C. P. U. No. 60

COMMITTEE ON PUBLIC UNDERTAKINGS

(THIRD LOK SABHA)

THIRTY-NINTH REPORT

BHARAT HEAVY ELECTRICALS LTD., NEW DELHI

MINISTRY OF INDUSTRY

LOK SABHA SECRETARIAT
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(THIRD LOK SABHA)

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§§Elected w.e.f. 18-5-66 in the vacancy caused on the resignation of Shri M. Govinda Reddy on 6-5-66.

INTRODUCTION

I, the Chairman, Committee on Public Undertakings, having been authorised by the Committee to submit the Report on their behalf, present this Thirty-Ninth Report on the Bharat Heavy Electricals Ltd.

2. This Report is based on the examination of the working of the Bharat Heavy Electricals Ltd. upto the year ending 31st March, 1966. The Committee took the evidence of the representatives of the Undertaking on the 25th and 26th October, 1966 and of the Ministry of Industry on the 10th November, 1966.

3. The Report was adopted on the 3rd March, 1967.

4. The Committee wish to express their thanks to the officers of the Ministry of Industry and the Bharat Heavy Electricals Ltd. for placing before them the material and information that they wanted in connection with their examination.

NEW DELHI;

March 3, 1967.

Phalguna 12, 1888 (*S*).

D. N. TIWARY,

Chairman,

Committee on Public Undertakings.

INTRODUCTORY

The Bharat Heavy Electricals Ltd. has four units under it—one each at Hardwar and Tiruchirapalli and two at Hyderabad. Three of these units were part of the Heavy Electricals (India) Ltd., till November, 1964, when these were separated to form a new company, the Bharat Heavy Electricals Ltd. The Switchgear Unit at Hyderabad was also added later to the Undertaking.

2. The Heavy Electricals (India) Ltd. was incorporated in August 1956, for developing the manufacture of heavy electrical equipment required for the generation, transmission and distribution of power, such as hydraulic and steam turbines, switchgear, control gear, static capacitors, traction equipment etc. The Company was entrusted from time to time, with the execution of the following four projects:—

(i) Heavy Electrical factory at Bhopal in Madhya Pradesh;

(ii) Heavy Electrical Equipment Plant at Ranipur near Hardwar in U.P.;

(iii) Heavy Power Equipment Plant at Ramachandrapuram, near Hyderabad in Andhra Pradesh; and

(iv) High Pressure Boiler Plant at Tiruverumbur near Tiruchirapalli in Madras.

The three units (ii) to (iv) were separated from the Heavy Electricals (India) Ltd., to form a new company *viz.*, Bharat Heavy Electricals Ltd. which was incorporated on the 13th November, 1964 and commenced business on the 17th November, 1964.

Hardwar Project

3. The Heavy Electrical Plant at Hardwar was one of the projects included in the list of enterprises to be set up under the Indo-Soviet Technical Agreement signed on 12-2-1960. The site at Ranipur near Hardwar was selected

on the recommendation of the Technical Committee on Heavy Electricals Projects in collaboration with the Soviet specialists. The site was approved by Government in September, 1961 and a free gift of the land was made by the U.P. Government.

4. M/s. Prommashexport are the Soviet Consultants and supplier of plant and equipment for this project. The project is designed to manufacture steam turbines and turbo-alternators in ranges of 100 MW to 200 MW with scope for increasing to unit sizes of 300 MW for an annual output of 1·5 million KW, hydro-turbines and generators of all sizes with maximum runner dia of 6,600 mm. for annual output of 1·2 million KW. and medium and large size AC and DC electric motors for an annual output of 0.515 million KW.

Hyderabad Project

5. The heavy Power Equipment Plant at Ramachandrapuram (Hyderabad) was one of the four major industrial projects covered under the Rs. 23.1 crores Indo-Czech Economic Co-operation agreement between the Government of India and the Government of U.S.S.R. concluded in November, 1959. The site selected for the project at Ramachandrapuram was approved by Government in September, 1961. The Government of Andhra Pradesh has given land free for the Project. M/s. Technoexport (now designated as Skodaexport), Foreign Trade Corporation for export of complete industrial plants, Praha (CSSR) look after this project from the Czechoslovakia side. The plant is designed to manufacture annually 800 MW of steam turbines, turbo-alternators and associated pumps in sizes upto 100 MW each.

Tiruchirapalli Project

6. Matching steam generating equipment for meeting the requirements of the electric generating equipment that is to be manufactured by the units of the Bharat Heavy Electricals Ltd. at Hardwar and Hyderabad and Heavy Electricals (India) Ltd. Bhopal had also to be manufactured in the country. Although some capacity for manufacture of the item existed in the private sector, the entire demand could not be met through that source and there was going

to be a big gap in the supply of matching boilers required for the power generating equipment to be manufactured. The Tiruchy plant would meet a part of that demand. The site at Tiruverumbur is near Tiruchirapalli and was selected by Government in September, 1961. The land for the construction of the project is a free gift from the Government of Madras.

7. M|s Technoexport (now Skodaexport), Praha (CSSR) look after this project from the Czechoslovakia side. The Project is designed for the manufacture of high pressure boilers of 125 to 450 tons of steam per hour (*i.e.* for use w th turbo sets of upto 120|125 MW capacity) with a total power equivalent capacity of 750 MW along with the necessary boiler fittings etc. Apart from meeting the entire demand of boiler fittings needed for the boilers produced in the factory, the manufacturing programme will include 1800 tons per annum of boiler fittings for sale to other enterprises. It is also proposed to manufacture 10 package boiler units per annum.

Switchgear Unit

8. Considering the demand in the country during the Fourth Five Year Plan, the Heavy Electricals (India) Ltd., had been considering the setting up of production capacity for the manufacture of Air Blast Circuit Breakers and Minimum Oil Circuit Breakers. On the bifurcation of the company, the Bharat Heavy Electricals Ltd., continued their negotiations for collaboration with one of the leading manufacturers in this line *viz.* Allmanna Svenska Elektriska Aktiebolaget, Sweden. Negotiations with this company (ASEA) for a license agreement were finalised in early 1965. A team of Indian engineers thereafter visited Sweden to finalise all technical and other details. The project is being established on a piece of land given by the Government of Andhra Pradesh for the Heavy Power Equipment Plant, Ramachandrapuram. The main reason for establishing the unit at Hyderabad was to effect economy in overheads by utilising the establishment already set up for the construction of the Heavy Power Equipment Plant. Besides this, foundry machining and service facilities that have been developed there could also be used for this project. The collaboration agreement with ASEA provides for a supplier's revolving credit to the

extent of 29 million Swedish Kronors repayable in a period of 10 years. The credit will cover import of capital equipment and components required for the progressive production of Air Blast Circuit Breakers in the first instance. The Government of India have guaranteed the payment of the credit.

Foundry Forge Project

9. In addition to the above four Projects, the Company has recently taken action to establish a Central Foundry Forge Plant at Hardwar. The detailed project report for the Foundry Forge Project was prepared by the Planning and Development Division of the Undertaking. The project has been planned for an annual capacity of 15,000 tonnes of steel castings and 15,000 tonnes of steel forgings. Preliminary approval of the project was received in March, 1965 from the Government of India. M|s Societe Des Forges Et Ateliers Da Creusot, France (S.F.A.C.) have been chosen as consultants for this project and the Detailed Project Report has been given to this firm for vetting.

II

LOCATION OF THE PROJECTS

10. In regard to the considerations which weighed with Government in selecting the locations for the projects of the Undertaking, it has been stated that these were decided by Government on the basis of the recommendations of a Technical Committee set up for the purpose. This Committee had gone into various aspects regarding the suitability of the sites and among the more important factors that were taken into consideration were the following:— Site selection Committee.

(i) Availability of a large area of land for the factory and the colony;

(ii) Reasonable level ground to avoid expenditure on levelling;

(iii) Site should be free from floods and dust storms;

(iv) Extreme hot weather and high humidity to be avoided and they are to be kept within tolerances;

(v) Site to be close to broad-gauge railway and free from restrictive moving dimensions;

(vi) Good means of other communications;

(vii) The factories being the major employer of local labour they should not be close to other major projects so that there is no risk of inter-change of labour on a considerable scale between industries;

(viii) Reasonably close to a centre of engineering education; and

(ix) Assured supply of water and electricity.

11. The general policy of Government regarding the location of projects is that, unless there are other overriding considerations, public sector projects should, to the maximum extent possible, be located in areas in which Government's policy.

industrial development has been lagging behind and areas which are industrially congested should, in particular, be avoided.

Basis of selection.

12. A summary of the report of the Technical Committee which made recommendations for the location of the projects was also made available to the Committee. A perusal of the report reveals that it proceeded with the selection of the sites of the projects on the following premise:—

> "It seems implicit in the Government's policy of dispersal of industries that some sacrifice in the economy of transport will be countenanced. It is necessary that easy accessibility to the location of the plants should be ensured. The main raw materials which require long distance transport are steel (all types) and coal. The other materials are such that they have to be either imported from abroad or are available in almost all regions and their total tonnage is also comparatively small. With the equilisation of steel prices at all rail heads, the Government have in a way placed all important centres on a par. In regard to the finished products also which is predominantly steam generating units, it should be possible with a little careful planning for each of the three units, to cater to the regional demands without involving very much of cross-country movement".

13. Proceeding on the above premise, the Technical Committee examined the sites suggested by the various State Governments. Technical data in respect of each of the sites was obtained from the states, and the sites which, in the light of the available data seemed *prima facie* suitable were also visited by the Committee. Finally the present sites for the projects were chosen.

Economic aspects overlooked.

14. ***The report of the Technical Committee reveals that the primary consideration for choosing the present sites was technical. The economic aspects of location do not seem to have been given due consideration.***

15. *It will be seen that the three projects of the B.H.E.L.* ***are, in more senses than one, inter-linked with each other.***

The turbines, generators, motors, pumps, boilers etc. which would be required for a single power project would be manufactured in three different places. The forgings and castings to be manufactured at Hardwar will form component units of the same equipment and as such these will have first to be transported to the other factory before being fitted and transported to the power project site. It is apparent that the ultimate cost of the assembled equipment to the consumer will increase due to the location of the three plants so far away from each other. The problem is of special importance in this particular case because the State will be the biggest purchaser of the products of the company, and as such, the ill effects of the location will have to be suffered by the public. The Committee feel that this is a matter of vital relevance in the location of the projects and seems to have been altogether ignored.

Location of Head Office

Location at Delhi.

16. The Head Office of the Undertaking is located in Delhi. Explaining the reasons, the Chairman of the Undertaking stated during evidence that the company had been registered at Delhi and there were certain advantages as frequent contacts had to be made with D.G.S. & D. and D.G.T.D. and the Ministries, particularly the Ministry of Irrigation and Power because all the products go to the various power projects in the country and co-ordination had to be done with that Ministry. He further stated that if the Chairman's office was located at a place where there was one of the projects of the Undertaking, the project administrator's authority might be undermined and there was a likelihood of too much interference from the Chairman in the day-to-day working.

17. The Commtitee learn that at present the company pays about Rs. 10,000 P.M. for the rented accommodation for the Head Office in Delhi.

Shifting of Head Office suggested.

18. *The reasons given in justification of locating the Head Office in Delhi are familiar ones. The Committee feel that this tendency to concentrate Head Offices in Delhi should be curbed. While they agree that liaison work with the D.G.T.D. etc. is important during the construction phase, this matter would lose its importance once the projects have gone into production. The argument that the*

interference in the day to day administration of a project by the Head Office will be more if the Head office is located near a Project, does not also appear very convincing. The Committee suggest that as soon as the construction of the projects are over, the desirability of shifting the Head-quarters office to another place e.g., *Hyderabad which apart from being central, will be nearer to two projects, might be examined.*

III

PROJECT REPORTS

A. Preliminary Project Reports

19. For the three Heavy Electricals Projects, no techno-economic feasibility studies were prepared. Preliminary Project Reports were, however, prepared for each of them. For the Heavy Power Equipment Project, Hyderabad and the High Pressure Boiler Plant, Tiruchirapalli, these reports were prepared by the Czech Consultants *viz.* M/s. Technoexport and for the Heavy Electrical Equipment Plant, Hardwar, by the Russian Consultants, M/s. Promoshexport. The Preliminary Project Report for the Heavy Power Equipment Plant (Hyderabad) and High Pressure Boiler Plant (Tiruchy) generally followed the pattern of techno-economic feasibility studies. The included approximate cost estimates, but did not elaborate the costs of production and the profitability. Techno-economic feasibility studies not prepared.

20. The Preliminary Project Report prepared by the Soviet Agency for the Heavy Electrical Equipment Plant (Hardwar) was mainly a technical study indicating the product-mix, the facilities necessary in the form of factory buildings, representative types of machine tools and broad estimates of man-power requirements etc. This report did not contain either the estimated capital out-lay or the economic indices.

21. These reports were examined by a technical committee consisting of representatives of Ministries of Industry and Commerce and Finance, Development Wing Planning Commission, Railways and the Heavy Electricals (India) Ltd.

22. During evidence, the Secretary of the Ministry of Industry explained that before entering into negotiations with the collaborators, no feasibility study or Preliminary Report was made exclusively by the Indian experts to de-

termine whether these projects would be technically feasible and economically viable. This was because the technical knowledge necessary for preparation of such report was not available in India. He, however, stated that of late, efforts are being made to create in each of these public sector undertakings a "Design and Plan Organisation" which would be developed in course of time so that these organisations are able to prepare such reports without the help of foreign consultants. He cited the instance of the Foundry Forge Project which was being established at Hardwar, where the Detailed Project Report had been prepared by the Indian engineers.

'Cost estimates and profitability etc. not worked out.

23. The Secretary of the Ministry further stated that in the Preliminary Project Reports submitted by the consultants the cost estimates, profitability etc. of these projects had not been worked out. At the time of venturing on these projects, the over-riding consideration in the context of the envisaged development of power programmes in the country was of self-reliance in the field of building electrical equipment in the country. Costs and profitability were secondary considerations, for which little emphasis was laid. He, however, conceded that it would be a very desirable thing to have a detailed study about investment, possible returns and when the profits would start accruing etc. He said that in the case of these projects, though these aspects were not examined thoroughly at that time because these were need-based projects, studies regarding cost of production and the rate of return and the period when the returns would start accruing had been worked out at subsequent stages.

'Committee's recommendation.

24. *The Committee consider that the estimated cost, investment and likely return on such investment are some of the basic considerations in the matter of setting up any industrial project. It is surprising that these aspects were not taken into consideration before taking a decision for setting up these projects. The argument of the Secretary of the Ministry that costs and profitability were of a secondary importance at that stage is not a sound one. Considerations of self-reliance are undoubtedly important, but the economic aspect of any scheme is equally important. The Committee hope that Government will insist on having these important and basic data worked out before sanctioning a project.*

B. Detailed Project Reports

25. The Detailed Project Reports for the three projects were prepared by the Russian and Czech Consultants.

Delay in Commissioning Detailed Project Report.

26. *Heavy Electrical Equipment Project.*—In the case of the Hardwar Project, the Preliminary Project Report was received in February, 1961. The Detailed Project Report was commissioned in May, 1962. It will be seen that after the receipt of the Preliminary Project Report it took nearly 15 months to call for the Detailed Project Report. Explaining the reasons for this delay, the Secretary, Ministry of Industry stated during evidence that the Soviet authorities were insistant on the manufacture of generators, heavy motors and synchronous condensers but our experts were not in agreement with such a proposal. The Soviet authorities eventually agreed to the Indian proposal for the production of turbines, generators and motors in October, 1961 but they said that the equipment for the production of turbines could only be supplied in 1966-67. Negotiations were then carried on to persuade them to include this scheme under the credit arrangement. This resulted in a further delay of about 4 months and thus, it was only in February, 1962 that the scope of the plant and the source of foreign exchange was finally settled with the Soviet parties. It was after this that a draft agreement for the Detailed Project Report was called for from the Soviet parties. After some discussion, this Agreement was finalised in May, 1962.

27. *The delay of 15 months between the receipt of the Preliminary Project Report and the commissioning of the Detailed Project Report was unduly long and the explanation given for the delay is not convincing. It was apparently not a matter which required such a deep thought and investigation before deciding as to what should be done. Such long delays upset planning considerably, and lead to avoidable consequential difficulties. This is especially so in this case where two or three projects are linked together.*

Production programme.

28. *Heavy Power Equipment Project Hyderabad.*—After the signing of the Economic Agreement of 1959 between the Government of India and the Government of Czechoslovakia which included among other things, the setting

up of a Heavy Power equipment Plant in India, a Governmental Committee held negotiations with the Czechoslovak Agencies and decided upon the production programme for Turbo sets upto 25 MW each. When the Preliminary Project Report for this production programme came up for examination in December, 1960, January, 1961, the details were again scrutinised by an Inter-Ministerial Committee. After discussion with Czechoslovak Agencies, it was decided in January, 1961 that the Plant in the first stage may provide for the following annual production programme of turbo-generator sets:—

10 pieces of 12 MW each

20 pieces of 25 MW each

Early in 1962, the Government of India appointed a Committee under the Chairmanship of Shri S. S. Kumar, the then Chairman of the C.W.P.C. to examine the adequacy of the manufacturing facilities planned in the country. While the Committee was examining various aspects of power generation, the representatives of the C.W.P.C. expressed their firm opinion that the economics of power generation based on low grade coal and middlings and extensive grid system would require the use of considerably larger individual generating units than those that had been envisaged before. This Committee expressed a general view in its report of July, 1962 that the full output of the Heavy Power Equipment Plant at Hyderabad as planned then, should not be counted for power generation as the comparatively smaller sized units will not be installed in future power stations.

29. In view of this recommendation of the Committee, this matter was taken up with the Czech consultants and they were advised that the Detailed Project Report should be so framed as to include a preponderant manufacture of turbines and turbo-alternator units of 50/60 MW in the first stage itself and with a provision for manufacturing at a future date, 100 MW turbo-generator units also. The revised manufacturing programme suggested in June/July 1962 was for:—

6 pieces of 55/60 MW each

10 pieces of 25 MW each, and

4 pieces of 12 MW each.

30. The Czechoslovak Agencies contended that they had nearly completed the Detailed Project Report providing for the manufacture of 12 MW and 25 MW Turbo-sets as originally stipulated and that it was their understanding that manufacture of 50/60 MW sets will be taken up only in the second stage of development and that this will be over and above the production of 12 MW and 25 MW units envisaged in the first stage. After several discussions between both parties, it was suggested by the Czech consultants that they would submit the Detailed Project Report as prepared by them and after 3 months, a supplementary Report indicating the changes required in the original Detailed Project Report to enable the manufacture of 50/60 MW units from the beginning will be submitted. Changes in unit sizes.

31. About this time, the authorities in the CWPC and the Planning Commission thought that although there was a possibility of using 50/60 MW units for a few years to come, the demand in the country will, by and large, be for units of 100 MW or even higher in the Fourth Plan period and, thereafter. The outline of the Power Projects in the Fourth Five Year Plan had by then been prepared and this showed very few locations where 50/60 MW units could be accommodated. It was, therefore, considered that unless the Hyderabad Project was designed and equipped for the manufacture of 100 MW units, it was not likely to serve its intended purpose. The subject was then discussed in a meeting of the Planning Commission in August, 1962 where it was decided that the project may go through if it could manufacture units upto 100 MW units. These decisions were again brought to the notice of the Czechoslovakian authorities during various informal discussions held during this period. They ultimately agreed in January, 1963 to suggest necessary adaptations in the original design of the plant to enable the manufacture of steam turbines and turbo-alternators of 100 MW unit sizes of the most progressive parameters utilising the equipment already proposed for this plant. Planning Commission's decision.

32. The plant was ultimately designed for the manufacture of turbo-sets from the smallest ranges upto 100 MW units in one stage. As the sizes of the individual generating units to be manufactured became higher it was Ultimate design.

cosidered by the Czechoslovak experts that the annual output of all sizes of this plant would increase from 620 MW to 800 MW.

33. It has been stated that only one Detailed Project Report was prepared for this project. The subsequent changes for introducing the manufacture of 50/60 MW units in the first stage itself and modifying the plant to manufacture 100 MW units were in the form of studies which furnished the essential details and the changes to be made in the list of machinery and equipment or their layout in the factory. Thus two studies or 'Supplementary Reports' were submitted by the Czechoslovak consultants—one in December, 1962 for the 50-60 MW units and the other in mid-1965, indicating the supplementary list of machinery for taking up manufacture of 100/110 MW units in 1968.

34. The preliminary project Report was received in November, 1960. The agreement for the preparation of the Detailed Project Report was entered into in June, 1961 and the Report was completed in September, 1962. During this period, however, the decision about the unit sizes of the equipment to be produced were changed twice, once from 25 MW to 50/60 MW and later to 100 MW.

Lack of Co-ordination between the CWPC, the Planning Commission and the Ministry concerned.

35. *From the facts of the case stated above, the Committee cannot but conclude that there was no proper coordination between the CWPC, the Planning Commission and the Ministry concerned. It is surprising that a decision to manufacture 25 MW units was taken and plans in this regard progressed with foreign consultants without having the whole question thoroughly examined. A committee was appointed only in early 1962 i.e. 15 months after it was decided to manufacture 25 MW units and when the D.P.R. was about to be ready. This committee reported in July, 1962 and though it was headed by the senior most official of the C.W.P.C., its recommendations were not the same as the decisions arrived at by the Planning Commission, who had decided upon 100 MW size units. It is obvious that there was no crystallised thinking on this subject. The Committee regret the manner in which the project was conceived and proceeded with without basic data or exact knowledge of the future requirements.*

C. Cabinet's approval to the Projects

36. The Preliminary Project Reports for the Heavy Power Equipment Plant (Hyderabad) and High Pressure Boiler Plant (Tiruchy) generally followed the pattern of techno-economic feasibility studies. They included approximate cost estimates, but did not elaborate the costs of production and the profitability.

37. Similarly, the Preliminary Project Report prepared by the Soviet Agencies for the Heavy Electrical Equipment Plant (Hardwar) was mainly a technical study indicating the product-mix, the facilities necessary in the form of factory buildings, representative types of machine tools and broad estimates of man-power requirements etc. This did not cover either the estimated capital outlay or the economic indices.

General approval.

38. Since the economic aspects such as capital cost, profitability etc. were not worked out in these reports, the Committee enquired during oral evidence the basis on which the proposals regarding setting up of these projects were put up to the Cabinet for its approval. The representative of the Ministry stated that the general approval of the Cabinet to the setting up of these projects was obtained before these Preliminary Project Reports were made available by the Russian and Czech Consultants. This was done with a view to the inclusion of these projects in the Third Five Year Plan. In the note for the Cabinet it was stressed that the total need during the Fourth Five Year Plan would be nearly four times of the output value of the Bhopal Project. Immediate steps were, therefore, necessary to increase the capacity to avoid continued dependence on imports. The rough shape and size of the project as well as the proposed lines of manufacture were furnished in the Cabinet note as a tentative programme formulated in consultation with the Ministry of Railways and the Ministry of Irrigation and Power. A similar proposal regarding the projects to be set up with the assistance of the U.S.S.R. was put up before the Cabinet indicating the estimated total cost and foreign exchange cost, as accepted in an inter-ministerial meeting.

Aspects covered the note to the Cabinet.

39. Asked whether, it was not the practice to bring the total estimate or the total outlay to the notice of the Cabinet before the work was started or sanctioned, the Secretary of the Ministry stated that the practice varied from time to time. The current practice was that in all

cases the full details of the estimated capital costs, etc. were furnished in a memorandum to the Cabinet. In the earlier years of 1959-60 the practice varied. Sometimes, the full capital cost and other implications were mentioned in the note to the Cabinet if that information was available. If not, approval was obtained mainly on the basis of need and urgency and detailed estimates were approved by the Ministry concerned without necessarily being submitted for the approval of the Cabinet, though sometimes the estimates were reported for the information of the Cabinet. The practice was not uniform. In this case, when the estimates became available later, they were reported to the Cabinet.

Committee's recommendation.

40. *The Committee find that in the case of the Projects of the B.H.E.L., the economic aspects like total capital cost, profitability etc. were not brought to the notice of the Cabinet. The economic viability of a Project is a very important aspect which must be fully assessed before taking a decision regarding its setting up. The Committee, in their Thirteenth report have recommended that Government should lay down the form and the manner in which the Cabinet approval to projects is sought.. The Committee had then suggested that for this purpose a list of all the basic information to be included in the note should be drawn and that it should be ensured that nothing of importance from the technical or economic point of view was omitted. Every proposal which is put up to the Cabinet for approval should also contain an indication of the investment-output ratio. The Committee would like to reiterate the recommendation and hope that in the case of all the projects to be set up in the public sector in future this aspect will also be indicated.*

IV

CONSTRUCTION OF THE PROJECTS

41. The percentage progress of construction as on 1-8-1966 in the main production blocks of factory and auxiliaries was as follows:— Progress of construction.

HARDWAR

Block No. I		61%
Block No. II		69%
Block No. III	..	46%
Block No. IV	..	53%
Block No. V	..	54%
Block No. VII	..	64%
Compressor House Oxygen House, Refrigeration Plant		85%
Acetylene Plant	..	35%
Central Plant Laboratory	..	17%
Producer Gas Plant	..	5%

HYDERABAD

Block No. 01	..	28%
Block No. 02	..	44%
Block No. 04	..	48%
Block No. 05	..	50%
Block No. 06	..	99%
Block No. 07	..	97%
Block No. 08	..	70%
Block No. 09	..	97%
Block No. 11	..	100%
Block No. 70	..	60%
Compressor House	..	100%

Acetylene House		100%
Oxygen House		100%
Producer Gas Plant	..	85%
Boiler House/Power Plant	..	93%
Central Laboratory	..	99%

TIRUCHY

Block No. 1	..	90%
Block No. 5	..	98.75%
Block No. 6		99.75%
Compressor House	..	100%
Acetylene House	..	100%
Oxygen House		100%
Producer Gas Bldg.	..	100%
Boiler House/Fitting Test Station	..	98%
Central Laboratory	..	100%

SWITCHGEAR

Factory	85%

Time-schedule for the Completion of the Project.

42. In regard to the Hardwar Project, it has been stated that the time schedule for the construction of the plant was based on the schedule of supply of machinery and equipment by the Soviet Agencies under the different agreements and the schedule of delivery of the working drawings for the different stages of construction. Of late, there had been some delay in the progress of construction on account of delay in receipt of the working drawings from the Soviet Agencies and on account of difficulties in securing low alloy steel plates for construction. It is, however, hoped that these set-backs in the construction work were not likely to affect the targeted production schedule for the Fourth Plan. The Committee also learn that no time-schedule for the completion of this project has been laid down in the Detailed Project Report. In the case of Hyderabad and Tiruchy projects, it is learnt that such time-schedules were laid down in their Detailed Project Reports.

43. The question of not laying down the time-schedule in the Detailed Project Report of the Hardwar Project was discussed during evidence with the representatives of the Bharat Heavy Electricals Ltd. The Chairman explained that the time-schedule for the completion of the Project was worked out by the Soviet collaborators and given in one of the volumes of the Detailed Project Report which unfortunately was not made over to the project authorities. This volume was seen quite by chance with one of the representatives of the Consultants. The consultants made over only 24 volumes while the 25th volume containing the time-schedule was given only to their own representatives. The Chairman, however, stated that he was trying to obtain the 25th volume. He further informed the Committee that the consultants had indicated December, 1968 as the date of completion of the project, but in view of the fact that our financial year ended in March, the completion date could be taken as 31.3.1969.

Volume of D. P. R. Containing time-schedule not given by the Consultants.

44. *A time-schedule for the construction of a project is very essential both for its timely completion and for a proper technical and administrative control during the construction stage. In the case of the Hardwar project, the project authorities had obviously no knowledge of such a schedule before they started the execution of the project. The plea that the volume of the Detailed Project Report containing the time-schedule was not delivered to the project authorities by the consultants is no justification. There does not appear to have been any effort made to obtain the time-schedule or for that matter even to prepare one. If Government had prepared a check list of items which should be covered in a Detailed Project Report and checked the items before the commencement of the project, such an important item could not have been overlooked.*

Committee's view.

45. *The Committee hope that all efforts will be made to complete the various blocks without any further delay. The Committee do not see why the target date for completion of the project should be advanced to* 31st March, 1969 *merely because the financial year happens to end on that date. The projects should be completed as early as possible and it should not necessarily synchronise with the end of the financial year. Delaying the completion even by* 3 *months would add to the cost of the Project.*

Working Drawings not received in time.

46. The Committee learnt that the working drawings of foundations for the heavy equipment were in several cases not received in time with the result that the construction work suffered. The Committee also learn that there is a clause in the agreement governing the supply of working drawings by the consultants which states as follows:—

> "The working drawings of foundations for heavy equipment requiring special foundations shall be prepared by the supplier and handed over to the customer before shipping the equipment."

47. In the context of the above stipulation, the Chairman, B.H.E.L. informed the Committee during evidence that the matter was taken up with the Russian Consultants, M/s. Prommashexport. They, in reply, stated that:

> "Some of the foundation drawings are being delayed on account of non-receipt of information from the various manufacturers in U.S.S.R."

Inclusion of Penalty clause in Agreements.

48. *The Committee find that in spite of a provision in the agreement regarding the timely supply of foundation drawings, these have not been received according to stipulation in the agreement. The inclusion of a penalty clause in an Agreement might have a salutary effect in preventing delays. Possibility of including such a provision in the future contracts might be examined.*

49. In regard to the Hyderabad Project, it has been stated that the overall time schedule for each work was laid down in the Detailed Project Report but instead of commencing construction in April, 1963, it started in October, 1963. The overall time expected to be taken in completion is about 4 to 6 months more than the time envisaged in the Detailed Project Report. This delay is attributed to the project having undergone substantial changes in scope, necessitating re-designing of certain sections and consequent staggering of the placing of orders for machine tools. Added to this, were the difficulties in procurment of steel, particularly plates and matching sections, as also availability of requisite labour force at the site. However, every endeavour was being made to ensure that the production targets envisaged for the Fourth Five Year Plan are kept.

50. The Committee noticed that the projects of the Bharat Heavy Electricals Ltd. have suffered on account of the short supply of steel, cement and other construction material. The Switchgear Project is also being delayed due, *inter alia,* to non-availability of particular types of steel like M. S. plates. In a note furnished to the Committee the B.H.E.L. have stated that immediately after the steel requirements for the three new projects, namely, Tiruchirapalli, Hyderabad and Hardwar were worked out, indents were sent to the Iron & Steel Controller indicating the sections and quantities required and the relative priorities. Stress was laid on the supplies of steel in matching quantities. Detailed discussions were also held with the Iron & Steel Controller and the representatives of the different steel mills about their capabilities and the phasing of the supplies. Where supplies were restricted, the B.H.E.L. themselves indicated the relative priorities for each quarter between Hardwar, Hyderabad and Tiruchirapalli. On the basis of the indications given by the Iron & Steel Controller and the Rourkela Steel Plant about their capability to supply the plates according to the requirement, a part quantity of steel plates was allowed to be imported from the Soviet Union and a smaller part was allotted from consignments from Japan under a barter deal. Shortage of steel Cement etc.

51. In this connection the Bharat Heavy Electricals Ltd. have made the following suggestions:— Suggestions of B.H.E.L.

(i) High priority should be given for supply of heavy structurals and M. S. plates for projects, which are approved by Government.

(ii) Items of steel which cannot be easily obtained in time from indigenous producers should be allowed to be imported freely, so that construction time-schedules are not disturbed.

52. *The Committee suggest that Government might examine the above suggestions. It may also be considered whether other construction material like cement etc. can be made available to the projects on a high priority basis. Since availability of these materials in time and in required quantity is vital for the timely completion of the projects, it is necessary that Government should ensure that the projects get their supplies of construction material without difficulty.* Committee's view.

V

RAW MATERIALS AND COMPONENTS

A. Raw Materials

Require-ments

53. The raw-materials and other requirements of the factories of the Bharat Heavy Electricals Ltd. (excluding common items, like coal, oil, etc.) for the next five years are mainly as follows:—

I. *HARDWAR AND HYDERABAD UNITS.*—Steam turbines & generators, hydro turbines & generators and pump and electronic motors,

(i) Castings—mostly of special steels and some ordinary carbon steel.

(ii) Forgings—most of special steels.

(iii) Stampings for turbine blades.

(iv) Electric grade sheet steel for core stampings—In the initial stages Hardwar plant would need some in the form of stampings.

(v) Copper bars & strips for windings.

(vi) Variety of insulating materials—based on mica, paper, glass, silicone, rubber & asbestos (mica tape, glass tape, resin bonded papers and insulating varnishes constitute the more important and costlier items).

(vii) Boiler quality plates.

(viii) Alloy steels-plates, sections and tubes.

(ix) Other rolled steels of various sections.

(x) Non-ferrous—copper tubes and sections, brass tubes, aluminium sections.

(xi) Other virgin metals.

(xii) Cables and wires.

(xiii) Instruments and controls (gauges, instruments, relays, metres, etc.); and

(xiv) Pressure piping of alloy and special steels.

II. *TIRUCHY UNIT.*—For boilers and boiler auxiliaries.

(i) Boiler quality plates upto about 100-125 mm. thick.

(ii) High tensile steel sections and plates.

(iii) Other rolled steels of various sections.

(iv) Seamless steel tubes—mostly of alloy steel.

(v) ERW tubes.

(vi) Special welding electrodes.

(vii) Armour plates.

(viii) Forged balls.

(ix) Castings and forgings including complicated castings needed for high pressure valves.

(x) Alloy and special steel sections.

(xi) Rectifiers for electrostatic precipitators.

(xii) Instruments, controls and electric motor drives.

(xiii) Gear wheels and gear boxes.

(xiv) Refractories and other insulating media.

III. *SWITCHGEAR UNIT.*—Air blast circuit breakers.

(i) Steel sheets and sections.

(ii) Special steel castings.

(iii) Aluminium alloy extrusions.

(iv) Aluminium alloy castings.

(v) Insulating materials.

(vi) Copper sections.

(vii) Porcelain for insulators.

(viii) Air compressors and air receivers.

(ix) Copper tubes.

(x) Pressure switches, limit switches, valves, relays, instruments, etc.

Availability.

54. The Committee found that the position about these raw-materials was as follows:—

(i) Except for ordinary steel castings and forgings required for motors and light shafts, there are no facilities in the country for the manufacture of the special castings and forgings required for turbines and generators. These are presently being imported in various forms. Govt. are establishing the Foundry Forge Project with a view to fabricate these castings and forgings within the country and to obviate the necessity of importing them.

(ii) The steel plates and sections including boiler quality plates and high tensile steel sections were capable of being produced by the steel plants in the country but the supply was stated to be unsatisfactory.

(iii) Special and alloy steels are not available at present in the country and are being imported. The position was expected to improve after the Alloy Steel Plant at Durgapur and others start production.

(iv) The facilities for making stampings for turbine blades are provided at the Hyderabad plant. The required quality of steel would, however, be available only after the Alloy Steel Projects go into production. In the meantime, the turbine blades are being imported.

(v) Steel for electric grade sheet steel of the required quality is not available in the country. It is understood that the expansion schemes of the Rourkela Steel Plant and TISCO provide for the manufacture of sophisticated varieties of electric sheet steel and until this is done, it will have to be imported.

(vi) Electrolytic copper is not available in the country but facilities for re-rolling them to required sections and shapes are available.

(vii) Some of the special items of insulating materials, like semi-cathern are being imported from other countries. While aluminium sections are available, copper and brass tubes are being imported.

(viii) It is expected that the Instrumentation Plant at Kotah and other instrument manufacturers will meet the requirements.

(ix) Porcelain for insulators were being imported uptill now but the B.H.E.L. have collaborated with the two indigenous manufacturers and are developing the manufacture of these porcelain in India to the required specifications.

Raw materials from indigenous Sources.

55. *From the information furnished, it is noticed that as at present, considerable quantities of raw-materials will have to be imported for the manufacture of electrical equipment by the projects of the B.H.E.L. While this is partly inevitable till the Alloy Steel Projects go into production, the Committee feel that firm arrangements should be made with the Hindustan Steel Ltd. or other private steel manufacturers in the country for the supply of steel and alloy steel requirements of the B.H.E.L. the Committee would have expected the B.H.E.L., along with the Heavy Electricals (India) Ltd., Bhopal to make an all out effort to obtain their requirements indigenously to the maximum extent possible, including the encouragement of setting up of new ancillary industries or the starting of new items of production by existing factories. There is not much evidence that this has been done. The Committee hope that intensive efforts will be made in this direction.*

Substitute materials.

56. *The Committee would also urge that intensive efforts and research should be made for using substitute materials, easily available in India, for materials which are imported, so that dependence on imports may cease. One such item is copper which is being replaced by aluminium to a great extent in the electrical industry. Another field which may be fruitfully investigated is insulation material for which good possibilities of indigenous substitution appears to exist. The Committee hope that the company as well as the DGTD will give this matter their earnest attention.*

B. Spares and Components

Imports.

57. In the initial stages of production, most of the components will have to be imported. The level of components, raw-materials and intermediate products to be imported for the different projects for manufacturing purposes are given below:—

HARDWAR

	*Components imported from Consultants.	Raw materials import largely from Soviet Union.
I year of Production . 1st 100 MW set	77%	8%
II Year of Production		
2nd 100 MW set . .	66%	10%
3rd. ,, ,, .	48%	12%
4th ,, ,, .	37%	14%
III Year of Production		
5th 100 MW set . . .	32%	16%
6th to 10th Set . . .	23%	20%

Thereafter no items are proposed to be imported as "Components".

*Include about 12 to 15 percent for rough machined castings bought from consultants as they will not be available in India.

HYDERABAD

	Components Import (including castings & forgings) from Consultants. 1	Raw materials to be imported 2
I Year of Production		
1st & 2nd 55 MW set	75-78%	8%
II Year of Production		
3rd & 4th 55 MW set . .	55-60%	12%
5th & 6th 55 MW set. . .	26-28%	15%

	1	2
III Year of Production		
7th 55 MW Set onwards.	12%	25%
1st 100 MW Set	70%	10%
IV Year of Production		
2nd 100 MW Set	54%	15%
3rd 100 MW Set	25%	15-18%
4th 100 MW Set	15%	20%
5th 100 MW Set	5% & lower if castings and forgings become available.	

58. The raw materials particularly some items of special steels, condenser tubes, silicon steel and insulating materials are not available in Czechoslovakia and hence a part of them will have to be imported from other countries like Italy, France, West Germany, Switzerland and the United Kingdom.

TIRUCHY

	Components imported from Consultants	Raw materials to be imported
I Year of Production		
1st 60 MW Boiler	38%	20%
2nd 60 MW Boiler	16%	25%
II & III Years of Production		
3rd & 4th 60 MW Boilers	8%	30%
5th to 8th 60 MW Boilers	7%	30%
1st 100 MW Boiler	10%	28%
IV Year of Production	About 5% as components.	30%

59. When the component imports gradually come down, the imported raw-material contents go up. In the absence

of indigenous availability of boiler tubes and special steels they and other materials to be imported constitute about 25 per cent to 30 per cent of the CIF value of the boilers.

SWITCHGEAR PROJECT — HYDERABAD

	Components imported from consultants	Raw Materials to be imported largely from Sweden and a part from U. K. and Japan.
I Year of Production		
First lot of 100 Breakers:		
132 & 220 KV . . .	65 to 70%	2%
II Year of Production :		
Second lot of 100 Breakers		
132 & 220 KV . .	45%	5%
III Year of Production		
Third lot of 100 Breakers :		
132, 220 & 400 KV . .	35%	6%
IV Year of Production onwards		
132, 220 & 400 KV . .	5-10%	8%

60. The above figures assume that from the fourth year (1968-69) onwards, all types of porcelain needed will have been developed indigenously and that aluminium extrusions of all sizes will also be available from Indian sources.

61. It will be noted that as the production progresses, the projects will take to manufacturing the components themselves. After three or four years of production, the project will have largely to import the raw materials for those components.

Drawings.

62. During evidence the Committee enquired whether the Consultants have supplied the detailed drawings and the body compositions of the spare parts and components of the plant and equipment which presently were being imported. The Chairman of the Bharat Heavy Electricals Ltd. stated that the consultants did not supply the detailed

drawings and body composition. They gave only a broad outline regarding specifications, performance etc. He further stated that no effort had also been made to procure the detailed drawings from the consultants because the general impression was that the manufacturers did not part with the working drawings.

63. *The Committee feel that this matter should be given due attention by the management. Drawings and body specifications of imported spares and components are most important requirements if dependence on foreign suppliers is to be eliminated. The B.H.E.L. should make earnest efforts to obtain these from the consultants and suppliers and if efforts fail, the drawings should be made by the Research and Development section and advance arrangements made for obtaining the special alloys or metals with which the components are made.*

Manufacture of spares of electrical equipment.

64. When a big electrical equipment industry is being set up in the country one would have expected that apart from the components required for their own equipment, the factories would be capable of manufacturing the spares of other equipment already in use in the country. The Committee were informed that the B.H.E.L. would be able to meet the requirement of spares for equipment similar in design that might have been imported in the past, but that it may be difficult for the B.H.E.L. factories to meet the requirements for sometime, of spare parts for equipment imported from other sources, if the equipment are of radically different designs. Such requirements can be classified in two categories:—

(i) where the material specifications and drawings for spares are available.

(ii) where such data is lacking or items like spare rotors, or armatures for existing equipment are needed.

In the first case, it will not be difficult to produce similar items of spares with the facilities created in the factories of the B.H.E.L. In the second case, it may be desirable to procure such spares from the original suppliers.

65. *The Committee recommend that every endeavour should be made to completely do away with imports of*

spares for electrical equipment already in use. All users of such equipment might be told to procure or prepare the drawings and designs of the various parts and components required by them so that indigenous manufacture could be undertaken. The factories of the B.H.E.L. should do their utmost to manufacture such spares. Government should also encourage actual users to place their orders with the B.H.E.L. rather than allowing imports.

C. Ancillary Plants

Equipment.

66. Some ancillary plants like Oxygen, Acetylene and Gas Producer Plants and Compressor House are being set up as integral parts of the projects of the B.H.E.L. It is learnt that all these plants have been set up in the country earlier, for example, at Bhopal. In the case of the projects of the B.H.E.L. the main equipments were being imported. It has been stated that in the case of the plants which are ordered from abroad, manufacturers have been asked to give certain performance/efficiency guarantees. For ensuring this, manufacturers depute their personnel for erection and commissioning. Their staff only supervise and guide the local staff at site, who do the actual work. It was stated that Indian know-how was being used to the maximum extent possible, both in design and erection of the plant.

Estimated cost of the plants.

67. The estimated cost of each of the plants together with the foreign exchange components is as follows:—

HARDWAR

Item	Total estimated cost	Foreign exchange component
	Rs. lakhs	Rs. lakhs
1. Oxygen Plant . . .	19·91	12·42
2. Producer Gas Plant .	39·29	21·52
3. Acetylene Plant . .	3·26	1·98
4. Central distribution sub-station, refrigerating plant & compressor.	70·30	55·91

HYDERABAD

Item	Total Cost	Foreign exchange component
	Rs. lakhs	Rs. lakhs
Oxygen Plant . . .	13·00	8·00
Producer Gas Plant .	42·00	32·00
Acetylene Plant . .	1·00	90·60
Boiler Plant	48·11	43·28
Compressor Plant	8·30	5·85

TIRUCHY

Item	Total Cost	Foreign exchange component
	Rs. lakhs	Rs. lakhs
Oxygen Plant .	13·52	7·97
Producer Gas Plant . . .	17·73	12·24
Acetylene Plant	0·58	0·21
Compressed Air Station	9·86	Nil.

68. It will be seen that considerable amount is being spent on the import of plant and equipment in respect of each of these ancillary plants. During evidence, the Chairman of the B.H.E.L. stated that some of these plants could be fabricated within the country, but unfortunately the demand for such plants was so little that it may not be worthwhile to set up an industry for manufacturing them.

69. *The Committee feel that not much stress has been laid by the undertaking on self-reliance in this as well as other matters. No serious effort appears to have been made to enquire if any private entrepreneur or any public* Self-reliance.

undertaking was prepared to fabricate the plants in view of the fact that three sets of such plants were required by the B.H.E.L. Apart from saving vital foreign exchange, such a move would have fostered expertise in India in this field of industry.

D. Seamless tubes

Efforts made by private parties to manufacture seamless tubes.

70. For the manufacture of boilers at the Tiruchy project, seamless tubes are required. A private party had planned to establish a plant for the manufacture of such tubes close to the factory but this did not materialise. During evidence it was stated that there were other parties also to whom licenses had been granted but none had done anything concrete in this regard. It was also mentioned that Heavy Engineering Corporation Ltd. had also shown interest in the scheme. If these seamless tubes are not manufactured within the country, the B.H.E.L. will have to spend about Rs. 3 crores annually on imports.

Need to avoid imports.

71. *The Committee recommend that in case none of the private parties come forward to manufacture such tubes, Government might examine the possibility of setting up a public undertaking for manufacturing such tubes if the Heavy Engineering Corporation Ltd. cannot undertake their manufacture. Every effort should be made to avoid wastage of foreign exchange on the imports of this material which can be easily manufactured in the country.*

VI

FINANCE

A. Enquiry—loan ratio

72. The total investment in Bharat Heavy Electricals Ltd., as on 31-3-1966, stood as follows:— Government's Policy.

(a) Equity Capital	....	Rs. 4,661 lacs
(b) Loan Capital	....	Rs. 1,596 lacs

The equity loan ratio would come to 1:0·34. It is learnt that in the budget estimates for 1966-67 there is provision for Rs. 1550·00 lacks and Rs. 1650·00 lacks as equity and loan respectively. The total in the shape of equity and loan would become Rs. 6211·00 and Rs. 3246·00 lacks respectively and the ratio 1:0·52. The capital structure of the Company was discussed during evidence with the representatives of the Ministry of Industry and the Ministry of Finance who explained the policy in regard to this matter as follows:—

> "While actually advancing the fund to the public sector undertakings, although the ultimate total capital is maintained on the basis of fifty-fifty, a decision does exist also that the first fifty per cent of the total estimated capital will be given in the shape of equity and the subsequent fifty per cent in the shape of loan. To give an example, for a project of Rs. 30 crores, when the work starts the first Rs. 15 crores of the total amount will be given in the shape of equity. Once this limit of Rs. 15 crores is reached, then funds will be provided in the shape of loan. So, at the end of any particular year there can be an imbalance between equity and loan but when the total outlay is completed for each undertaking the equity loan ratio will be fifty-fifty.

Investment not in accord with Policy.

73. According to the figures available the total capital cost of the Bharat Heavy Electricals Ltd., is estimated at Rs. 147·7 crores (including township). On the basis of the policy enunciated before the Committee the equity capital issued to the Company so far, is below the fifty per cent cost estimates and hence if the capital structure were to conform to the policy, then no loan should have been issued to the undertaking.

74. *The Committee find that the capital structure of the Company is not in accordance with the policy laid down by Government.*

B. Project Estimate

75. The Committee were informed that the Project estimates for the Hardwar and Switchgear Units have been submitted to Government and sanction is awaited. In the case of the Hyderabad and Tiruchy projects, the project estimates have been sanctioned by Government and have not been revised till now.

Reasons for delay in sanction.

76. The Committee enquired from the Ministry of Industry as to why the project estimates had not been sanctioned and were informed as follows:—

"*Hardwar Project*:

The project estimate was received in the Ministry on 29-12-1965. The following files required for reference were not available as they had been sent earlier to the Director of Commercial Audit:—

(i) File dealing with contract for supply of plant and equipment.

(ii) File dealing with the contract for supply of working drawings (Both were sent to Commercial Audit on 27-5-1965).

(iii) File dealing with the acceptance of the Detailed Project Report (sent for commercial Audit on 7-12-1965).

Files mentioned at serial Nos. (i) and (ii) were received back on 28-1-1966 and file mentioned against serial No. (iii) was received back on the 11th May, 1966. The proposal was then examined in July, 1966, but because

of devaluation, the project estimates required revisio... The Company was requested in August, 1966 to submit the revised estimates. The revised estimates were received in the Ministry on the 8th December, 1966.

Switchgear Unit:

Project estimate was received on the 28th July, 1965 and after examination was sent to Ministry of Finance for concurrence in September, 1965. Ministry of Finance asked for some papers for reference and these were furnished on 1-11-1965. In March, 1966 the file was received back from the Ministry of Finance for further examination from production angle and for furnishing details relating to production costs namely turnover, sales value, import reduction effected, requirement of components, etc. The project was asked to comply in March, 1966 and was reminded in May, 1966 but again because of devaluation the project was advised to rework the cost estimates. The instruction was issued in June, 1966 and the revised estimates have been received on the 24th November, 1966"

77. *The Committee feel that both the Undertaking and Government have taken an inordinately long time in regard to the preparation and sanctioning of the estimates. Project estimates should be finalised fairly early in the execution of the projects and after thorough examination, Government should accord its sanction without any delay. The construction of the Hardwar Project started in 1963 and the project has also gone into partial production. It is surprising that its project estimates have not been finalised and sanctioned as yet. The explanations given for the delay are not very convincing.* Committee's view.

C. Working Capital

78. The Committee learn that the projects of the B.H.E.L. have felt certain difficulties regarding their working capital requirements. For instance, in a note submitted to the Committee, the Tiruchy Project has stated as follows:— Difficulties.

> "Government have not sanctioned so far any loan to the project for meeting the working capital requirements. We approach the State Bank and their subsidiaries for our working capital and

at present we have a cash credit of Rs. 150 lakhs for the Tiruchy Project from the State Bank of Travancore. We are negotiating with them for further advance. Pending the availability of adequate funds from the State Bank or its subsidiaries, funds provided by Government have been utilised to meet urgent revenue expenditure to be recouped as and when further cost credit facilities are made available by the Bank.

We have approached Government to assist us to get adequate advances from the State Bank and its subsidiaries and also for permission to obtain advances from other Banks.

We have also sought Government's help for working capital to fill the gap between our actual needs and the credits that may be available from Banks from time to time."

Utilization of loan funds as working Capital.

79. The Committee discussed the question of utilising the loan funds given by the Ministry of Industry for the purpose of working capital. It was stated that the working capital requirements of the public undertakings were normally met by borrowing from banks. As a matter of policy the public sector undertakings dealt only with the State Bank of India. The State Bank of India usually insisted that there should be some guarantee by Government. Regarding the Tiruchy Project, it was stated that the project had made arrangements for part of their requirements from the banks but their entire requirements had not been covered.

80. It was stated that the Government was considering the provision of loans to the public undertakings for their working capital requirements. No decision had, however, been taken in regard to this matter yet. In the case of the Tiruchy Project the State Bank of Travancore had agreed to provide funds up to the limit of Rs. 150 lakhs but their requirement was Rs. 360 lakhs. The Ministry of Finance had been approached in regard to funds for the balance of the requirement. Till now, Government's budget had not included any provision for financing the public sector undertakings for their working capital needs.

81. *The difficulty faced by the Tiruchy project must be faced by several other projects. If they are unable to obtain their requirements from Banks, the only course open to them is to temporarily utilise the funds made available by Government for capital works. This is improper, but in the circumstances, Government do not seem to have left the projects with an alternative. The Committee see no reason why the public sector projects should not be authorised to borrow their entire requirements from the Banks on the basis of a guarantee provided by Government. The Committee would urge a speedy decision on this matter.*

Committee's recommendations.

D. Associating of F.A. & C.A.O. in negotiations with the consultants

82. In the quarterly financial report for the period ending 31-3-1965 in respect of the Hyderabad Project, the F.A. and C.A.O. had commented that the agreements with the consultants were not screened by the Financial Adviser of the Project. He had stated as follows:—

> "As considerable financial outlay is involved one would expect that these proposals should be subjected to detailed financial scrutiny and analysis at the Project level before and during negotiations. As it is, the financial Adviser of the unit is not aware of the basis on which the prices for individual items for package deals have been negotiated, nor is he sure whether all the financial considerations that should weigh before finanlising transaction of this nature have been fully considered. However, since all these agreements have had the approval of the Govt. it is presumed that they are satisfied with the present practice of dealing with this matter. It may not be out of place to mention that apart from negotiations and finanlisation of Agreements for the supply of capital machinery, the negotiations and finalisation of Agreements for the supply of components and raw-materials as also that for technical cooperation (dt. 22-4-65.) aggregating to Rs. 790 lakhs have not been subjected to detailed financial scrutiny at the project level before finalisation".

83. The Secretary of the Ministry of Industry stated before the Committee that there were different levels at which such financial matters were considered. When they were considered at the Government level, the Financial Adviser was associated. with the decision. When it was considered by the Board of Directors or at the headquarters of the Company, the Director/Financial Director of the Company or if there was a F.A. for the Company as a whole, he was associated. When a matter was considered at the project level, the project's Financial Adviser was associated. Quite often, it might happen that a project's Financial Adviser may not have been associated with a matter which was dealt with at the headquarters level.

84. As regards the agreements to which the F.A. & C.A.O. of Hyderabad has alluded to in his comments, according to the Chairman, B.H.E.L., these were the principal agreements entered into with the consultants, which implied that the projects need not have been consulted. The agreements were concluded by the Chairman and not the Project Authorities.

Role of FA and CAO.

85. *There is apparently some confusion about the role of the F.A. and C.A.O. in regard to the financial scrutiny of the proposals. It should be advantageous to associate the F.A. and C.A.O. when entering into agreements with foreign consultants and collaborators which involve sizeable financial commitments. The Committee have found disparity in the powers exercised by the F.A. and C.A.O. in the public undertakings. The Committee recommend that Government should issue suitable directions on this matter in order to clarify the role of the F.A. and C.A.O.s in the public undertakings.*

ORGANIZATION AND PERSONNEL

A. Board of Directors

86. The Company is managed by a Board of Directors consisting of six members. Three of the present members including the Chairman have experience of the electrical industry. The others are the representatives of the Ministry of Finance, the Ministry of Industry and a representative of the U.P. Government. It is the policy of Government to have the representatives of the other State Governments to be the members of the Board, in rotation. Composition of the Board.

87. The Board of Directors have set up a standing sub-Committee, comprising of three Directors including the Chairman. The other members of the Committee are the representatives of the Ministries of Industry and Finance. The power and functions of this sub-Committee are to consider any matter that may be referred to it by the Board of Directors. The Chairman can also refer to this sub-Committee any important and emergent matter for decision, which would normally need the consideration of the Board of Directors. Standing sub-Committee.

At the meetings held by the sub-Committee, some of the important decisions taken by it are as follows:—

(1) At the first meeting held on 5-12-1964, the sub-Committee considered and approved the Revised Estimates for 1964-65 and Budget Estimates for 1965-66 in respect of the Ranipur Unit.

(2) At the second and third meetings held on 13-5-1965 and 17-9-1965 respectively the sub-Committee considered and approved the Project Estimates of the Ranipur Project.

(3) At the second and third meetings held on 13-5-1965, 17-9-1965 respectively, the sub-Committee

considered the question of getting subsidy under the Subsidised Industrial Housing Scheme of the Government of India for the townships of the Company.

(4) At the fourth meeting held on 26-11-1965 the sub-Committee considered the Pricing Formula for pricing of the products of Tiruverumbur and Ramachandrapuram Units and laid down certain guide-lines on which the prices were to be worked out.

Committee's recommendation.

89. *The Committee feel that it would not be right for the sub-Committee consisting only of the Chairman and two official Members to take decisions on such important matters like the Budget estimates and the Project estimates without bringing to the notice of the Board. Such important matters should be decided by the full Board. The present Board is a compact board of six members and it should not be difficult for it to meet to consider such important matters.*

90. ***The Committee would suggest that in case it is necessary to have a standing sub-Committee, the powers and functions of such a sub-Committee should be specified in writing.***

B. Personnel on Deputation

91. The number of persons who are on deputation from Government services to the various projects are as follows:—

	Central Govt.	State Govt.	Railways
(i) Head Office	1	2	6
(ii) Hardwar Unit	1	21	14
(iii) Hyderabad Unit	17	25	—
(iv) Tiruchy Unit	3	11	17

92. It will be noticed that a large number of persons have been taken on deputation from Government departments to the projects of the Company. Even a peon in the Headquarters office is on deputation. It was noticed that

the majority of the deputationists are from the Railways and the State Governments.

93. Explaining the position during evidence, the Chairman of the Bharat Heavy Electricals Ltd. stated that the deputationists were taken initially when the projects started, for Accounts Services. In regard to civil works also, he thought that it would be a good policy to take deputationists so that the problems of dispensing with their services might not arise after the construction was over. As regards the Accounts Departments, he said that initially when the work started, the accounts work in the projects was more or less similar to that done in other Government Departments. Such of the deputationists who were found to be useful and were willing to be absorbed in the Company, were absorbed. Many employees who had initially come on deputation had been absorbed permanently in the Company. Reasons for taking deputationists.

94. *The Committee are not very happy over indefinite employment of deputationists from Government Departments in the projects. Even in the initial phase of a project, the best persons who have knowledge of procedures in commercial organizations should be chosen. If a man has to be taken from a Government Department and if his work and conduct are found satisfactory, he should as far as possible be permanently absorbed in the organisation, subject to the conditions of service of the company. This will enable the staff of the Company to develop a sense of belonging right from the start of their career.* Committee's recommendations.

C. Recruitment of Retired Personnel

95. The following is the list of retired persons employed in the projects of the Company:—

HEADQUARTERS, NEW DELHI

Sl. No.	Category	Period of Employment	
		From	To
1	Chairman	7-8-65	7-8-68
2	PA to Chairman	3-8-61	2-8-67

1	2	3	4
	HARDWAR		
1	Project Administrator .	13-6-66	12-6-69
2	Chief Engineer (Elec.) .	7-5-65	6-5-68
3	Zonal Engineer (Design)	3-12-63	2-12-66
4	Asstt. Engineer (Civil)	20-5-64	19-5-67
5	Asstt. Engineer (Civil) .	29-1-66	28-1-67
	HYDERABAD		
1	District Controller of Stores .	25-5-62	4-1-67
2	Chief Medical Officer .	2-5-66	1-5-67
	TIRUCHY		
1	Supdt/Stores and purchase .	31-7-65	29-1-67
2	Security Officer	14-9-65	14-9-66
3	Security Inspector . .	15-7-64	31-5-67
	SWITCHGEAR		
	NIL		

Reasons for employing retired persons.

96. During evidence, the Chairman of the B.H.E.L. explained that the P.A. to the Chairman actually came from the Northern Railway when he was in service. He came on deputation. He retired from Railway service at the age of 55 years but since he was in good health, his services were retained. The Project Administrator at Hardwar was a technical officer appointed by Government. The Chief Engineer at Hardwar had got wide experience in electrical engineering. There was a lot of electrical work to be done at Hardwar. It was thought that his experience would be very useful for this project, and so he was recruited for the construction phase. In the case of the Zonal Engineer (Design), he was an expert structural engineer. The Assistant Engineer (Civil) was employed specially for laying of the sidings etc. The District Controller of Stores was an Air Force Officer who had experience in stores. The Medical Officer was a very experienced Army Officer

who had experience in organising hospitals. The Superintendent of Stores & Purchase come from Madras on deputation. He retired at the age of 55 but was retained further. He was only 55 years of age and was an experienced man.

97. *The Committee feel that considerations of experience alone for employment of retired personnel is not a very convincing argument as all retired persons have experience. Employment of retired personnel results in the blocking of opportunities for the younger people. It is understandable that retired persons having some specialised knowledge or experience very vital to the undertaking being employed for some time, but for normal jobs like those of civil engineers or personal assistants, for which any number of candidates are available in the country there does not appear to be any justification for appointment of retired personnel.* Committee's recommendation.

98. *The Committee would, therefore, recommend that Government should lay down a clear policy regarding the employment of retired persons in the public sector undertakings.*

99. The Committee discussed the appointment of a retired person as Chairman of the Company with the representatives of the Ministry, during oral evidence. The Secretary of the Ministry of Industry explained to the Committee that the Government's policy in this regard was to select the best man possible but he added that as working rule, Government was at present preparing a panel of names for appointment to top posts in Government undertakings. One of the conditions for selection of persons to this pannel was that nobody above the age of 58 would be eligible. As regards the present Chairman, it was stated that he retired from the Railway Board on attaining the age of 59 years and joined B. H. E. L. immediately thereafter, although decision to appoint him was taken earlier. The appointment given to him was for three years. He further stated that for maintaining continuity and efficient working of an organization, the Chairman or Managing Director's tenure should not be less than 4 years. Appointment of retired person as Chairman.

100. *The present Chairman of the Company has been appointed for a pe riod of 3 years* i.e. *from* 1965 *to* 1968. *The Company was fortunate to have an experienced man like* Committee's view.

the present incumbent as the top administrator. The Committee are, however, constrained to note that Government, even now, after having considerable experience in setting up public sector projects have to face difficulties in finding suitable persons to man the top posts in the public sector projects. That Government have to employ retired and superannuated persons for such posts shows that no effective steps have yet been taken to train persons at the middle managerial level from where persons for the top posts could be drawn. In the case of the B.H.E.L., Government had some experience in setting up an electrical plant at Bhopal and if proper attention had been paid to this aspect, it would, perhaps not have been difficult to find persons to man the top posts in the B. H. E. L. from Bhopal or some other similar public undertakings. The present Chairman would retire in 1968, and Government would again be confronted with the problem of finding a man to replace him then.

D. Surplus staff

Retrenchment of surplus staff.

101. It is learnt that consequent on the completion of the construction of the projects, some staff will have to be retrenched. It has been stated that the ministerial and class IV staff will be absorbed, to the extent possible, in the factories. Deputationists will be returned to their parent departments. A certain number will be absorbed for maintenance purposes. Surplus staff will be allowed to seek jobs elsewhere. Some will be transferred to other units of the Company where construction work may still be going on. The balance will be discharged.

102. During evidence, it was further stated that in the case of civil engineers, some retrenchment will have to be done. So far as the Tiruchy Project was concerned there was no immediate prospect of any retrenchment because the surplus staff will be absorbed in the expansion scheme. Similarly, in the Hardwar Project, the surplus staff will be immediately absorbed in the Foundry Forge Project but ultimately when the project is completed, about 1080 persons who were mostly daily-rated workers, will become surplus and will have to be retrenched.

103. The representatives of the Ministry assured the Committee, during evidence, that Government were taking every step practicable to ensure that these men were not rendered unemployed on completion of the projects. *The Committee hope that Government and the project authorities would give earnest attention to this problem and make suitable arrangements for the absorption of surplus personnel elsewhere so that the projects are not burdened with surplus staff.* Absorption of surplus staff.

E. **Resignation of persons**

104. The Committee obtained the following figures of persons who had resigned from the service of the Company during the last three years:

Hardwar	—	9
Hyderabad	—	98
Tiruchy	—	19

105. It will be seen that a disproportionately large number of people had resigned from the Hyderabad Project. The Committee learnt that the management were not aware of the real reasons for the resignations of most of the employees. Sixteen of the 98 persons were stated to have resigned because they obtained better jobs elsewhere and 5 for continuing their studies. 77 people were stated to have resigned for personal reasons or ill health. *The Committee feel that this large figure indicates some inherent cause which might have persuaded these persons to resign their jobs. It might be beneficial for the management to investigate into the causes of these resignations and take remedial action if necessary.*

VIII

CONCLUSION

106. The Committee examined the projects of the Bharat Heavy Electricals Ltd. at a stage when all of them were under construction and partial production had commenced. Like most other projects, they are also confronted with many special problems like the availablity of construction material e.g. steel, cement etc. in the required quantities and at the proper time, the timely receipt of working drawings from the Consultants and plant and machinery from foreign as well as indigenous sources, firm arrangements for receipt of raw materials etc. The projects of the Bharat Heavy Electricals Ltd., have suffered to some extent on account of these difficulties. Notwithstanding these, however, the Project Authorities have, by and large, done fairly well in grappling with their problems. The Committee have however pointed out a few matters which deserve attention. Some of these are—

(i) The estimated cost of a project, the investment and the likely return on such investment etc. are some of the basic considerations in the matter of setting up an industrial project and should not be omitted.

(ii) In the case of the B.H.E.L. projects, the economic aspects of location do not seem to have been given due consideration.

(iii) A time schedule for the construction of a project is very important both for its timely completion and for a proper managerial control during the construction stage. This important aspect was omitted in the case of the Hardwar Project.

(iv) It is desirable that new projects get their supplies of construction material like steel, cement etc. in time without difficulty.

(v) Intensive efforts should be made to obtain materials required by the projects of the B.H.E.L. from indigenous sources. Research should also be conducted for import substitution.

(vi) There has been an inordinate delay in regard to the sanctioning of the project estimates by Government.

(vii) Proper arrangements should be made to enable projects to obtain their requirements of working capital so that capital funds are not utilised for working expenditure.

107. *The Committee hope that the projects will be completed on schedule and will be able to fulfil their objectives without much difficulty. Power supply is the key to prosperity and every effort should be made to ensure that commitments in regard to supply of basic machinery for power generation are fulfilled in time. The role of the B.H.E.L. is great in this regard and the Committee hope that the undertaking will live up to its responsibilities.*

NEW DELHI;
March 3, 1967.
Phalguna, 12 1888 (S).

D. N. TIWARY,
Chairman,
Committee on Public Undertakings.

APPENDIX

SUMMARY OF CONCLUSIONS|RECOMMENDATIONS

S. No.	Reference to para No. in the Report	Summary of Conclusions|Recommendations.
1	2	3
1	14	The report of the Technical Committee for site selection reveals that the primary consideration for choosing the present sites of the projects was technical. The economic aspects of location do not seem to have been given due consideration.
2	15	It will be seen that the three projects of the B.H.E.L. are in more senses than one, inter-linked with each other. The turbines, generators, motors, pumps, boilers etc. which would be required for a single power project would be manufactured in three different places. The forgings and castings to be manufactured at Hardwar will form component units of the same equipment and as such these will have first to be transported to the other factory before being fitted and transported to the power project site. It is apparent that the ultimate cost of the assembled equipment to the consumers will increase due to the location of the three plants so far away from each other. The problem is of special importance in this particular case because the State will be the biggest purchaser of the products of the company, and as such, the ill effects of the location will have to be suffered by the public. The Committee feel that this is a matter of vital relevance in the location of the projects and seems to have been altogether ignored.
3	18	The reasons given in justification of locating the Head Office of the B.H.E.L. in Delhi, are familiar ones. The Committee feel that this tendency to concentrate Head Offices in Delhi should be curbed. While they agree that liaison

1	2	3
		work with the D.G.T.D. etc. is important during the construction phase, this matter would lose its importance once the projects have gone into production. The argument that the interference in the day-to-day administration of a project by the Head Office will be more if the Head Office is located near a Project, does not also appear very convincing. The Committee suggest that as soon as the construction of the projects are over, the desirability of shifting the Headquarters office to another place *e.g.*, Hyderabad which apart from being central, will be nearer to two projects, might be examined.
4	24	The Committee consider that the estimated cost, investment and likely return on such investment are some of the basic considerations in the matter of setting up any industrial project. It is surprising that these aspects were not taken into consideration before taking a decision for setting up the projects of the B.H.E.L.. The argument of the Secretary of the Ministry that costs and profitability were of a secondary importance at that stage is not a sound one. Considerations of self-reliance are undoubtedly important, but the economic aspect of any scheme is equally important. The Committee hope that Government will insist on having these important and basic data worked out before sanctioning a project.
5	27	The delay of 15 months between the receipt of the Preliminary Project Report and the commissioning of the Detailed Project Report in the case of Hardwar Project was unduly long and the explanation given for the delay is not convicing. It was apparently not a matter which required such a deep thought and investigation before deciding as to what should be done. Such long delays upset planning considerably, and lead to avoidable consequential difficulties. This is especially so in this case where two or three projects are linked together.
6	35	The Committee cannot but conclude that there was no proper coordination between the CWPC, the Planning Commission and the Ministry concerned in regard to the unit sizes of the turbo-

1	2	3
		generator sets to be produced at the Hyderabad Project. It is surprising that a decision to manufacture 25 MW units was taken and plans in this regard progressed with foreign consultants without having the whole question thoroughly examined. A committee was appointed only in early 1962 *i.e.*, 15 months after it was decided to manufacture 25 MW units and when the D.P.R. was about to be ready. This committee reported in July, 1962 and though it was headed by the senior most official of the C.W.P.C., its recommendations were not the same as the decisions arrived at by the Planning Commission, who had decided upon 100 MW size units. It is obvious that there was no crystallised thinking on this subject. The Committee regret the manner in which the project was conceived and proceeded with without basic data or exact knowledge of the future requirements.
7	40	The Committee find that in the case of the Projects of the B.H.E.L., the economic aspects like total capital cost, profitability etc. were not brought to the notice of the Cabinet. The economic viability of a Project is a very important aspect which must be fully assessed before taking a decision regarding its setting up. The Committee, in their Thirteenth report have recommended that Government should lay down the form and the manner in which the Cabinet approval to projects is sought. The Committee had then suggested that for this purpose a list of all the basic information to be included in the note should be drawn and that it should be ensured that nothing of importance from the technical or economic point of view was omitted. Every proposal which is put up to the Cabinet for approval should also contain an indication of the investment-output ratio. The Committee would like to reiterate the recommendation and hope that in the case of all the projects to be set up in the public sector in future this aspect will also be indicated.
8	44	A time-schedule for the construction of a project is very essential both for its timely completion and for a proper technical and administrative control during the construction stage. In the case of the Hardwar project, the project authorities had obviously no knowledge of such

1	2	3
		a schedule before they started the execution of the project. The plea that the volume of the Detailed Project Report containing the time-schedule was not delivered to the project authorities by the consultants is no justification. There does not appear to have been any effort made to obtain the time-schedule or for that matter even to prepare one. If Government had prepared a check list of items which should be covered in a Detailed Project Report and checked the items before the commencement of the project, such an important item could not have been overlooked.
9	45	The Committee hope that all efforts will be made to complete the various blocks of the Hardwar Project without any further delay. The Committee do not see why the target date for completion of the project should be advanced to 31st March, 1969 merely because the financial year happens to end on that date. The projects should be completed as early as possible and it should not necessarily synchronise with the end of the financial year. Delaying the completion even by 3 months would add to the cost of the Project.
10	48	The Committee find that in spite of a provision in the agreement regarding the timely supply of foundation drawings for the heavy equipment of the Hardwar Project, these have not been received according to stipulation in the agreement. The inclusion of a penalty clause in an Agreement might have a salutary effect in preventing delays. Possibility of including such a provision in the future contracts might be examined.
11	52	The Committee suggest that Government might examine the following suggestions made by the Bharat Heavy Electricals Ltd., regarding the supply of items of steel to the projects: (i) High priority should be given for supply of heavy structurals and M.S. plates for projects, which are approved by Government. (ii) Items of steel which cannot be easily obtained in time from indigenous producers should be allowed to be imported freely, so that construction time-schedules are not disturbed.

1	2	3
		It may also be considered whether other construction material like cement etc. can be made available to the p rojects on a high priority basis. Since availability of these materials in time and in required quantity is vital for the timely completion of the projects, it is necessary that Government should ensure that the projects get their supplies of construction material without difficulty.
12	55	It is noticed that as at present, considerable quantities of raw-materials will have to be imported for the manufacture of electrical equipment by the projects of the B.H.E.L. While this is partly inevitable till the Alloy Steel Projects go into production, the Committee feel that firm arrangements should be made with the Hindustan Steel Ltd., or other private steel manufacturers in the country for the supply of steel and alloy steel requirements of the B.H.E.L. The Committee would have expected the B.H.E.L., along with the Heavy Electricals (India) Ltd., Bhopal to make an all out effort to obtain their requirements indigenously to the maximum extent possible, including the encouragement of setting up of new ancillary industries or the starting of new items of production by existing factories. There is not much evidence that this has been done. The Committee hope that intensive efforts will be made in this direction.
13	56	The Committee would urge that intensive efforts and research should be made for using substitute materials, easily available in India, for materials which are imported, so that dependence on imports may cease. One such item is copper which is being replaced by aluminium to a great extent in the electrical industry. Another field which may be fruitfully investigated is insulation material for which good possibilities of indigenous substitution appears to exist. The Committee hope that the company as well as the DGTD will give this matter their earnest attention.
14	63	The Committee feel that in the matter of detailed drawings and the body compositions of the spare parts and components of the plant and equipment due attention should be given by the

1	2	3
		management. Drawings and body specifications of imported spares and components are most important requirements if dependence on foreign suppliers is to be eliminated. The B.H.E.L. should make earnest efforts to obtain these from the consultants and suppliers and if efforts fail, the drawings should be made by the Research and Development section and advance arrangements made for obtaining the special alloys or metals with which the components are made.
15	65	The Committee recommend that every endeavour should be made to completely do away with imports of spares for electrical equipment already in use in the country. All users of such equipment might be told to procure or prepare the drawings and designs of the various parts and components required by them so that indigenous manufacture could be undertaken. The factories of the B.H.E.L. should do their utmost to manufacture such spares. Government should also encourage actual users to place their orders with the B.H.E.L. rather than allowing imports.
16	69	The Committee feel that not much stress has been laid by the undertaking in exploring the possibility of fabricating plant and equipment of the ancillary plants within the country. No serious effort appears to have been made to enquire if any private entrepreneur or any public undertaking was prepared to fabricate the plants in view of the fact that three sets of such plants were required by the B.H.E.L. Apart from saving vital foreign exchange, such a move would have fostered expertise in India in this field of industry.
17	71	71. The Committee recommend that in case none of the private parties come forward to manufacture seamless tubes, Government might examine the possibility of setting up a public undertaking for manufacturing such tubes if the Heavy Engineering Corporation Ltd. cannot undertake their manufacture. Every effort should be made to avoid wastage of foreign exchange on the imports of this material which can be easily manufactured in the country.

1	2	3
18	74	The Committee find that the capital structure of the Company is not in accordance with the policy laid down by Government.
19	77	The Committee feel that both the B.H.E.L. and Government have taken an inordinately long time in regard to the preparation and sanctioning of the estimates of the Hardwar Project and the Switchgear unit. Project estimates should be finalised fairly early in the execution of the projects and after thorough examination, Government should accord its sanction without any delay. The construction of the Hardwar Project started in 1963 and the project has also gone into partial production. It is surprising that its estimates have not been finalised and sanctioned as yet. The explanations given for the delay are not very convincing.
20	81	The difficulty faced by the Tiruchy project in regard to its requirements of Working Capital must be faced by several other projects. If they are unable to obtain their requirements from Banks, the only course open to them is to temporarily utilise the funds made available by Government for capital works. This is improper, but in the circumstances, Government do not seem to have left the projects with an alternative. The Committee see no reason why the public sector projects should not be authorised to borrow their entire requirements from the Banks on the basis of a guarantee provided by Government. The Committee would urge a speedy decision on this matter.
21	85	There is apparently some confusion about the role of the F.A. & C.A.O. in regard to the financial scrutiny of the proposals. It should be advantageous to associate the F.A. & C.A.O. when entering into agreements with foreign consultants and collaborators which involve sizeable financial commitments. The Committee have found disparity in the powers exercised by the F.A. & C.A.O. in the public undertakings. The Committee recommend that Government should

1	2	3
		issue suitable directions on this matter in order to clarify the role of the F.A. & C.A.Os. in the public undertakings.
22	89-90	The Committee feel that it would not be right for the sub-Committee of the Board of Directors consisting only of the Chairman and two official Members to take decisions, on such important matters like the Budget estimates and the Project estimates without bringing to the notice of the Board. Such important matters should be decided by the full Board. The present Board is a compact board of six members and it should not be difficult for it to meet to consider such important matters. The Committee would suggest that in case it is necessary to have a standing sub-Committee, the powers and functions of such a sub-Committee should be specified in writing.
23	94	The Committee are not very happy over indefinite employment of deputationists from Government Departments in the projects. Even in the initial phase of a project, the best persons who have knowledge of procedures in commercial organizations should be chosen. If a man has to be taken from a Government Department and if his work and conduct are found satisfactory, he should, as far as possible, be permanently absorbed in the organisation, subject to the conditions of service of the company. This will enable the staff of the Company to develop a sense of belonging right from the start of their career.
24	97-98	The Committee feel that considerations of experience alone for employment of retired personnel is not a very convincing argument as all retired persons have experience. Employment of retired personnel results in the blocking of opportunities for the younger people. It is understandable that retired persons having some specialised knowledge or experience very vital to the undertaking being employed for some time, but for normal jobs like those of civil engineers or personal Assistants ,for which any number of candidates are available in the country there does not appear to be any justification for appointment of retired personnel.

1	2	3
		The Committee would recommend that Government should lay down a clear policy regarding the e mployment of retired persons in the public sector undertakings.
25	100	The present Chairman of the Company has been appointed for a period of 3 years *i.e.* from 1965 to 1968. The Company was fortunate to have an experienced man like the present incumbent as the top administrator. The Committee are, however, constrained to note that Government, even now, after having considerable experience in setting up public sector projects have to face difficulties in finding suitable persons to man the top posts in the public sector projects. That Government have to employ retired and superannuated persons for such posts shows that no effective steps have yet been taken to train persons at the middle managerial level from where persons for the top posts could be drawn. In the case of the B.H.E.L., Government had some experience in setting up an electrical plant at Bhopal and if proper attention had been paid to this aspect, it would, perhaps not have been difficult to find persons to man the top posts in the B.H.E.L. from Bhopal or some other similar public undertakings. The present Chairman would retire in 1968, and Government would again be confronted with the problem of finding a man to replace him then.
26	103	The representatives of the Ministry assured the Committee, during evidence, that Government were taking every step practicable to ensure that the staff rendered surplus on completion of the projects were not rendered unemployed. The Committee hope that Government and the projects authorities would give earnest attention to this problem and make suitable arrangements for the absorption of surplus personnel elsewhere so that the projects are not burdened with surplus staff.
27	105	A disproportionately large number of people had resigned from the Hyderabad Project. The Committee learnt that the management were not aware of the real reasons for the resignations of most of the employees. Sixteen of the 98 persons

1	2	3
		were stated to have resigned because they obtained better jobs elsewhere and 5 for continuing their studies. 77 people were stated to have resigned for personal reasons or ill health. The Committee feel that this large figure indicates some inherent cause which might have persuaded these persons to resign their jobs. It might be beneficial for the management to investigate into the causes of these resignations and take remedial action if necessary.
28	107	The Committee hope that the projects will be completed on schedule and will be able to fulfil their objectives without much difficulty. Power supply is the key to prosperity and every effort should be made to ensure that commitments in regard to supply of basic machinery for power generation are fulfilled in time. The role of the B.H.E.L. is great in this regard and the Committee hope that the undertaking will live up to its responsibilities.

GMGIPND—LS-I—2603(Aii) LS—27-3-67—1270.