if the contractors are forced to resort to a civil court, they would not normally put forth frivolous claims of doubtful nature and spend money on court-fees and other expenses on the freak chance of getting a decree for such claims, particularly when they know that the Goverment's case would be defended by professional lawyers.

(d) In an arbitration the contractors at times prefer certain claims which are not acceptable under the strict terms of the contract but which cannot be viewed as unreasonable. Under the ordinary rules, such claims must be sanctioned by the competent authority. To allow such claims to pass through arbitration means avoiding sanction of the competent financial authority and it is feared that sometimes recourse is had to arbitration as an easier way of settlement.

(e) Again there are other claims which would not have arisen but for some failure or other on the part of the operating officer or others concerned with the contractor's work. Although such a claim might be considered to be payable in equity, it cannot be got through audit except with the sanction of the Government of India. Consideration and settlement of such claims through arbitration deprive the higher administrative authorities of an opportunity to investigate the responsibility of their officers and subordinates, and taking necessary disciplinary action against those concerned.

(f) The present procedure is ineffective in preventing ex-gratia claims and others admittedly not referable to arbitration, from going to arbitration at the instance of the contractor and being actually arbitrated upon.

(g) No record of the documents produced in an arbitration, or of the evidence of witnesses is kept; at any rate, it is not furnished to audit. Nor is any record kept of the points put forward or admissions made by the parties during the course of argument. However incriminating may be the evidence or the

documents produced during the hearing, no procedure exists for the same being considered with a view to disciplinary action and remedial measures. A detailed report on the oral defence and the contractor's further submission at the hearing is not submitted to higher authorities. The arbitrator is just concerned with the settlement of the dispute as between the contractor and Government. The position regarding apportionment of blame, discussion of disciplinary aspects and consequent remedial measures is not commented upon.

172. It was also mentioned that while appointing an arbitrator, care was not taken to set out issues or points of dispute clearly which resulted in considerable difficulties at a later stage. It was, however, stated by a representative of E-in-C's Branch that the contract form had since been amended to provide that the award of the arbitrator should be given itemwise and that all awards in respect of the amended contracts were itemwise.

173. We have given careful consideration to the suggestion made by the Finance and Accounts officers, but cannot recommend its acceptance. Arbitration is a well recognised method of settling disputes arising out of a contract between two parties and its deletion from the contract documents will not be desirable. We, however, recommend the following steps to improve the existing position :—

(a) The issues or points of dispute should, as far as possible, be clearly stated and the arbitrator should be asked to give his award itemwise. If an arbitrator still gives a lump sum award or gives an award on an issue which is not subject to arbitration, Government could go to a court of law for getting the award set aside.

(b) The MES authorities should take all possible care to prepare and present the Government case properly before the arbitrator.

(c) The Chief Engineers should be authorised to settle, on basis of equity and with the concurrence of the Controller of Defence Accounts, disputes in cases involving amounts up to Rs.10,000/-. Where the amount involved is more than Rs. 10,000/,- or where there is a difference of opinion between the MES and the Audit authorities which cannot be resolved at the CE and CDA level even though the amount involved may be less than Rs. 10,000/-, the matter should be reported to the higher authorities before disallowing payments to contractors.

We hope that if the above recommendations are implemented, the volume of work on account of the cases going up for arbitration will be considerably reduced.

174. In this connection it was also suggested to us that special officers should be appointed in the MES to take up arbitration cases only, so that the time of other Engineer officers is available for normal work. We do not feel that the volume of arbitration work will justify the appointment of separate officers specialy for this job and consequently do not recommend the adoption of this suggestion.

(iv) Audit objections

175. As mentioned by us earlier in this report, a large number of audit objections were raised by the internal and statutory audit and there were considerable delays in the settlement of such objections. It was stated by the Engineer officers who had responded to our questionnaire and whom we had examined verbally, that similar objections were often raised by various authorities and at times even observations and objections of very trifling nature were raised. In many cases the objections were academic and hostile initially. Questions pertaining to technical opinions, circumstances leading to technical decisions and hypothetical objections based on probable gains/losses if another course of action had been taken, led to avoidable paper work and occasionally unpleasant correspondence. Further, it was mentioned that piecemeal objections were raised and they were not discussed with the Garrison Engineers before they were recorded. The delays in the settlement of audit objections were stated to be due to the following factors :—

(i) Audit objections were not discussed with the appropriate engineer authorities, with the result that protracted correspondence took place delaying the settlement of such objections.

(ii) A number of frivolous objections were raised with the result that executives were unable to concentrate on settling the important objections and consequently the settlement of the latter was delayed.

(iii) The Executive officers did not sometimes attach due importance to the expeditious settlement of these objections.

176. We have given consideration to this matter and feel that it is necessary to take urgent and effective steps to :—

(i) eliminate routine audit objections ; and

(ii) settle objections with as little delay as possible.

To achieve this object we recommend the following steps :—

(a) Before audit objections are recorded, they should be personally discussed between the LAO and the GE concerned.

(b) Engineer authorities must answer the objections quickly and for this purpose, a time limit of two months from the date of receipt of the audit objection in the office of GE, should be prescribed.

(c) Outstanding audit objections should be discussed by an *ad-hoc* Committee, once in every six months. This *ad-hoc* Committee should be a regular feature in the MES.

(v) Relationship between GE and UA.

177. Under the existing arrangements each Garrison Engineer has a Unit Accountant with clerical staff attached to him. The Unit Accountant is under the control of the Controller of Defence Accounts and his functions are as follows :—

(i) to maintain accounts in accordance with the prescribed rules;

(ii) to exercise preliminary checks on the final bills before they are passed to the Controller of Defence Accounts and to pre-audit the bills up to Rs. 5,000/- which can be paid by the Garrison Engineer without pre-audit by the Controller of Defence Accounts; and

(iii) to assist the Garrison Engineer in all matters relating to accounts and budget estimates and the application of the financial rules.

178. The Garrison Engineer has the power to overrule the Unit Accountant and sanction payments within his financial powers but in such cases the Unit Accountant usually informs the Controller of Defence Accounts for any action that the latter may consider necessary.

179. It was suggested to us by some Engineer officers that the Unit Accountant should either be placed directly under the Garrison Engineer, as is the position in the case of the Central PWD; or his confidential reports should at least be initiated by the Garrison Engineer, so that the Garrison Engineer has more control over the Unit Accountant. The representatives of the Finance and Accounts Departments were not in favour of any change in the relationship that exists at present between the Garrison Engineer and the Unit Accountant The Controller of Defence Accounts, Southern and Eastern Commands, who were examined by us, stated that the relations between the Garrison Engineer and the Unit Accountant were generally smooth and they had not received any complaints in this connection. As the Unit Accountant was a link between the Controller of Defence Accounts and the Garrison Engineer, they did not consider it desirable to place him directly under the latter.

180. We haven given due consideration to this matter and feel that the *status-quo* should be maintained.

Summary of Recommendations

1. In the interest of quicker settlement of accounts, the present practice of the MES preparing the final bills on behalf of the contractors may continue, but contractors should be encouraged more and more to take over this responsibility.

(Para 155)

2. Measurements must be recorded within one month of the completion of work in all cases. Deviations not authorised by the competent authority should also be measured, but it should be made clear that the measurements did not imply acceptance of work. Any disputes regarding deviations and measurements which can be settled during the progress of work should be settled as soon as possible after they arise without postponing the settlement till the completion of the project.

(Para 160)

3. Contractor's signature in token of his acceptance of the final measurements should invariably be obtained.

(Para 161)

4. The period prescribed by the E-in-C for the preparation of the final bills (viz, 45 days from the date of the completion of the work) is satisfactory and steps should be taken to ensure that the final bills are prepared within this period.

(Para 162)

5. The period prescribed at present by the E-in-C for the payment of the final bills (viz, 4 months from the date of completion of the work) is satisfactory and all possible steps should be taken to ensure that the MES authorities adhere to this period.

(Para 165)

6. It would not be desirable or feasible to entrust the work relating to audit of final bills to the Regional Audit Officers.

(Para 167)

7. No change is recommended in the existing powers of the GEs to pay final bills without pre-audit.

(Para 169)

8. The existing procedure regarding making full payment in respect of the items which are not under dispute should be reviewed with a view to falling in line with the Central PWD.

(Para 169)

9. The arbitration clause should be retained in the contract agreements, but the following steps should be taken to improve the present position :—

(a) The issues or points of dispute should, as far as possible, be clearly stated and the arbitrator should be asked to give his award itemwise.

(b) The MES authorities should take all possible care to prepare and present the Government case properly before the arbitrator.

(c) The Chief Engineer should be authorised to settle, on basis of equity and with the concurrence of the Controller of Defence Accounts, disputes in cases involving amounts upto Rs. 10,000/-. Where the amount involved is more than Rs. 10,000/- or in cases involving a lower amount but which cannot be resolved at the CE and CDA level, the matter should be reported to the higher authorities before disallowing payments to the contractors.

(Para 173)

10. Appointment of separate officers specially for arbitration work is not recommended as the volume of work will not justify the appointment of such officers.

(Para 174)

11. It is necessary to take urgent and effective steps to :—

(i) eliminate routine audit objections; and

(ii) settle objections with as little delay as possible.

To achieve this object the following steps are recommended :—

(a) Before audit objections are recorded, they should be personally discussed between the local Audit Officers and the GEs concerned.

(b) Engineer authorities must answer the objections quickly and for this purpose a time limit of two months from the date of receipt of the audit objections in the office of the GE, should be prescribed.

(c) Outstanding audit objections should be discussed by an *ad-hoc* Committee once in every six months. This *ad-hoc* Committee should be a regular feature in the MES.

(Para 176)

12. No change is recommended in the relationship between the Garrison Engineer and the Unit Accountant.

(Para 180)

CHAPTER VII

WORK LOAD DURING SECOND FIVE YEAR PLAN

181. We were told that the Second Five Year Plan would cover a expenditure of Rs. 100 crores on building works, involving an increase o about Rs. 40 crores over the expenditure that would have been incurre at the rate of the present load which is apprroximately Rs. 12 crores year. During the Second Five Year Plan period, the annual work loa is likely to increase progressively to Rs. 24 crores by 1960. As ne projects create fixed assets which require maintenance, the maintenanc element would also increase accordingly. In order to cope with th increased load, the capacity of the MES will have to be gradually expanded and consequently the MES staff will have to be increased As regards the actual increase, we have dealt with this matter in subsequent chapter relating to Organisation and Capacity of the MES

182. To ensure that the Second Five Year Plan is implemented i time, planning has to be geared up in respect of :—

(a) "Q" planning to secure Administrative Approvals in time fo the works to be executed;

(b) The MES own plans for the expansion of the staff, both gazette and non-gazetted; and

(c) Pre-planning for the supply of basic materials such as steel and cement.

183. As regards 182 (a), we were informed that the Army Headquarters, Air Headquarters and DGOF had arranged additional staff for planning. The Naval Headquarters, however, informed us that due to the absence of works staff in Naval Commands and Establishments, the progress of 'Q' planning was greatly handicapped. In his evidence before us, a representative of the Finance had stated that whereas the DGOF had prepared a rough plan of all the projects to be included in the Second Five Year Plan and had obtained the approval of Defence and Finance Ministries for progressing those projects to the Administrative Approval stage, the Army, Navy and Air Force were still to formulate their Five Year Plan. It was, also, brought to our notice that Administrative Approvals for the projects to be commenced during 1957-58 were not being sanctioned in time, with the result that works planned for the Second Five Year Plan might not be completed. Urgent action is, therefore, essential to ensure that Administrative Approvals are issued well in advance to enable the engineers to gear up their machinery to cope with the increased work.

The establishment of a Central Works Planning Committee, as recommended earlier, should help considerably in speeding up the issue of Administrative Approvals for the works to be executed during the Second Five Year Plan. We were told that instructions have already been issued by the Ministry of Defence that all Administrative Approvals for the Second Five Year Plan works should be issued by the end of October 1957, so that the MES could have three clear years for the execution of works.

184. As regards para 182 (b), we understand that the MES are trying their best to step up their capacity, but difficulty in the matter of recruitment, owing to the general paucity of technical staff in the country, is the major obstacle. We have dealt with this question in a subsequent chapter relating to Organisation and Establishments.

185. As regards para 182 (c), the MES should arrange in advance the supply of basic materials, such as steel, cement, etc. This action should be taken immediately so that the building programme is not hampered for want of materials. The procurement of steel through the Equalisation Fund established by the Ministry of Commerce and Industry and purchasing imported steel at imported price, wherever necessary, with due financial concurrence, well in advance by the MES, are considered absolutely essential for the implementation of the works planned to be executed during the Second Five Year Plan period.

Summary of Recommendations

To ensure that the Second Five Year Plan is implemented in time, planning must be geared up in respect of :—

(a) 'Q' planning to secure Administrative Approvals in time for the works to be executed;

(b) The MES plans for the expansion of the staff, both gazetted and non-gazetted; and

(c) Pre-planning for the supply of basic materials, such as steel and cement.

(Para 182).

CHAPTER VIII

DELEGATION OF POWERS

(i) Acceptance of Necessity and Administrative Approval

186. The existing powers delegated to various authorities for Acceptance of Necessity and according of Administrative Approval are shown below :—

Authority	Acceptance of Necessity	Administrative Approval
ARMY	Rs.	Rs.
Chief of the Army Staff	1,00,000	5,00,000
GOC-in-C, Command	20,000	1,00,000
Commander of an Area or District ...	5,000	5,000
Commander of a Brigade or a Sub-Area	2,500	2,500
Commander of a Station	1,000	1,000
NAVY		
Chief of the Naval Staff	1,00,000	5,00,000
Combay	20,000	1,00,000
Comchin	20,000	20,000
NOIC Vizag	20,000	20,000
RNOs	1,000	1,000
AIR FORCE		
Chief of the Air Staff	1,00,000	5,00,000
Air Officer Commanding, IAF Command	20,000	1,00,000
Station Commander (including Commander of a College, Universal Equipment Depot or Base Repair Depot) of and above the rank of Wing Commander	1,000	1,000
-do- of a rank below Wing Commander	500	500
DGOF	20,000 (for non-industrial) 50,000 (for industrial)	1,00,000 (for non-industrial) 2,00,000 (for industrial)

187. It was represented to us that the delegated powers as shown above were not adequate and that the powers should be decentralized. It was emphasised that decentralisation would obviate many references to the Government of India and E-in-C's Branch and expedite the progress of the works programme.

188. The representatives of QMG's Branch suggested that owing to abnormal rise in the cost of building materials and labour, the Chief of the Army Staff should be given powers of Rs. 1 lakh and Rs. 5 lakhs for Acceptance of Necessity and Administrative Approval respectively, without any reference to Finance.

The DGOF also suggested that, since the present-day cost of building materials and labour were about two to three times the pre-1939 costs, the existing powers of the DGOF should be revised as under :—

(a) Acceptance of Necessity —
  (i) Rs. 50,000/- for non-industrial
  (ii) Rs. 1,50,000/- for industrial

(b) Administrative Approval —
  (i) Rs. 2 lakhs for non-industrial
  (ii) Rs. 5 lakhs for industrial.

189. The GOC-in-C, Eastern Command, also, during his evidence before the Committee, felt that there was no necessity for submitting the projects for Administrative Approval to the same authority as had accepted the necessity in all cases. He felt that it would facilitate matters if Government could delegate more powers to the COAS and Army Commanders. According to him, the new works procedure introduced in 1947 in regard to works was defective. There were too many checks and while the powers of the Army Commanders had been reduced, prices had gone up. Before the last war, Army Commanders were authorised to accord Administrative Approval for works up to Rs. 10 lakhs, which with the present-day prices would really amount to works of the value of Rs. 40 lakhs. Instead of increasing the powers of the Army Commanders, their financial powers had been reduced to Rs. 1 lakh. In effect this would mean that with the present prices, the Army Commanders could hardly sanction a work equivalent to Rs. 25,000/- of the pre-war days.

190. Yet another view put forward by the GOC, Bombay Area, was that the Government should fix a ceiling on expenditure in respect of housing accommodation in each Command and also lay down prices and types of quarters to be constructed in the various stations and then leave it to the Commands to construct the quarters according to the approved designs and specifications.

191. The Deputy Chief of the Naval Staff also stressed the necessity of giving increased powers to the Chief of the Naval Staff for sanctioning works without reference to Finance. He suggested that the Chief of the Naval Staff should be allowed to exercise has powers, without financial concurrence, in respect of all projects costing up to Rs. 1 lakh, but for projects costing over Rs. 1 lakh but less than Rs. 5 lakhs, he should exercise his powers with the concurrence of Finance.

192. We have examined this question and agree that much of the delays which occur at present in getting final approval to new projects under the existing procedure could be eliminated by vesting greater powers in the administrative authorities. We further consider that there should be no distinction between the powers of Acceptance of Necessity and those of according Administrative Approval. We accordingly recommend the following powers of Acceptance of Necessity and Administrative Approval for administrative authorities without the prior concurrence of the financial authorities :—

(1)	Ministry of Defence	...	Rs. 2,00,000
(2)	COAS/CNS/CAS	...	Rs. 1,00,000
(3)	GOC-in-C/Air Officer Commanding/ Combay/Comchin/NOIC Vizag	...	Rs. 50,000
(4)	Area Commander	...	Rs. 20,000
(5)	Sub-Area Commander	...	Rs. 10,000
(6)	Station Commander/RNO	...	Rs. 2,000 *

* Rs. 1,000/- if the Station Commander is of a rank below Wing Commander/Lt-Colonel.

As regards DGOF, we suggest that he should have powers up to Rs. 50,000/- (for industrial as well as non-industrial works) without the financial concurrence and up to Rs. 1 lakh with the concurrence of the DFA (Fys). The competent financial authority will be responsible for examining the financial soundness of a project before according approval.

Projects costing over Rs. 20,000/- should continue to be treated as "Major" and their cost debited to the Capital Work Head. The expenditure on such projects would, however, have to be strictly controlled by making specific allotments to Commands for this purpose and by ensuring that large projects are not split up into smaller ones to fall within the powers of the lower military authorities. This latter object could be achieved by drawing up complete station plans on the basis of approved K.L.Ps.

(ii) Powers of Technical Sanction

193. The powers delegated to various authorities at present for according Technical Sanctions to designs or requisitions for major and minor works are as follows :—

Engineer-in-Chief	...	Full Powers
Chief Engineer	...	Rs. 10,00,000
Commander Works Engrs	...	Rs. 1,00,000 *
Garrison Engineer	...	Rs. 40,000 *

* As a temporaray measure the powers of selected CsWE and GEs can be enhanced by the CE to Rs. 2.5 lakhs and Rs. 1 lakh respectively.

194. It was suggested to us that the E-in-C should be relieved of the work of according Technical Sanctions and the CEs should be vested with full powers in this matter. It was pointed out that in the CPWD, the Chief Engineer who corresponds in status and functions to the Engineer-in-Chief on the Defence side, does not issue any Technical Sanctions, and this work is done by the Additional Chief Engineers, who correspond to the Chief Engineers at Commands in the MES.

195. We agree to the suggestion referred to above and recommend that the Chief Engineers should have full powers to accord Technical Sanctions and the E-in-C should be completely relieved of this responsibility. The CEs have already got their own organisations and in the event of the complete decentralisation of powers of Technical Sanctions from the E-in-C, as suggested above, the staff of the E-in-C's Branch could be reduced and that of CEs strengthened without any over-all increase in the establishment.

196. We would also suggest that the provision for enhancement of the powers of selected CsWE and GEs to Rs. 2.5 lakhs and Rs. 1 lakh be made permanent.

(iii) POWERS TO ENTER INTO CONTRACTS

197. Under the existing rules the powers of MES officers in the matter of acceptance of contracts are as follows:—

E-in-C	...	Full Powers
CE	...	Full Powers
CWE	...	Rs. 1,00,000 *
GE	...	Rs. 40,000 *

* As a temporary measure, the powers of selected CsWE and GEs can be enhanced by the CE to Rs. 2.5 lakhs and Rs. 1 lakh respectively.

198. It was suggested by some Engineer officers that the powers of GEs and CsWE should be raised to Rs. 1 lakh and Rs. 5 lakhs respectively. We do not recommend any change in the present rules, except that the powers which have been enhanced as a temporary measure may be sanctioned on a permanent basis.

199. According to the existing regulations the approval of the CE is required for the abandonment or reduction of a claim for liquidated damages exceeding Rs. 10,000/- or of any claim incurred by a breach of contract which has caused increased cost to the State not exceeding Rs. 10,000/-. The CWE may remit or modify a claim for such liquidated damages when the amount does not exceed Rs. 10,000/- and the breach of contract has not caused any increased cost to the State.

200. We recommend that the authority to reduce or waive compensation leviable from contractors should, irrespective of the amount involved, vest in the CEs in the case of contracts concluded by them or by CsWE, and in the CsWE in the case of contracts concluded by the GEs. Prior concurrenee of the Controller of Defence Accounts should not be necessary in such cases.

SUMMARY OF RECOMMENDATIONS

(1) Powers of Acceptance of Necessity and Administrative Approval should be the same and vested in administrative authorities as follows :—

Ministry of Defence	...	Rs. 2,00,000
COAS/CNS/CAS	...	Rs. 1,00,000
GOC-in-C/Air Officer Commanding/Combay/ Comchin/NOIC Vizag	...	Rs. 50,000
Div/Area Commander	...	Rs. 20,000
Sub-Area/Bde Commander	...	Rs. 10,000
Station Commander/RNO	...	Rs. 2,000 *

* Rs. 1,000/- if the Station Commander is of rank below Wing Commander/Lt. Colonel.

The above powers should be exercised without prior financial concurrence.

DGOF should have powers up to Rs. 50,000/- (for industrial as well as non-industrial works) without financial concurrence and up to Rs. 1,00,000/- with the concurrence of DFA (Fys).

(Para 192)

(2) CEs should have full powers to accord Technical Sanctions and E-in-C should be completely relieved of this responsibility.

(Para 195)

(3) Provision for enhancement of powers of Technical Sanctions of selected CsWE and GEs should be made permanent.

(Para 196)

(4) No change recommended in existing powers of acceptance of of contracts except that the enhanced powers of CsWE and GE should be made permanent.

(Para 198)

(5) The authority to waive or reduce compensation leviable from contractors should vest in the CEs in the case of contracts concluded by them or CsWE, and in the CsWE in the case of contracts concluded by GEs.

(Para 200)

CHAPTER IX

FUNCTIONS, ORGANISATION, CAPACITY, ADMINISTRATION AND RECRUITMENT.

(i) Functions and organisation

201. The MES is responsible for :—

(a) Capital services, i.e., provision and replacement of buildings and Defence works, together with the accessory services such as roads, E/M Services, water supply, drainage, ranges, furniture, etc., and also the internal fixtures generally; and

(b) Maintenance services, i.e., the necessary repairs and upkeep of the works referred to in (a) above.

The MES carry out the above services for the Army, Air Force and Navy and the Ordnance and Clothing factories in peace, war and national emergencies. For this purpose the Engineer officers at various levels are appointed. On the Army side there are Chief Engineers at the Command Headquarters, CsWE at Area Headquarters and Garrison Engineers incharge of Works (construction/maintenance) Divisions. On the Air Force side certain CsWE and GEs are allotted exclusively or mainly for Air Force works where the work load justifies it. Similarly, for the Navy separate Engineer officers are allotted wherever necessary. The DGOF has also got an Engineer officer at his Headquarters to advise him on engineer matters.

202. There are at present 68 Works Divisions in the MES—16 in the Western Command, 20 in the Eastern Command and 32 in the Southern Command. The work load on a division varies from division to division. A statement showing the distribution of the work load in the MES during 1956-57 which was supplied by the E-in-C's Branch is reproduced as an Annexure to this Chapter.

203. We were informed that in the Central Public Works Department, the yard-stick for work load per division is as follows:—

(a) Rs. 41.25 lakhs of construction load for a *Construction Division;*

(b) Rs 8.25 lakhs of maintenance load *plus* Rs 13.75 lakhs of Construction load for a *Construction-cum-Maintenance Division.*

204. The average load of work at present in the MES compares quite favourably with the figures mentioned above. We recommend that the MES should adopt a yard-stick of Rs. 40 lakhs (maintenance load

being regarded as equivalent to twice the construction load) per division and Rs. 1½ crores for a CWE.

205. We have considered the possibility of reducing the number of divisions by increasing the number of sub-divisions in a division. We were informed that the number of sub-divisions in a division vary from four to seven, including the Barrack/Stores and the E/M sub-divisions.

Generally speaking, MES organisation and establishments are dependent on various factors, such as —

(a) Geographical lay-out;

(b) Administrative lay-out of troops;

(c) Type of works to be done;

(d) Urgency of works; and

(e) Volume of work that can satisfactorily be handled by a GE or CWE.

206. In determining (e) above, consideration has to be given not only to the original work load but also to the maintenance and special repairs. We were informed that the MES establishments are adjusted on the basis of work load each year and Government sanction is obtained. Before the Government sanction is accorded, the organisation on the ground is considered in detail down to sub-divisions.

It was urged by the Engineer officers that if the number of sub-divisions in a division was increased, it would lead to inefficiency because the GE will not be able to handle efficiently the increased work, moreso in view of the distances involved.

207. Having regard to the above factors and the fact that the average work load on a GE (on the basis of treating the maintenance load as twice that of the construction load) was Rs. 49 lakhs during 1956-57, we consider that it would not be desirable to increase the number of sub-divisions in a division with a view to reducing the number of divisions We recommend that normally there should be only five sub-divisions in a division which should include the E/M and F/S sub-divisions.

(ii) Capacity

208. The figures of the value of work (new construction as well as maintenance) carried out by the MES during the years 1952-53 to 1954-55, as given to us by a representative of the E-inC's Branch are reproduced below :—

FIGURES IN LAKHS OF RUPEES

Year	New Construction					Maintenance				
	Army	Fy.	Air	Navy	Total	Army	Fy	Air	Navy	Total
1952-53	471.59	162.0	208.56	139.23	981.37	678.09	—	134.02	49.01	861.12
1953-54	485.36	149.96	169.58	121.19	926.09	724.07	—	119.27	51.31	884.65
1954-55	463.64	133.83	169.29	188.32	982.08	707.11	—	110.38	57.22	874.71

209. The answers that we received from several Engineer officers revealed that a greater volume of work could have been done by the MES with the existing staff, but the capacity of the MES was not fully utilised. The reasons why the full capacity could not be utilised were stated to be :—

(a) Delay in according final sanctions for projects, which did not leave sufficient time for the engineers to plan for the works to be taken up during the succeeding financial year;

(b) Delay in the allotment of funds which resulted in delays in commencing new porojects;

(c) Acute shortage of certain stores like steel and cement; and

(d) The work load in certain divisions was light and the same staff could have taken on more work if it was available.

210. We were informod that the MES had a potential capacity to undertake construction works up to Rs. 14 crores during the current financial year but the actual load is likely to be between 11 to 12 crores. It will thus be observed that even during the current year the MES capacity will not be fully utilised.

211. In order to utilise the full capacity of the MES, steps should be taken to ensure that the Administrative Approvals are issued sufficiently in time to permit the engineers to plan for the commencement of the works during the ensuing financial year. Reasonable stocks of the materials in short supply should also be obtained in time. We have already suggested the steps which may be taken in this direction in an earlier chapter. We have also indicated in an earlier chapter as to how delays in the allotment of funds can be eliminated. If all these steps are taken, we hope that it will be possible to utilise the full capacity of the MES.

212. As mentioned above, the work load in certain divisions was light and the capacity was, therefore, not fully utilised. A view was expressed that this could perhaps be avoided if the MES is reorganised on

a zonal basis. We have examined the desirability of re-organising the MES on a zonal basis and in this connection obtained the views of the senior Service officers. It was urged by them that such a system would restrict a closer association between the Army Commander and the Chief Engineer which exists today and as such it is not a practical solution. In this connection, it was also explained that the Engineer Services were an integral part of the Army at all levels comprising —

(a) Works Services — buildings, roads, airfields, railways, POL installations, etc.,
(b) Engineer Units;
(c) Engineer stores — Operational and Works; and
(d) Transportation.

A balanced set-up was essential for the successful prosecution of operations. The MES officers have to command and employ Works Units in the Communication Zones and Base areas and also advise on defences — not only their lay-out but also designs and specifications.

213. It was also mentioned by the present E-in-C that it would not be possible to give effect to such a plan without a large increase in the number of Engineer officers because such a course would involve the separation of the MES from Engineer Troops at all levels.

214. After giving full consideration to this matter, we have come to the conclusion that it would not be desirable to re-organise the MES on zonal basis, though it will involve unequal distribution of work.

(iii) Status of the E-in-C

215. We have examined whether in view of the fact that the Engineer-in-Chief, on the one hand, serves all the three Services and the Ordnance Factories and, on the other hand, controls the activities of the Engineer Corps, any change in his status, vis-a-vis the Service Headquarters and the Ministry of Defence, is necessary or desirable. For instance, we considered whether he should be given an Inter-Service Status.

One view that was put forward before us was that on the analogy of the Director General of Armed Forces Medical Services, the E-in-C should have an Inter-Service status and should be responsible directly to the Ministry of Defence.

216. The functions of the E-in-C at present are two-fold, *viz* :—

(a) He is an adviser to the Chief of the Army Staff on all engineer matters involving the employment of troops and works services; and
(b) he is an adviser to the Chief of the Naval and Air Force Staffs and DGOF on works matters.

If the E-in-C is given an Inter-Service status and made responsible directly to the Ministry of Defence, he will have to be divested of his functions as an adviser to the Chief of the Army Staff on matters involving engineer troops and such a separation will have to be effected at lower levels also. This will again mean increase in the engineer staff which cannot be met from the existing resources available in the country.

217. After giving due consideration to the above factors and taking into account the fact that the present system has worked satisfactorily, we do not recommend any change in the status of the E-in-C.

(iv) Separate Engineer Services for the Army, Navy, Air Force and Ordnance Factories

218. The desirability of providing separate Engineer Services for the Army, Navy, Air Force and the Ordance Factories was represented to us, particularly by some officers of the Air Force and the Navy. The Air Force officers were more emphatic in their demand for a separate Engineer Service. It was urged by them that aviation engineering was quite different from ordinary engineering and with the rapid growth of the Air Force it was necessary to have a separate cadre of engineers who could concentrate on Hangars, Control Towers and Airfields, etc. They were of the view that the mere creation of the post of a separate CE for the Air Force would not meet their requirements, because unless the Engineer officers grew up with the Air Force they would not be familiar with all the problems peculiar to the Air Force Engineering; nor would they appreciate the urgency of the Air Force requirements. They also stated that a civilian Engineer organisation, on the lines of the UK organisation, would be of no practical use to them in times of war because they could not take the civilians to forward areas. The Air Force officers, therefore, suggestsd that the Engineer officers for the Air Force should wear Air Force uniforms right from the very beginning, i.e., they should be commissioned in the Air Force so that they could derive adequate knowledge of Air Force and its requirements and render assistance to them in emergencies. They further emphasised that the Air Force work during the next 15 to 20 years would be adequate to justify a separate Air Force engineer organisation.

219. The Engineer and other senior Army officers, whom we examined on the above point, were of the opinion that althogh in principle there can be no objection to having separate Engineer Services for the Navy and the Air Force, they doubted whether the existing Naval and Air Force, work loads and the shortage of qualified and experienced Engineer officers would justify the adoption of such a course at the present

moment. In this connection, it was suggested by some Finance ar Defence officers that separate engineer organisations for the Navy ar the Air Force should be provided up to the Chief Eengineer level ar that some Engineer officers should acquire specialised knowledge Air Force and Naval works.

220. We have given careful consideration to this matter and feel tha separate independent engineer organisations to cater for the Navy, Ai Force and Ordnance Factories would not be justified at present. We however, recommend that there should be separate Chief Engineers fo the Navy and the Air Force and they should have separate CsWE anc GEs, wherever the work load justifies it. There should not, however be very rigid demacration of work between the CEs, Army, Navy anc Air Force. In other words, if in any particular station the Navy and/ or Air Force work justifies a separate Engineer officer, such an appointment should be sanctioned, but, on the other hand, if there is insufficient load of work pertaining to any of the three Services (Army, Navy and Air Force) then the Engineer officer belonging to the Service which has the heaviest load there should look after the work of the other Service/Services also.

221. In this connection, we have also examined the question of the writing of the annual confidential reports on Engineer officers and we recommend that the Army/Navy/Air Force officers and the DGOF under whom the Engineer officers may be serving should give a general report and the senior Engineer officers (E-in-C in the case of CEs) should report on their professional ability and work.

222. At present the architectural side of planning is undertaken centrally in the E-in-C's Branch for all Naval and Air Force works and for large Army projects. The Chief Engineers and CsWE have also certain staff to plan smaller projects. It was suggested to us that from the point of view of efficiency it would be better if every Chief Engineer's office has a well-equipped drawing office. We have considered this matter and recommend that this suggestion should be implemented.

(v) Administration and establishments

223. It was brought to our notice that a certain number of Assistant Garrison Engineers are employed in the offices of the Garrison Engineers and are not directly in charge of sub-divisions. These Assistant Garrison Engineers are required to assist the Garrison Engineers in their routine work and also to act for the Garrison Engineers in their absence. It was stated by the Engineer-in-Chief that with the heavy burden of work on the GEs, there was no justification for reducing or

eliminating the Assistant Garrison Engineers but on the contrary there was strong case for every GE to have an AGE.

224. While we appreciate the necessity of relieving the Garrison Engineers of routine work in their offices, we feel that a lot of the work which is now being done by the Assistant Garrison Engineers, who are qualified engineers, can be done by non-technical Administrative Officers. We accordingly recommend that the Assistant Garrison Engineers at present employed in the offices of the Garrison Engineers should be replaced by Civilian Administrative Officers Class II and that where necessary the Garrison Engineer should be given a civilian administrative officer to assist him. This will ensure the best use of the available qualified engineer personnel.

225. In this connection, we also examined whether any reduction in the number of CsWE is possible in view of the number of GEs whose work they have to supervise. As mentioned earlier, the average work load (treating the maintenance work load as equivalent to twice the construction work load) for a CWE is Rs. 153 lakhs. We were informed that in the Central PWD, the average work load on a Superintending Engineer is about 1½ crores. There is, therefore, no justification for increasing the number of Garrison Engineers under a CWE; otherwise the load of work on a CWE would be unmanagable.

226. It was also brought to our notice that certain engineering staff not connected with planning or actual execution of work was employed in the Headquarters offices of the MES at various levels, i.e., in the E-in-C's Branch and in the offices of the CEs, CsWE and GEs. We have examined the scope for the reduction of such staff and found that certain engineer officers were employed on such duties as—

(a) Administration, namely, posting, transfers, promotion, pay problems, etc., of the combatant and civilian personnel;
(b) Stores; and
(c) Recovery of rents for buildings and furniture.

As regards the last type of work, namely, recovery of rent for buildings and furniture, we have already recommended in an earlier chapter that the MES should be relieved of this responsibility and the work should be transferred to the Station Commanders. We would suggest that the other types of work mentioned above should, as far as possible, be entrusted to Non-technical officers and the Engineer officers should be employed only where it is essential.

227. During the course of our investigations we found that there are no scales/yard-sticks on basis of which the non-gazetted staff of CEs, CsWE, GEs and SDOs, was sanctioned. We noticed that in the

the absence of any scales/yard-sticks there were wide disparities between the non-gazetted staff in the three Commands. For instance, the non-gazetted staff in the Western Command was only slightly lower than that in the Southern Command although the load of work in the Southern Command during 1956-57 was of the order of Rs. 1204 lakhs (capital works Rs. 726 lakhs, minor works and maintenance Rs. 478 lakhs), whereas in the Western Command the total work load was only Rs. 473 lakhs (capital works Rs. 153 lakhs and minor works and maintenance Rs. 320 lakhs).

During our tour to the Headquarters, Western Command, it was explained that the non-gazetted establishment had been increased during the year 1955-56 in anticipation of increased work load but the sanctions for the increased projects had not been accorded. It was stated that the same establishment could take further work load without any increase in the establishment.

228. We consider it essential that there should be a model scale/yard-stick for each type of office in the MES. Deviations from the yard-stick or model scale could be made and specifically sanctioned, if justified, on the basis of work load. We were informed by the E-in-C that action was in hand to prepare model scales and that the matter would be finalised shortly.

229. The percentages of the establishment charges in the MES to work load during the last few years are as follows :—

1951-52	...	10.76%
1952-53	...	10.73%
1953-54	...	11.59%
1954-55	...	12.09%

Although there has been a slight increase in the percentage during the year 1953-54 and 1954-55, we consider that the establishment charges of about 11 to 12% for the mixed load are not excessive. We understand that the establishment charges in the Central PWD are also more or less the same. We hope that the establishment charges will come down slightly when the potential capacity of the MES is fully utilised.

230. In the earlier chapters we have recommended that—

(a) The E-in-C should be completely relieved of the work connected with the issue of technical sanctions;

(b) There should be only one check, by the next senior authority, of the estimates prepared by the Engineers; and

(c) The powers in the matter of Acceptance of Necessity and issue of Administrative Approvals of Army Commanders, etc., should

be enhanced and the cases falling within their powers will not come to Service Headquarters for approval.

The implementation of the above recommendations should relieve the E-in-C's Branch of some work load and it should, therefore, be possible to effect some reduction in the staff of the E-in-C's Branch. We discussed this matter with the E-in-C. He agreed that the above measures will, to a certain extent, offer relief to the engineers and thus enable them to do their work more thoroughly and efficiently, but he felt that until our recommendations were implemented and watched for some time, it would not be possible to arrive at any conclusion in the matter of reduction of staff. We agree with this view and suggest that the staff position of the E-in-C's Branch should be reviewed a year aftar our recommendations are implemented.

231. We have also examined the need of expanding the MES establishment to cope with the increased load of work during the Second Five Year Plan. As mentioned in an earlier chapter the MES has some spare capacity and can take on some extra load without any material increase in the existing staff. A situation will, however, arise after some time when it will not be able to cope with the extra load without increase in the establishment. We consider that in order to avoid the necessity of large scale retrenchment later, the MES establishment should not be increased by more than fifty per cent of that which existed on the 31st Mar 1956, to cope with the peak load during the Second Five Year Plan period. Any work which may be beyond the capacity of the MES even after the fifty per cent increase should be entrusted to other agencies.

(vi) Recruitment.

232. According to the existing procedure, civilian officers for the MES are recruited through the UPSC. On sanction of the additional establishment or occurring of a vacancy, requisition for recruitment has to be sent to the UPSC through the Ministry of Defence. The UPSC advertises the vacancy and calls for applications, arranges interviews of suitable candidates, makes selection and finally sends its recommendations to the Ministry of Defence. The final offers of appointment to the selected candidates can be made only after the police verification and medical examination are over. All this process takes considerable time with the result that the officers required to carry out sanctioned works are not available in time.

It was also stated that the MES was the only department with qualified personnel trained in quantity surveying, employed as Surveyors and the officers recruited for the Surveyor of Works cadre in the MES do not initially possess specialised knowledge required of them

in the performance of their duties because no institution in India trained them for such purposes. Hence this cadre of officers requires some special training after they are recruited into the Department. Further, most of the engineer graduates do not like to join as Surveyors because their work is not as interesting and diversified as that of the executive and hence difficulties has been experienced in the recruitment of Surveyors.

233. As regards the recruitment of Superintendents, Grade I, we were given to understand that the qualification of University Degree was stipulated for the recruitment of Assistant Executive engineers as well as Superintendents, Grade I. Consequently, many engineer graduates fresh from the University offered themselves as Superintendents, Grade I, and after gaining the requisite practical experience they endeavoured to seek officer appointments either in the MES or outside. The effect of this was that the majority of the engineer graduates used the appointment of Superintendent, Grade I, as a stepping stone for further prospects in life and did not stay in the MES for long, which was very unsatisfactory. Superintendent Grade I is the highest appointment in the subordinate cadre of the MES and is, therefore, an important link between the officers and the subordinate staff. Apart from the technical qualification, it is essential that the incumbents of such appointments should have a thorough ground experience and detailed knowledge of departmental procedure.

234. The recruitment of Superintendent Grade II (Overseer) was also stated to be presenting difficulties due to the fact that there was considerable demand for this category of personnel all over the country and service in the MES carried with it the All-India Liability and also field service liability. Moreover, the scales of pay offered by the MES and the States being the same for this category of personnel, naturally an individual would prefer to join a department wherein he is likely to be nearer home than to accept a post with All-India and field service liabilities.

235. We were also told that considerable difficulty in the recruitment of draftsmen in the higher grades was being felt because lucrative terms were being offered to this category of technical personnel by private firms.

236. We have examined whether the present system of recruitment to the various cadres needs any modification and consider that the present procedure of recruiting the officers through the UPSC is satisfactory and need not be modified. Steps should, however, be taken to work out the staff requirements for the Second Five Year Plan period

and as much advance action as possible taken to recruit the additional officers.

237. In his evidence, a senior Surveyor had suggested that in order to increase the Surveyor's cadre in the MES, which was understaffed, the qualifications now laid down for SW and SAI should be relaxed. His contention was that by relaxing the qualifications it might be possible to attract fresh hands to the cadre and after some training they might be useful to the MES, which would, in any case, be better than having no Surveyors at all. We do not, however, agree with this view. Lowering the qualifications would amount to lowering the efficiency of the cadre. Efforts should be made to recruit suitably qualified persons.

238. The present E-in-C was of the opineion that the present system of recruitment of Superintendents Grade I(SDO), whose status and functions are comparable to those of a JCO in the Army, was not satisfactory. Since fresh graduates were being recruited in this grade, they were inexperienced and ignorant of the MES Regulations and were not, therefore, in a position to be of much practical help to the officers. It took time for them to understand the organisation and the rules and by the time they had some experience, they were in search of better prospects elsewhere. They hardly stayed with the MES for three years. The MES was thus being used as a stepping stone by them. According to the E-in-C, many of the audit objections were due to the fact that the Superintendents, Grade I, were not well experienced. They committed the irregularities and left the officers to answer the audit objections. The E-in-C, therefore, recommended reversion to the pre-war system of filling Superintendents Grade I appointments by departmental promotion. He said that he would prefer to have matriculates with diplomas and long experience rather than fresh engineer graduates for these appointments. He further suuggested that a certain proportion (twenty per cent or so) of Superintendents Grade I should be allowed to be promoted to the AGE's Grade.

239. We consider that there is considerable force in the argument put forth by the E-in-C and while it may not be desirable to fill all the appointments of Superintendents Grade I by departmental promotion, we recommend that a minimum of 1/3rd of such appointments b/ filled by direct entry engineer graduates and the remaining appointments by departmental promotion to the extent suitable candidates are available. This will infuse some fresh blood into the MES and at the same time ensure that Superintendents Grade I will be thoroughly conversant with the MES procedure and regulations.

240. A senior officer of the Ministry of Defence had stated that at present the MES did not have engineers of high calibre and had, therefore,

suggested that professional engineers must be recruited from the market to fill up posts at all levels. The present practice of attaching too much importance to soldierly qualities of engineers should be modified to suit the present-day circumstances. It was stated that suitable civilians were not being attracted to the organisation, because there the avenues for promotion were not adequate. Even the existing civilian officers in the MES were not very happy on this account, because they found that the soldierly qualities were more important than the engineering qualities for rising to the higher grades in the organisation. If, therefore, a good career was provided and an assurance given to them that they would not be put under less competent and less qualified engineers, competent engineers from the market could be recruited to the MES in civilian capacity. Moreover, what was wanted today was specialisation in various fields of engineering, such as airfield construction, harbour works, etc., and proficiency in this respect could be achieved only if specialists were available in the organisation and for this purpose it would be necessary to build up a good civilian cadre. Another representative of the Ministry of Defence was also of the same view and, in addition, suggested the possibility of emergency recruitment of engineers from the open market.

241. Lt.-General Williams, the former E-in-C, who was examined by us, expressed the opinion that except for a small number of some special jobs, it was not necessary for Army engineers to specialise but they should keep themselves informed of what was going on in civil engineering organisations. He also stated that Army engineers were adequately trained for the jobs expected of them, although a few of them did not hold engineering degrees and that the training imparted at the College of Military Engineering, Kirkee, was adequate and much better than that given by any University.

242. The present E-in-C stated that although it would be worthwhile strengthening the MES with experts on various types of construction, such at harbour works, big factories, airfields, there were good engineers even at present on the strength of the MES who were by no means inferior to others in the market.

243. The President of the MES Officer's Association, who also gave evidence before us, stated that the civilian officers in the MES could rise only up to the CWE level and that was why the MES did not attract the best 'brains' from the market. He said that all the higher posts were exclusively held by military officers and the present practice of not appointing civilians to posts higher than the CWE and promoting junior military officers to higher posts was causing a feeling

of frustration and discontentment amongst the civilian officers. He suggested that this discrimination in the matter of appointment to higher posts should be removed and the top posts thrown open to civilians on their merits.

244. It was further represented to us that the existing proportion between civilian and military elements in the MES was not adequate. One suggestion was that the MES should be a predominantly military organisation with 25 to 33⅓ per cent civilians with reasonable career prospects. The present E-in-C felt that complete militarisation of the whole organisation would result in better control in every respect. If that was not possible, at least 2/3rd of officers should be combatants. A Finance representative observed that the MES had at present more than 100 Army officers and felt that there was no necessity to have so many military officers in the MES at all. They could be replaced by civilians who could be given Territorial Army Commissions, so that their services could be utilised in forward areas in times of emergency. The GOC-in-C, Eastern Command, was of the opinion that it would be better to have mixed establishment in the MES, because it would provide a certain amount of flexibility in the organisation. If the organisation were to have combatant personnel only, it would be very much more expensive. The GOC-in-C, Southern Command, suggested that the percentage of military officers in the MES should be increased.

245. We have given consideration to the views mentioned in paras 240 to 244 above and recommend that to tide over the present difficulty and to fill up the gaps at various levels, emergency recruitment, as has been done for the IAS, may be attempted. The proportion between military and civilian officers up to the grade of CWE should be 50 : 50 and the existing civilian officers should be given option to accept combatant terms. Where officers are not required to deal with troops, civilians should be considered for posts higher than CWE.

246. In the establishment sanctioned for the year 1955-56, the approximate deficiencies were stated to be as under :—

(a) *Officers* — 30 against the sanctioned strength of 730 (including civilian and military officers)

(b) *Subordinates* — deficiency of 500 against an authorised establishment of 7,800. Out of those 500, 240 were technical and 260 non-technical.

If the MES establishment is increased by fifty per cent to cope with the peak load during the Second Five Year Plan period, more than 300 officers (military and civilians) will be required in addition.

247. We were informed by the Military Secretary at Army Headquarters that a demand for forty additional military Engineer officers

was placed in 1955 to meet the additional requirements of the MES. These officers will be available, after training, by the middle of 1957. A further demand for military officers was to be placed after working out the details.

248. We have examined this matter and recommend that the deficiencies which cannot be made up by the normal methods of commissioning Army officers and recruiting civilian officers, should be made up by re-employing retired Army officers in a civilian capacity. Age groups may cause some lack of balance in the cadre and this could be remedied by offering Short Service Commissions to suitably qualified engineers from the open market and re-employing retired Army officers in civilian capacity up to the age of 55 years. This policy should be reviewed after seven or eight years. We do not recommend retention of Army officers beyond the retiring ages prescribed for various ranks as it will block the promotions of younger officers and will, therefore, not be in the interest of the service. For the same reasons, we do not recommend any temporary relaxation in the superannuation age limits.

249. In this connection, we have also examined the feasibility of obtaining engineer personnel from States on deputation. We are of the opinion that it would not be practicable to obtain engineer personnel from States on deputation, because the States themselves are over-loaded with programmes in connection with their Second Five Year Plans and they would not, therefore, be able to spare any officers for deputation.

250. We were informed that there were training courses in the MES for direct recruits and also departmental promotion examinations were conducted for certain categories of personnel. Personnel are sent to the College of Military Engineering, Kirkee, for training at appropriate stages.

The training courses and departmental promotion examinations in existence at present in the MES are considered satisfactory. However, to meet the deficiency of subordinate technical staff, we suggest that a two years' course for Overseers should be run at the CME, where resources for such training should be available.

251. With a view to providing a potential reserve for the MES, which can be drawn in an emergency, when service officers will be required to proceed on field service, we considered the advantages of having a system of deputation under which MES officers could be exchanged with an equal number of officers from the States for a specified period. The majority of officers who responded to our enquiry in this connection welcomed such a course. The ex-E-in-C, however, thought that

it would not be advantageous to train MES officers on the CPWD works done through contractors. It would be preferable to follow the method adopted in England where engineers are attached to reputable firms for a period of one year, so that they could be fully trained in the matters of administration, etc. If such a training could be arranged, it would be of great help to the organisation, because the engineers would then be trained to deal direct with labour in times of war. No useful purpose, it was stated, would, therefore, be served by merely inter-changing MES officers with the other sister agencies, like CPWD, Railways, etc., because nothing new could be learnt therefrom. A senior officer from the Ministry was of the opinion that mere graduation would not be sufficient unless it was accompanied by ripe experience and that such experience could not be had by working only in the MES. He preferred that engineers in the MES should be sent to the States in India, so that they could get specialised training and pick up experience in all matters of construction.

252. We consider that the system of exchanging, for a total period of two years, MES officers with the CPWD/Port Trust officers would be advantageous to the MES organisation. About 10 to 12 officers from each service may be exchanged each year. The CPWD/Port Trust officers should have military and field engineering training for three months and thereafter they should work with the MES for $1\frac{3}{4}$ years. Likewise, MES officers should be attached for training in civil works for three months and then serve with CPWD/Port Trust for $1\frac{3}{4}$ years. The MES officers should normally be employed by the other agencies on types of jobs which they would normally be required to do in the MES, but for which MES have no scope for training. Further, the officers should be exchanged before promotion to EE/GE or SE/CWE and only such officers as had served with the other services should be promoted to EE/GE and SE/CWE ranks. Such a system of exchange will not only provide a potential reserve of officers in the CPWD/Port Trust, who would be familiar with the organisation and working of the MES and who could be called upon to serve with the MES in an emergency, but will also provide useful scope for training of MES officers in certain jobs which are not done in the MES. The question of deputing officers to firms is not feasible because of the existence of very few reputable engineering firms in India at present.

Summary of Recommendations

1. MES should adopt a yard-stick of rupees forty lakhs (maintenance load being regarded as equivalent to twice the construction load) per division and Rs. $1\frac{1}{2}$ crores per CWE.

(Para 204)

2. Normally, there should be only five sub-divisions in a division, which should include E/M and F/S sub-divisions.

(Para 207)

3. To utilise the full capacity of the MES, Administrative Approvals should be issued sufficiently in time to permit the engineers to plan ahead.

(Para 211)

4. It will not be desirable to re-organise the MES on a zonal basis.

(Para 214)

5. There should be separate CEs for the Navy and the Air Force and they should have separate CsWE and GEs wherever the work load justifies it. No rigid demarcation of work between the CE, Army, Navy and Air Force should, however, be attempted.

(Para 220)

6. Army/Navy/Air Force officers and DGOF should give a general confidential report on the engineers working under them and the senior Engineer officers (E-in-C in the case of CEs) should report on their professional ability and work.

(Para 221)

7. Each CE should have a well equipped drawing office.

(Para 222)

8. Where necessary, the GE should be given a Civilian Administrative Officer, Class II, to assist him in his normal routine duties.

(Para 224)

9. There is no justification for increasing the number of GEs under a CWE.

(Para 225)

10. As far as possible, work relating to administration and stores should be entrusted to non-technical officers and the Engineer officers should be employed on such jobs only where it is essential.

(Para 226)

11. There should be a model scale/yard-stick for each type of office in the MES on the basis of which recruitment should be made. Deviations from the model scale may, however, be permitted if justified.

(Para 228)

12. The establishment charges of about 11 to 12 per cent for a mixed load are not excessive.

(Para 229)

13. The staff position of the E-in-C's Branch should be reviewed a year after the recommendations of the MES Review Committee are implemented, to assess the scope for reduction.

(Para 230)

14. MES establishment should not be increased by more than fifty per cent of that which existed on 31 Mar 56 to cope with the peak load during the Second Five Year Plan period.

(Para 231)

15. The present procedure of recruiting officers through the UPSC is satisfactory and advance action to recruit additional officers for the Second Five Year Plan period should be taken.

(Para 236)

16. Qualifications laid down for SW and Surveyor Assistant, Grade I, should not be relaxed.

(Para 237)

17. A minimum of 1/3rd of Superintendent, Grade I appointments should be filled by direct entry engineer graduates and the remaining appointments by departmental promotion to the extent suitable candidates are available.

(Para 239)

18. (a) To tide over the present difficulty and to fill up gaps at various levels, emergency recruitment, as has been done for the IAS, may be attempted.

(b) The proportion between military and civilian officers up to the grade of CWE should be 50 : 50 and the existing civilian officers should be given option to accept combatant terms.

(c) Where officers are not required to deal with troops, civilians should be considered for posts higher than CWE.

(Para 245)

19. Deficiencies which cannot be made up by the normal methods of commissioning army officers and recruiting civilian officers, should be made up by re-employing retired army officers in a civilian capacity up to the age of 55. Short Service Commissions to suitably qualified engineers from the open market should also be given. The policy should be reviewed after 7-8 years.

(Para 248)

20. To meet the deficiency of subordinate technical staff, two years' course for overseers should be run at the CME.

(Para 250)

21. The system of exchanging for a total period of two years, MES officers with the CPWD/Port Trust officers will be advantageous. The CPWD/Port Trust officers should be given military and field engineering training for three months and thereafter they should work for the MES for $1\frac{3}{4}$ years. Likewise, MES officers should be attached for training in civil works for three months and then serve with CPWD/Port Trust for $1\frac{3}{4}$ years.

(Para 252)

SURJIT SINGH MAJITHIA,
Deputy Defence Minister (Chairman)

P.S. CHOWDHURY, Brigadier
V.D. BHANDARI
A.D. VERMA, Brigadier
R BHAKTAVATSALU
(Members)

K.C. JAIN (Member-Secretary)

NEW DELHI,
The 4th February, 1957.

ANNEXURE TO CHAPTER IX

DISTRIBUTION OF WORKS LOAD IN THE MES DURING 1956–57.

Command	Work load			No. of CWE	No. of GE	Average load per CWE			Capital	Maint.	Equivalent to Project load	Remarks
	Capital works	Minor work Maintenance including E/M T&P and General Charges (Rs. in lakhs)	Total (Rs. in lakhs)			Capital	Maint	Equivalent to Project load *				
						Rupees in lakhs						
1	2	3	4	5	6	7	8	9	10	11	12	13
1. SOUTHERN	726	478	@ 1204	12	35	60	40	140	21	13	47	@ Excludes NDES
2. EASTERN	295	369	664	7	23	42	53	148	13	16	45	
3. WESTERN	153	320	473	4	14	38	80	198	11	23	57	
OVERALL (All-India)	1174	1167	2341	23	72	51	153	153	16½	16½	49½	

* Maintenance load is equal to 2 times of Project load.

APPENDICES

TO THE

REPORT

OF

MES REVIEW COMMITTEE


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APPENDIX I

CONFIDENTIAL

No. F 276/55/D(Coord)
Government of India,
Ministry of Defence,
New Delhi, 9th September 1955.

OFFICE MEMORANDUM

Subject :— COMMITTEE FOR REVIEWING THE WORK OF THE MILITARY ENGINEERING ORGANISATION.

The Government of India have decided to appoint a committee to review the work of the Military Engineering Organisation. The committee will be composed of the following officers :—

Chairman

Shri N.N. Wanchoo, ICS, Joint Secretary, Ministry of Defence.

Members

Shri N.G. Dewan, Addl. Chief Engineer CPWD.
Shri R. Bhaktavatsalu, Deputy Financial Adviser, Ministry of Finance (Defence).
Brig A.D. Verma, Director of Works, Army Headquarters.
Brig P.S. Chowdhury, Director Mov. & Qr., Army Headquarters.

Member-Secretary

Shri K.C. Jain, Deputy Secretary, Ministry of Defence.

2. The terms of reference of the committe will be as follows :—

(i) To examine the procedure for the execution of works, the system of selection of contractors, the scope for carrying out departmental works, the procedure for obtaining materials, the adequacy of checks exercised on prices and standard of work and generally to review the entire works procedure with a view to discovering any defects which may be responsible for waste, inefficiency and delay in the execution of works, and to suggest remedies.

(ii) To examine whether administrative, financial and technical powers are adequately delegated at all levels to ensure speed and efficiency.

(iii) To examine whether any avoidable delay occurs in obtaining sanctions for works and whether the procedure for obtaining sanctions can be simplified.

(iv) To make an estimate of the capacity of the existing staff to undertake works and to make suggestions as to how the capacity may be increased.

(v) To examine the organisation and the system of recruitment in the MES with reference to its requirments and available manpower.

3. The Committee is required to submit its report within six months.

Sd/- (B.B. Ghosh)
Joint Secretary to the Govt. of India.

SUBSEQUENT MODIFICATIONS

No. F 276/55/D(Coord)
Government of India,
Ministry of Defence,
New Delhi, 17th February 1956.

OFFICE MEMORANDUM

Subject:—COMMITTEE FOR REVIEWING THE WORK OF THE MILITARY ENGINEERING ORGANISATION.

The undersigned is directed to refer to this Ministry's Office Memorandum No. F 276/55/D(Coord), dated the 9th September 1955, on the above subject, and to say that it has been decided that with immediate effect Shri Surjit Singh Majithia, Deputy Defence Minister will be the Chairman of the above Committee in place of Shri N.N. Wanchoo.

Sd/- (B.B. Ghosh)
Joint Secretary to the Govt. of India.

The Chairman and Members of the Committee.

APPENDIX II

MINISTRY OF DEFENCE

(MES REVIEW COMMITTEE)

Questionnaire

(Statistical data, wherever necessary should be furnished for the financial years 1953—54 and 1954—55).

SECTION I—PROCEDURE FOR OBTAINING SANCTIONS FOR WORKS

(A) Pre-Acceptance of Necessity Stage

Q. 1 (a) The present procedure requires convening of user's recce (which includes rough costing) and key plan/costing recce (which includes skeleton lay-out plan, indication of cost and engineer appreciation) before Acceptance of Necessity. To what extent are these processes actually being carried out at present? Do you think that any of these steps could be eliminated?

(b) Is there any delay in the convening of these recce boards? If so, what are the contributory factors?
(To be answered by—Engineers, 'Q' Officers, Naval Officers, Air Force Officers and Dte. G.O.F.).

Q. 2 (a) In what detail are the user's requirements set out at the Pre-Acceptance of Necessity stage? Are more details added at the time of key plan/costing recce than those furnished at the time of user's recce?

(b) How much firmness is there in user's requirements when engineers are required to give an indication of cost? Are any modifications made at the time of key plan/costing recce to the details furnished at the time of user's recce? If so, what is the extent of these modifications?
(To be answered by—Engineers, 'Q' Officers, Naval Officers, Air Force Officers and Dte. G.O.F.).

Q. 3 Is there proper planning all the year round to ensure that too many recce boards (user as well as key plan/costing) are not required to be held at the same time? Give figures month by month of such boards held in your area during the financial years 1953—54 and 1954—55.
(To be answered by—Engineers, 'Q' Officers, Naval Officers, Air Force Officers and Dte. G.O.F.).

Q. 4 (a) What proportion of the cases initiated by the users receive "Acceptance of Necessity?

(b) If the proportion is not a satisfactory one, what suggestions would you make to improve matters, particularly with a view to avoiding waste of engineering effort?
(To be answered by—Engineers, 'Q' Officers, Naval Officers, Air Force Officers and Dte. G.O.F.).

Q. 5 (a) How much time, on an average, is taken for a project to be submitted to Service Headquarters for "Acceptance of Necessity" from the date it is initiated by the user?

(b) How much time, on an average, is taken by Service Headquarters and Governmental machinery to issue "Acceptance of Necessity" for projects submitted to them?
(To be answered by—Engineers, 'Q' Officers, Naval Officers, Air Force Officers and Dte. G.O.F.).

Q. 6 In order to obviate delay involved in answering queries relating to projects by the Ministries of Finance and/or Defence at a later stage, is it desirable and/or practicable to detail a representative from the Q.M.G's Branch/E-in-C's Branch (Army Headquarters) and Ministries of Finance and Defence to attend the user-cum-costing recce board for important projects costing over a certain figure, say, Rs. 10 lakhs?
(To be answered by—Engineers, 'Q' Officers, Ministry of Finance (Defence), Ministry of Defence, Naval Officers, Air Force Officers and Dte. G.O.F.).

Q.7 Is the indication of cost furnished by engineers at the Acceptance of Necessity stage reasonably accurate and accompanied by sufficient details to illustrate the project?
(To be answered by—Engineers, 'Q' Officers, Ministry of Finance (Defence), Ministry of Defence, Naval Officers and Dte. G.O.F.).

Q.8 What, in your opinion, are the main causes of delay, if any, in obtaining Acceptance of Necessity for works? What remedies do you suggest to eliminate or minimise such delays?
(To be answered by—Engineers, 'Q' Officers Ministry of Finance (Defence), Ministry of Defence, Naval Officers, Air Force Officers and Dte. G.O.F.).

(B) Post-Acceptance of Necessity stage

Q.9 After Acceptance of Necessity, the present procedure requires the convening of a Siting Board and preparation of detailed lay out plan and approximate estimates for obtaining Administrative Approval.

(a) How long does it take between the Acceptance of Necessity and the submission to Service Headquarters of the relevant documents for obtaining Administrative Approval?

(b) Do you consider this period satisfactory? If not, what are the main causes of delay and how can they be eliminated?
(To be answered by—Engineers, 'Q' Officers, Ministry of Finance (Defence), Ministry of Defence, Naval Officers, Air Force Officers, and Dte. G.O.F.).

Q.10 (a) Is the approximate estimate reasonably accurate and within what limits?

(b) In how many cases for works completed during the financial years 1953-54 and 1954-55 were these estimates exceeded? Give an indication of the percentage excess and the reasons for it.

(c) What is the proportion of such cases to the total number of works sanctioned and executed during that period?

(d) In how many projects completed during that period did the completion cost turn out to be lower than the approximate cost by 10% or over and what are the reasons for these variations?
(To be answered by—Engineers, 'Q' Officers, Ministry of Finance (Defence), Naval Officers, Air Force Officers and Dte. G.O.F.).

Q.11 An excess of 10% over the amount of Administrative Approval was allowed prior to the War and during the War it was raised to 20%. No excess is allowed under the existing works procedure. In your opinion, is it desirable to allow some tolerance on Administrative Approvals? If so, why and to what extent? Should the tolerance be subject to a maximum monetary limit? If so, what limit would you suggest?
(To be answered by—Engineers, 'Q' Officers, Ministry of Finance (Defence), Ministry of Defence, Naval Officers, Air Force Officers and Dte. G.O.F.).

Q.12 Would it be practicable to revive the pre-war practice of obtaining Administrative Approval on the basis of project estimates?
(To be answered by—Engineers, 'Q' Officers, Ministry of Defence, Naval Officers, Air Force Officers and Dte. G.O.F.).

(C) ELIMINATION OF DELAYS AND UNNECESSARY WORK

Q. 13. Who are the authorities responsible for preparing approximate estimates for major works projects of different monetary

value? To what extent are authorities subordinate to the competent authority associated in this work? Does such association lead to a substantial diversion of the time of such subordinate authorities from their normal duties?
(To be answered by—Engineers, 'Q' Officers, Naval Officers, Air Force Officers and Dte. G.O.F.).

Q. 14. To what extent are appoximate estimates prepared by competent authorities subject to further checks by higher authorities? Is this necessary? If not, how can it be avoided?
(To be answered by — Engineers, 'Q' Officers, Ministry of Finance (Defence), Ministry of Defence, Naval Officers, Air Force Officers and Dte. G.O.F.).

Q. 15. How much time, on an average, does it take to obtain Administrative Approvals after the documents, including approximate estimates, are received at Service Headquarters? Do you consider this period satisfactory? Give some figures to illustrate your answer.
(To be answered by — 'Q' Officers, Ministry of Finance (Defence), Ministry of Defence, Naval Officers, Air Force Officers and Dte. G.O.F.).

Q. 16. What, in your opinion, are the factors responsible for impeding the expeditious disposal of projects at Headquarters by the Services, and by the Ministries of Defence and Finance? How can any delays that occur be eliminated?
(To be answered by — Engineers, 'Q' Officers, Ministry of Finance (Defence), Ministry of Defence, Naval Officers, Air Force Officers and Dte. G.O.F.).

Q. 17. Do you think that the two stages in the sanction of a works project, viz., Acceptance of Necessity and issue of Administrative Approval can be combined? Would such combination result in elimination of delays? Do you anticipate any difficulties in effecting such a change? Please give reasons for your answer.
(To be answered by — Engineers, 'Q' Officers, Ministry of Finance (Defence), Ministry of Defence, Naval Officers, Air Force Officers and Dte. G.O.F.).

Q. 18. Would you suggest any difference in the procedure for obtaining sanctions between large projects and small projects? If so, where would you draw the line?
(To be answered by — 'Q' Officers, Ministry of Finance (Defence), Ministry of Defence, Naval Officers, Air Force Officers and Dte. G.O.F.).

Q. 19. Do all the three Services (Army, Navy and Air Force) and DGOF follow the same works procedure? For instance, is the procedure of deputation of officers to recce boards uniform? If not, what are the differences? How far is it possible to standardise the procedure up to the stage of obtaining Administrative Approval?
(To be answered by — Engineers, 'Q' Officers, Ministry of Finance (Defence), Ministry of Defence, Naval Officers, Air Force Officers and Dte. G.O.F.).

SECTION II — PROCEDURE FOR EXECUTION OF WORKS

(A) Execution of works

Q. 20. Is the issue of Administrative Approval sufficient authority for the engineers to start planning and preparation of contract documents?
(To be answered by Engineers & Ministry of Finance (Defence))

Q. 21. How much time, on an average, does it take from the issue of Administrative Approval to the commencement of the work?
(To be answered by—Engineers, "Q" Officers, Naval Officers, Air Force Officers, & Dte. G.O.F.).

Q. 22. Do you consider this period satisfactory? If not, what improvements would you suggest?
(To be answered by—Engineers, "Q" Officers, Naval Officers, Air Force Officers, & Dte. G.O.F.).

Q. 23. In those cases where more than the everage time is taken, what are the reasons for the delays and how can such delays be eliminated?
(To be answered by—Engineers, "Q" Officers, Naval Officers, Air Force Officers, & Dte. G.O.F.).

Q. 24. How much time is normally allowed in MES contracts for the execution of works of different magnitudes? Do you consider this satisfactory? Is this time normally adhered to in practice, or are extensions granted frequently?
(To be answered by Engineers).

Q. 25. If Administrative Approval for works costing, say, rupees five lakhs or below is given six months before the close of the financial year, can the work be physically completed in the succeeding financial year? If not, what are the reasons and what is the magnitude and type of works which can be completed within the time mentioned above?
(To be answered by Engineers).

Q. 26. Have type designs and specifications been standardised wherever possible? If not, why not? If they have been, have contract documents also been standardised? If not, would it not be desirable to do so to eliminate delays?
(To be answered by Engineers).

ALLOTMENT OF FUNDS

Q. 27. How is the schedule of demands initiated and submitted to Government for budget provision and on what basis is it prepared? Is the prescribed procedure being followed in practice? If not, what improvements would you suggest?
(To be answered by Engineers)

Q. 28. How is allotment of funds made? Do you consider the present procedure for allotments satisfactory? If not, what improvements would you suggest?
(To be answered by—Engineers, "Q" Officers, Ministry of Finance (Defence), Ministry of Defence, Naval Officers, Air Force Officers & Dte. G.O.F.)

Q. 29. Under paragraph 53, MES Regulations, it is permissible to incur liabilities on works and maintenance services during the last quarter of a financial year up to 25% of the provisional budget notification for the following financial year. Payment can, however, be made only in the ensuing year. Has this rule been of any practical value in progressing works and maintenance services? If not, could the rule be abolished or, alternatively, what modifications should be made to it?
(To be answered by Engineers & Ministry of Finance (Defence)).

Q. 30. Under paragraph 30-A of the Works Procedure, the amount of the Administrative Approval should be reduced if the percentage in the accepted contract is less than the percentage added when preparing the estimates, leaving a margin of 15% (of the estimate at par) to cover variations in cost due to technical reasons. How far does this rule work in practice? Have any difficulties been encountered in working it? Is such a rule necessary at all? If it is, should it stand in its present form or does it need any modifications?
(To be answered by—Engineers, Ministry of Finance (Defence) and Ministry of Defence).

RE-APPROPRIATIONS

Q. 31. Who controls re-appropriations of funds—

(a) from one project to another

(b) from one service to another, and

(c) from one sub-head to another of the Capital Head 86?

(To be answered by—Engineers, "Q" Officers, Ministry of Finance (Defence), Ministry of Defence, Naval Officers, Air Force Officers & Dte. G.O.F.).

SCHEDULES OF RATES

Q. 32. Are proper schedules of rates maintained in respect of different localities? If so, on what basis? Have the schedules been found in practice satisfactory for the areas which they serve?
(To be answered by Engineers).

Q. 33. Is there need for increasing the number of schedules so as to serve smaller areas? Would it be practicable to do this? If not, would there be any objection to utilising the schedules of the State Governments for the localities for which MES Schedules do not exist?
(To be answered by Engineers).

Q. 34. Are the schedules revised periodically? If so, at what intervals? Do you consider this period satisfactory? Are amendments issued to take account of violent fluctuations in prices within the period of review?
(To be answered by Engineers).

Q. 35. What objections, if any, are there to accepting the State Governments' schedules of rates as they stand for the areas served by these schedules and not to have separate schedules of rates for the MES?
(To be answered by Engineers).

Q. 36. If separate schedules are necessary for all or certain areas, what steps are taken to harmonise them with the schedules of (a) State Governments, (b) CPWD and (c) Railways?
(To be answered by Engineers).

Q. 37. Even if it is not possible to adopt State Government schedules for all places, is it possible to have a common schedule for all engineering authorities under the Central Government?
(To be answered by Engineers).

MAINTENANCE CHARGES FOR BUILDINGS ETC.

Q. 38. What is the basis on which funds are now allotted for the maintenance of buildings, roads and installations? How does it compare with the basis adopted by other Central Government agencies such as CPWD, Railways, etc? Do

you consider any revision of the basis at present followed necessary?
(To be answered by Engineers & Ministry of Finance (Defence)).

AGENCIES FOR EXECUTION OF WORK

Q. 39. To what extent would it be desirable or possible to employ other agencies such as (a) CPWD, (b) State PWDs and (c) consulting architects with their own supervisory staff, to supplement the capacity of the MES so as to hasten the construction programme? Even if it is not considered necessary to employ private consulting architects for construction work, would it be desirable to employ them to supplement the MES Planning Staff for the planning of Major Works Projects?
(To be answered by—Engineers, "Q" Officers, Ministry of Finance (Defence), Ministry of Defence, Naval Officers, Air Force Officers and Dte. G.O.F.).

SCOPE FOR CARRYING OUT DEPARTMENTAL WORKS

Q. 40. To what extent are works at present carried out by departmental labour? Is it possible or desirable to extend the scope of such activities? If so, to what extent? Do you anticipate any difficulties in such extension?
(To be answered by Engineers & Ministry of Finance (Defence)).

Q. 41. How do the cost and quality of works carried out by departmental labour compare with those of works carried out by contractors?
(To be answered by Engineers).

Q. 42. What measures would you suggest for reducing the cost of works carried out by departmental labour?
(To be answered by Engineers).

CONTRACTORS

Q. 43. What is the procedure for registration of contractors? Are the registered contractors categorised with due regard to the value of contracts and their financial capacity to execute them? How often are the lists of registered contractors reviewed and on what basis are new contractors added or old ones deleted? What, if any, are the arragements to maintain performance records of the contractors?
(To be answered by Engineers).

Q. 44. Have you any views on the procedure of registration of contractors adopted by the MES? Do you consider that the issue of tenders should be restricted to registered contractors only? Please state reasons.
(To be answered by—Engineers, "Q" Officers, Ministry of Defence, Naval Officers, Air Force Officers and Dte. G.O.F.).

Q. 45. Do you anticipate any difficulty in maintaining a list of big contractors for all Central Government works? Is information regarding records of performances of contractors ever used between the various engineering authorities under the Government of India? Do you think it would be desirable to do so?
(To be answered by Engineers).

Q. 46. Is the black listing, suspension, etc., of a contractor by one department effective in all other departments?
(To be answered by Engineers & Ministry of Defence).

TENDERS

Q. 47. What is the system for invitation of tenders from contractors and submission of tenders by contractors followed in the MES?
(To be answered by Engineers).

Q. 48. What is the normal time allowed for submission of applications for tender documents? Do you consider this time satisfactory?
(To be answered by Engineers).

Q. 49. Are tenders advertised and, if so, in what manner? Is the advertisement made irrespective of the monetary limit of the tender? If not, what are the limits up to which tenders need not be advertised?
(To be answered by Engineers)

Q. 50. What is the normal period allowed for submission of tenders after the issue of tender documents? Does it vary with the amount or nature of the work to be done? Do you consider that the time allowed at present is adequate or excessive? Have there been any complaints about the inadequacy of the time allowed?
(To be answered by Engineers).

Q. 51. Has it been necessary to allow extension of time for the submission of tenders? If so, how often, for what periods and for what reasons?
(To be answered by Engineers).

Q. 52. What are the reasons for which tender documents are not issued to contractors who apply to execute a work? Are reasons recorded for not issuing the documents? Do you consider that the elimination of ineligible and unsuitable contractors should come at the stage of issue of tender documents or at the stage of awarding a contract? Give reasons for your answer?
(To be answered by Engineers).

Q. 53. Have there been any complaints from the contractors regarding non-issue of tender documents to them? If so, have enquiries in such complaints revealed any cases of deliberate suppression of applications for tender documents?
(To be answered by Engineers).

Q 54. What is the present practice regarding the opening of tenders? Are the tenders opened in the presence of such contractors as may be present, and are the rates announced? If not, what are the objections, if any, to such a procedure being followed?
(To be answered by Engineers).

Q. 55. How soon after the due date and time fixed for submission of tenders are the tenders opened? Are tenders received after the time fixed for their receipt, whether due to the fault of contractors or other causes, entertained and considered?
(To be answered by Engineers).

Q. 56. How often do you have to re-invite tenders, and for what reasons?
(To be answered by Engineers).

Q. 57. Is there any practice in the MES of entering into negotiations with the contractors who have tendered? If so, on what basis are such negotiations started and why?
(To be answered by Engineers).

Q. 58. Is the practice of restricted, or single tenders in vogue in the MES? If so, to what extent and in what circumstances is such a procedure followed?
(To be answered by Engineers).

Q. 59. How are freak rates (i.e. those varying from the estimated rates by over 25%) quoted by tenders dealt with? Are the contractors asked or permitted to amend such rates and, if so under what circumstances? How are such rates distinguished from genuine errors? How are genuine errors generally dealt with?
(To be answered by Engineers).

Q. 60. How aften are the lowest tenders ignored? What are generally the reasons for ignoring the lowest tenders? What is the

proportion of these to the lowest tender accepted?
(To be answered by Engineers).

Q. 61. What is the time that normally elapses between the opening of tenders and the decision to award the contract? Do you consider that this period is satisfactory? If not, how can this be shortened?
(To be answered by Engineers).

Q. 62. What is the time lag between the acceptance of a tender and the issue of a work order? Do you consider this period satisfactory?
(To be answered by Engineers).

Q. 63. Is there any delay in handing of the site after the issue of a work order? If so, why?
(To be answered by—Engineers, "Q" Officers, Ministry of Finance (Defence), Naval Officers, Air Force Officers and Dte. G.O.F.).

Q. 64. In what proportion of cases does the work order not cover the entire work specified in the tender as accepted? Do you consider that this proportion is satisfactory? In what circumstances does it become necessary to issue more than the work order for items of works covered by one tender?
(To be answered by Engineers).

Piecemeal Contracts

Q. 65. Are contracts let out on the basis of Administrative Approvals as a complete whole or is a project split up into several works? If so, for what reasons? What do you consider would be the most satisfactory method for dealing with large projects?
(To be answered by Engineers).

Types of Contracts

Q. 66 (a) Under existing Regulations, Term Contracts are concluded to cater for Minor Works and Maintenance services costing up to Rs. 10,000/-. It is not permissible to entrust to Term Contractors items of Major Works costing up to Rs. 10,000/-. Should the Rules be amended, so that items of Major Works costing up to Rs. 10,000/- can be entrusted to Term Contractors?
(To be answered by—Engineers, Ministry of Finance (Defence), Ministry of Defence).

(b) What are the various types of contracts in use in the MES? In what circumstances and for what nature of work is each

type used? What has been your experience inregard to the working of the different types of contracts, particularly with regard to any difficulties encountered?
(To be answered by Engineers).

Q. 67 Do you consider greater flexibility should be given to Engineers, in the interest of speedy execution of works and economy, to adopt a type of contract different from that which may at present be prescribed for a particular type of work and which may be more suitable?
(To be answered by Engineers).

Q. 68. To what extent does Government undertake the responsibility for providing material to contractors for projects? Is it desirable for Government to divest itself of this responsibility, and to what extent? How far is this problem affected by large holdings of war-time stocks of materials in Engineer Store Depots?
(To be answered by Engineers).

Q. 69. What is the existing procedure for obtaining materials to be supplied to contractors? Is this procedure satisfactory? If not, what changes would you suggest?
(To be answered by Engineers).

Q. 70. Are any reserves maintained of particular types of materials to be supplied to contractors, and on what basis are these reserves determined? If no reserves are maintained, would it be desirable to maintain them?
(To be answered by Engineers).

Q. 71. Are any difficulties being experienced or anticipated in obtaining quotas of iron, steel and cement, and supplies against those quotas? If so, what steps are being or proposed to be taken to overcome these difficulties? Is it practicable to place an indent for iron and steel one year in advanee as required by the Ministry of Commerce and Industry?
(To be answered by Engineers & Ministry of Defence).

Inspection and Acceptance of Works

Q. 72. What is the quantum of supervision and the level at which it is exercised over works in execution? Is this considered satisfactory, and does it ensure that the quality of work executed by the contractors is up to the standard prescribed? If not, what changes would you suggest?
(To be answered by Engineers and CTE).

Q. 73. Have there been any complaints about the quality of the work turned out by the MES? If so, what is the nature of

these complaints and do you consider that they are justified? If they are, what remedies would you suggest to improve the quality?
(To be answered by—Engineers, "Q" Officers, Naval Officers, Air Force Officers, CTE and Dte. G.O.F.).

SPECIFICATIONS

Q. 74. Do you consider that the specifications prescribed for works by the MES are realistic and whether they are strictly enforced?
(To be answered by Engineers & CTE)

TECHNICAL EXAMINATION

Q. 75. How has the Technical Examination of Works by the CTE at Army Headquarters worked in practice? What advantages, if any, have accrued from this system and what difficulties, if any, have been encountered in working it? Would you suggest any modifications in the working of the CTE Branch?
(To be answered by—Engineers, "Q" Officers, Ministry of Finance (Defence), Ministry of Defence and CTE).

DEVIATIONS

Q. 76. What is the exent of deviations from the accepted contracts? What is their nature and what are the causes? What remedies would you suggest to reduce deviations to the minimum?
(To be answered by Engineers and CTE).

Q. 77. Do deviations result in (a) delay in the execution of works, (b) extra cost to Government, (c) delays in settlement of bills and (d) more disputes with contractors? If your answer is in the affirmative, please give reasons for it and state how the various disadvantages mentioned above can be eliminated?
(To be answered by—Engineers, Ministry of Finance (Defence) and CTE).

EXTENSIONS

Q. 78. In what proportion of cases have extensions of time allowed to contractors become necessary? What are generally the reasons for the grant of extensions and what steps would you suggest to improve the situation in this respect and to ensure completion of the work within the scheduled time?
(To be answered by Engineers and CTE).

Q. 79. In what proportion of cases was it held that delay in the completion of work was due to the fault of the contractors?

Were penalties imposed on the contractors in all such cases? Were the penalties imposed the maximum in accordance with the terms of the contract or were they reduced in some cases? What was the percentage of cases in which reduction was granted?
(To be answered by Engineers).

PREPARATION OF BILLS

Q. 80. (a) How long does it take between the time of completion of a work and the recording of final measurements?

(b) How long does it take between the time of final measurements and the preparation of the final bill?

(c) How long does it take between the time of the preparation of the final bill and its payment? Do you consider the periods at (a), (b) and (c) above satisfactory? If not, what are the reasons for delays that take place and how they be obviated?

(d) Would it be desirable and practicable to entrust the audit of final bills to Regional Audit officers in the MES?
(To be aswered by—Engineers, Ministry of Finance (Defence), Ministry of Defence and CTE).

(e) At present GEs have powers to pay final bills without pre-audit up to Rs. 5,000/-/- only. Do you think this limit is too low and should be enhanced? If so, to what amount?
(To be answered by—Engineers and Ministry of Finance (Defence)).

Q. 81. Have there been any cases in which there have been failures to obtain contractors' signatures in token of their acceptance of the final measurements, and have disputes arisen in consequence of such failures?
(To be answered by—Engineers, Ministry of Finance (Defence) and CTE).

Q. 82. In what number of cases do contractors submit their bills as required by rules and in what proportion does MES undertake the work for them and why? Is there any scope for a further diminution in the practice of MES preparing the final bills?
(To be answered by Engineers).

ARBITRATION

Q. 83. What is the procedure for settlement of disputes which may arise with contractors? What is the number of disputes which had to be referred for Arbitration during the year

1953—54 and 1954—55? Is the existing procedure for arbitration of disputes working satisfactorily? If not, what improvements would you suggest?
(To be answered by Engineers and Ministry of Finance (Defence)).

Q. 84. What is the volume of work thrown on departmental officers by Arbitration cases? Can this volume be reduced by any of the following expedients :—

(a) By deletion of the clause in the contract relating to arbitration of disputes, thereby forcing the parties to go to a court of law in case of un-resolved disputes, unless otherwise mutually agreed upon in individual cases?

(b) By delegating powers to lower authorities to settle cases on the basis of equity?

(c) By appointing special officers in the MES to deal with arbitration cases only, so that the time of the remaining officers is available for normal work?

(d) By reference of points of difference arising between MES and Audit authorities to higher authorities for resolution before disallowing payments to contractors?
(To be answered by—Engineers, Ministry of Finance (Defence) and Ministry of Defence).

AUDIT OBJECTIONS

Q. 85. What are the causes leading to the delay in the settlement of objections raised by statutory audit, internal audit, and technical examiners, and what remedies would you suggest? Do you consider that further delegation of powers to the Controllers of Defence Accounts in this respect would result in improvement?
(To be answered by—Engineers, Ministry of Finance (Defence), Ministry of Defence and CTE).

Q. 86. Do any of the rules laid down in the new works procedure lead to waste, inefficiency or delays in the execution of works? If so, in what manner should they be modified?
(To be answered by—Engineers, "Q" Officers, Ministry of Finance (Defence), Naval Officers, Air Force Officers and Dte. G.O.F.).

SECTION III—DELEGATION OF POWERS

Q. 87. Do you consider that the powers delegated at present to various authorities for (a) Acceptence of Necessity and (b) according Administrative Approval, are adequate?
(To be answered by—'Q' Officers Ministry of Finance(Defence),

Ministry of Defence, Naval Officers Air Force Officers, and Dte. G.O.F.).

Q. 88. Do you consider that the powers delegated to the various authorities for (a) according technical sanctions, and (b) entering into contracts, are adequate? If not to what extent should they be enhanced?
(To be answered by Engineers and Ministry of Finance (Defence)).

Q. 89. Is there any other delegation of powers which you would recommend to ensure speed and efficiency?
(To be answered by—Engineers, 'Q' Officers, Ministry of Finance (Defence), Ministry of Defence, Naval Officers, Air Force Officers and Dte G.O.F.).

SECTION IV — ADMINISTRATION, ORGANIZATION AND RECRUITMENT

Capacity of the MES

Q. 90. How many Works Divisions (Garrison Engineers) are there in the MES at present? What is the normal works load of a MES Division and the number of Sub-Divisions in a Division? (Figures for maintenance and construction may be given separately). Is this yard-stick satisfactory? If not, what would you suggest as an appropriate figure?
(To be answered by—Engineers, Ministry of Finance (Defence) and Ministry of Defence).

Q. 91. Is there any scope for decreasing the number of Divisions by increasing the number of Sub-Divisions in a Division?
(To be answered by—Engineers, Ministry of Finance (Defence) and Ministry of Defence).

Q. 92. What has been the actual value of work on (a) new construction and (b) maintenance carried out by the MES during the last three years? Give figures for each year separately.
(To be answered by Engineers).

Q. 93. Having regard to your answer to the last question, do you consider that a greater volume of work could have been done by the same staff and, if so, please give reasons why it has not been possible to achieve the maximum output?
(To be answered by Engineers).

Q. 94. What steps would you suggest to ensure that the actual capacity of the MES organization may approximate more closely to its potential capacity?
(To be answered by—Engineers, Ministry of Finance (Defence) and Ministry of Defence).

Q. 95. Are there any Assistant Garrison Engineers in Garrison Engineers' Offices who are not directly in charge of a Sub-Division? If so, why is it necessary to have such officers and cannot they either be eliminated or reduced?
(To be answered by Engineers).

Q. 96. Is there any scope for a reduction in the number of CsWE having regard to the number of GEs whose work they have to supervise? (The existing proportion is very much higher than in the Central PWD).
(To be answered by—Engineers, Ministry of Finance (Defence) and Ministry of Defence).

Q. 97 Should Garrison Engineers be divested of accounts and payment work and separate Accounts/Payment Offices be set up for this work? Alternatively, would it be desirable to introduce any change in the relationship between the Garrison Engineer and the Unit Accountant attached to his office?
(To be answered by—Engineers, Ministry of Finance (Defence) and Ministry of Defence).

Q. 98. What is the planning and other engineering staff not connected with the actual execution of work employed in the Headquarters Offices of the MES at various levels, for instance, in the E-in-C's Branch and in the offices of Chief Engineers, Commander Works Engineers and Garrison Engineers? Do you think that there is any scope for the reduction of this staff? Give reasons for your answer
(To be answered by Engineers).

Q. 99. Is it a fact that during the last few years the MES establishment charges have been going up. What is the present figure? Is there any scope for a reduction in these charges and, if so, what are your suggestions?
(To be answered by Engineers and Ministry of Finance (Defence)).

MES Organisation

Q. 100. Considering that the Engineer-in-Chief, on the one hand, serves all the three Services and the Ordnance Factories, and, on the other hand, controls the activities of the Engineer Corps, is any change in his status, *vis-a-vis* Services Headquarters and the Ministry of Defence, necessary or desirable? For instance, should he be given an inter-service status?
(To be answered by—Engineers, "Q" Officers, Ministry of Finance (Defence), Ministry of Defence, Naval Officers, Air Force Officers and Dte. G.O.F.).

Q. 101. Is there a case for a separate Engineer Organization for the Navy, Air Force and Ordnance Foctories? If so, at what level should the separation take place?
(To be answered by—Engineers, Ministry of Finance (Defence), Ministry of Defence, Naval Officers, Air Force Officers, and Dte. G.O.F.).

Q. 102. From the point of view of economy and efficiency should the architectural side of planning continue to be undertaken centrally as at present or decentralised further?
(To be answered by—Engineers, Ministry of Finance (Defence) and Ministry of Defence).

RECRUITMENTS

Q. 103. Are the existing methods of recruitment of civilian officers of the MES in the various cadres, i.e. Engineers, Surveyors, Architects, etc., satisfactory? If not, what changes would be desirable?
(To be answered by Engineers & Ministry of Defence).

Q. 104. What proportion should be maintained between the civil and military elements in the MES. Has there been any difficulty in obtaining the necessary number of military officers in the MES?
(To be answered by—Engineers, Ministry of Finance (Defence) and Ministry of Defence).

Q. 105. To what extent is there a net shortage in the existing cadre of the MES and to what extent is this cadre unbalanced? What steps are being taken to remedy the deficiencies?
(To be answered by Engineers and Ministry of Defence).

Q. 106 Would it be practicable to obtain Engineer personnel from States on deputation or recruit from the open market engineers of different age groups, including retired civil or military officers, through the U.P.S.C. to meet the shortage? Would not the establishment position be eased by relaxing temporarily the superannuation age limit or by granting extensions in suitable cases?
(To be answered by Engineers and Ministry of Defence).

Q. 107. Are there any scales/yard-sticks laid down on the basis of which the non-gazetted staff of CE, CWE, GE, and SDO is sanctioned? If so, how do you account for the wide disparity which at present exists between the non-gazetted staffs in the three commands? If not, do you not think that scales/yard-sticks should be laid down and if so, what should be the scales?
(To be answered by—Engineers, Ministry of Finance (Defence) and Ministry of Defence).

Q. 108. Are there any training courses for direct recruits and departmental examinations for promotion and crossing of efficiency bars? If so, is the existing system working satisfactorily?
(To be answered by Engineers).

Q. 109. With a view to providing a potential reserve for the MES which can be drawn upon in an emergency when Service Officers will be required to proceed on field service, would it be advantageous to have a system of deputations under which MES officers can be exchanged with an equal number of officers from the States for a specified period?
(To be answered by Engineers & Ministry of Defence).

SECTION V—SECOND FIVE YEAR PLAN FOR WORKS

Q. 110. What increase in the building works concerning the MES is proposed during the Second Five Year Plan?
(To be answered by—Engineers "Q" Officers, Ministry of Defence, Naval Officers, Air Force Officers and Dte. G.O.F.).

Q. 111. To what extent, if any, will the MES have to be expanded to cope with the increase in the building works?
(To be answered by Engineers & Ministry of Defence).

Q. 112. To ensure that the Second Five Year Plan is implemented in time, how for has planning been geared in respect of:—

(a) 'Q' Planning to secure Administrative Approvals in time for the works to be executed?
(To be answered by—"Q" Officers, Ministry of Defence, Naval Officers, Air Force Officers and Dte. G.O.F.).

(b) The MES own plans for the expansion of staff, both gazetted and non gazetted?
(To be answered by Engineers and Ministry of Defence).

(c) Pre-planning for the supply of basic materials, such as steel and cement?
(To be answered by Engineers & Ministry of Defence).

APPENDIX III

LIST OF OFFICERS TO WHOM THE QUESTIONNAIRE WAS SENT

I—Ministry of Defence

(1) Shri B.B. Ghose, Joint Secretary (A)
(2) Shri Nagendra Singh, ICS, Joint Secretary (N)
(3) Shri C.S. Ramachandran, ICS, Joint Secretary
(4) Shri R.S. Vohura, Deputy Secretary (W)
(5) Shri M.A.S. Rajan, IAS, Deputy Secretary (N)
(6) Shri K.D. Bhargava, Under Secretary (W)

II—Ministry of Finance (Defence)

(7) Shri P.S. Ratnam, ICS, Financial Adviser
(8) Shri B.L. Jain, Assistant Financial Adviser (W)
(9) Shri K. Subramanyam, IAS, Asstt Financial Adviser

III—Defence Accounts Department

(10) Shri A. Subramanyam CGDA
(11) Shri C. Konar, Dy CGDA (SNR)
(12) Shri E. DeSouza, CDA, Southern Command
(13) Shri H.L. Wadera, CDA, Eastern Command

IV—Army

(14) Lt-General K. S. himayya, DSO, GOC-in-C
(15) Maj-General Jai Singh, Military Secretary
(16) Maj-General H.M. Mohite, DST
(17) Maj-General Tara Singh Bal, QMG
(18) Brig R.K. Kochhar, Commander 5 Inf Div
(19) Brig Ram Singh, Brig. i/c Adm, Southern Command
(20) Brig W.T. Wilson, Brig i/c Adm, Eastern Command
(21) Brig Anup Singh, Brig i/c Adm, Western Command
(22) Lt-Col S.S. Sabherwal, AQMG, Army Headquarters
(23) Lt-Col F.N. Nowrojee, AQMG, Army Headquarters
(24) Lt-Col N.B. Grant, AQMG, Eastern Command
(25) Lt-Col D.P. Gimi, AQMG, Southern Command
(26) Shri M.R. Manaktola, DAQMG, Army Headquarters

V—Navy

(27) Cdre R.D. Katari, Deputy Chief of Naval Staff
(28) Cdre B.S. Soman, Commodore i/c, Cochin
(29) Capt M.K. Heble, Cochin
(30) Capt S.H. Karmarkar, Capt Supdt IN Dockyard
(31) Commander S.K. Chatterjee, Dir of Civil Engineering

VI—Air Force

(32) Air Cdre Arjan Singh, AOP&O, Air Headquarters
(33) Air Cdre S.N. Goel, AOC., Training Command
(34) Gp Capt Shiv Dev Singh, Dir of Organisation
(35) Gp Capt Harjinder Singh, IAF, Kanpur
(36) Gp Capt D.P. Mehra, Palam
(37) Gp Capt K. Jaswant Singh, IAF Station, Agra
(38) Gp Capt Y.V. Malse, IAF, Barrackpore
(39) GP Capt C.L. Mehra, IAF, Jalahalli
(40) Sq Ldr Rawal Singh, Air Headquarters

VII—CTE

(41) Brig K.B. Rai, CTE.

VIII—Engineer Witnesses

(42) Lt-General H Williams, ex-E-in-C
(43) Maj-General R.E. Aserappa, E-in-C
(44) Brig Anant Singh, CE, Eastern Command
(45) Brig R.A. Loomba, Western C mand
(46) Col S.K. Bose, DCE, Southern Command
(47) Col G.S. Sihota, E-in-C's B h
(48) Col G.S. Viswanath, DCE, E
(49) Col H.C. Vijh, E-in-C's Branch
(50) Col K. Sundaram DCE, Western mand
(51) Lt-Col M.A. Nayudu, E-in-C's Bra h
(52) Lt-Col V.P. Kapur, CWE, Bareilly
(53) Shri P.N. Gadi, Chief Surveyor of Works
(54) Shri D.C. D'Souza, CWE, Agra
(55) Shri H.B. Gidwani, CWE, Poona
(56) Shri P.N. Soman, CWE, Deolali
(57) Shri L.C. Malhotra, CWE, Ambala
(58) Shri M.L. Raheja, E-in-C's Branch
(59) Shri C.S. Chawla, SOI (W) Eastern Command

IX—Ordnance Factories

(60) Shri K.K. Framji, DGOF
(61) Shri N.E. Parthasarathy, ADG/E
(62) Shri K.P. Chatterjee, SOI/Fy

LIST OF OFFICERS WHO RESPONDED TO THE QUESTIONNAIRE

I—Ministry of Defence

(1) Shri C. S. Ramachandran, Joint Secretary
(2) Shri R. S. Vohura, Deputy Secretary

II—Ministry of Finance (Defence)

(3) Shri B. L. Jain, Assistant Financial Adviser
(4) Shri K. Subrahmanyam, IAS, Asstt Financial Adviser

III—Defence Accounts Department

(5) Shri C. Konar, Dy CGDA
(6) Shri S. K. Mukherjee (for Shri E. DeSouza)
(7) Shri H. L. Wadera, CDA, Eastern Command

IV—Army

(8) Maj-General Jai Singh, Military Secretary
(9) Maj-General H. M. Mohite, DST
(10) Brig C. R. Mangat Rai (for Maj-General Tara Singh Bal)
(11) Brig W. T. Wilson, Brig i/c, Eastern Command
(12) Brig Anup Singh, Brig i/c, Western Command
(13) Lt-Col S.S. Subherwal, AQMG
(14) Lt-Col F. N. Nowrojee, AQMG
(15) Shri M. R. Manktola, DAQMG

V—Navy

(16) Cdre R. D. Katari, DCNS
(17) Cdre B. S. Soman, Commodore i/c, Cochin
(18) Capt M. K. Heble
(19) Capt S. G. Karmarkar, Capt Supdt IN Dockyard
(20) Commander S. K. Chatterjee, Director of Civil Engineering

VI—Air Force

(21) Air Cdre Arjan Singh, AOP&O, Air Headquarters
(22) Wing Commander S. A. Hussain, (For Air Cdre S N Goel)
(23) Gp Capt Shiv Dev Singh, Dir of Organisation
(24) Gp Capt H. Singh, Maintenance Command
(25) Gp Capt K. Jaswant Singh, IAF Station, Agra
(26) Gp Capt C. L. Mehta, IAF Station, Jalahalli

VII—CTE

(27) Brig K. B. Rai, CTE

VIII—ENGINEER WITNESSES

(28) Maj-General R. E. Aserappa, E-in-C
(29) Brig Anant Singh, CE, Eastern Command
(30) Brig R. A. Loomba, Western Command
(31) Col S. K. Bose, DCE, Southern Command
(32) Col G. S. Sihota, E-in-C's Branch
(33) Col G. S. Viswanath, DCE, NEFA
(34) Col H. C. Vijh, E-in C's Branch
(35) Col K. Sundaram, DCE, Western Command
(36) Lt-Col M. A. Nayudu, E-in-C's Branch
(37) Lt-Col V. P. Kapur, CWE, Bareilly
(38) Shri P. N. Gadi, E-in-C's Branch
(39) Shri D. C. D'Souza, CWE, Agra
(40) Major M. M. L. Kohli (for Shri H. B Gidwa
(41) Shri P. N. Soman, CWE Deolali
(42) Shri L. C. Malhotra, CWE, Ambala
(43) Shri M. L. Raheja, E-in C's Branch
(44) Shri S. S. Chawla, SO1, Eastern Command

IX—ORDNANCE FACTORIES

(45) Shri K. K. Framji, DGOF

APPENDIX V

LIST OF PERSONS WHO GAVE ORAL EVIDENCE BEFORE THE COMMITTEE

(1) Lt-Col. S. S. Sabherwal, AQMG
(2) Shri M. R. Manaktola, DAQMG
(3) Lt-General Sant Singh
(4) Brig. Anant Singh, CE, Eastern Command
(5) Brig. W. T. Wilson, Brig. i/c Adm., Western Command
(6) Brig. K. B. Rai, CTE
(7) Shri K. Subrahmanyan, IAS, Asstt. Financial Adviser
(8) Shri M. L. Raheja, E-in-C's Branch
(9) Shri P. N. Gadi, E-in-C's Branch
(10) Shri D. C. D'Souza, CWE, Agra
(11) Shri B. L. Jain, Asstt. Financial Adviser (W)
(12) Col. G. S. Sihota, E-in-C's Branch
(13) Shri H. L. Wadera, CDA, Eastern Command
(14) Shri R. N. Didee, Deputy CDA, Eastern Command
(15) Shri K. P. Chatterjee, Calcutta.
(16) Shri K. Mojumdar, ADGOF
(17) Air Commodore R. H. D. Singh
(18) Gp Capt Shiv Dev Singh, Dir. of Organisation
(19) Maj-General Tara Singh Bal, Q.M.G.
(20) Shri R. S. Vohura, Deputy Secretary, Min. of Defence
(21) Commodore A. Chakraverti
(22) Shri B. B. Ghosh, Joint Secretary, Min. of Defence
(23) Shri C. S. Ramachandran, Joint Secretary, Min. of Def.
(24) Major-General R. E. Aserappa, E-in-C.
(25) Lt-General H. Williams, ex-E-in-C.
(26) Capt M. K. Heble, Cochin
(27) Brig R. A. Loomba, Simla
(28) Shri A. C. Khosla, Western Command, Simla
(29) Shri Bhagyam, Retd Chief Surveyor of Works, Bangalore
(30) Dr. G. S. Duggal, Poona.

APPENDIX VI

SCHEDULE OF "CONTRACT PERIODS" TO BE FOLLOWED IN THE EXECUTION OF WORKS OF DIFFERENT KINDS AND SIZES

	Period of Construction of Buildings costing.				
	Upto Rs. 50,000/-	Above Rs. 50,000/- and upto Rs. 2.0 lakhs	Rs. 2.0 lakhs to Rs. 5.0 lakhs.	Rs. 5.0 lakhs to Rs. 10.0 lakhs	For every additional work worth Rs. 5.0 lakhs or part thereof.
I. RESIDENTIAL BUILDINGS.					
1. Single storeyed building.	4 months.	6 months.	8 months.	10 months.	2 months.
2. Double storeyed building.	7 months.	9 „	11 „	13 „	2 „
3. Double storeyed building with barsati.	8 „	10 „	12 „	14 „	2 „
4. Extra period for every additional storey.	3 „	3 „	3 „	3 „	2 „
II. NON-RESIDENTIAL BUILDINGS. (with lead bearing walls)					
1. Single storeyed building.	5 „	7 „	9 „	11 „	2 „
2. Double storeyed building.	8 „	10 „	12 „	14 „	2 „
3. Three storeyed building.	11 „	13 „	15 „	17 „	2 „
4. Extra period for every additional storey.	3 „	3 „	3 „	3 „	2 „
III. NON-RESIDENTIAL BUILDINGS.					
1. R.C.C. framed structure 5 storeyed.	—	—	16 „	18 „	2 „
2. Extra period for every additional storey.	—	—	3 „	3 „	2 „
IV. Levelling the area.	4 „	6 „	9 „	12 „	3 „
V. Road work.	4 „	6 „	9 „	12 „	3 „
VI. Extra water supply work (inclusive of the cost of Pipes)	4 „	6 „	8 „	10 „	2 „

APPENDIX VI—(*Contd*).

	Period of Construction of Buildings costing				
	Upto Rs. 50,000	Above Rs. 50,000/- and upto Rs. 2.0 lakhs	Rs. 2.0 lakhs to Rs. 5.0 lakhs.	Rs. 5.0 lakhs to Rs. 10.0 lakhs.	For every additional work worth Rs. 5.0 lakhs or part thereof.
VII. External storm water drainage.	4 months.	6 months.	9 months.	12 months.	3 months.
VIII. External Sewerage.	4 „	6 „	9 „	12 „	3 „
IX, Internal water supply, Sanitary installation and drainage.	3 „	4 „	6 „	8 „	—
X. Water works such as Reservoirs, filters settling tanks etc.	6 „	9 „	12 „	15 „	2½ „
XI. Sewage Disposal works.	6 „	9 „	12 „	15 „	2½ „

Note :—1. For places like Delhi, when the period of contract runs through the monsoon months of July and August, the progress during these months may be considered as half of the normal progress and the periods given above may be increased by a month.

2. For places like Calcutta, Assam, Bombay, where monsoons remain active for 4 months (June to Sept), contract period may be increased by two months.

3. Extra period is to be allowed for special types of works such as —
   (i) Special finishes and decorations.
   (ii) Domes and coffered roofs.
   (iii) Plain and moulded stone work, stone venerring and sculpturing.
   (iv) Raft foundations, pile foundations, and foundations under subsoil water level.
   (v) Levelling operations in predominantly rocky area.
   (vi) Road work involving earthwork in embankment or rock-cutting.

4. For works situated in out of the way places or at hill stations, where there are special difficulties in the procurement and carriage of materials to the site, suitable extra periods shall be allowed.

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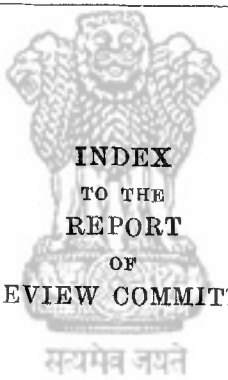
TO THE

REPORT

OF

REVIEW COMMITTEE

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