

**COMMITTEE ON PUBLIC UNDERTAKINGS
(1967-68)**

TWELFTH REPORT

(FOURTH LOK SABHA)

HEAVY ELECTRICALS (INDIA) LTD.

**MINISTRY OF INDUSTRIAL DEVELOPMENT AND
COMPANY AFFAIRS**

(DEPARTMENT OF INDUSTRIAL DEVELOPMENT)



**LOK SABHA SECRETARIAT
NEW DELHI**

8.3741 *April, 1968/Chaitra, 1890 (Saka)*

Price : Rs. 1.55

**LIST OF AUTHORISED AGENTS FOR THE SALE OF LOK SABHA
SECRETARIAT PUBLICATIONS**

Sl. No.	Name of Agent	Agency No.	Sl. No.	Name of Agent	Agency No.
ANDHRA PRADESH					
1.	Andhra University General Cooperative Stores Ltd., Waltair (Visakhapatnam).	8	13.	Deccan Book Stall, Ferguson College Road, Poona-4.	65
2.	G. R. Lakshminpathy Chetty and Sons, General Merchants and News Agents, Newpet, Chandragiri, Chittoor District.	94	RAJASTHAN		
			14.	Information Centre, Government of Rajasthan, Tripolia, Jaipur City.	38
ASSAM					
3.	Western Book Depot, Pan Bazar, Gauhati.	7	UTTAR PRADESH		
			15.	Swastik Industrial Works, 59, Holi Street, Meerut City.	2
BIHAR					
4.	Amar Kitab Ghar, Post Box 78, Diagonal Road, Jamshedpur.	37	16.	Law Book Company, Sardar Patel Marg, Allahabad-1.	48
GUJARAT					
5.	Vijay Stores, Station Road, Anand.	15	WEST BENGAL		
6.	The New Order Book Company, Ellis Bridge, Ahmedabad-6.	63	17.	Granthaloka, 5/1, Ambica Mookherjee Road, Belgharia, 24 Parganas.	10
			18.	W. Newman & Company, Ltd., 3, Old Court House Street, Calcutta.	44
			19.	Firma K. L. Mukhopadhyay, 6/1A, Banchharam Akkur Lane, Calcutta-12.	82
MADHYA PRADESH					
7.	Modern Book House, Shiv Vilas Palace, Indore City.	13	DELHI		
MAHARASHTRA					
8.	M/s. Sunderdas Gianchand, 601, Girgaum Road, near Princess Street, Bombay-2.	6	20.	Jain Book Agency, Connaught Place, New Delhi.	1
9.	The International Book House (Private) Limited, 9, Ash Lane, Mahatma Gandhi Road, Bombay-1.	22	21.	Sat Narain & Sons, 3141, Mohd, Ali Bazar, Mori Gate, Delhi.	3
10.	The International Book Service, Deccan Gymkhana, Poona-4.	26	22.	Atma Ram & Sons, Kashmir Gate, Delhi-6.	9
11.	Charles Lambert & Company, 101, Mahatma Gandhi Road, Opposite Clock Tower, Fort, Bombay.	90	23.	J. M. Jaina & Brothers, Mori Gate, Delhi.	11
			24.	The Central News Agency, 23/90, Connaught Place, New Delhi.	15
			25.	The English Book Store, 7-L, Connaught Circus, New Delhi.	20
12.	The Current Book House, Maruti Lane, Raghunath Dadaji Street, Bombay-1	60	26.	Lakshmi Book Store, 42, Municipal Market, Janpath, New Delhi.	23

CORRIGENDA

Twelfth Report of the Committee on Public Undertakings on HEIL

<u>Page</u>	<u>Para</u>	<u>Line</u>	<u>For</u>	<u>Read</u>
4	12	15	factor	factory
6	13	30	re-manufacturers'	ex-manufacturers'
11	31	9	accompanies	accompanied
11	31	11	the conclusive	be conclusive
40	116	2	omit 'out'	
44	129	9	and	any
51	146	11	than	then
51	146	13	So mpetition	Competition
			(under control panels)	
55	156	8	transformar	transformer
72	204	17	consumption of electiricity in the township	finished output has to bear its cost. Obviously the cost of township
			(Section XVI of Audit	
74	208(iii)	3	lakhs	Rs. 5121.55 lakhs
	208(iv)	9	imfammable	inflammable
75	210	2	supposed	supplied
		5	sanctioned	sanctions
76	212	2	sanction	sanctioned
78	214	6	imforeseen	unforeseen
81	229	1	oustandings	outstandings
83	235	15	1965-66	1964-65
84	237	1	he	the
85	244	4	Elecetricals	Electricals
87	248	13	Rs.	Rs. 161,76,400
88	250	3	of reasonable	or reasonable
91	255	3	charge	change
91		6	valves	values
92	261	3	etc. costs	costs etc.
97	36	36	acillary	ancillary
109	3	27	and	end
111	3		delete line 4	
	3	8	lead	load
113	3	9	two	too
117	3	13	rationalise	rationalised
118	3	14	design	design and
118	3	30	and	the
119	3	8	Steam turbines	(Steam turbines)
121	3	35	judge	judged

CONTENTS

	PAGE No.
COMPOSITION OF THE COMMITTEE	(iii)
COMPOSITION OF STUDY GROUP	(iv)
INTRODUCTION	(v)
I. INTRODUCTORY	I
II. Agreement with the Consultants	
A. Agreement with M/s. AEI	4
B. Subsidiary Consultants	8
C. Purchasing Agency Agreement	11
D. Purchases on Single Tender Basis	13
E. Total Remuneration Paid to the Consultants	14
F. Expenditure on London Office	17
III. PROJECT REPORT	20
IV. CONSTRUCTION OF THE PROJECTS	25
V. PLANT AND MACHINERY, COMPONENTS AND RAW MATERIALS	
A. Plant & Machinery	27
B. Heavy Rotating Test Plant	27
C. Components	28
D. Ancillary Industries	30
E. Import Duty	31
F. Raw Materials	33
VI. PRODUCTION	
A. Product mix as given in the DPR	39
B. Phasing of the Production Programme	39
C. Present Scheme	40
D. Shortfall in Production Targets	41
E. Reasons for the Shortfall	43
F. Utilisation of Installed Capacity	50
G. Order Position	53
H. Electrical Equipment for Railways	54

VII. EXPANSION SCHEMES	57
A. Expansions Envisaged in the Supplementary Project Report	57
B. Expansions not envisaged in the Supplementary Project Report	57
C. Details <i>re</i> : Schemes	
(i) Expansion Projects under implementation	58
(ii) Expansion Schemes being processed.	59
(iii) Expansion schemes for which Project Reports are being prepared	60
D. Profitability of the Expansion Schemes	62
VIII. ORGANISATION	
A. Board of Directors	64
B. Personnel Matters	65
C. Recruitment and Promotion Policy	68
IX. LABOUR MANAGEMENT RELATIONS	69
X. TOWNSHIP	71
XI. FINANCIAL MATTERS	
A. Project Estimates	74
B. Working Capital	78
C. Sundry Debtors and Turnover	81
D. Inventory	82
E. Pricing Policy	84
F. Operational Results	88
XII. CONCLUSION	94

APPENDICES

I. Statement showing the aspects covered under Detailed Project Report (Original)	96
II. Statement showing target dates for commencement and completion of Factory Buildings.	
III. Product-mix as per original D.P.R., Supplementary Project Report, and Planned by the Company.	
IV. Summary of Conclusions/Recommendations	

**COMMITTEE ON PUBLIC UNDERTAKINGS
(1967-68)**

CHAIRMAN

Pandit D. N. Tiwary

MEMBERS

2. Shri C. C. Desai
3. Shri Surendranath Dwivedy
4. Shri S. S. Kothari
5. Shrimati T. Lakshmi Kanthamma
6. Shri Krishnan Manoharan
7. Shri Manubhai Patel
8. Shri S. N. Shukla
9. Shri Prem Chand Verma
10. Shri Chandrajeet Yadava
11. Shri Arjun Arora
12. Shri Vimalkumar M. Chordia
13. Shri Banka Behary Das
14. Miss M. L. Mary Naidu
15. Shri Awadheshwar Prasad Sinha.

SECRETARIAT

Shri N. N. Mallya—*Joint Secretary.*
Shri A. L. Rai—*Deputy Secretary.*
Shri M. M. Mathur—*Under Secretary.*

PARLIAMENT LIBRARY
(Library of the Committee on Public Undertakings)
Central Govt. Publications,
Acc No R 29464(C)..
Date, 6.5.68.....

**STUDY GROUP II ON HEAVY ENGINEERING AND HEAVY
ELECTRICALS**

Shri Arjun Arora—*Convener.*

MEMBERS

2. **Shri Manubhai Patel**
3. **Shrimati T. Lakshmi Kanthamma**
4. **Shri Vimalkumar M. Chordia.**

SECRETARIAT

Shri A. L. Rai—*Deputy Secretary*

Shri M. M. Mathur—*Under Secretary.*

INTRODUCTION

1. The Chairman, Committee on Public Undertakings having been authorised by the Committee to submit the Report on their behalf, present this Twelfth Report on the Heavy Electricals (India) Ltd.

2. This Report is based on the examination of the working of the Heavy Electricals (India) Ltd. upto the year ending 31st March, 1967. The Committee took the evidence of the representatives of the Heavy Electricals (India) Ltd. on the 18th and the 19th December, 1967 and of the Ministry of Industrial Development and Company Affairs (Department of Industrial Development) on the 19th and the 20th December, 1967.

3. The material relating to the undertaking was processed and considered at various stages by the Study Group II of the Committee.

4. The Report was adopted by the Committee on the 22nd March, 1968.

5. The Committee wish to express their thanks to the officers of the Ministry of Industrial Development and Company Affairs (Department of Industrial Development) and the Heavy Electricals (India) Ltd. for placing before them the material and information that they wanted in connection with their examination. They also wish to express their thanks to the non-official organizations who, on request from the Committee, furnished their views on the working of the Heavy Electricals (India) Ltd.

6. The Committee also place on record their appreciation of the assistance rendered to them in connection with the examination of audit paras pertaining to Heavy Electricals (India) Ltd. by the Comptroller and Auditor General of India.

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

NEW DELHI;
April 3, 1968.

Chaitra 14, 1890 (Saka).

INTRODUCTORY

The quantum of electricity generated and consumed by a country is generally indicative of the level of industrial progress made by the country. In 1950, the total installed capacity in India for generation of power was 23 lakh KW. At present it is 101 lakh KW. The target by 1971 is twice as much. In other words as much new capacity is to be installed by 1971 as was installed in all the previous years put together. It necessarily involves manufacture of equipments for generation, transmission etc. of power. With this object in view, a Committee headed by Dr. J. C. Ghosh, the then Director General of Industries and Supplies, was appointed in 1948 to explore the possibility of developing the manufacture of Heavy Electrical Power Plants to meet the requirements of equipment for the generation, transmission and distribution of power in the country. That Committee recommended the setting up of a project to manufacture the required equipment. Detailed Project Reports were invited and received from three firms of international repute viz. Associated Electrical Industries U.K., International General Electrical Company, U.K. and Westinghouse of U.S.A. Further consideration of the issue was, however, deferred in the year 1950 because of the financial stringency then prevailing.

2. The question of setting up of a Heavy Electrical Equipment Plant assumed new dimensions in the year 1952 owing to schemes of large-scale electrification of railways and hydro-electric developments which were to be taken up. The Government, therefore, again invited firms of international repute which were willing to participate financially as well as technically to submit project reports. Of the four firms, which offered to prepare project reports, only two firms ultimately submitted such reports early in 1954.

3. Before taking a final decision, Government again constituted in October, 1954, a Committee headed by Shri S. A. Gadkary, Consultant (Power), Planning Commission, to investigate, *inter alia*, the exact requirements of the country regarding Heavy Electrical Equipment, the extent to which these could be met by current production in India, and how the residue could be met by indigenous production.

4. Taking these factors into consideration, the Committee recommended that the manufacture of heavy electrical plant in the country was essential for speeding up industrialisation and that the only

way of achieving it was for the State to establish a factory for the purpose. Government accepted the recommendations of the Gadkary Committee to set up a factory for the purpose.

5. Proposals were then invited from well-known international firms engaged in this field for technical and financial collaboration. After a scrutiny of the offers received, M/s. Associated Electrical Industries of U.K. were selected as consultants for the design and layout for the factory and also to render technical advisory service in the operation of that factory, and an agreement was entered into with them on the 17th November, 1955. As per terms of the agreement, the consultants prepared a Detailed Project Report which they submitted in November, 1956. It was approved by the Government in March, 1957.

6. The Heavy Electricals (India) Ltd. was incorporated in 1956 for the manufacture of heavy electrical equipments such as Hydraulic turbines, Switchgears, Transformers, Control Gear Static Capacitor, etc.

7. Until the 16th of November, 1964, the HEIL managed the following projects:

- (i) Heavy Electrical factory, Bhopal, M.P.
- (ii) Heavy Electrical Equipment Plant, Hardwar, U.P.
- (iii) Heavy Power Equipment Plant, Hyderabad, Andhra Pradesh.

(iv) High pressure Boiler Plant, Tiruchirapalli, Madras.

8. The three units (ii) to (iv) were separated from the Heavy Electricals (India) Ltd., to form a new Company viz. Bharat Heavy Electricals Ltd. on the 13th November, 1964. The Committee examined this undertaking viz. Bharat Heavy Electricals Ltd. in the year 1967 and presented a report to Parliament.

9. The project at Bhopal, as stated above, is being set up with the collaboration of Associated Electrical Industries of the United Kingdom. AEI, besides acting as technical consultants, have also offered financial help for the project. Besides the AEI, British Insulated Callendars Cables Ltd., London and the Morgan Grenfell and Co. have also advanced loans to the Company.

10. The working of the Heavy Electricals (India) Ltd. was examined by the Estimates Committee in the year 1962-63 in their 35th Report presented to Parliament in April, 1963. A Report on the Action Taken by the Government on this Report was presented by the Committee on Public Undertakings on the 12th August, 1967.

11. The construction of this project started in the year 1957. Partial production in the factory commenced from the middle of 1960. Thus, when the Estimates Committee last examined this project, production had barely started and the scope for examination of the project was limited to the planning and initial construction thereof. Since then, production of other items of equipment have also started. During the course of construction, expansion of the project has been undertaken and new items of production not originally conceived in the project report, have been taken up. These factors, to a great extent, have retarded the completion of the project. Full production has also not been achieved for most of the items of manufacture. The company has also been incurring heavy losses over the years. Problems concerning the production phase which were not foreseen in the Detailed Project Report have also cropped up. The Committee's findings and recommendations on the working of the Heavy Electricals (India) Ltd. on most of these and other aspects of the project are contained in the following chapters.

AGREEMENT WITH THE CONSULTANTS

A. Agreement with M/s. AEI

12. The Government entered into an agreement with Messrs Associated Electrical Industries Ltd., U.K. on the 17th November, 1955 to appoint them as Consultants for the establishment of Heavy Electrical factory in the country. The main functions of the Consultants, under the agreement are as follows:

- “(a) Prepare a detailed project report which will include the plans of the factory, and the layout of the different departments with their plant and equipment, and other details which are given in Article V of the Agreement, and
- (b) Generally undertake all such duties as are commonly within the scope and functions of consulting engineers, and in particular:—
 - (i) act as consulting engineers on site and give directions, instructions and information so as to ensure that the factor is established and equipped and that the general layout is carried into effect in accordance with their final recommendations,
 - (ii) prepare plans and specifications of the plant, machines, equipment and materials which are required, in such detail as will enable reputed firms specialising in supplies and work of that kind to submit detailed quotations and assist the Government where necessary to issue invitations for tenders on a global basis.
 - (iii) examine and scrutinise the tenders received, advise upon tenders and on further enquiries if necessary, for plant and equipment, and generally place the Government in a position to issue orders for plant and equipment, and carry out such inspection before delivery as the Government may request.
 - (iv) state the delivery requirements of all plant, machinery and equipment and production materials in accordance with the general programme, progress the delivery of such items as are ordered by them on behalf of the Government, and carry out similar duties for equipment

ordered by the Government if requested to do so, giving advance information to enable Indian ships to be used for imported goods where possible,

- (v) keep the Government informed through periodical reports about the progress of manufacture and delivery of all plant, machinery etc. required for the factory.
- (vi) supply floor plans and general floor specifications, supervise the preparation of the installation drawings required and check and certify the foundation drawings for the plant machinery and equipment,
- (vii) supervise the construction of the factory and the erection, testing, commissioning and initial operation of the plant and equipment of the factory:

Provided that in respect of the factory buildings, the supervision will be exercised in co-operation with the Government's architects and/or engineers.

- (viii) bring to the notice of the Government from time to time the need for taking such action as may be necessary to maintain the time-schedule and to ensure the successful completion and working of the factory, and
- (ix) render technical service in the operation of the factory as set out in Articles VIII.

13. In consideration of the services of the Consultants, according to the agreement, the Government shall pay to or reimburse the Consultants as follows:—

(a)(i) within one month of appointment as Consultants	£10,000
(ii) within one month of receipt of the detailed project report	£20,000
(iii) within 6 months of receipt of the detailed project report	£70,000
(iv) Four payments of £75,000 each, the first such payment to be made six months after the placing of the first contract for the factory buildings whether for steel-work or civil engineering or on the 1st January, 1959 whichever is the later. The remaining three payments will be made at intervals of 18 months after the first payment has been made, provided that the progress of the factory is according to the Time Schedule in the Detailed Project Report accepted by the Government (as subsequently amended) ; and delay in such progress to be related to the dates of the said payment which in that event are to be similarly delayed	£300,000
TOTAL	£400,000

The payments shall be made in pounds sterling.

- (b) A charge of 2½ per cent on the total annual sales value reckoned upon 31st March, of each year of the finished products of the factory (excluding hydraulic turbines) minus the invoice value of the imported components purchased from the Consultants during the year.
- (c) Drawings, tracings, prints and other documents, at the Consultants' current rates.
- (d) Salaries and overheads, allowances, travelling and incidental expenses of the technical specialists deputed by the Consultants for rendering technical assistance and supervision for the training of personnel, the construction, erection, commissioning and operation of the factory, the number of the specialists required and the terms and conditions of their deputation being determined by mutual agreement between the parties.

The cost of transporting the families of the technical specialists between the U.K. and the place of work in India will be allowed where agreed between the parties:

Provided that no charge shall be payable by the Government for the technical specialists deputed for the preparation of the detailed project report.

- (e) 3 per cent of the price of such special machines and equipment as will require the preparation of detailed design drawings and purchasing specifications by the Consultants in their own organisation and as the Government request them to prepare:

Provided that "the price" in respect of the imported machines and equipment shall be the F.O.B. price, and in respect of machines and equipment manufactured in India shall be the price of re-manufacturers' works:

Provided also that the total payment under this head shall not exceed Rs. 12,00,000.

- (f) 5 per cent of the F.O.B. price of any plant, equipment and materials which the Consultants are required to purchase and inspect as purchasing agents of the Government and which the Consultants do not themselves manufacture. This charge will include (i) the cost of inspection and overheads in the U.K. and (ii) the work detailed under sub-clause (e) above where necessary. The cost of inspection plus overheads in countries other than the U.K. will be paid to the Consultants in addition to this charge of 5 per cent.

(g) Cost of inspection plus overheads where inspection only is required to be undertaken by the Consultants except as provided under sub-clause (f). All payments shall, unless specified to the contrary, be made in rupees and such payments except reimbursements of expenses shall be subject to taxes on income according to the laws of India. Such payments shall unless provided for otherwise be made within 90 days of the presentation of the respective bills. Facilities shall be provided by the Government for the remittance of these amounts to the U.K."

14. The technical Consultancy Agreement is in operation for the last 12 years. From the above stipulated schedule of payments it will be seen that, besides the payment of £ 400,000 in lump sum, payment have to be made to the consultants in terms of other sub-clauses mentioned above, depending upon the sales of the equipments produced, purchases of plant and machinery through the A.E.I., and the posting of specialists.

15. The total amount paid to the Consultants upto 31st March, 1967 was Rs. 388.83 lakhs. The following payments had been made under various clauses of section XVI of the Technical Consultancy agreement:—

S. No.	Clause No.	Amount
		(Rs. in lakhs)
1	XVI (a)	53.33
2	XVI (b)	37.48
3	XVI (c)	24.44
4	XVI (d)	264.07
5	XVI (e)(f)(g)	No separate record, has been maintained to book payments against these sub-clauses.

16. The Committee desired to know as to why complete records of payments made to the Consultants under sub-clauses (e) (f) & (g) of the Agreement had not been maintained. The Chairman of the Company stated in evidence that he found no use for compiling a record of the amounts paid under these sub-clauses because the amounts under these heads would be negligible.

17. The Committee enquired whether the total amount paid to the Consultants upto 31st March, 1967 i.e. Rs. 388.83 lakhs also included the payments made to the subsidiary Consultants namely; Messrs

British Insulated Callendars Cables Ltd. and English Electric Company. The Chairman of the Company stated that he had no information and that he would check it up. From the information supplied later it is learnt that this amount includes a sum of Rs. 31.42 lakhs paid to the subsidiary consultants.

18. The Committee desired to be informed of the payments made to the AEI under various clauses of the Agreements, as the information could not be gathered from the written replies though the Chairman of the Company promised during evidence to compile the figures and furnish them to the Committee later on. The argument that the amounts were negligible and hence no accounts of these payments were kept separately is not convincing. In terms of sub-clause (e) of Clause XVI the payment could be upto Rs. 12 lakhs of rupees and under sub-clause (g) Rs. 11.64 lakhs have been paid to the Consultants. The Committee consider that whenever public undertakings engage foreign Consultants, it is necessary that proper accounts of the payments made to the Consultants under various clauses of the Agreements are maintained.

B. Subsidiary Consultants

19. The main consultancy Agreement of 1955 with the AEI provided: 'in respect of the manufacture of static capacitors, the consultants shall ensure that they have a legally valid arrangement with Messrs. British Insulated Callendars Cables Ltd. of the U.K. whereby they shall be able to pass on the designs, drawings, manufacturing methods and technique in respect of such static capacitors to the Government in fulfilment of the terms of this Agreement'; and, 'in respect of the manufacture of hydraulic turbines and of insulating materials, the Government shall decide in consultation with the Consultants what firms shall be selected for subsidiary technical assistance and on what terms, in the same manner as for the manufacture of static capacitors.'

20. In pursuance of the above provisions of the main Agreement the AEI entered into agreements with M/s. British Insulated Callendars Cables Ltd. and the English Electric Company, U.K. in regard to the manufacture of Static capacitors and Hydraulic Turbines. These two Agreements were approved and accepted by the Government.

21. From the provisions in the main Consultancy Agreement with the AEI quoted above, it is clear that the subsidiary agreements regarding the static capacitors and the hydraulic turbines were to be

between the AEI and the subsidiary Consultants. In the main agreement, there is no provision that for these subsidiary services the Government or the HEL will have to make extra payment.

22. In the agreements with the subsidiary consultants, however, provisions regarding payments to the subsidiary agreements are as follows:

Clause 7 of the Subsidiary Consultants Agreement with the English Electric Company Ltd. regarding Hydraulic Turbines, stipulates a lump sum payment of £20,000 besides other payments under other sub-clauses. Clause 7(c) also stipulates that "All payments provided for by this Agreement shall be made by the Consultants to the subsidiary Consultants as and when the same shall be received from the Government or Heavy Electricals and the Consultants shall receive the said monies as agents for the Subsidiary Consultants."

23. There is a similar provision in the other subsidiary agreement with the British Insulated Callendars Cables Ltd. in regard to the static capacitors. Clause 8 of this agreement provides for a lump sum payment of £6,000 to the B.I.C.C. besides other payments under some of the sub-clause of this clause. Clause 8(c) provides that "All payments provided for by this Agreement shall be made by the Consultants to the Subsidiary Consultants as and when the corresponding payments shall be received from the Government or Heavy Electricals by the Consultants and the Consultants shall receive the said monies as agents for the Subsidiary Consultants."

24. It has not been satisfactorily explained to the Committee as to how these provisions were included in the subsidiary Agreements. The Estimates Committee in their 35th report (Third Lok Sabha) on this undertaking had examined this point. Earlier in their 26th Report (Third Lok Sabha), the Public Accounts Committee had also commented upon it. The Estimates Committee had observed as follows:—

"The Committee have looked into the commitment made by the Consultants (AEI) in their letter dated 19th June, 1955 that "the lump sum payment of £400,000 payable to them under the main agreement would not be increased on account of their having to secure collaboration from the subsidiary consultants." They have a feeling that the above commitment was overlooked at the time of entering into the subsidiary consultants agreement and obtaining Government's approval thereto. This position could not be confirmed as the relevant file of the Ministry is still missing. The Committee agree with the observations of

P.A.C. that the matter calls for a thorough investigation and desire that early action should be taken in this regard.'

25. The above recommendation of the Estimates Committee was made after Audit had objected to the payment of £6,000 to the subsidiary Consultants in regard to static capacitors.

26. This matter was given to the Central Vigilance Commission for investigation. The Commission, after investigation, arrived at the following conclusion:

"...in agreeing to the payment of an additional sum of £6,000, the stipulation in the original proposals of the AEI was overlooked, although there is indication that at the time the subsidiary agreement was entered into, the reasonableness of the quantum was discussed. The collection of papers, now made into a file bearing the number of the missing file, p. 31/9/55, contains no material bearing on the question and, it is difficult to surmise what the missing file contained. But taking the sequence of events as shown in the available records, it would seem that, while giving final shape to the main and subsidiary agreements, the clear and unequivocal provision in AEI's own proposal that the lump-sum payment to BICC would not be in addition to the lump-sum payment to AEI was lost sight of.."

27. It has come to the notice of the Committee subsequently that another amount of £20,000 was paid in similar circumstances to the Consultants (Messrs AEI) as reimbursement for the payment made to the other subsidiary Consultants viz. English Electric Company in regard to hydraulic turbines.

28. During evidence of the representatives of the Ministry of Industrial Development and Company Affairs, the Committee enquired about the justification of this subsequent payment to the Consultants for reimbursement to the subsidiary consultants. The Special Secretary of the Ministry stated that the matter was still being examined by the Government. The Committee learn that besides these, some more payments have been made under the provisions of the subsidiary agreements. ●

29. The Committee consider that the provisions in the subsidiary agreements regarding payments to be made by HEIL or the Government to the AEI for reimbursement to the subsidiary consultants have no basis in the provisions of the main consultancy Agreement entered into with the AEI; more so, as the Consultants had given an

undertaking in their letter dated the 19th June, 1955 that the lump-sum payment to them would not be exceeded on account of their having to engage subsidiary consultant.

30. The Committee regret the further payments made to the AEI after they had been adversely commented upon by a Parliamentary Committee, specially without referring the matter to the Parliamentary Committee. The Committee hope that Government would examine the issue expeditiously; particularly, the possibility of recovery of the amounts already paid to the AEI for reimbursement to the subsidiary Consultants. The question of recovery of the amounts from the persons who authorised such payments may also be explored.

C. Purchasing Agency Agreement

31. The Undertaking entered into an agreement with the AEI on the 18th August, 1958 to engage them as Purchasing Agents in U.K., for the purchase of plant and machinery from U.K. and the continental countries. As remuneration for its services, the AEI was to be paid in London in sterling a sum equal to the cost to the AEI (including a reasonable provision for overheads) of performing such services plus ten per cent of such cost. The AEI were to supply as soon as possible after the end of each quarter a statement of the relative sum for the previous quarter accompanied by a certificate of the Auditors of the AEI verifying such statement. Such statement so verified was to be conclusive and binding upon the AEI and the HEIL. HEIL was to pay to the AEI in sterling in London the sum so shown due within thirty days after the receipt of such a statement by the Representative of HEIL (Clause 12 of the Agreement).

32. The Committee are informed that the value of plant and machinery purchased through the AEI while acting as purchasing agents under the agreement is about four million pounds sterling.

33. A statement showing expenses and remuneration claimed by AEI under the terms of Purchasing Agency Agreement upto the year 1964 is given below:

Period	Amount
1958 (For quarter ending December)	£ 7,217-0-1
1959	£ 26,489-18-11
1960	£ 40,346-19-9
1961	£ 32,792-19-7
1962	£ 30,529-2-8
1963	£ 28,760-0-3
1964	£ 4,328-0-0

34. The Committee enquired about the value of plant and machinery purchased from U.K. and other countries from manufacturers who were the Associates or the Subsidiaries of the AEI. The Committee were informed that no statistics had been maintained to show the plant and machinery purchased from M/s. Associated Electrical Industries Ltd. and their subsidiaries in other countries, though information regarding the plant and machinery imported (purchase orders placed) from U.K. and other countries had been kept.

35. In the post-evidence material supplied to the Committee, however, it was stated that out of the total purchase orders placed for £39,99,999-19-7 (about four million pounds) under Purchasing Agency Agreement, the following is the division between orders placed on M/s. AEI, their subsidiaries and others.

	£
(a) Orders placed with AEI	10,23,133
(b) Orders placed with AEI Subsidiaries (As per list—Annexure II of Technical Consultants Agreement)	2,08,653
(c) Orders placed on firms outside United Kingdom	54,468
(d) Others i.e., other than (a) to (c) above	27,13,746
TOTAL	40,00,000

36. A claim of £1,70,465 under clause 12 of the Purchasing Agency Agreement has been received from M/s. AEI towards service rendered as Purchasing Agents, out of which £1,29,035 has only been paid so far, leaving a balance of £41,430/-. As a result of negotiations M/s. AEI have now agreed to accept a straight 5 per cent commission on the relevant F.O.B. prices as per clause XVI(f) of the Technical Consultancy Agreement both for raw materials as well as the above purchase under the Purchasing Agency Agreement for plant and machinery for phase I. This matter is under further negotiations.

37. The Committee consider that some of the provisions of the Purchasing Agency Agreement cannot be considered as conducive to the best interests of the undertaking. From the above information, it will be noticed that payments had been made to the consultants under this agreement for plant and machinery valued over £12,00,000 which either they or their subsidiaries manufactured and supplied to HEIL. In other words consultants have acted both as agents and suppliers of the equipment. The Committee are not happy at this arrangement.

38. In terms of the Agreement, the remuneration paid to the AEI as agents was to be calculated on the basis of a statement giving the cost of services rendered by the Consultants, as certified by the

Auditors of the AEI. The Committee enquired about the advisability of agreeing to such a provision in the Agreement, according to which the only media available to them to ascertain the reasonableness of prices were the certificates of the Auditors nominated by the suppliers. To this the Company had no comments to offer and they stated that, presumably in services of *ad hoc* nature, the above method seem to be the only feasible.

39. The Committee are not happy over the agreement according to the provisions of which payments apparently, are made on certificate of auditors of the Consultants. By agreeing to such a provision, the undertaking, virtually bound itself to accept such a certificate as final in regard to the fairness of the remuneration for the services rendered under the Agreement. The Committee consider that Government could and should have insisted on an examination of the accounts/documents of the consultants by Government or its nominee in order to satisfy itself about the fairness and reasonableness of payments made to them for agency work.

40. Clause 12 of the Agreement provided that 'HEIL shall pay to AEI in sterling in London a sum equal to the cost to the AEI (including a reasonable provision for over-heads) of performing such services plus 10 per centum of such cost.' The Committee enquired about the payments made under this provision, and also as to how costs and overheads were determined. Separate figures for the costs and overheads were not made available to the Committee. Further, it was stated that "The claims of AEI on this account are based on the actual cost plus 10 per cent of such cost. These claims are supported by audit certificates. There are no other means to check these claims at our end."

41. "Cost to the AEI (including a reasonable provision for over-heads) of performing such services" is a crucial provision in this clause. It was essential that such charges should have been properly screened and separate figures maintained for them. The Committee are surprised that neither the Government nor the Company had the means to check the claims of the consultants, nor did they feel the necessity of doing it.

D. Purchase on single Tender basis

[Para VII 3(c) of Audit Report, Commercial, 1964]

42. Clause 4(d) of the Agreement provided that "Except where otherwise agreed, tenders for each item shall where possible be invited from six suppliers one of which shall be a supplier manufacturing outside the United Kingdom". A test check by Audit in 1964 of 762 purchase orders valued at £35,96,490 revealed that 358 purchase orders of the value of £15,14,058 were decided on single ten-

der basis. The Committee enquired about the circumstances in which the purchases were made on single tender basis in contravention of the Agreement and in how many more cases it had happened. In reply it was stated; 'It is very difficult to verify at this stage, the number of purchases on single tender basis as the total number of purchases runs into thousands. However, such purchases were generally in case of proprietary items, specialised items and also largely AEI or English Electric or BICC developed machine tools, working tackle, attachments, jigs, fixtures etc. and having their confidential designs, being of an exclusive nature, will not be available from any other source....'

43. The Chairman of the Company stated during evidence that he was not exactly aware as to what these individual orders were under which purchases had to be made on single tender basis. He, however, offered to examine a number of these and place his findings before the Committee. He further informed the Committee that in 1964 the Company had written to the Government and through the Government to the Audit to know the details of the particular cases referred to by the Audit, but he said, thereafter, the matter stopped there and the company did not take further action.@

44. The Committee feel concerned that purchases of over £15 lakhs in value were made through the AEI on single tender basis. It is surprising to note that though Audit pointed out the defect in the year 1964, the representatives of the undertaking were unable to explain why purchases were made without calling tenders. They have only now offered to investigate and submit their findings.* The Committee would stress that where there are Audit objections these should be attended to promptly as otherwise their utility is lost.

E. Total Remuneration Paid to the Consultants

45. It has been stated that the total amount paid to the consultants upto 31st March, 1967 was Rs. 388.83 lakhs. Also, since payments to the Consultants depend on the number of specialists to be

@On factual verification, the Audit informed the Committee as follows:—

"The Ministry in their reply dated 3/4-4-64 had stated 'The reasons for these single tender purchase might have been recorded by Shri Guzdar, Officer on Special Duty, London and the Purchase Committee there'. According to the records available with us, neither the Company, nor the Government seem to have written to audit to know the details of the cases referred to in the paras".

In the post evidence information supplied to the Committee, it was stated, *inter alia* that London Office have no record of the total number of orders placed on single tender basis and their values but have confirmed that in each and every case orders were placed only after a Committee had satisfied itself about the necessity of purchasing on single tender basis.

appointed from time to time, actual purchases made and actual production etc. it was not possible to assess the total amount which might be paid to them finally at the expiry of the period of the Agreement, in November, 1970.

46. The Chairman of the Company stated during evidence that, 'In addition to Rs. 388.83 lakhs we have now made a very rough calculation and we find that before the end of 1970, when the agreement period will be over, the amount, would have increased to about Rs. 6 crores.' Asked whether the payment made to the Consultants also covered the amount paid to the subsidiary Consultants, he was unable to confirm it and promised to check up and send the information later.

47. The special Secretary of the Ministry in evidence stated in this connection that 'There are a number of items under which payments have been made. Total amount paid up to 31st March, 1967 under the main agreement is Rs. 3.88 crores. This includes several items including Consultancy fee, royalties, payments for drawings, salaries for the technical assistants, design charges for special machines and charges for special machines and commission for purchase and so on . . . Based on the programme of production we have in view, we expect the rest of the payment will be about Rs. 4.15 crores, taking the total, during the entire period of the agreement, to Rs. 8.03 crores.' He also informed the Committee that the total cost of the project by then would be about Rs. 80 crores.

48. The Estimates Committee in para 23 of their 35th Report (1962-63), made the following observation in regard to the consultancy fee:

"...the total fee payable to AEI was not clearly brought out in the note submitted to the Cabinet and only the fees, on a percentage basis were mentioned therein. Evidently the total commitments on this account were not known to the Expert Committee nor was this placed before the Committee of the Cabinet. The representative of the Ministry of Finance admitted that the figure of total commitment to AEI was not specifically mentioned in the note to the Cabinet. The Committee are not happy that the approval of the Cabinet should have been obtained for the appointment of consultants on such meagre data furnished to them...."

49. It will be seen that right from the beginning neither the Government nor the Company were aware of the total amount which will have to be paid to the Consultants. Even now Government are

not sure as to what would be the total amount which would ultimately be paid to the Consultants as the divergence between the Government's and HEIL's estimates about the total payment that will have to be made to the Consultants is over one crore of rupees. From the rough figures which have been given to the Committee, the total figure is going to be over 10 per cent of the estimated cost of the project. The Committee consider it high. The Committee hope that for the rest of the Consultancy period utmost economy would be exercised in availing of the services of the Consultants so that payments to them could be reduced to the minimum.

50. It was pointed out in para VII, 2(b) of Audit Report (Commercial), 1964 that in the draft agreement with the consultants a lump-sum payment of £ 3,50,000 free of income-tax had been fixed. This amount was subsequently changed to £4 lakhs subject to tax. At the time the latter amount was fixed, it was thought that the income-tax would have to be paid at 53 per cent. The actual tax charged by the Income Tax Department was, however, only 6½ per cent or £25,000. Therefore, the net payment to the consultants was £25,000 more than what had been originally contemplated.

51. Facts about the basis on which the incidence of income-tax was assessed at 53 per cent due to which the Company incurred a financial loss of £25,000 were not furnished to the Committee.

52. After going through all the Agreements, the Committee have come to the conclusion that some provisions in the agreements overlap and some clauses of the subsidiary agreements seem to be repugnant to the provisions of the main agreement. Also, as Audit have pointed out some of the provisions included in the final agreement were at variance with the original proposals. It appears that various provisions in the agreements are being so construed that payments are being made to the consultants without any scrutiny or check by the undertaking. If to the estimated amount of Rs. 8 crores of fees likely to be paid to the Consultants is added the profit which they might have earned by sale of plant and machinery manufactured and supplied to the undertaking, the amount the consultants would realise from HEIL would be appreciably much more than the estimated figure of Rs. 8 crores.

53. The Committee would, therefore, recommend that Government should appoint a Departmental Committee with legal and financial experts to go into the implications of the various provisions of the agreements and the payments which have been made to the Consultants under these agreements. The payment of £6,000 to the consultants for reimbursement to one of the subsidiary Consultants.

and subsequent payment of £20,000 for reimbursement to the other subsidiary Consultant should also be looked into. The Departmental Committee should also examine as to what extent the working of these Agreements has been in accordance with the expectations entertained at the time of signing of the main Agreement.

54. The Committee hope that future agreements to be entered into with foreign parties for the establishment of projects in the public sector will receive the utmost care and attention of Government. In this connection, the Committee would suggest that Government should also examine the creation of a permanent agency in the Government to advise in the negotiations with foreign parties regarding agreements to be entered into with them for setting up projects in the public sector.

F. Expenditure on London Office

55. The London Office of Heavy Electricals (India) Ltd. was established in September, 1958. The Committee desired to have information regarding the expenditure incurred on the representative of HEIL and other staff posted at London. It was stated in written information that separate figures of expenditures on staff in London Office were not readily available. However, the Chairman of the Committee on Public Undertakings while on tour abroad had occasion to visit the London Office of HEIL. There he had a talk with the Director who had been posted there by the India Purchase Mission, London, and asked him to supply details about the nature of his work and expenditure incurred annually on the office.

56. Some details regarding the staff of London Office of HEIL are as follows:—

Staff of the London Office

Category	Strength	Now in position	Remarks
1. Senior Supervisors	2	2	On loan from High Commission.
2. Supervisors	6	4	One on loan from High Commission.
3. Clerks	13	13	All locally recruited.
4. Shorthand Typists	4	3	Do.
5. Typists	5	4	All locally recruited.
5. Telephonist	1	1	Do.
7. Messenger	1	1	Do.

57. An idea of the work done by the London Office in the years 1966 and 1967 is given below:

1966	
1. No. of Requisitions	605
2. No. of orders placed	861
3. No. of amendments to orders	213
4. Value of (2) & (3)	£ 660,303
5. Consignments despatched	3147
6. No. of freight accounts authorised for payment	1787
7. Amount involved for (6)	£ 92,495
8. No. of invoices/claims checked and authorised for payment	3124
9. Amount involved for (8)	£ 4,425,781
1967	
1. (a) Bhopal's enquiries to UK supplies and London Office	259
(b) Bhopal's requisitions on London office for orders	262
2. No. of orders placed	327
3. No. of amendments to orders	116
4. Value of (2) and (3)	£ 287,765
5. Consignments despatched	2410
6. No. of freight accounts authorised for payment	1059
7. Amount involved for (6)	£ 118,486
8. No. of invoices/claims checked and authorised for payment	3573
9. Amount involved for (8)	£ 3,620,361
10. Orders placed from Bhopal. These are progressed shipped paid etc. by the London Office	593

58. Number and value of Orders placed by London Office since 1961 is as follows:

	1961	1962	1963	1964	1965	1966	1967 Jan. - August
No. of orders	16	341	444	1595	1914	1074	443
Value	£54,169	257,644	479,705	837,611	1,082,288	600,303	287,765

59. The Committee regret that full details regarding the expenditure on London Office was not made available. It is, however, learnt that for seven months from September, 1958 to March, 1959, the expenditure was £3,500. The Committee feel that the work of HEIL at London has come down considerably and as such it does not warrant a separate organization for this undertaking exclusively in London. The Committee also learn that another undertaking viz., Hindustan Steel Ltd. is maintaining an office in London for performing similar functions. The Committee feel that the work in London for both these organisations has dwindled considerably and there is no necessity of maintaining separate offices with large number of personnel, and incurring huge expenditure yearly. Both the organizations are running separate offices while purchases for them are on the decline. The Committee feel that the work can be handled by India Purchase Mission, London without engaging additional staff. If necessary, a man from each organization can be attached to India Purchase Mission to look after their interests. The Committee expect that considerable economy can be effected by this arrangement.

III

PROJECT REPORT

60. Although several Committees were appointed to examine the need for setting up a Heavy Electrical Plant, no regular techno-economic feasibility study or preliminary project reports were prepared for this project. On the basis of the findings of the Advisory Planning Board (December, 1946) and the recommendations of a Technical Committee on Engineering Industries of the Industrial Conference held in December, 1947, the Government of India appointed a Committee under Dr. J. C. Ghosh in 1948 to explore ways and means of meeting the power requirements of the country. The Committee recommended the establishment of a factory in collaboration with foreign manufacturers of international repute for manufacture of Heavy Electrical equipment. In pursuance of this recommendation Detailed Project Reports were invited from several well known firms of U.K. and U.S.A. Three firms viz. Associated Electrical Industries, U.K., International General Electric Company, U.K. and Westinghouse of U.S.A., submitted project reports. Further consideration of these project reports was, however, deferred on account of financial stringency. The matter was again taken up in the year 1952 because of the pressing demand for equipment needed for generation, transmission etc. of electric power. The Government again invited firms of international repute willing to participate financially and technically to submit project reports. Of the four firms which offered to prepare the project reports, only two ultimately submitted such reports early in 1954.

61. While these reports were under consideration of the Government, there were certain units in the country manufacturing the equipment envisaged to be produced in the proposed public sector project and their scope and range of production was increasing. It was, therefore, considered essential that the production plan of the proposed factory should be coordinated with the manufacturing units of factories already producing some of these equipments in the country. Although it was realised that there was a need for a factory in the public sector, the Government thought it necessary that the whole question should be examined thoroughly again. It therefore, constituted a Committee under the Chairmanship of Shri S. A. Gadkary, Consultant (Power), Planning Commission to investigate the viability of establishing such a project.

62. This Committee, in its report, observed that the production of electrical equipment in the country was confined to small transformers and motors and that no heavy plant was being planned by the existing units, nor was there unused capacity in the country. The Committee was of the view that in the interest of speedy industrialization of the country, it was essential to establish a Heavy Electrical Equipment factory in the country. The Government accepted these recommendations of the Committee.

63. Proposals were then, again, invited from well-known international firms for technical and financial collaboration. From amongst those who offered to collaborate, M/s Associated Electrical Industries of U.K. were chosen as consultants under an agreement entered into with them on the 17th November, 1955. In pursuance of that agreement the consultants prepared a detailed project report which they submitted in November, 1956. The Government approved it in March, 1957.

64. The Consultants report was prepared for an annual out put of Rs. 12.5 crores on single shift. It was envisaged in the Project Report that all the factory buildings with services should be completed by January, 1962. In the middle of 1957, owing to difficult foreign exchange position, a reappraisal of the development schemes in the public sector was necessitated and the consultants were, consequently, asked to phase the scheme into stages with emphasis on quick return on investment and saving of foreign exchange, without curtailing the total capacity of the project as originally contemplated. The consultants, accordingly, prepared a revised programme to complete the project in three phases. Construction was taken up in accordance with the rephased programme.

65. In the year 1959 the Planning Commission again reviewed the requirements of Heavy Electrical Equipment. As a result of this review it was decided to take up all the phases simultaneously and also to double the output of the factory to Rs. 25 crores per annum on two shift working. In another recommendation made by the Planning Commission in February, 1960, it was estimated that the requirements of Heavy Electrical equipment would be of the order of Rs. 100 crores per annum by the end of the Fourth Five Year Plan. A decision was therefore taken to explore the possibility of expanding the capacity of the Bhopal Project to achieve Rs. 50 crores output per annum. Accordingly, the Consultants were asked to submit a Supplementary Project Report for the expansion of the project. This report was prepared by the consultants to expand the output of the factory to Rs. 52.5 crores. It included proposals for expansion of capacities for the earlier product lines like Switchgear, Transformers

Hydroturbines and Generator etc. and also for taking up the manufacture of Steam turbines and Associated Generators. After examining this report, the Government sanctioned only the manufacture of steam turbines with the Consultants' help. The expansion of the earlier product lines was to be undertaken in due course without the help of the Consultants.

66. It will be seen from the above that the original project report of the consultants had been changed from time to time either to meet the likely increase in the demand for the products or modified in view of the prevailing financial stringency. The conclusion is inescapable that when the Government decided to proceed with this project it had no precise idea of the items to be produced, their specifications, dimensions, quantity or cost. It does not speak well either of the various Committees or the persons who constituted those committees which were appointed at the initial stages to assess the country's requirements of electrical equipments on the basis of which this project was conceived. The result of wrong assessments was that the Government had to ask for three Project Reports from several foreign parties which seen in retrospect, did not serve much useful purpose as even the one which was eventually accepted and on the basis of which this project was initiated had to be modified frequently to suit changing circumstances. The latest revised estimates of the project which the Government have sanctioned is Rs. 5,847 lakhs for an annual output of Rs. 3,65 lakhs. During evidence, the Additional Secretary of the Ministry of Industrial Development also stated that by 1970 the estimated cost of the project would go up to Rs. 80 crores. This is a clear case of wrong assessment of demand, inadequate planning and frequent revisions of project reports.

67. The aspects covered in the original detailed Project Report in accordance with Article V of the Technical Consultancy Agreement are given at Appendix I. The supplementary Project Report which extended but did not supersede the original report, provided information as to the additional buildings, equipment, personnel and other necessary facilities which would be required to meet the ultimate target programmes for each type of heavy equipment to be made.

68. From a perusal of the Agreement, it is seen that the Consultants, in terms of one of the provisions of the Agreement were also to give cost and profit calculations or the end products, and assessment of the general economy of the project during the period of this Agreement.

69. The Committee enquired whether the above details were given in the Project Report. It was stated that details regarding the capital investment, cost and profit calculations for each of the end products separately had not been given anywhere in any of the Project Reports. The Project Reports had furnished figures of anticipated capital expenditure including the working capital together with the operating results anticipated from year to year showing the output sale value of the products *vis-a-vis* the expenditure for achieving the same against the different elements of costs like salaries and wages, materials and components etc. Even though the output sale value of the various groups of products like Switch-gear, Transformer etc., have been given the assumed sale value per unit of the different items comprising these figures had not been given. It had, therefore, been possible to compare the losses from year to year only as a percentage of the output sale value and not for individual end products.

70. The Chairman of the Company during evidence stated that "there seems to be some kind of an ambiguity in this clause and they had given us only an overall figure of the project as a whole." He also stated that since so many conditions changed over years, for instance, the prices to customers, the value of money etc. the product-wise allocation of these figures might not have been of very much use. He added that it had not been specifically brought out because when the Government considered the economics of the project, they were apparently guided by the overall figures.

71. The Committee are not convinced by the arguments advanced for not covering the cost and profit calculations of individual end products in the project Report. Firstly, when it was stipulated in the Agreement, it should have been ensured that such information was incorporated in the project Report; secondly, without having a clear idea about the estimated cost of individual products, the overall figures of profit, loss and the cost can only be a mere guess. That these aspects were not included in the project report is manifestly in violation of the provisions of the Agreement. In the absence of any such assessment at the outset, the Committee are at a loss to understand as to how the undertaking or the Government judge whether the production of individual items was profitable or not.

72. The Committee consider that although the Government and the undertaking had no experience of setting up such a project, the AEL, at any rate had the requisite experience and knowledge of setting up such a factory and knew what formed the essential and basic parts of a project report.

73. The Committee noted with regret the observations of the representatives of the Ministry and the undertaking that the projections in the project report do not hold good to any great extent due to the fact that the scope, product-mix and the time schedule have been materially altered. That the actual execution of the project should be so much at variance with the assumptions made in the project report, even during the course of construction of project is a reflection on those who conceived and decided to implement this project on unprocessed data, inconclusive project report, and over-lapping agreements with the Consultants.

IV

CONSTRUCTION OF THE PROJECT

74. The various blocks of the project are as follows:—

Block I	For fabrication and Water turbine
Block IA	For fabrication
Block II	For manufacture of heavy equipment
Block III	For manufacture of Transformers and Capacitors
Block IV	Switchgear and Controlgear manufacture
Block V	Foundry
Block VI	Manufacture of Steam turbines
Block VII	Stores Block.
Maintenance Block	For maintenance of assets within the factory.

75. The construction of the Project had actually started in the year 1957 with initially taking up the construction of a training school with workshop, hostels and quarters. The construction of the factory though taken up then was adjusted to suit the phasing of the project. The construction schedule under the various phases was as follows:

Phase I & II

Training School and Workshop for training of technical personnel.

Block IV for manufacture of Switchgear and Controlgear.

Block III for manufacture of Transformers and Capacitors.

Block V Foundry.

Maintenance Block and Ancillary buildings.

Administrative Block.

Phase III

Blocks I and IA for Heavy Fabrication and Water Turbine manufacture.

Block II for manufacture of industrial and Traction motors and heavy rotating plant.

76. A statement showing the target dates of commencement and completion of factory buildings is given at Appendix II.

77. It will be seen that construction of all the Blocks excepting Block VI which is for manufacture of Steam Turbines, has been completed. Block VI (for Steam turbines) according to schedule given in the supplementary Project Report should have been completed by June, 1964. According to the assessment made in the year 1964-65, the civil engineering work of the block was expected to be completed by July, 1966. None of the Blocks i.e. I to VI has thus been completed according to the time schedule.

78. The reasons given for non-completion of the project according to time schedule were: (i) difficulty in procurement of raw steel, (ii) difficulty in getting matching steel in time, (iii) limited capacity of fabricators of steel in the country.

79. Ever since the construction of this project started, there have been frequent changes in the programme and construction schedule of this project. In the year 1958-59, as a result of review of the production programme, it was decided to implement phases II and III of the project together.

80. The Committee learnt that it is not only HEIL but other projects also in the public sector e.g. Heavy Engineering Corporation Ltd. and Bharat Heavy Electricals Ltd. which have suffered on account of non-availability of steel in time and in required quantities. Since delay in the construction of the project, inevitably, adds to the cost of the project, it is absolutely essential that the projects are completed according to the schedule initially laid down. In view of this, while sanctioning such big projects, Government should ensure by advance planning that the projects get the required type and quantity of steel for construction in time.

81. The Committee also feel that when there are only five or six big firms in the country which can undertake fabrication work, the undertakings especially those which comprise manufacturing industry should undertake departmental fabrication whenever these big firms cannot cope with the load of fabrication work.

PLANT AND MACHINERY COMPONENTS AND RAW MATERIALS

A. Plant & Machinery

82. The estimated value of plant and machinery required for the project as given in the project report was Rs. 35.16 crores. The value of plant and machinery purchased up to 31st March, 1967 was Rs. 27.72 crores.

83. In the post-evidence information, however, it was stated that as on 31st March, 1967, the fixed capital cost of Plant and machinery including incidental expenses during construction, erection charges etc. amounted to Rs. 30.01 crores. On the basis of a broad and quick assessment the split up between Imported and Indigenous is as follows:—

		Rs.
1. Imported	23.53	crores (includes rupee cost of customs duty, erection charges etc.)
2. Indigenous	5.85	crores
3. Training school items (majority of the items are indigenous, being machine, tools like lathes, milling machines etc. for training purposes)	0.63	crore
TOTAL	30.01	crores

84. Thus, it would be seen that only 21 per cent of the plant and machinery was obtained from the indigenous sources. The Committee would recommend that effort should be made to procure more of these plant and machinery for the public undertakings from the indigenous sources, in the context of national efforts required towards import substitution and self-reliance in the industrial field and the scarcity of foreign exchange.

B. Heavy Rotating Test Plant

85. It has been stated that the Plant and Equipment for the Heavy Rotating Test Plant, ordered on the AEI, was not delivered in time. Non-delivery of this machinery in time, however, did not affect pro-

duction, as the construction of Block II itself where the plant was to be erected was delayed due to shortage of steel required for the buildings and structures.

86. During evidence, the Chairman of the Company stated that he could not give reasons as to why it was delayed. He also stated that the AEI never agree to a penalty clause being incorporated in the contracts or the Agreements. In regard to Heavy Rotating Plant, in particular, he said that these were designed for the exclusive purpose of testing generators and since these were designed by the Consultants, the Company had to depend upon them and thus were at a disadvantage.

87. In this particular case, the Consultants themselves were asked to supply the Test Plant. The AEI are the Technical Consultants for the Project. It was expected that when orders were placed on them for equipment, they would supply it in time. That HEIL did not know the reasons as to why the delivery of the plant was delayed shows that the attitude of the authorities was one of complacency towards the obligations of the consultants. The Committee feel that at the time of signing the main Consultancy Agreement the Government should have ensured that there were firm and unequivocal stipulations, coupled with penalty clauses, in the Agreement to ensure that orders placed on them were honoured and the equipment supplied in time.

C. Components

88. There are about 8,000 components which go into the products of the Company. A few major categories of components which were being imported as well as purchased indigenously are given below:

Forgings,

Castings,

Porcelain

Meters, Relays and Instruments

Bushings

Bakelite cylinders

Ring cores.

Thermo couples. (Imported)

Coolers,

Stainless steel blades (imported)

Turbine electrical controls (imported).

Turbovisory Equipment, (imported).

Heat Exchangers,

Tubes for Condensers (imported).

Test Equipments etc. (imported).

89. The Committee were informed that as far as possible efforts were made to procure the components from within the country itself but the Company's experience has revealed that the supply from indigenous sources in certain cases was not consistent in quality and delivery. Consequently, the Company had to resort to imports to maintain production schedules. Also, wherever feasible the manufacture of components was being taken up within the factory itself.

90. The import content as a percentage of sale value in the products that are fairly established is given below:

Product	Percentage of sale value
Switchgear	12%
Controlgear	19%
Transformer	39%
Capacitor	17%
Traction Motor	23%
Industrial Motor	27%
Hydro Turbines . . .	47%
Hydro generators . . .	70%
Steam Turbines . . .	84%
Steam Turbo-alternator	75%

91. The imported components/raw materials varied from product to product. It has been stated that the import content was high in the earlier stages of manufacture and progressively came down as the manufacture got fairly established. In the case of Hydro Turbines, Hydro Generators, Steam Turbines and Steam Turbo-Alternator, the import content was high because the manufacture of these items was in the initial stages. It has also been stated that the price of indigenous components is higher than that of the imported ones due to raw materials being imported and high over head charges besides initial costs for establishing sophisticated products.

92. The Committee are glad that over the years HEIL have been able to reduce the import content of the components of its various equipments. It is, however, essential that HEIL gets its components at reasonable price, which should be lower than that of the imported components and also should be of high quality. It appears that the indigenous suppliers are neither able to maintain quality of components nor are able to sell them at reasonable price. Also, these components have to be procured by HEIL from far off places. In view of this the Committee would recommend that HEIL should assist in the establishment and promotion of ancillary industries to support the plant.

D. Ancillary Industries

93. The undertaking had made efforts to establish some ancillary industries. Orders worth Rs. 20.5 lakhs have been placed during the current financial year (1967-68) on the ancillary units. The orders comprise supply of timber, packing cases, raw material or components for HEIL's production. Quality of goods manufactured and supplied to the undertaking is also fairly comparable to the specifications laid down by HEIL. The development of these ancillary units around HEIL were either for the manufacture of special raw materials or to undertake manufacture of components to be off loaded from HEIL.

94. The value of orders placed on the ancillary units during 1967-68 works out to only 2% of the Company's total annual requirements of components and material and the total savings, in terms of foreign exchange would be negligible.

95. That only 2 per cent of its requirements of components could be procured from the ancillary industries shows that they required further encouragement to develop especially when the quality of the items obtained from them is in accordance with the specifications laid down by HEIL. Since there is wide scope for import substitution it is essential that HEIL should assist in the promotion of these industries technically and financially, if need be.

96. It has been stated that the Ancillary Industries have to face considerable difficulties in their establishment in order to undertake to manufacture virtually every component, except items of proprietary value and certain special raw material. Some of the major difficulties are:—

- (1) Majority of the items for which orders can be placed on these units are traditionally bought out items for HEIL.

Diversion of the same to the ancillary units, creates problems for the units to procure raw material because of absence of adequate market in Bhopal and very often they have to procure material from Bombay and other places. Such difficulty is not only for raw material but also for the purchase of cutting tools and tooling aids.

- (2) From the view point of HEIL, facilities available within the company have been planned as per the project report of the Consultants to undertake manufacture of virtually every component except items of proprietary nature and certain special raw material.

97. It has also been stated that off loading of work which is being done by HEIL to the ancillary units is at the expense of creating surplus capacity within HEIL. This limits the growth of these units. Wherever the work is to be off loaded it is guided either by the increase in demand or when HEIL takes up expansion programme wherein the existing capacities within HEIL can be diverted to difficult jobs.

98. From the above, it is apparent that the project report had envisaged that all the manufacturing work pertaining to various equipments would be done within the factory premises and accordingly facilities have been created for manufacture of all the components within the factory. The Committee consider that at the time of preparation of project reports or at the time of their approval, it should also be scrutinised to see what items could be manufactured by ancillary industries rather than within the factory premises. In the case of HEIL, obviously, it has not been done. The Committee would not like an undertaking to manufacture ordinary components within its premises which could with advantage be framed out to ancillary industries. They hope that the capacity of HEIL would be utilised more for the sophisticated and heavy electrical equipment for which it is designed rather than utilise its resources and capacity for the manufacture of items, which could with some help, be manufactured by ancillary industries, with comparatively lesser investment.

E. Import Duty [Section VII, Paragraph 1 of Audit Report (Commercial), 1966]

99. The Government of India, Ministry of Finance by their Notification No. 82 dated the 6th August, 1960 exempted component parts of any machinery imported for the initial setting up of that machinery or for its assembly or manufacture, to the extent of the custom duty leviable thereon as was in excess of the rate applicable to the said machinery when imported complete. For this concession it was

necessary to obtain, prior to importation of goods a certificate from the Development Wing of the Ministry of Commerce to the effect that the components in question were or would be required for the purpose specified in the notification. The Company could not, however, obtain the necessary certificate from the Development Wing, with the result that it could not avail itself of the concession.

100. On the 18th August, 1963, the Management approached the Central Board of Revenue for the grant of relief on past imports and general exemption for future imports. The Central Board of Revenue stated on the 3rd September, 1963 that, as the certificate about the components being within the scope of Notification had not been obtained from the Development Wing prior to their importation, the relief on the past cases would not be admissible. The Board also did not agree to general exemption on the ground that each series of import had to be linked with the manufacture of a particular machine duly supported by a certificate from the Development Wing. The Company, thereafter, took up the case with the Ministry for necessary relief. The Ministry of Finance issued a Notification on the 18th November, 1968 for general exemption whereby the Chairmen and General Managers of the Companies were authorised to issue the necessary certificates in terms of the Notification of the 6th August, 1960.

101. The concessional rate of customs duty worked out to about 15% or 20% *ad valorem* as against the rate of 22% to 112% actually paid by the Company. The failure of the Company in obtaining this concession resulted in payment of additional customs duty of Rs. 28.62 lakhs during the period from November, 1961 to November, 1963.

102. The Chairman of the Company stated in evidence that during the period of 3 years referred to above the matter was being pursued from HEIL side, but the final decision was delayed by the Government as several Ministries were concerned.

103. The Special Secretary of the Ministry stated that the undertaking did take up the matter at the instance of the Ministry with the Development Wing but owing to the complexity of the transformer manufacturing scheme, the Development Wing found it difficult to give certificate to the effect that such and such component had gone into the manufacture of a particular equipment. So, ultimately the Government decided that since it concerned a public sector undertaking, the power to give certificate was given to the General Manager of the public undertaking. He, however, stated that probably this could have been done much earlier and quicker. It is also seen from a note furnished by the Company that information regarding the list

of components was furnished by them to the Ministry on 9th November, 1961. It is not known to the Company as to what action the Ministry took between November, 1961 and August, 1963. The Company also did not remind the Government about it. In August, 1963, the Chairman of HEIL, of his own accord, took this up with the Chairman, Central Board of Revenue asking for general exemption to be given to HEIL. The Central Board of Revenue did not agree and said that no general relief as such could be admissible, unless individual certificate from the Development Wing were furnished. The Commerce and Industry Ministry replied on 7th September, 1963 (after two years) that Heavy Electricals (I) Ltd., may discuss directly with the Development Wing. The Company took up the matter with the Development Wing and the latter changed the procedure by their notification dated the 18th November, 1963 which empowered the Chairman of the Heavy Electricals (I) Ltd., to grant the requisite certificate. The procedure was being followed since then.

104. The Committee learn that besides Heavy Electricals (I) Ltd., similar procedural difficulties were faced by other public undertakings as Chairmen of a few other public undertakings were also authorised to issue the requisite certificate. Whatever might have been the procedural difficulties, the fact remains that the Company has suffered a loss of over Rs. 28 lakhs during the period from November, 1961 to November, 1963. For an undertaking which has been incurring heavy losses over the years it is too big an amount. That between 1961 and 1963 nothing was done by the Company to secure the concession shows a certain degree of indifference on the part of the Company after initiating action in the matter.

F. Raw Materials

105. The raw materials required for the manufacture of various types of equipments in the undertaking can be classified into five broad categories. The details regarding their availability either from imported or indigenous sources are indicated below against each:—

Raw materials	Available whether indigenously or imported
(1) <i>Ferrous</i>	
(a) Electrical Sheet Steel	Imported.
(b) Alloy Steel (Stainless steel, Tool Steel, High tensile steel etc.)	Hitherto imported. M/s. Hindustan Steel Ltd., Durgapur and Mahindra Ugin Steel Co., Bombay have just commenced supply.
(c) Plain Carbon Steel in the form of sheets, plates, sections etc.	Mostly indigenous but special type and sections not yet made in India are imported.

Raw Materials	Available whether indigenously or imported
(2) Non-ferrous	
Copper	Virgin Copper in billets or in wire bars are imported and then fabricated into Sections indigenously.
Aluminium	Indigenous.
Brass & bronze	Virgin metals imported and Brass fabricated indigenously. procured.
Tin, Lead	Imported.
Zinc, Nickel etc.	Imported.
(3) Insulating Materials	
(a) Electrical Gr. Paper	Imported.
(b) Press Boards	Solid-indigenous ; laminated—imported.
(c) Glass insulation	Imported.
(d) Asbestos Insulation	Imported.
(e) Oil	Imported.
(4) Conductors, Cables, etc.	Majority of conductors imported some cables available indigenously.
(5) Hardware	Majority available indigenously-- specially hardware imported.

106. These raw materials may be classified in the following three broad categories:—

1. *Non ferrous*

Copper

Brass

Aluminium

2. *Insulating Materials*

Electrical Grade Papers

Glass Insulation

Asbestos Insulation

Insulating Oils and Varnishes.

3. *Ferrous*

C.R.G.O. Sheet Steel

Alloy Steel—Castings & forgings

Plain Carbon Steel—castings & forgings and boiler quality plates.

107. Efforts are being made to develop indigenous sources for producing these items as early as possible. The prospects for getting these materials indigenously may be summarised as follows:—

Copper

As there are neither sufficient deposits of copper ore nor sufficient smelting capacity, the company will have to keep on importing this material for a long time. In most cases it is not technically and economically feasible to replace copper by aluminium.

Brass

Copper and Zinc ores are not available indigenously in abundance and hence brass is in short supply. However, most of the parts made by brass can be conveniently and economically substituted by those of aluminium alloys. A number of research and development projects are in hand. The Company hopes that most of these can be sorted out in 4-5 years time.

Aluminium

Although there are a number of firms producing aluminium indigenously, they are producing mostly grades other than electrolytic grades.

Electrical Grade Papers

At present there is not a single firm which is producing electrical grade paper indigenously. Efforts are being made with a few firms to develop at least 2 or 3 types of papers which are used in large quantities. It is hoped that this matter will be sorted out in about 3-4 years time and thereafter the Company may have to import suitable grades of pulps only. Regarding development of suitable pulps, various regional laboratories and Forest Research Institute, Dehradun have also been contacted.

Glass Insulation

A glass yarn of E grade is now being produced indigenously and the weavers of cloth and tapes have also developed the technique

satisfactorily, it should be possible to procure all types of glass insulation within next 2 or 3 years.

Asbestos Insulation

At present there is not a single industry in India which can produce asbestos insulation of electrical grade. Moreover, indigenous asbestos available has short fibres and is, therefore, weak. It seems that the Company will have to keep on importing this material for many years.

C.R.G.O. Sheet Steel

This material is used in the manufacture of Transformers and there is no substitute for it. To-date there is no plan to produce this material within the country.

Alloy Steels

Two of the alloy steel re-rolling mills have recently gone into production. It is felt that within next 3 or 4 years the Company would be able to get at least 80 per cent of its requirements indigenously. The remaining 20 per cent consisting of alloy steel plates and other heavier sections will have to be imported for next 4-5 years at least.

Plain Carbon Steels

At present the Company is importing plain carbon steel plates of thickness beyond 75 mm. For the time being M/s. Hindustan Steel Ltd. (Rourkela) and M/s. Tata Iron and Steel Co. have expressed their inability to supply this. The Company may be able to persuade them to produce these in the next 2-3 years.

108. The value of orders for raw materials placed on indigenous/foreign suppliers during the last 3 years is as given below:—

(Rs. in lakhs)

	1964-65	1965-66	1966-67
Indigenous	153.05	85.14	312.89
Foreign	32.45	96.45	561.69

109. It will be seen that among the items of raw materials which are being imported at present are also special types of steel and Aluminium. It has been stated that large quantities of stainless

steel plates are required and since all the requirements are not met from indigenous sources, these have to be imported. In evidence the Chairman of the Company stated that actually the Rourkela and other steel plants were not able to programme the type of steel they required. Normally, the Undertaking had to go to the Joint Plant Committee who made an allocation but, in actual practice, the material was not received because Rourkela Steel Plant is not able to meet the full planned programme of HEIL, and when the need was pressing, imports had to be resorted to. He further said that his experience was that even today the output from Rourkela Steel Plant was not adequate to meet the planned programme.

110. From the above, it will be seen that the undertaking had to import some of its raw materials which were available indigenously, because indigenous production was not sufficient to meet their requirements. The Committee would expect that all the requirements of steel of the public undertakings would normally be met by the steel plants, by including in their production programme the types of steel required by them. It is learnt that the stainless steel plates required by HEIL are generally above $\frac{1}{2}$ " thickness (viz. 13 mm to 75 mm) while the present plan to produce this item in the country is upto 12 mm only. In the circumstances unless the Indian steel mills take up rolling of heavier plates also, HEIL will have to continue to resort to imports. It is an anomalous situation to which the Committee hope, Government would give serious thought, and have this item, which is a drain on the Foreign Exchange resources, manufactured within the country.

111. It is learnt that projects are coming up in the public sector for manufacturing Aluminium. HEIL's demand of this metal would be sizeable. The Committee hope that the type of Aluminium which HEIL required would be included in the manufacturing programme of these projects because the existing plants in the private sector are unable to meet the requirements of HEIL.

112. The need for copper for the manufacture of electrical equipment is great. There is limited scope for finding a substitute for this metal in the electrical equipment. There is at present acute shortage in the country—in fact there is world shortage of this metal. With the present target of production, the annual requirements of HEIL would be about 2,000 tonnes which is likely to rise further as the various units reach the optimum production stage. Other public undertakings like Bharat Heavy Electricals Ltd., at Hyderabad and Hardwar are also going to be the major consumers of copper in addition to the cable industry whose very existence is dependent upon the availability of copper. It is estimated that

India can hardly meet 5—10 per cent of the demand of the industrial consumers from its own production. In view of the above and the fact that the prospects of becoming self-sufficient in copper in the near future are remote, the Committee recommend that the Government should consider implementing the following suggestion made by the undertaking.

“Till we are self-sufficient in producing indigenous copper it is doubtful whether we will be able to do without imports specially in view of the requirements of Heavy Electrical Industry and the need of stepping up industrialisation in the country. In view of the above, it is suggested that Government may channelise the import of copper in such a way that at the time the copper is cheap in the international market India buys in large quantity.”

VI

PRODUCTION

A. Product mix as given in Detailed Project Report

113. The Statement at Appendix III shows the product-mix as given in the original project report, supplementary project report and that planned by the Company. It gives an idea of the changes made in the product-mix, in as much as, the individual sizes of the equipments have been changed and few items like Traction equipments which were not originally included in the project report have been included in the production scheme of the project.

B. Phasing of the Production Programme

114. In the Detailed Project Report submitted by the Consultants in the year 1956, an annual output of Rs. 12.5 crores in single shift was envisaged. Owing to deterioration in the foreign exchange position, the Consultants, in response to Company's request rephased the production programme. The revised programme contemplated the production of the equipment in three stages as follows:—

Phase I	Phase II	Phase III
<p>1. Production schedule to start in the latter part of 1960</p> <p>(i) Switchgear</p> <p>(ii) Transformers</p> <p>(iii) Controlgear</p> <p>(iv) Capacitors</p>	<p>Production schedule to start in July 1963 on</p> <p>(i) Industrial Motors</p> <p>(ii) Traction Motors</p> <p>(iii) Heavy Electrical Rotating plant.</p>	<p>Production schedule to start in July, 1966 on</p> <p>(i) Hydraulic Turbines</p> <p>(ii) Rectifiers</p>
<p>2. Full production to be achieved by January, 1965.</p>	<p>Full production to be achieved by January, 1967.</p>	<p>Full production to be achieved by July, 1970.</p>
<p>3. Annual output value Rs. 5.21 crores.</p>	<p>Annual output value Rs. 4.16 crores.</p>	<p>Annual output value Rs. 2.12 crores.</p>

115. In pursuance of the recommendation of the Planning Commission in February, 1960 that the requirements of Heavy Electrical Equipment would be of the order of Rs. 100 crores per annum by the end of the Fourth Five Year Plan, it was decided to explore the possibility of expanding the capacity of HEIL to Rs. 50 crores output per annum. The Consultants were, accordingly, asked to submit a supplementary Project Report for the expansion of the project at Bhopal.

116. The Supplementary Project Report prepared by the consultants envisaged expansion of the out output of the factory to Rs. 52.5 crores and included proposals for expansion of capacities for the earlier product lines viz., Switchgear, Transformers, Hydro Turbines and Generators etc., and also for taking up the manufacture of Steam turbines and Associated Generators. After examining this report, the Government sanctioned only the manufacture of Steam turbines with the Consultants help. The expansion of the earlier product lines was to be undertaken in due course without the help of the Consultants.

C. Present Scheme

117. The original project report of the Consultants (i.e. excluding Steam Turbines and Generators) has been modified from time to time. The scheme presently being implemented is for an estimated expenditure of Rs. 5,847 lakhs (including the township) sanctioned in April, 1966, which was expected to give an annual output of Rs. 3,365 lakhs as follows:

Items	Expected annual output
	(Rs. in lakhs)
Switchgear	620
Controlgear	150
Transformers	700
Capacitors	25
Traction Equipment	880
Industrial Motors	190
Heavy Rotating Plant	430
Water Turbines	370
	3,365
	(Excludes Steam Turbines)

118. According to the time-schedule given in the Detailed Project Report switchgear output was to reach rated capacity in the year 1969, capacitors in the year 1967, Traction Motors and Transformers in the year 1965, and others viz., Controlgear, Industrial Motors Heavy Rotating Plant, Water Turbines and Rectifiers by the year 1968.

D. Shortfall in Production targets

119. The Company went into nominal production in July, 1960. During the year 1960-61 switchgear and controlgear components of the value of Rs. 17.34 lakhs (not envisaged in the original Project Report) were manufactured as against the finished output of Rs. 47.88 lakhs of Transformers and Traction Motor envisaged in the original Project Report, and Rs. 45 lakhs as per phased programme.

120. The targets prescribed in the Project Reports and also those laid down under the phased programme based on single shift could not be achieved by the company even with double shift. The targets fixed by the Company for the years 1963-64, 1964-65 and 1965-66 (which were far below those given in the Project Report, except in the case of capacitors for the year 1964-65 and 1965-66) could not be achieved in almost all the items of production.

121. A statement showing the value of production *vis-a-vis* the targets fixed for the years 1962-63 to 1966-67 is given below:

(Value in lakhs of Rs.)

S. No.	Description	1962-63		1963-64		1964-65		1965-66		1966-67	
		H.E. Pro-gramme	Actuals	H.E. Pro-gramme	Actuals	H.E. Pro-gramme	Actuals	H.E. Pro-gramme	Actuals	H.E. Pro-gramme	Actuals
1.	Switchgear	91.10	80.95	221.40	205.44	267.44	264.12	353.84	329.11	375.00	401.41
2.	Controlgear	8.00	0.87	35.95	30.31	61.50	35.02	98.87	60.42	98.00	67.63
3.	Transformers	68.39	42.97	251.54	146.91	241.91	235.52	407.85	273.41	569.00	394.37
4.	Traction Motors	10.00	7.34	61.09	41.30	39.05	38.82	101.94	47.53	188.00	165.22
5.	Industrial Motors	..	..	..	..	1.39	1.04	35.05	27.45	65.00	35.99
6.	Capacitor	17.00	14.85	27.00	25.89	33.00	28.10	35.00	44.63	50.00	51.72
7.	Heavy Rotating Plant	..	..	..	..	..	..	1.70	* 9.08	41.00	2.76
8.	Water Turbine	..	..	..	..	0.96	..	21.00	..	45.00	22.06
9.	Rectifiers (Fraction & Industrial)	..	..	..	..	..	..	..	..	..	..
10.	Steam Turbine	..	..	..	..	..	..	4.99*	..	3.00	3.00
TOTAL		194.49	146.98	596.98	449.75	644.83	602.62	1060.24	791.63	1434.00	1144.16
										Repairs, Spares & Miscellaneous orders	19.44
										TOTAL	1163.60

*Heavy Electricals share of work only.

122. The targets of production originally fixed for the years 1962-63, 1963-64 and 1964-65 were considerably higher than those shown above. They were, however, subsequently revised downwards to the figures shown above. These revised targets could also not be achieved.

E. Reasons for the shortfall

123. The reasons given for the shortfall are as follows:—

- (i) The products being custom—built sophisticated and of high quality standards, acquisition of the required skill takes long.
- (ii) Indigenous development of materials and components is a slow process.
- (iii) Some of the suppliers of materials and components, particularly the consultants who are a major supplier of components failed to keep their delivery commitments.
- (iv) Inadequacy of experienced supervisory staff.

124. Explaining the reasons for the shortfall in production, the Chairman of the Company stated during evidence that there were external causes like the conflict with China and Pakistan and closure of the Suez, and some internal causes like the inexperience of the staff and the teething troubles which were inherent in a plant like HEIL at the initial stage. Here the machines were made, adjusted and insulated with materials which were easily affected by moisture and these had to be checked at high voltage.

125. Leaving aside the external causes the Committee are not convinced of the other reasons attributed for the shortfall in production; because these reasons could have been foreseen at the time of fixing of targets. Unfortunately there is no yardstick now in the light of which the performance of the Undertaking in regard to production could be judged. The figures given in the project report cannot be the basis now for such an assessment as the product-mix as originally laid down in it has undergone considerable change. The Committee would recommend that the undertaking should prepare and lay down targets in a realistic manner, and once those targets are laid down, every effort should be made to achieve them.

126. From the information supplied, the Committee found a few more reasons which accounted for the delay/shortfall in production. For example, though some factory blocks were constructed and commissioned ahead of schedule, more than 9 months were lost in

ordering machine tools and raw materials due to delay in operating the Purchasing Agency Agreement. Consequently, there was no production worth the name in 1960-61, though the factory had been formally commissioned in July, 1960.

127. The Committee do not consider that delay in operation of the Purchasing Agency Agreement should have stood in the way of the undertaking ordering machine tools and raw materials. The signing of the Purchasing Agency Agreement had not precluded the operation of the provisions of the main Consultancy Agreement. In terms of clause III (iv), the consultants were to "state the delivery requirements of all plant, machinery and equipment and production materials in accordance with the general programme, progress the delivery of such items as are ordered by them on behalf of the Government, and carry out similar duties for equipment ordered by the Government, if requested to do so,———", and clause XVI (b) prescribes the method of payment for it. The Committee, therefore, are not convinced by the plea that the orders for the production material could not be placed on account of delay in operation of the Purchasing Agency Agreement. In case of delay, the provisions of the main Agreement could have been invoked.

128. The Committee learn that the actual production for the years 1964-65 and 1965-66 had been lower than planned because of failures of supplies by the AEI. When such failures occurred they had to be made good by greater volume of manufacture in the factory. This resulted in unplanned emergent work which cost more to do than planned work with the help of imported components. Also, if materials have to be obtained from the indigenous market, higher prices have to be paid in addition to the problems involved in developing a new item.

129. During evidence the Chairman of the company also conceded that the delay in the import of the foreign components was one of the major reasons for not achieving the targets and that in this regard the AEI were responsible to a large extent. He said that various components were delayed by 6 to 8 months and the delay of even 1 or 2 components prevented a complete machine to be made. He said that the project was having constant difficulty in this respect. He also stated that for supply of components the Consultants did not undertake and kind of penalty contract. Their view always had been that so far as components were concerned they undertook to supply these subject to availability of capacity in their shops. So, if the Company asked them to supply the components, they agreed to supply these provided there was spare

capacity in their factory shops. He said that the matter was taken up with them several times but they were not able to keep to their promise.

130. It is seen from the original time-schedule of the Project that the time for placing of orders for components on the AEI had also been laid down. It is not known whether this time-schedule was a part of the Detailed Project Report but knowing that the AEI were the Consultants and were intimately connected with the planning and execution of the project right from its inception, the time-schedule must have been laid down in consultation with them, and they must have agreed to it also. It has been brought out in the schedule that for the production programme upto 1968, the orders should be placed on the Consultants two years in advance. Since the production programme was given in the Project Report and the time-schedule had also been prepared by the year 1957-58, the components could not have been received in time either because the undertaking did not place the orders on the Consultants in time or because they did not carry out their obligations according to the schedule.

131. The Committee feel that it should have been ensured at the outset by inclusion of firm provisions in the agreements, that as far as supply of components was concerned, the Consultants would supply these according to the time schedule agreed to between the undertaking and the Consultants. There are stipulations in the agreements regarding components and other production materials in regard to which the services of the Consultants would be availed of. There are also provisions regarding the rate of payments which will have to be made for those services; but, surprisingly, there are no provisions to safeguard the interests of the Company in case of default by the Consultants.

132. The Committee learn that in the case of the projects of the Bharat Heavy Electricals Ltd. which were originally part of HEIL there are separate agreements containing clear and unequivocal terms regarding the supply of spares and components by the Consultants. Perhaps, for the project at Bhopal, those who carried out the negotiations at the initial stage did not or could not foresee difficulties on this account, and so the undertaking is faced with this problem now.

133. Some other reasons for the shortfall in production which the Committee have been able to glean from the periodical reports submitted by the Consultants are as follows:

In their report submitted in April 1965, the Consultants gave the following reasons for shortfall of production:—

“Transformer Department

The output of 67 per cent of target and 37 per cent of shop capacity is disappointing even in making allowance for the labour troubles which retarded production in the early part of the year as ample production capacity and labour is available.

It appears that the main causes of low production lie outside the main Transformer department and need immediate attention:—

1. Failure of the fabrication department to supply tanks, coolers etc. to meet programme requirements.
2. Failure of purchasing organization to ensure materials and components being available when required.
3. Poor quality and high rejection rate of certain indigenous supplies.
4. Poor output from the Transformer department machine shop.

Capacitor Department

The output achievement of 81 per cent of target is creditable but there is no insuperable reason why the full target should not have been reached in spite of labour trouble in the early part of the year, and difficulty with the quality of certain materials.

Switchgear Department

The production of Switchgear and Controlgear at over 90 per cent of target is good, but the facilities available are capable of higher production.

The limiting factors to faster growth in this department are:—

- (i) Late ordering and late delivery of materials purchased outside.
- (2) Poor quality and high rejection rate of materials from indigenous sources.
- (3) Low operator productivity.

Traction Department

Growth of output from this department has been hampered by the delays in completing the shop where it is to be accommodated permanently.

This shop is now finished and equipped and there should be no reason why output should not expand rapidly to the present capacity of 820 motors per year.

The main reason for failure to meet even the modest target set for last year was late delivery of bought out items and materials and the poor quality and high rejection rate of indigenous supplies.

The current year's programme cannot be achieved unless urgent attention is given to these matters.

Industrial Motors

This department started production late in the past year and has so far successfully built 6 motors. There is no apparent reason why production should not grow at a satisfactory rate, or why the current year's targets should not be met.

Fabrication Department

There can be no doubt that the failure of other departments notably the Transformer department to achieve their targets can be attributed to the failure of the Fabrication department to deliver tanks and other sub-assemblies to programme.

This department is a bottleneck and will cripple production in the Water turbine, Heavy Rotating Plant, Steam turbine and Transformer departments unless its shortcomings are corrected at once. There is adequate manufacturing space and equipment for a longer output than is at present obtained."

Similarly in one of their latest reports submitted in April, 1967, the Consultants had following to say:

"The chief products which failed to reach the targets were transformers where production was only 72 per cent of the target due partly to the failure of a number of Transformers on test, and partly to delay in the procurement of materials.

The other major items where output failed to reach targets were the Water turbine and Steam turbine generating plant, where completion of the first sets planned for the year 1966-67 will now be in the earliest part of the year 1967-68.

Switchgear department substantially fulfilled its target and would probably have done so completely had sufficient orders been available".

In another report submitted in February, 1964, they had stated that "The work measurement system now partially installed as a preliminary to the introduction of an incentive payment scheme indicates that in many areas the workers are operating at about 25 per cent of an estimated reasonable rate of production."

134. During evidence, the Committee discussed some of the above points with the representatives of HEIL. In regard to the Transformers shop, it has been stated that the limitations there were lack of matching capacity in the Fabrication shop, lack of maturity, lack of raw materials, etc. and that action on all these items was being taken.

135. Regarding the efficiency of the workers, the Chairman of the Company stated that in the initial stages of every new type of machine building, the efficiency was low and that with a little more time given, the efficiency would improve. He said that there were still the English Engineers and demonstrators who were helping the workers to pick up the skill in the various shops of the factory.

136. The Committee, however, note that the report of the Consultants was made in early 1964 and production started in the factory in the year 1960.

137. As regards the cumbersome and inefficient system of internal procurement and purchasing procedure, he conceded that the production was slowed down because of purchase procedure and non-availability of material of required quality and specifications.

138. In a written information submitted to the Committee after the evidence it was conveyed to the Committee that efforts were constantly being made to improve the functioning of the Purchase Department and to establish efficient system of material procurement. Some steps towards organisational and procedural improvements had also been taken.

139. From the reports of the Consultants and the evidence tendered before the Committee it will be seen that there are numerous internal causes which have contributed to low production. The Management, after this long experience, should be able to foresee and anticipate the difficulties so that the areas likely to provide a bottleneck for production are located and remedial action taken in time.

140. The Committee feel that one of the major causes which could be attributed to the fall in production was the purchasing procedure followed by HEIL. The Committee are glad to learn that now the position in the Purchasing Department had improved and the average time taken to convert a requisition into a purchase order had come down. However, the latest report of the Consultants says. "While there has been some improvement in the operations of the Purchase Department, there is still a too great a tendency to consider purchasing as an end in itself, rather than as an essential service to the manufacturing departments." Thus it appears that the purchase department requires further improvement.

141. The Chairman of the Company stated during evidence that in his present capacity he was able to function just like a person in private sector with least constrains. In view of this, there should not be any difficulty in removing any procedural difficulty. During evidence, the Committee also gathered the impression that there were still some Governmental rules and regulations which the purchase department had to follow in making purchases, and these stood in the way of arranging quick purchases.

142. The Committee cannot reconcile to a situation in which there is shortfall in production because the undertaking cannot overcome procedural difficulties in the system of procurement of production material. They recommend that the purchase procedure should be rationalised and simplified so that delays at various stages are avoided.

143. Some of the steps introduced by the undertaking to ensure fulfilment of annual targets are: standardisation, production incentives, suggestion scheme, application of net work techniques and improvement in procedures.

144. The Committee hope that the above steps would bear fruit but other factors which have hitherto been hampering achievement of production targets, as stated above, were the difficulty in the indigenous development of materials and components and inadequacy of experienced supervisory staff. The undertaking should also take concrete steps to overcome these difficulties as speedily as possible.

F. Utilisation of Installed Capacity

145. The statement below gives the installed capacity together with percentage utilisation of each item of equipment by HEIL:—

Product	Installed capacity	Target for 1967-68	% utilisation of capacity
I. Switchgear			
1. 11 KV BVP 3 & BV P 4 Nos.	1500	1200	80%
2. 11KV Isolators "	150	60	40%
3. 11KV Type GPC "	350	150	43%
4. 33KV type LGI "	400	400	100%
5. 66KV Type LG3 "	100	100	100%
6. 132KV Airblast GAX "	25	8	32%
7. 220KV Airblast GAX "	25	..	..
8. Control & Relay Panels "	600	400	67%
Controlgears			
9. Industrial Controlgear "	400	300	75%
10. Traction Controlgear for DC, AC & Diesel system "	160	99	62%
II. Transformers			
11. Power Transformers (MVA) MVA	3000	1800	60%
12. Welding Transformer Nos.	200	110	55%
13. Traction transformer EMU "	50	44	88%
14. Traction rectifier EMU "	50	44	88%
15. Traction transformer for freight loco "	100	45	45%
16. Instrument transformers "	400	150	37.5%
III. Capacitors KVAR	108000	100000	92.4%
IV. Traction Motors (for AC, DC and Diesel System Nos.	800	655	82%
V. Industrial Machine (AC,DC) Nos.	600	200	33%
VI. Large Electrical Machine HP/Nos	30000/15	19600/12	85%
VII. Water Turbines & Generators M/Nos.	500/7	81(3)	42.8%
VIII. Steam turbine & Generators "	60/2	30(1) 60(2)	100%

146. Reasons for the non-utilisation of the full capacity are stated to be as follows:—

11KV Switchgears types BVP3 IBy and G.P.C.

The order position for these switchgears is falling mainly due to more manufacturers having come in the field. This has resulted in inadequate orders for utilising the capacity. The available capacity is being utilised for the manufacture of other products.

132 KV & 220 KV Air Blast Circuit Breakers

The manufacture of 132KV Air Blast was discontinued since 1964-65 as there was no demand than. This has been again taken up and is in process of being re-established. The manufacture of 220 KV Breaker is also being taken up for the first time and will take some more time before the capacity could be fully utilised.

Control Panels

These are manufactured to suit Switchgears, Motors and other electrical equipment. Owing to the demand going down for associated Switchgears, and then Sompertition from other manufacturers there are not enough orders to utilise the capacity.

Controlgear

For Industrial Controlgear the order position is not satisfactory. However with the manufacture of controlgear for Cement Mills, Rolling Mills etc. the capacity is expected to be met by value, whereas for controlgears, for Traction equipment (*viz.*, AC, DC and Diesel) their manufacture is being gradually established. In addition the indigenous supplies have also not come upto the required quality and delivery.

Power Transformer

The present installed capacity of 3000 MVA is not yet fully established for want of certain balancing of facilities such as Annealing and Drying Plants, paper tensioning device, sine wave generator etc. Further, the installed capacity indicated is in terms of transformers of average rating about 40 MVA. Presently the demand in the country is such that the average size is around 20 MVA only. The production was thus restricted to smaller rating Trans-

formers only, but orders for larger sizes are now being received.

Traction Transformers, Rectifiers & Freight Loco.

Due to delay in establishing the manufacture of these the capacity could not be fully utilised.

Instrument Transformers.

The production in the initial stages was restricted to lower voltage range i.e. 33 KV and 66 KV only. Recently manufacture of 132 KV has been established and efforts are in hand to step this to 220 KV range. Having established this there will be better utilisation of the capacity.

Capacitor

There is marginal shortfall which will be met with manufacture of high voltage capacitors.

Traction Motors

The manufacture of DC EMU and AC EMU Motors was established earlier but the bulk of the demand has now shifted to the Diesel Loco Motors and Generators which is a comparatively new product line, the development time for this product line has affected the attainment of full capacity production, but it will be reached by middle of 1969.

Industrial Machines (AC & DC)

There has been considerable difficulty in obtaining adequate quality castings within our country as well as from our Foundry. In addition due to high competition in this field enough orders are not forth coming to fill the capacity.

Large electrical Motors.

The manufacture of these has been established this year only and with higher HP range the capacity would be fully utilised next year onwards.

Water Turbine & Generators.

Though we have installed full capacity to manufacture these units the requisite skill and technique of their manufacture takes much longer time as envisaged by the consul-

tants, i.e. 5-6 years before regular production could be achieved. The manufacturing cycle is 24 to 36 months and the work load is now on the increase.

Steam Turbine & Generator.

The Construction of Steam Turbine block No. VI is still in progress and the capacity of 60 MW is being met from the spare capacity available in other manufacturing divisions, particularly water turbine.

147. It has been stated that an industry like Heavy Electricals takes 7 to 10 years to develop manufacture of its products to installed capacity. The long gestation period is inevitable because of the highly complex and sophisticated nature of the products concerned and the fact that they are being produced in the country for the first time. Another feature which limits the output is the availability of orders which naturally depend on the rate of power development in the country as the equipments are directly or indirectly related to the electric power generation and distribution programme in the country. Utilisation of installed capacity also depends upon the provision of staff and maturing of skill at all stages.

148. The Consultants in their project report have indicated that it would take at least 5 years to establish manufacture of any one product and since it was not possible to commence manufacture of the dozen or so products involved simultaneously, the learning period would extend to at least 5 years. In actual practice, the portions of the factory set up for the manufacture of Traction Motors, Heavy Plant, Water Turbines and Steam Turbines were completed some 3 years later than the original schedule proposed by the Consultants.

G. Order Position

149. During evidence, the Chairman of the Company confirmed that the order position in respect of Switchgear was lower than the capacity for 1967-68 and that the factory in this respect has come down from two shifts to one. Similarly, the original programme to produce 10 Nos. 120 MW Steam turbine sets in the Fourth Five Year Plan period has been reduced to 5 sets. Regarding Steam turbines, he stated that the factory portion was nearing completion and so nothing could be done except to go ahead with the project with the hope that the recessionary period would end soon. He also stated that all this would affect the earning capacity of the project.

150. As early as 1965, the Committee note that the consultants had also reported that the orders for Transformers were insufficient to maintain the present rate of production.

151. Even now it is held that the present annual capacity of the factory is of the order of Rs. 30 crores output but the planned 1967-68 target programme is of Rs. 18 crores which represents 60 per cent utilisation of the plant and equipment.

152. The Chairman of the Company informed the committee during evidence that the production during 1968-69 would be worth Rs. 24 crores, based on the realistic orders in hand.

153. The undertaking, it will be seen, is faced with a paradoxical situation. On the one hand its production targets are not being achieved while on the other, it has not got sufficient orders to reach rated capacity, in spite of the fact that at present there is complete ban on the import of equipment which HEIL is producing and there are very few competitors for some of its products. This situation would, inevitably, affect the earning capacity of the project. The prospect for the undertaking, in this respect would seem to be bleak as the Governmental expenditure on power generation is going down and consequently the order position for HEIL would further deteriorate.

154. The Committee note that there was shortage of orders for 11 KV Switchgears, types BVP 3. IB 4 and GPC, 132 KV and 220KV Air Blast Circuit Breake Control Panels; Control Gear and Power Transformer of above 40 MVA rating and Steam turbines. The Chairman of the Company attributed this fall in order position to the recessionary tendencies which have overtaken the national economy. Regarding the earning prospects of the undertaking, he said, "It is always contingent on the order position being satisfactory. It is a general calamity which will affect us as much as many other industries."

155. In view of the above, finding market for the Company's products at present is no less important than the utilisation of its installed capacity. In the present circumstances even if the installed capacity could be utilised, there will not be market to sell the products. The undertaking, therefore, shall have to take energetic efforts to explore markets abroad for its established products like Switchgear and Transformers.

H. Electrical Equipment for Railways

156. According to the Audit Report (Railways) 1967, the Ministry of Railways decided to enter into an agreement with a foreign firm for manufacture of some electrical equipments. The collaboration agreement was signed in November, 1962. It was expected that

some of the components of these equipments would be manufactured indigenously. There have, however, been delays in the development of indigenous manufacture of these components. In this connection it was decided by the Ministry of Railways in June 1964 that the manufacture of transformers should be entrusted to HEIL. According to the original anticipations the indigenous manufacture of transformers was to commence from April, 1965. The first transformer was, however, produced in December, 1966. Due to delayed development of indigenous manufacture of components (including transformer) equipment worth Rs. 3.21 crores were imported from the firm up to the end of March, 1966.

157. Again, it is learnt that effort to develop the manufacture of certain major components for diesel locomotives being manufactured at the Diesel Locomotive Work, Varanasi had not been quite successful and a shortfall, had, therefore, to be met mainly by imports. HEIL undertook in July, 1962 to supply a good portion of traction equipment, including Traction motors, Generators and Control equipment required for the locomotives constituting about 50 per cent of the total cost of a locomotive. A letter of intent was issued to them in September, 1962 for the supply of 120 sets of complete traction equipment during 1964-65 and 1965-66. It was, however, subsequently found in November, 1962 that only traction motors would be manufactured at Bhopal of which 60 sets were expected to be delivered by March, 1966. Actually no deliveries were made till March, 1966. The actual requirements of traction equipment obtained by imports for the 54 locomotives produced upto March, 1966, is estimated to have cost 4.48 million dollars.

158. The Committee addressed HEIL and the Railway Board for their comments on the above facts brought out in the Audit Report. From the letters which HEIL have sent to the Ministry of Industrial Development and Company Affairs in this regard (copies of which have been supplied to the Committee), it is seen that the reasons which were responsible for the delayed delivery of components are as follows:—

- (a) Delay in the release of foreign exchange required.
- (b) Frequent changes called for by the Railways both in the scope of supply and the specifications for the equipment.
- (c) The delay on the part of the suppliers of HEIL despatching certain tools and components for the equipment.

159. Unfortunately Railway Board did not furnish their comments to the Committee. However, it was explained to the Audit in February, 1967 that the deliveries could not be adhered to by HEIL for

several reasons, namely, unavoidably long time required for finalising the design of the electrical equipment, considerable delay in the procurement of imported machinery and raw materials and delays on the part of HEIL's suppliers in supplying tools and components according to schedule.

.. 160. It appears to the Committee that had the designs and the specifications been given to HEIL in time, perhaps, they would have manufactured and supplied the equipment to the Railways in time. It seems that the indecision on the part of railways delayed the timely action being taken by the undertaking to manufacture these equipments.

161. That after the receipt of designs and specifications the factors which delayed it further were non-availability of foreign exchange and tools and equipments from the suppliers of HEIL is very unfortunate. The Committee realise that there are difficulties in the allocation of foreign exchange but at the same time there is no wisdom in not making it available in time since delay only leads to import of whole equipment which is costlier and retards the development of the know how in the country.

162. Regarding the failure of suppliers of HEIL in regard to components, tools and equipments, the Committee have already commented in a previous paragraph.

VII

EXPANSION SCHEMES

163. Details regarding various expansion schemes, projects under implementation as envisaged in the Supplementary Project Report or otherwise, are as follows:—

A. Expansions envisaged in the Supplementary Project Report

- (i) Steam turbine Project for an output comprising of a mix of 7 sets aggregating to 600 M.W./annum.
- (ii) Power Transformer Expansion Project for increasing the output of Power Transformers from 3000 MVA to 6000 MVA/annum.
- (iii) Augmentation of Telephone Facilities—doubling the capacity of the existing communication facilities.

B. Expansions not envisaged in the Supplementary Project Report

(i) *Traction Transformer Project:—*

This project is for manufacturing Transformers for 25 KV A.C. freight locomotives being made in Chittaranjan to the designs of the Continental Group.

(ii) *Traction Equipment Expansion Project:*

The interim expansion of the original project (from Rs. 25 to 33.65 crores output) provided for expansion of Traction Equipment from about 400 pieces to about 800 pieces per annum. The supplementary Project Report did not provide for any further expansion. However, the railways advised that their requirement of traction machines from H.E. (I) Ltd., Bhopal will reach about 1800 pieces towards the beginning of the Fifth Five Year Plan. Hence an expansion project initially (phase I) for increasing the output to about 1400 machines was proposed, approved and has been taken up for implementation. The position will be reviewed after 2 or 3 years whether further expansion will be required *vis-a-vis* the Railway demand then prevailing.

(iii) *Capacitor Project*:—

The expansion of this product was also not covered by the Supplementary Project Report. However, the demand in the country is not only considerably in excess of what the Company can produce with its present facilities but also for a new and a better type of capacitor with a non-inflammable liquid dielectric. Hence this expansion was put up, approved and taken up for converting the existing facilities to undertake manufacture of the new type of capacitors and also for increasing the output to meet the increased demand.

C. Details re: Schemes

164. Details regarding these expansion are given below:—

(1) Expansion Projects, sanctioned by Government and under various stages of implementation.

Name of the Project	Capital Estimates (sanctioned) Rs. lakhs	Sales value of output on full production	Target date for completion
1	2	3	4
1. Manufacture of Steam turbine and Turbo Alternators.	998 (pre-devaluation) 1400 (post-devaluation) (The Project Estimates are now under revision to increase its scope to include certain ancillary facilities. During revision the effect of devaluation as well as other increase in prices will be taken into account. The revised estimate is expected to be of the order of Rs. 1750 lacs).	1600 (can be increased to 2000 by marginal addition to the production facilities)	October, 1969
2. Manufacture of Transformers for the 25 KV Freight locomotives.	40.46 (pre-devaluation) 58.18 (Post-devaluation)	200	December, 1968

1	2	3	4
3. Manufacture of capacitors using non-inflammable liquid dielectric	7.92 (pre-devaluation) 14.00 (post-devaluation)	27	August, 1969
4. Establishment of additional facilities for Power Transformers from 3000 MVA output to 6000 MVA output per year.	278 (Pre-devaluation) 366 (post-devaluation)	480	(This is additional to the sale value of output from existing facilities)
	This Project has been phased out to be implemented in 3 phases, each for the addition of capacity of 1000 MVA. First phase at the estimated cost of Rs. 160 lacs (pre-devaluation) or Rs. 184 lacs (post-devaluation) is currently under implementation.		
5. Augmentation of Telephone facilities	20.3 (post-devaluation)		February, 1969

(ii) Expansions Projects for which Project Reports and Estimates have been prepared and are being processed for sanction

Name of the Project	Capital estimates Rs. lakhs	Sales value of out-put on full production
1	2	3
1. Expansion of facilities for the manufacture of Railway Traction Equipment.	288 (post-devaluation) (The Project has been phased out in 2 phases. The first phase to reach an output level of about 400 machines per year. The capital investment of 117	An additional Rs. 648 lakhs worth of Traction equipment.

1	2	3
2. Establishment of permanent factory, main stores and warehouse.	71 (post devaluation)	lakhs (post devaluation) has been approved by the Board and submitted to the Government for sanction. The Project is based on the demand of the Railways which is expected to stabilise at a figure of 1600 to 2000 machines per year).

(iii) Expansion Projects for which Project Reports are under various stages of preparation.

(i) Expansion of Coils and Insulation Division:

Approximate assessment of capital requirement is about Rs. 125 lakhs. This is feeder facility which has to expand to meet the demand of the product expansion.

(ii) Augmentation of service Plant and Services:

Approximate assessment of capital requirement is Rs. 60 lakhs. The augmentation of service plants would be necessary when the expansion envisaged reach full production.

165. The Committee, during evidence, discussed the expansion which had been undertaken since the construction of the Project started; particularly, the justification for resorting to expansion when the original capacity was not being utilised fully. The Chairman of the Company stated that so far as Switchgear was concerned for which there was shortfall in orders, no expansion was being undertaken. Expansions were being undertaken in the transformers and Traction motors sections for which the order position was good. In regard to Steam turbine, although originally 10 sets were being planned to produce, presently there was firm demand for 2 sets only. He informed the Committee that as the factory portion for this scheme was nearing completion there was no alternative but to go ahead with the project in the hope that the demand for these turbines would revive.

166. The special Secretary of the Ministry stated that some of the expansions which had recently been taken up were with a view to improving the earning capacity of the project. He said that for the increase in the size of the Transformers, additional investment would be Rs. 4½ crores roughly but the additional value of the output would be Rs. 8.65 crores; for the Steam turbine manufacturing scheme, the additional investment would be about Rs. 14.65 crores, the value of the output would be Rs. 12½ crores; in the case of Traction Transformers, the additional investment would be Rs. 0.58 crore, whereas additional output would be Rs. 1.86 crores, for Capacitors, investment would be Rs. 14 lakhs, the additional output would be Rs. 27 lakhs; for the expansion of Power Transformers (from 3 MKVA to 6 MKVA) as against an investment of Rs. 3.66 crores, the output would be Rs. 4.8 crores.

167. The Committee understand that the expansions which are under way or which will be taken up later on are being resorted to with a view to improving the earning capacity of the project. The project, as originally conceived, was not going to be an economic proposition and these expansions were a compulsive necessity in order to make the project viable.

168. Apart from the fact that these expansions have delayed the completion of the project, the Committee feel concerned about some of the demand projections going wrong. As stated earlier, already there is a fall in the order position of some of its equipment including the Steam turbines. The revised estimate of this expansion scheme (Steam-turbines) is about Rs. 17 crores. The actual expenditure incurred on this project up to 31-3-1967 was Rs. 321.65 lakhs and for the balance commitments have already been made. It is, however, learnt that those who had placed orders on this project seem to be backing out. Generally, for most of its products, State Electricity Boards are the customers and since most of these Boards do not have enough funds at their disposal, the Committee are apprehensive about the future prospects. In fact, this project was proceeded with only on the basis of the expected demand of electrical equipments in the country and the savings on foreign exchange—the economic aspect was either not thoroughly examined or, it was given secondary importance. It will be seen that for all the expansions and diversifications of its product-mix there now seems to be some uncertainty about the demand. Added to this the undertaking itself is not sure that the expansions would improve the profitability of the project because it is, according to them, based on “too many assumptions”.

169. The Undertaking should place an embargo, except on a marginal basis, on all further expansions till the resources already

established are made fully productive. Whatever might have been the plans, production programmes and the sanctions, the undertaking should concentrate on utilising the present installed capacity rather than augment it.

D. Profitability of the Expansion Schemes

170. The Committee asked for information whether the profitability or otherwise of these expansions had been worked out before launching on them. In this connection following information was furnished:—

“1. *Steam Turbine Project (as sanctioned)*

This is a project covered in the supplementary project report of the Consultants. No profitability figures have been worked out in this report.

2. *Traction Transformer Project*

Profitability was not worked out, but the savings in foreign exchange were worked out and exhibited in the Project Report.

3. *Traction Equipment Expansion Project*

Profitability figures have been worked out for the whole project and are as follows:—

Turn Over

Fixed Capital	175%
Turn over/Total capital	84%
Net Profit/turn over	12%
Return on capital employed	10%

4. *Power Capacitors Expansion Project*

Profitability figures not worked out but the savings in foreign exchange worked out and exhibited in the project report.

5. *Power Transformers Expansion Project.*

Profitability figures are worked out in the project report and are as follows:—

Turn over/fixed capital	133%
Turn over/total capital	72%
Net Profit/turn over	6%
Return on capital employed	4%”

171. The Committee would recommend that whenever expansion of a project during construction stage or otherwise is undertaken it is absolutely necessary that the undertaking and the Government should thoroughly examine the profitability of the expansion scheme as well its repercussion on the execution of the entire project, particularly, its effect on the economics of it. In the case of HEIL, as will be seen from the above, some of the expansions had been undertaken merely on the basis of the expected savings in foreign exchange. The Committee are surprised that in the case of Steam Turbine Project, whose revised estimated cost is about Rs. 17 crores, no profitability figures had been worked out in the supplementary Project Report which covered this scheme. The Committee hope that in future whenever expansions are to be undertaken Government would not proceed on such meagre data, but provide a yardstick with which to measure the achievements of the undertaking.

172. The Committee would also stress that in public undertakings like HEIL where continuous expansions are taking place profitability and economy of the working of the plant should be tested from time to time. The cost of production of the established items should be worked out separately. An appropriate percentage of the overhead accounts should notionally be attributed to the working of the plants where these established items are being produced. The profitability of the working of the project should then be examined. Unless this is done the Committee feel that the project management will not be on their toes.

VIII
ORGANISATION

A. Board of Directors.

173. The Board of Directors of the Company comprises 11 members, including the Chairman-cum-Managing Director. Of these, 4 have experience of Heavy Electrical Industry to varying extent. The Chairman-cum-Managing Director is the only full time Director.

174. The Committee notice that on the Board of Directors of the Company are two members, one of whom is serving on 28 and the other on 15 other Corporations/Companies/Bodies. There is no doubt of the advantage in associating with a public undertaking persons having wide and varied experience in business. The Committee, however, feel that by and large holding of directorship in a large number of companies may not enable a person to find sufficient time to attend to the business of an undertaking and to make effective contribution in its progress. They would, therefore, recommend that at the time of making nominations on the Board of Directors, Government should bear in mind that only such persons as are able to devote sufficient time to the affairs of the undertaking are appointed.

175. Under the Articles of Association of the Company, the Directors may delegate any of the powers to its sub-committee. Accordingly, a standing Sub-Committee of the Board consisting of the Chairman and two other Directors has been formed to deal with urgent matters. No specific powers have been delegated to the Sub-Committee and it functions as per the directions of the Board while remitting any item to the Sub-Committee.

176. The Committee consider the constitution of a standing sub-Committee of the Board a good arrangement but it is hoped that only urgent matters which cannot await the convening of a meeting of the Board would be considered by the Sub-Committee. The Committee notice that at present the Sub-Committee is constituted of only the official members of the Board. The Committee would recommend that a non-official member of the Board should also be associated with the Sub-Committee.

177. The Committee also notice that at present one member on the Board is from the U.P. Electricity Board. Since, for most of its products State Electricity Boards are the customers, the Committee would recommend that representatives of Electricity Boards of the States should be nominated in rotation.

B. Personnel Matters

178. A strength of 8487 men was recommended in the Detailed Project Report for an output level of Rs. 12.5 crores on single shift. The factory is now working on double shift and certain changes in the product-mix have also taken place. Further, steam Turbines and Alternators have also been taken up as a new product line.

179. A statement showing the staff in position as on 31-3-1967 is given below:—

1. <i>Unskilled</i>		
in the scale of Rs. 70—85/-	. . . . .	2070
2. <i>Artisan 'A' Gr.</i>		
(Industrial Workers in the scale of Rs. 205—280)	. . . . .	269
3. <i>Artisan 'B' Gr.</i>		
(Industrial Workers in the scale of Rs. 150—205)		2873
4. <i>Artisan 'C' Gr.</i>		
(Industrial Workers in the Scale of Rs. 125—155/-	Rs. 110—	
143/- Rs. 85—110/-)	. . . . .	2712
5. <i>Jr. Supervisory Staff</i>		
in the scale of Rs. 350—900 to 400—950/-	. . . . .	457
6. <i>Sr. Supervisory Staff</i>		
in the scale of Rs. 700—1250/- & above	. . . . .	201
7. (a) <i>D/man</i>		
in the scale of Rs. 150—250 to 400—680	. . . . .	604
(b) <i>Tracer</i>	. . . . .	15
8. <i>Engineers (Design)</i>		172
9. <i>Sr. Engineers (Design)</i>	. . . . .	81
10. <i>Commercial Engineers</i>		41
11. <i>Sr. Commercial Engineers</i>	. . . . .	6
12. <i>Clerical & Misc.</i>		4753
13. <i>Secretaries & Typists</i>	. . . . .	351
		<hr/>
	TOTAL	14,605

180. The Consultants have in their Supplementary Project Report, estimated that for an output of Rs. 50 crores a staff strength of

about 26,000 persons would be required. This, however, relates only to the factory departments and no estimates have been made by them for certain services like construction and erection, township maintenance, Secretariat, Medical Services, training etc. But the undertaking feels that these estimates are too high and the actual strength required may not exceed 20,000 for the ultimate capacity of well over Rs. 50 crores after 1971-72.

181. Whatever might be the future plan of the undertaking regarding the staff strength, from the information supplied, the Committee have gathered the impression that this project had been over staffed.

182. As early as 1963, the Company Auditors in their special report on the Accounts of HEIL had reported on the basis of the information made available to them that the labour strength was in excess of the requirements by about 400 trainees and/or artisans.

183. The following extract from the minutes of one of the sittings of the Board of Directors, held in 1964 would also show that there was surplus staff in the Civil Engineering Department:—

“As for action to reduce the staff in the Civil Engineering Department at Bhopal, the Chairman explained that 60 employees of various categories had already been declared surplus. List of Civil Engineers in employment at all the four projects have been received. They will be scrutinised with a view to utilising the Bhopal surplus staff at the other Projects.”

184. According to Para VII of Audit Report (Commercial), 1964. The Project Report envisaged the total strength of factory staff for an annual output of Rs. 12.5 crores at 8487, as against the actual strength of 9,336 on the 1st January, 1963 for a planned output of only Rs. 3.5 crores and actual output of Rs. 3.1 crores (including work-in-progress and civil engineering components).

According to the Project Report the incidence of the administrative staff to the factory personnel should be in the ratio of 1 : 12. The present ratio is, however, 1 : 6.”

185. The Technical Consultants in their report submitted in February, 1963 had stated, “All factory departments are fully staffed except the Tool room and manufacturing services department and indeed most of them are well over-staffed for their present level of output.”

186. Again, in their report submitted in April, 1965, they have stated as follows:

"The Estimated surplus of 1500 men still exists in the factory and the situation may well be aggravated as the introduction of the incentive system increases the productivity of individual workmen and so reduces the numbers needed for a given output".

187. In October, 1966, the Consultants have again reported which the Committee find very revealing. They have stated:—

"The amount of waiting time booked has been as high as 70% of the total available hours. In other words, as much as 70% of the shop labour is standing around doing nothing at any one time. Apart from less production this cannot but have an adverse effect upon shop discipline. It also minimises the benefit which might have been obtained from the incentive scheme."

And, as late as April, 1967, they have stated that "There are far too many people wandering around the factory site at all hours of the day."

188. The Committee have also been informed that apprentices numbering 462 who were trained by the undertaking could not be absorbed. An amount of Rs. 23.55 lakhs was spent on the training of these apprentices. Their employment was, however, arranged with various other public undertakings; also, an amount of Rs. 9.06 lakhs towards the training expenses of 188 apprentices absorbed by the sister undertaking *viz.*, Bharat Heavy Electricals Ltd. was recovered from them.

189. From the above facts, and the views expressed by the Consultants, the Committee feel that up till now the undertaking had been carrying more staff on its strength than required. It has not been possible for the Committee to assess the monetary loss to the undertaking on this account, but judging from the fact that the loss which the undertaking had to suffer on account of surplus trainees alone would be more than Rs. 14 lakhs, the total loss on account of over-staffing in the project as a whole would be quite substantial.

190. The Committee feel that the assessment of the requirements of staff which has been made in the original Project Report and the supplementary Project Report cannot be very helpful to the undertaking now in determining the staff strength because frequent ex-

ensions of the original schemes and the new lines of production have rendered many assumptions of the project report, unrealistic in the present circumstances. The Committee would, therefore, recommend that the undertaking should make reassessment of staff requirements strictly in accordance with the anticipated manufacturing programme. The Committee expect that it would also be possible to economise on administrative and establishment charges.

C. Recruitment and Promotion Policy

191. The Company has framed rules regarding the recruitment and promotion of staff in the undertaking. All recruitments and promotions in the Company are governed by these rules.

192. The Committee looked into some of the promotions given to the staff of the undertaking during the last few years. They noticed that a good number of persons appointed by the Company got promotions within two years, some of them even in a shorter period. In one case a promotion giving benefit of over Rs. 400 was given to a senior officer within a period of about one year.

193. The Committee discussed this question during evidence. The Chairman of the Company stated that in early stages when merit was the criteria for promotion to higher stages it was possible that a person working in a lower grade moved to a higher grade where the difference could be from Rs. 300 to Rs. 400 p.m. But such cases were applicable to specialists category. He informed the Committee that various Selection Committees had been formed for screening the candidates and determining their suitability for promotion.

194. The Committee's findings reveal that accelerated promotions referred to above have not been given only to the specialists or technical categories but also to non-technical personnel. The Committee feel that rapid promotions given to certain persons and denied to others, bring about discontent amongst the employees, which is not conducive to smooth running of a factory. The Committee would, therefore, recommend that the Company's promotion policy should be so framed that there is no room for favoured treatment.

195. The Committee would also recommend that the present rules in this regard may be revised to include specific provisions whereby such accelerated promotions are not given without cogent reasons. As at present the rules framed are too general to ensure such a policy.

LABOUR MANAGEMENT RELATIONS

196. This Undertaking has been severely affected by strained labour management relations. From 1962 onwards, almost every year there has been strike and stoppage of work in factory as a result of which the Undertaking had to suffer a loss of about Rs. 4 crores in production value.

197. The Company has attributed the labour unrest in the factory largely to inter-union rivalry. It has been stated that recently on 19th November, 1967 an agitation was started by the Joint Council of all the Unions functioning in the undertaking. Main demands of the Unions are as follows:—

- (i) Equal leave facilities to Industrial and non-Industrial Employees.
- (ii) Reduction in working hours.
- (iii) Free House Accommodation to Fire, Security and Medical staff.
- (iv) Payment of Bonus.
- (v) Uniform Promotion Policy.

198. The Committee have been informed that the first three demands have all-India repercussions and as such cannot be decided by the management in isolation. The matter has, therefore, been referred to appropriate authority for a policy decision. Regarding payment of bonus, the management has announced its decision to pay bonus to the employees in accordance with the provisions of the Payment of Bonus Act, 1965, and the first bonus will be paid before the end of November, 1968 in respect of Company's working results for the year 1967-68. As regards uniform promotion policy, there is requisite mandatory provision in the Standing Orders and Service Rules in force in the Company and these are being followed by the management.

199. Labour unrest and strained labour-management relations are a problem with which many public undertakings are afflicted. HEIL has also suffered from this notice. The Committee cannot too

strongly stress that for an undertaking like HEIL which is not able to achieve its production targets ever since it has gone into production and is incurring heavy losses over the years, cordial relations between the workers and the management are of paramount importance. That maintenance of good labour relations is necessary for sustained high level of production needs no emphasis. The Committee would urge both the employees and the employers to recognize their mutual rights and duties towards this national undertaking and help it in showing better results in future. The Committee hope that the demands of the workers which have been referred to other authorities would be decided speedily.

X

TOWNSHIP

200. When the Estimates Committee last examined this project in the year 1962-63, estimates of the expenditure on township were Rs. 9 crores. According to the revised estimates the township with 15,440 quarters was to cost Rs. 16.40 crores. It was expected that the cost might go up to 19 crores, if the expansion of the project to Rs. 50 crores output was sanctioned. The present estimates are that it would cost Rs. 10.50 crores for 10647 quarters. According to the annual report of the undertaking for the year 1966-67 the Gross Block of Funds applied for township is Rs. 11.15 crores. It will be seen that the expenditure on township has exceeded the estimated cost. Revised estimates of the Project approved by the Government in April, 1966 was Rs. 58.47 crores. The expenditure on township would thus come to over 19 per cent of the cost of the project.

201. The Committee had in thier 8th Report (Third Lok Sabha) examined the expenditure on townships of public undertakings. The findings revealed that in most cases the expenditure varied from 7.4 per cent to 17 per cent (para 51 of 8th Report).

202. In the post-evidence information supplied to the Committee, it has been stated that during 1966-67 the total expenditure on township excluding interest, amounted to Rs. 87 lakhs against a corresponding receipt by way of rent, electricity charges and other miscellaneous income of Rs. 31 lakhs, leaving an uncovered sum of Rs. 56 lakhs representing the subsidy provided by the Company in this regard. To this has to be added a sum of Rs. 39 lakhs towards interest on capital which is borne by the Company. The loss for the year on the Company's working therefore includes this sum of Rs. 95 lakhs towards the shortfall on township maintenance and other allied amenities to the employees.

203. The Committee consider the expenditure on township viz. 19 per cent of the cost of the project as much on the high side—more so, when the return from the township is hardly enough to meet the expenses on its maintenance leaving aside the charges towards interest and depreciation amounting to approximately Rs. 35 lakhs per year uncovered. The Committee feel that the expenditure on township would be a constant drag on the economic working of this

project. It is apparent that expenditure on township is being incurred without taking any account of its repercussion on the project. The Committee would stress that utmost economy should be observed in this direction.

204. The Committee appreciate that labour housing is not an economic proposition from the point of view of public undertakings. Even in the private sector, the Government has a scheme of subsidised industrial housing. The Committee learn that sometime back Government was thinking of setting up a Housing Corporation for the Public Sector Projects to which all the township of the projects would be transferred, with a view to relieving the projects of the rather heavy burden of expenditure on townships. During evidence, the representative of the Ministry of Finance said that so far no decision had been taken in this regard, but he promised to furnish a note regarding this aspect later on. It was, however, not received till the time of finalisation of this Report. The Committee realise that most of the public undertakings are located in out of the way and inaccessible places and, therefore, the provision of a township is essential. But, at the same time, many projects cannot bear the heavy burden of expenditure on this account because ultimately the Consumption of electricity in the township (Section XVI of Audit will have to be borne by the products of the company, in terms of increased prices. The Committee, therefore, suggest that Government should examine the economic and administrative aspects of setting up a Housing Corporation for the public sector projects and taken an early decision in this regard.

Consumption of electricity in the township [Section XVI of Audit Report (commercial), 1967]

205. Out of 3,82,95,557 units of electricity purchased by the Company during the period from 1961-62 to 1963-64 from the Madhya Pradesh Electricity Board, 93,30,722 units were consumed in the township (non-revenue earning units 47,95,828 and revenue earning units 45,34,894). As against a sum of Rs. 13.35 lakhs recoverable on account of consumption of revenue earning units and meter rent the actual recovery amounted to Rs. 9.12 lakhs only, the loss of revenue being Rs. 4.23 lakhs. The shortfall represented 14 per cent of the total consumption of the township.

206. The shortfall was attributed to the following reasons:—

(i) About 1 per cent of the loss is due to the following factors:—

(a) losses during the testing of domestic installations, sub-station equipment, etc.;

- (b) **assessment of supply at a flat rate of Rs. 2·25 per month during 1961-62 and a part of 1962-63 as house energy meters were not available; and**
 - (c) **non-existence of facilities for testing and calibrating energy meters before installation in initial stage.**
- (ii) **The remaining 13 per cent of the loss may be treated as unaccounted for and the possibility of tampering with the metres cannot be ruled out.**

206. The Committee learn that the loss of revenue during the years 1964-65 and 1965-66 amounted to Rs. 2·66 lakhs and Rs. 0·94 lakhs respectively.

207. During evidence the Chairman of the Company stated that there were some normal losses when current passes through the wire and transformer. A certain percentage, by way of allowance was given; but any excess over and above that was pilferage or some leakage. He assured the Committee that whenever there was pilferage, regulation were being tightened to prevent it. **The Committee hope that effective steps would be taken to minimise the loss of revenue on account of pilferage and leakage of electricity.**

XI

FINANCE AND ACCOUNTS

A. Project Estimates

208. The Estimated costs of the projects as originally given in the Detailed Project Report and subsequently revised are as given below:—

- (i) Total estimated cost
(November, 1956): Rs. 3534·95 lakhs as per Project Report.
- (ii) First Revised estimates,
(March, 1960): Rs. 4746·92 lakhs.
- (iii) Second Revised estimates,
(June, 1962—and amendments received thereafter)
lakhs.
- (iv) Revised Estimates approved by the Government April,
1966: Rs. 5847·41 lakhs.

In addition, the following expansion projects have been sanctioned by the Government:—

	(Rs. in lakhs)..
Manufacture of Steam turbines	998·00
Manufacture of Transformers for 25 KV freight locomotives	40·46
Manufacture of Capacitors using non-inflammable liquid dielectric.	7·92
Establishment of additional facilities for increasing the output capacity of power transformers.	279·00
Expansion of facilities for the manufacture of Railway Traction Equipment (from 800 motors to 1400 motors).	90 (first phase)
Augmentation of telephone facilities in factory and township.	20·30
Augmentation of filtered water supply—Phase III	18·00

209. The Committee also learn that the estimates of Steam turbines and Turbo-alternators projects are under revision to provide for (1) price increases due to devaluation, (2) certain ancillary facilities like fabrication etc. not originally included and (3) a few balancing items, thereby increasing the installed capacity from 600 MW to 1,200 M.W.

210. The Committee wanted to have detailed reasons for each of these revisions. Unfortunately these were not supposed. In the post evidence information the following comparative statement showing the cost of the project as originally given in the Detailed Project Report and subsequent sanctioned by Government (from time to time was supplied to the Committee:

Sl. No.	Description	Estimates as per DPR accepted by Govt.	Pre-minary sanction 3/60	Project sanction 12/62	After certain additions in 9/63	Revised Estimates sanctioned in 4/66
(Rs. in lakhs)						
1	2	3	4	5	6	7
1	Factory Building and Works	1136	1436	1372	1342.60	1338.60
2	Factory Services	339	..	405	407.57	491.80
3	Plant & Machinery	1952	1851	1851	2082.75	2288.86
4	Customs duty	..	..	90	100.57	268.28
5	Purchasing Agency Agreement & Credit arrangement			113		
6	Lumpsum payments to consultants	53		54	53.32	60.02
7	Cost of UK Training	100		100	100.00	124.76
8	Furniture & Mis. Equipment	45		45	45.41	48.72
9	Township			900	839.92	836.41
10	Administrative charges	..	..		144.14	299.41
11	Payment of interest	..	..		5.27	90.55
12	Working capital	1025	1875	..	..	..
TOTAL		4550	5162	4930	5121.55	5847.41

211. It is learnt that the revision of the project estimates to Rs. 58·47 crores was necessitated because of the following reasons:

- (i) Increase in the cost of factory services to provide for:
 - (a) Additional transformer capacity to meet the increased electricity load due to additions to space and plant capacity in certain blocks;
 - (b) Construction of a separate Electric sub-section for Block I-A;
 - (c) Increase in the prices of plant over 1956 level; and
 - (d) Additional telephone facilities etc.
- (ii) Increase in the cost of plant and equipments due to:
 - (a) Increase in the prices of these items over 1956 level when the Project Report was prepared.
 - (b) Higher size of equipments necessitated by the decision to build bigger Transformers and motor Turbines than originally planned.
- (iii) Increase in administration expenses to be capitalised.
- (iv) Increase in the rates of customs duty;
- (v) New Works on Hydrogen, Nitrogen plants and Industrial Estate; and
- (vi) Provision for interest (Capital, which was not provided in the estimates originally).

212. In the written replies supplied to the Committee earlier the break-up of the original and revised sanction estimates in regard to

the original scheme is as given below:—

(Rs. in lakhs)

	Original sanctioned estimates	Revised sanctioned estimates
1. Factory Buildings & Works	1338·60	1338·60
2. Factory service	407·57	485·00
3. Machine Tools & Equipment	2082·75	2159·47
4. Township	839·92	836·41
5. Furniture & Misc. Equipments	45·41	48·72
6. Lumpsum payment to Consultants	53·32	60·02
7. Training in UK	100·00	124·76
8. Administrative charges	144·14	299·41
9. Customs duty	100·57	250·67
10. <i>New items</i> —		
(i) Hydrogen Plant		3·09
(ii) Industrial Estate		3·15
(iii) Nitrogen Mains		0·56
(b) Interest charges		90·55
(c) (i) Machine tools & Equipments . . . . .	..	129·39
(ii) Customs duty . . . . .	..	17·61
	5112·28	5847·41

213. It is also learnt that the capital outlay excluding working capital amounted to Rs. 62·31 crores as on 31st March, 1967. During evidence the Additional Secretary of the Ministry of Industrial Development informed the Committee that Project cost might go to over Rs. 80 crores finally.

214. It will be seen that the project cost of about Rs. 35 crores as per Project Report has risen to Rs. 62 crores. Thus the project cost has risen by about 77 per cent. The increased cost can partly be explained by the various expansions which have been undertaken during the course of construction since the estimates as given in the Project Report were approved. From the table above which gives information about the latest revision, it will also be seen that amongst the items which have necessitated major revisions are the Administrative charges and interest charges—the former account-

ing for an increase by about Rs. 1½ crores, i.e. 100 per cent increase, and the latter over Rs. 90 lakhs which had not been shown in the original estimates. The Committee are surprised that such a heavy increase should have occurred in a short period on account of administrative charges. Similarly the Committee feel that the 'Interest Charges' are not an item which could have been entirely imforeseen at the time of framing the original estimates.

215. The Committee would recommend that the estimates should be prepared realistically in as detailed a manner as possible covering all the items of expenditure to give a clear idea of the total outlay on a Project.

B. Working Capital

216. HEIL is faced with difficulty in regard to meeting its working capital requirements. In March, 1960 the Government had agreed to provide Rs. 18.75 crores as working capital. In January, 1961, however, Ministry of Finance, decided that Public sector undertakings should meet their revenue expenditure out of over-draft facilities from the State Bank of India.

217. In consonance with the above decision, the Company had till the 31st March, 1966 arranged credit facilities with the State Bank of India to the extent of:

Clean Cash Credit facilities from 14-6-1962	Rs. 1.00 crores
On the hypothecation of inventories from 19-10-1963	Rs. 6.00 crores
from 17-2-1965	Rs. 2.50 crores
	TOTAL Rs. 9.50 crores

The year-wise working capital requirements of HEIL are indicated below:—

	Working Capital (Rs. in lakhs)
31-3-1963	960.42
31-3-1964	979.17
31-3-1965	637.33
31-3-1966	1387.05
31-3-1967	2013.74

219. Since the amount arranged for is quite insufficient for the needs of the company it has been negotiating with the State Bank of India for more loans. The Bank has been insisting on collateral security by way of Government guarantee, which the Government is not prepared to give.

220. The Company had also diverted about Rs. 10 crores from the capital funds to Working Capital requirements which is apparently not in accordance with the normal commercial practice.

221. The Committee discussed during evidence the question of requirements of working capital. The representative of the Ministry of Finance stated before the Committee that though, at times, funds released by the Government for capital investment were utilised for working capital requirements, no particular directive on the subject had been issued to the Company. He said that the Government felt that at the initial stage it was expected that the undertakings would require some funds for their Working Capital when the normal line of availability of funds i.e. banks, on the basis of hypothecation of stores would not be available.

222. The Ministry of Finance have, in a communication dated the 16th March, 1967 addressed to all Ministries of the Government of India laid down the following guidelines which may assist the projects in assessing and meeting their Working Capital requirements.

- (a) The Board of Directors in case of each undertaking should determine the reasonable level of the working capital and review the position from time to time to ensure that the total investment in Working Capital is kept as low as possible.
- (b) In the first instance, the enterprises concerned should approach the State Bank of India for the cash-credit arrangements to meet the requirements of their Working Capital on the security of their current assets including stocks of stores, spare parts, raw-materials etc. According to the normal bank practices, the State Bank of India may ask for a certain margin while fixing the cash-credit limits.
- (c) It would be necessary for the undertaking to find ways and means of raising margin money. The State Bank of India should be requested to provide for the entire work-

ing capital needs. If necessary the excess over the margin money could be covered by a guarantee from the Central Government.

- (d) Whenever the total requirements of Working Capital cannot be met by the cash-credit arrangements with the State Bank of India, the enterprises may approach the Government for short-term loans. Such requests would have to be examined *vis-a-vis* the position of internal resources of the undertaking.
- (e) So far as the use of internal resources and in particular depreciation fund is concerned, this should in the first instance be utilised for meeting capital expenditure. While making a demand for additional funds for capital expenditure the internal resources including depreciation fund will, invariably, be taken into account.
- (f) Where the undertakings are making losses, the amount of the loss sustained will also be met from internal resources in the first instance.

223. The contention of the undertaking is that all the guidelines indicated above have already been acted upon. It has been stated that in undertakings like HEIL, where the manufacturing cycles range from 6 to 36 months the working capital requirements do not come in a steady flow. Till such time as the project reaches its optimum level of production, the requirements of funds will increase from year to year and, according to HEIL, it will not be possible to meet the same from either the sales or the additional cash credit facilities from the State Bank of India. The undertaking also feels that the Bank may also not be prepared to afford cash credit facilities beyond a limit even with Government guarantee.

224. The Committee learn that many undertakings like HEIL are faced with difficulty in regard to their Working Capital requirements. When the projects are unable to obtain funds for their Working Capital requirements, they often utilise the funds made available by the Government for Capital Works. This is improper but in view of the difficulties faced by the undertakings a rational and practical solution needs to be evolved. The Committee have dealt with this matter in their Report on Financial Management in Public Undertakings.

C. Sundry Debtors and Turnover

225. The following table indicates the volume of book debts and sales for the last three years:—

(Rs. in lakhs)

As on	Total book debts		Sales	Percentage of debtors to sales
	considered good	considered doubtful		
31-3-1965	211·97	1·28	600·14	35·5%
31-3-1966	270·27	3·58	770·39	35·5%
31-3-1967	424·71	3·37	1,134·22	37·7%

The following table indicates the details of debts outstanding for more than one year as on the 31st March, 1967 :

(Rs. in lakhs)

	Govt. Deptt.	Private Parties
(i) Debts outstanding for more than 1 year but less than 2 years	28·78	1·73
(ii) Debts outstanding for 2 years and more but less than 3 years	16·92	1·03
(iii) Debts outstanding for 3 years and above	6·21	6·01

226. The Committee also learn that in 1966, a sum of Rs. 10.30 lakhs had been written off or provided for in respect of bad and irrecoverable debts, advances, loss of assets etc.

227. The main reasons for the non-recovery of these dues were certain procedural difficulties experienced by the State Electricity Boards, delivery being not in accordance with the dates indicated in the contract, and misplacement of bills by the customers.

228. During evidence the Chairman of the Company also stated that these outstandings were rising over the years owing to the increased sales. In regard to the old arrears, he said, recovery was being made but about current despatches there were also some difficulties.

229. It is seen that bulk of the outstandings of the undertaking are mostly against Government Departments, State Electricity

Boards and Government undertakings. HEEL as mentioned earlier is faced with difficulty in regard to funds for its working Capital needs. A fortiori it is essential that prompt recovery of all dues should be made. The Committee are not happy to learn that procedural difficulties stood in the way of recovery of dues from the Government Departments and State Undertakings. They hope that energetic steps would, henceforth, be taken to make the recoveries.

D. Inventory

230. The following table indicates the comparative position of the inventory and its distribution at the close of the last three years:

	(Rs. in lakhs)		
	1964-65	1965-66	1966-67
(i) Raw materials	565·82	670·32	920·90
(ii) Stores and Spare parts (production and miscellaneous)	187·92	202·69	261·41
(iii) Work-in-progress (including Work-in-progress of training school)	242·42	397·94	865·24
(iv) Finished goods	189·56	273·38	413·94
(v) Others (excluding scrap and materials in-transit)	43·78	41·03	24·19
	1,229·50	1,585·36	2,485·68

231. The stock of stores and spares and raw materials was equivalent to 14·4 months' consumption for production requirements in 1966-67 as compared with 17·7 months' in 1965-66 and 22·3 months' in 1964-65. Finished goods represented 4·4 months' sales in 1966-67 as compared with 4·3 months' in 1965-66 and 3·8 months' in 1964-65.

232. The Committee learn that plant and machinery valued at Rs. 34·12 lakhs, production and training stores valued at Rs. 28·31 lakhs and construction and erection stores valued at Rs. 25·03 lakhs were found surplus to the requirement of the company on the 31st March, 1967. It is also learnt that out of the total surplus stock of Rs. 55·20 lakhs as on 31st March, 1965, the slow moving stores held by the various production stores amounted to Rs. 31·48 lakhs. The average annual rate of consumption of these slow moving items constituted about 20 per cent of the total.

233. It has been stated that an analysis of the inventory of raw materials, stores and spare parts has been made and these have been classified according to A, B, C, method. On the basis of these, maximum and minimum ordering levels of each of these items have been determined. Phased deliveries for A & B items for keeping minimum possible inventories consistent with production requirements and safety margins were being asked for.

234. As on 31st March, 1967 surplus items worth Rs. 25 lakhs, including about Rs. 12 lakhs during 1966-67, had been disposed of. During evidence, the Chairman of the Company, explaining the difficulty in disposing of the surplus items, stated that for a large number of small machines like lathes, drilling machines which had been used for training the apprentices, it was difficult to find customers. Also, he said, most of these machines were not in good condition. Regarding production stores, he contended that it was bound to happen in a small way as certain stores became redundant because orders were not received according to expectations.

235. The Committee feel that as the actual production from year to year has fallen short of targets, it is likely that over-stocking had taken place in the absence of corresponding restriction in the procurement programme. For instance, the Committee are not convinced of the justification of accumulating Rs. 31.48 lakhs of slow moving stores when its annual rate of consumption was only 20 per cent. Some specific cases of surplus and sub-standard stock of goods had also come to the notice of the Committee, e.g., paints and varnishes valued about Rs. 8 lakhs had accumulated for which efforts were made to dispose of. It is also learnt that up till 1965 the maximum and minimum stock holding limits for common stock items had not been determined. That the stock of stores and spares and raw-materials was equivalent to only 14.4 months' consumption in 1966-67 in comparison to 17.7 months' in 1965-66 and 22.3 months' in 1965-65 although production is rising shows that up till now the undertaking was carrying excessive inventory.

236. The Committee would, therefore recommend that as high inventories block capital, and increase the operational cost of the project, minimum and maximum stock holding limits should be fixed as far as practicable after having regard to production cycle, time taken for importation of components, normal requirements of indigenous materials, based on current level of production etc. It looks anomalous that for 1964-65, sales were Rs. 600.14 lakhs and inventory, Rs. 1,229.50 lakhs; similarly, for 1965-66, sales were Rs. 770.39 lakhs and inventory Rs. 1,585.36 lakhs, and for 1966-67,

sales were Rs. 1,134.22 lakhs and inventory Rs. 2,485.68 lakhs. The Committee learn that the inventory turnover ratio in private industry ranges generally from 1:3 to 1:6 (e.g. G.E. and Westinghouse of America and ASEA of Sweden are all operating with a ratio of between 1:4.5 and 1:5.5). The Committee hope that with need for imported components going down, it would be possible for HEIL to manage with lower inventory level.

E. Pricing Policy

237. The pricing policy followed by the undertaking is governed by three basic conditions, namely:

- (a) Establishing and maintaining competitive price for the range of products for which there is competition within the country.
- (b) Charging reasonable prices for monopoly products.
- (c) Earning a profit of about 10 per cent on sale value wherever possible, i.e. in cases where indigenous competition permits and where the addition of this margin does not result in unreasonably high prices for the company's monopoly items.

There is keen indigenous competition for the following products:

- (a) Power transformers up to 50 MVA and 132 KV.
- (b) 11,132 and 220 KV Switchgear.
- (c) Static Capacitors.
- (d) Instrument transformers—all ranges up to 132 KV.
- (e) Industrial motors and Controlgear up to 500 HP and 440 volts.
- (f) All ranges of Control panels.
- (g) Rectifiers.

238. So far there is no competition within the country for the Power generating plant, i.e. Water turbines and Generators, Steam turbines and Generators, Power Transformers above 50 MVA and 132 KV, Traction equipment (i.e. Motors and Controlgear), Large motors—i.e. above 500 H.P.

239. The sales value of the products for which keen competition exists within the country will amount to Rs. 11.2 crores out of the

total targeted output sales value of Rs. 14.34 crores for 1966-67 i.e. about 76 per cent. Ultimately when production on Heavy Rotating Plant reaches full capacity, it is expected that the value of competitive range will go down to 40 per cent of the total output.

240. The cost of a product is determined on the basis of actuals of material and labour cost plus overhead charges at predetermined rates. This also determines the prices.

241. The method of pricing of products for which there is no indigenous competition is the same as for the competitive rate. Such products are power transformers, large motors 33 and 66 KV Switchgear, Water turbines and Generators. Prices so calculated are compared with the landed cost of similar imported U.K. equipment. Where such information is available, prices are kept down to roughly 25 per cent above the pre-devaluation landed cost.

242. By the above method of pricing the company is able to stand in the competitive market and earn some profit in respect of its established products like Switchgear and Capacitor. Steam turbines and generators together with their associated equipment, which are not in the competitive range, are not yet designed in the country and so estimates of direct costs have not been made. Selling prices have, therefore, been calculated on the assumption that Bhopal manufacturing costs will be 50 per cent more than U.K. costs. On this basis, for the 30 MW T.G. sets the total price to customers has worked out at 126 per cent of the landed cost of completely imported machines.

243. For Electric Traction equipment for the Railways the Pricing policy has not yet been finalised. The Railways are suggesting that the Company should provisionally accept landed cost basis for the imported portions only and f.o.b. cost and freight plus 25 per cent for the Bhopal manufactured portions. The Company is insisting on the landed cost basis for the complete equipment.

244. A customer of the Company, the veracity of whose statement it is difficult for the Committee to doubt, had brought to the notice of the Committee that: 'It has been generally found that the prices quoted by Heavy Electricals, Bhopal, are substantially higher than landed cost of similar equipment manufactured abroad. The recent example has been in quotation received for 22 KV capacitor where the imported equipment would have cost Rs. 20.14 lakhs (F.O.R. Bombay) whereas the quotation from Heavy Electricals was Rs. 114.00 lakhs (F.O.R. Bombay).'

245. Explaining the reasons, the Chairman of the Company conceded during evidence that in the case of Capacitors the price quoted by Heavy Electricals (I) Ltd. was three times the imported price, the reason being that it contained a special kind of paper on which the import duty charged was 110 per cent while on the complete imported unit it was only 20 per cent. He informed the Committee that within two years he hoped to bring down its price to the level of imported equipment.

246. The following statement indicates the comparison between the cost of production (Factory Cost) and sale value of the product groups shown therein:

Product Group	Sale value	Factory cost	Percentage of Factory cost to sale value
(Rs. in lakhs)			
1. Switchgear & Controlgear .	112.19	87.51	78%
2. Transformer	111.10	111.10	100%
3. Capacitor	13.82	8.02	58%
4. Traction Motors & Industrial Motors	70.83	70.83	100%
5. Steam turbines .	1.4	3.33	203%
6. Water turbines .	7.80	16.30	208%

247. It may, however, be stated that the cost of production of each of the end products has not been worked out in the Detailed Project Report. In the absence of any norms it is difficult for the Committee to judge the reasonableness of these costs. The Committee consider that unless estimates of cost as would prevail on attainment of normal production are made out to find a norm for judging the reasonableness of the cost of production, no rational pricing policy can be evolved. The Committee would, therefore recommend that the undertaking should work out such costs of production in respect of each of its products.

248. As mentioned earlier, the present method of determining the price is to add up the direct material and labour costs and Factory expenses besides other items which go in the cost of production.

The Committee learn that the Company Auditors in one of their reports have made the following observation:

“The Direct labour cost involved in production for the year 1965-66 amounted to Rs. 51.40 lakhs. As against this, the factory expenditure incurred by way of salaries and allowances to Managerial, Supervisory and other staff employed in the factory were as follows:—

		Rs.
Salaries & Allowances	Managerial	1,97,279
Do.	Sr. Supervisory .	16,86,420
Do.	Jr. Supervisory	99,12,769
Do.	Non-Supervisory	39,45,935
Do.	Others	4,33,997
		Rs

Out of the above, the salaries paid for the Engineering Department amounted to Rs. 59,41,560, of which Rs. 15 lakhs has been booked directly to the particular jobs undertaken during the year. The balance of expenditure under this head has been treated as overhead of the Engineering Department.

The reasonableness of the Engineering and Supervisory establishments of this magnitude in relation to the total establishment charges required to be looked into.”

249. From the instance of the capacitor quoted earlier, and according to the calculation that in respect of Steam turbines the price to customer is about 126 per cent of the landed cost of completely imported machines whatever might be the justification from the point of view of the Company for these apparently high prices it can realise the high prices from its customers only because of the restrictive effect of exchange control. HEIL for some of its products, will be trading in monopoly conditions. It is, therefore, necessary that consumer's interest is also protected. The Committee have a feeling that the high prices of equipment of HEIL are due to high operational costs of the factory, as will be seen from the Committee's findings in earlier chapters and what company Auditors have said about the direct labour cost involved in production for the year 1965-66. The Committee recommend that the undertaking should reduce its operational cost as much as possible, otherwise, even after reaching full production, the prices of its products will continue to rule high.

250. Whatever pricing policy the undertaking might adopt, whether it is cost-plus basis for the Railway Traction Equipment, or competitive price for the competitive range of products of reasonable prices for its monopoly goods, ultimately what is of essence is that the prices should compare favourably with the international prices and in any case should not be above the landed prices of similar equipment.

251. In this connection, the Committee realise that HEIL has some initial difficulties. Most of the products of the undertaking are highly specialised, sophisticated and also custom-built. For designing the first product, considerable amount has to be spent on developing design, although there may not be much demand for that product later. Similarly there is expenditure on training and initial setting up of the production capacity. In such cases, should the customer pay the cost of designing etc. in the shape of high price? This problem is not peculiar to HEIL but also to other public undertakings which have been set up with a view to producing things which were not earlier produced in the country. It is a national problem. The Committee recommend that the Government might give serious thought to this problem so that the consumers do not have to pay high price.

F. Operational Results

252. The following statement gives output and the losses as envisaged in the project report and the actuals.

(Rs. in lakhs)

	Year	Output	Loss
First year of production	1960	63·84	225·33
Second Do. .	1961	146·87	313·62
Third Do. .	1962	249·64	385·07
Fourth Do.	1963	404·81	434·00
Fifth Do. . . .	1964	627·56	362·80

Actual	Year	Output at realisable value	Loss for the year	Total
First year of production	1961-62	107.52	106.78	117.37
Second Do.	1962-63	310.60	433.57	458.74
Third Do.	1963-64	529.72	568.75	588.81
Fourth Do.	1964-65	610.97	747.61	754.50
Fifth Do.	1965-66	1019.30	674.80	634.11

253. The net loss incurred by the Company in 1966-67 was Rs. 676.57 lakhs. The cumulative loss incurred by the company upto 1966-67 amounted to Rs. 3,309.52 lakhs as against the paid-up Capital of Rs. 5,000 lakhs. The cumulative losses represented 66.2 per cent of the paid-up capital of the Company.

254. Estimated operating results of the Company are as given in the table below:—

S. No.	Details	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74
1.	Cumulative capital investment	6600	7000	7450	7800	8150	8150	8150
2.	Loan for Working Capital	3150	3640	3860	4200	4500	4500	4500
3.	Finished output	2400	3500	4550	5150	5600	6000	6250
4.	Net operating expenses	2290	3057	3729	4006	4105	4373	4480
5.	Interest	575	700	758	789	797	767	750
6.	Depreciation	411	440	470	500	530	560	560
7.	Profit or loss	876	697	407	145	(168)	(300)	(460)
8.	Cash loss	465	257	(63)	(355)	(698)	(860)	(1020)
9.	Cumulative cash loss	3352	3609	3546	3191	2493	1633	613

Bracketed figures indicate profits figs. Bracketed figures indicate cash gain

Comments: (1) Cumulative capital investment takes into account expansion projects which are yet to be sanctioned by Government.

(2) Working capital is based on the inventory requirements to service next year's output.

(3) Finished output is calculated on current levels of sale prices.

(4) Interest is calculated at 6% for half the capital investment and at 7½% on working capital and cumulative cash losses.

(5) Depreciation is worked-out at 2½% for buildings and civil works, and 10% for plant, machinery and equipment. By 1973-74, this depreciation will be unduly high. All requirements will be satisfactorily met by depreciating at half this rate. Operating results of 1973-74 will therefore show a profit of Rs. 460 lakhs + Rs. 280 lakhs = Rs. 740 lakhs.

255. The factory went into regular production in 1961-62. The product-mix anticipated in the Project Report has undergone a considerable change. The following table shows the annual output of each type of equipment as originally planned and as now being implemented:

Comparative Annual Output Valves—

	(Rupees Crore:)	
	Original Project	
	full project (1 shift)	full project (2 shifts) being imple- mented
	Rs.	Rs.
Turbine (Hydraulic)	1.85	3.70
Generators & Motors	3.10	6.20
Transformers	2.15	7.00
Switchgear	3.10	6.20
Traction Equipment	1.30	8.80
Industrial Controlgear	0.75	1.50
Capacitors	0.25	0.25
TOTAL—Rs. Crores	12.50	33.65

256. It was estimated by the Consultants in the Project Report that locating the factory at Bhopal would result in the inventory level being increased by 10 to 20 per cent. The undertakings own experience after a number of years of working is that the inventory level has to be at least 33 per cent higher than it would have been had this factory been located in an industrial area. This increase in inventory levels blocks up more money and involves additional interest charges.

257. It has also been stated that due to licensing of other factories in the private sector as well as public sector for manufacturing similar items for which HEIL has been designed and built up and due to slowing down of plan projects generally a recession in the inflow of orders has recently set in. The Committee learn that in regard to a particular type of Switchgear which HEIL is manufacturing, there are 10 other manufacturers licensed for this range of breakers and the total capacity is already beyond the country's demand. So competition of a nature not contemplated, at the time the project was conceived is being experienced now.

258. Apart from the high level of inventory and lack of sufficient orders, other factors which have contributed to the mounting losses are: the assumptions made by the Consultants in respect of the cost of plant and equipment, scales of pay of staff, and other related items proving unduly optimistic. Costs of the project have also gone up considerably during its implementation. Labour situation has been none too happy.

259. All the above factors have resulted in delay in the build up of the factory and production therein. Output was lost to the extent delays took place which in turn had a cumulative effect on profitability as interest had to be paid on the capital locked up.

260. The following is the cumulative position (Till 31.3.1967) in respect of each element of expense in the operating result:—

(Rs. in la)

Particulars	Project Report	% to sale value of output	Actual	% to sale value of output
1	2	3	4	5
	Rs.			Rs
1. Sale value of output	2263	..	4204	..
3 Wages & Salaries	933	41	1799	43
3. Materials & components	1595	70	2670	64
4. Factory Services	44	2	91	2
5. Consultants charges	77	4	224	5
6. Service charges to Consultants	56	3	81	2
7. Misc. Charges	116	5	300	7
8. Depreciation	753	33	1374	33
9. Interest	923	41	1094	25
TOTAL :	4497	199	7588	181
expenses Losses	2234	99	3383	81

261. The operating results of the consultants did not take into account the township expenses. The receipts from the township by way of rent etc. cover the maintenance etc. costs, leaving the

charges towards interest and depreciation uncovered. To this extent there is an extra charge of approximately Rs. 35 lakhs per year to the operating expenses.

262. During evidence the Special Secretary of the Ministry informed the Committee that the undertaking would stop making losses by 1970-71 and that it was expected that in the year 1971-72 for the first time the undertaking would make a profit of about Rs. 1.7 crores. He said that it would take a little more time, to declare a sizeable dividend because the losses incurred till 1970-71 shall have to be wiped off first.

263. The Committee realise that in any new industry the initial years during which development of production is taking place are bound to be period of high production costs. The Committee are constrained to observe that some of the reasons which have contributed to the mounting loss were not such which the management could not have controlled by better planning of its production and personnel management. The Committee's findings in previous chapters have revealed that over the years the undertaking had been carrying higher inventory, surplus staff, surplus plant and machinery etc. All these have cumulatively added to the cost of production. The Committee feel that the most potent cause of the large build-up of losses by HEIL is its exceedingly poor utilisation of resources. Another reason is that capital expenditure on new schemes and expansions has been undertaken before giving a chance to the previously invested capital to become productive. The Committee have made some observations and recommendations touching on each of these aspects in the previous chapters, and hope that the undertaking will, by husbanding its resources and better planning, would be able to reduce its losses appreciably.

264. The Committee in this connection cannot but deprecate the licensing of other units for production of items which HEIL is also designed to produce especially when licensing of such units has the effect of creating surplus capacity in the country. In the case of Switchgear, production is in excess of demand. The Committee recommend that whenever fresh licenses for establishment of new factories for production of items of equipment which HEIL or other undertakings in the private or public sector produce are granted it should be invariably ensured that excess capacity is not created.

XII

CONCLUSION

265. Heavy Electricals (India) Ltd. when last examined by the Estimates Committee in 1962-63 had barely gone into production. Since then, the project has undergone substantial changes and expansion. Not only individual sizes of equipment have been enlarged but new items of manufacture which were not contemplated at the outset have been taken up, necessitating bigger investment, and also some delay in the completion of the project. At the operational phase of the project it will face some of the following problems and difficulties:—

- (a) As Consultancy fees has been fixed at about 10% of the estimated cost of the project, the project which would now cost about Rs. 80 crores, will involve substantial payment by way of consultancy fees. For the rest of the consultancy period, economy should be exercised in availing of the services of the consultants.
- (b) The actual execution of the project is much at variance with the assumptions made in the project Report.
- (c) The principal reason for the delay in the completion of the project was the non-availability of required type and quantity of steel. While sanctioning such big projects, Government should ensure by advance planning that the projects get the required type and quantity of steel in time.
- (d) There have been delays in the timely supply of plant and machinery—even consultants have defaulted. It was obviously due to lack of firm provisions in the Agreements with the consultants in this regard.
- (e) The undertaking is importing raw materials like special types of steel and aluminium because these have not been included in the production programme of other public undertakings.
- (f) Annual production targets of the undertaking, ever since it has gone into production, have not been achieved.

- (g) Installed capacity of the undertaking is under utilised; there is also shortfall of orders in respect of certain products.
- (h) The undertaking had been carrying surplus staff, higher inventory, surplus plant and machinery which had affected the earning capacity of the project.

266. The Committee have made recommendations and observations on the above points and others. It is hoped that these would help the underaking in achieving better results.

267. The Committee would, however, like to highlight one aspect which at the present stage affects the undertaking vitally. A number of Committees had preceded the setting up of this undertaking to determine the need for an Electrical Factory and the product-mix that was to be produced therein. Several project reports were prepared and even after taking the decision to proceed with one of the project reports the scope of the project was enlarged and product-mix diversified to include new items. As late as 1965 another Technical Committee was appointed to determine the requirements of electrical equipments in the country. In spite of several investigations, demand projects are not assured. In respect of some of the equipments there is surplus capacity in the country whereas for some other products the undertaking does not have enough orders. It is a peculiar situation about which the Committee feel concerned.

268. The Committee during evidence of the representatives of the Ministry of Industrial Development and Company Affairs and the undertaking had desired certain information to be furnished to the Committee in writing within ten days. Complete information was, however, not furnished to the Committee till the time of finalisation of this report. The Committee cannot but deprecate the delay.

NEW DELHI;

April 3, 1968.

Chaitra 14, 1890 (S).

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

APPENDIX I

(Vide Para 67)

Statement showing the aspects covered under Detailed Project Report (Original).

(i) A detailed manufacturing schedule showing the sizes, types and approximate quantities of each item of equipment to be produced in the factory and the extent to which other sizes and types within AEI range of manufacture can be covered.

(ii) A site plan with reference to the exact location of the factory.

(iii) general layout of the factory buildings and other design information, including such drawings, plans and specifications of the main and auxiliary buildings (including the training institute and the administrative offices) as are necessary to enable the Architects (a) to prepare detailed building drawings and estimates and (b) to call for tenders for construction,

(iv) a statement of requirements of transport and other external services such as power, water supply, effluent drainage, etc., necessary for the satisfactory operation of the factory.

(v) schemes for the internal services of the factory such as power, lighting, heating, air-conditioning, steam compressed air, gas, water and other similar items with appropriate colour codes, and with the characteristics and performances of the equipment required, also the systems of distribution of these services, the points where they are required and the equipment necessary to bring the services to these points.

(vi) the leading dimensions, full characteristics and lists of equipment and such other technical details including purchasing specifications for itemised machine tools as would enable invitations to tender being issued on a global basis,

Provided that in cases in which the Consultants are required to produce designs and detailed drawing of machinery, service plant of service equipment and associated purchasing specifications for issuing tender on a global basis, they shall be paid in accordance with Article XVI(e) (Agreement 1955).

(vii) advice on the guarantees to be furnished by suppliers of machinery and equipment for their due performance,

(viii) the main time-schedule estimated for the different stages of the project, including:

- (a) the supply of drawings and specifications,
 - (b) calling of quotations,
 - (c) time allowed to receive quotations,
 - (d) acceptance of quotations,
 - (e) delivery of the machinery and equipment at site,
 - (f) construction of buildings, and
 - (g) erection and commissioning of the factory,
- (ix) a time schedule showing the various stages in which—
- (a) the manufacture of each item will be undertaken.
 - (b) full production will be attained, and
 - (c) the percentage of imported components to the total production will be progressively reduced.

(x) an estimate of the fixed capital investment and also of the working capital required at different stages,

(xi) quantitative estimates and costs of the raw materials required, with the likely sources and countries of origin, and the purchasing specifications of the principal raw materials,

(xii) an estimate of the various categories of personnel required at the different stages of development and also an organisation chart for the factory,

(xiii) a training scheme for the personnel required for the operation of the factory including initial training centres,

(xiv) cost and profit calculations for the end products, and assessment of the general economy of the project during the period of this Agreement,

(xv) a memorandum on establishing research and testing laboratories, and

(xvi) advice regarding the use of the Mysore Government factory at Bangalore or other suitable units for the development of the manufacture of heavy transformers, and also regarding the inclusion, in the programme of the factory to be set up, of the manufacture of (i) steam turbines and acillary equipment, (ii) switchboard instruments, meters and relays and (iii) insulating materials.

APPENDIX II

(Vide Para 76)

Statements showing target dates of commencement and completion of Factory Buildings.

Sl. No.	Works	Target dates as per project report Vol. I P/127-135		Target dates as per Mr. Beeby's letter No. WLD/16/500 dt. 24-6-58		Actual dates	
		For commencement	For completion	For commencement	For completion	For commencement	For completion
1	Detailed Project Report	..	..	..	..	1957	
2	Training School Workshop	Jan. 57	July 58	July 57	Jan. 59	Oct. 57	Dec. 58
3	Site development	..	Jan. 58	..	Sept. 58	June 57	April 65
4	Maintenance Block	..	Jan. 59	..	May 59	Nov. 58	Dec. 59
5	Block I (7 bays + 1 open gantry)	..	50% Jan. 60	..	2 bays July 62 2 bays Dec. 1962 100% Aug. 63	Nov. 60	2 bays Dec. 1962 100% Aug 63 Open gantry March 1965.
6	Block IA (1 covered bay) (1 open gantry)	..	..	..	..	Jan. 62	May 1963
7	Block II (8 bays + 1 open gantry)	..	50% Jan. 60	..	2 bays July 1963 5 bays July 1964	Nov. 60	Bay 1 to 5 Sept. 64 Bay 6 to 8 July 65 Bay 9, Mar. 66 1966
8	Block III (8 bays)	..	50% Jan. 60 100% Jan 31.	..	2 bays Jan. 60 75% Mar. 60 100% Jan. 63	Bay 1 to 6, Oct. 1960 July 1959 Bay 7 to 8, June 60	June 1962

9	Block IV (8 bays)	.	50 % Jan. 61 100 % Jan. 62	2 bays Jan. 60 100 % March 1960	Bay 1 to 7, Jan. 1959 Bay 8, March, 1960	July 1960 March, 1961
10	Block V (4 bays + 1 open gentry)	.	100% Jan. 61	2 Bays Jan. 60 100% Jan. 63	Bay 1 to 2, Aug. 1959 Bay 3 to 4 Aug. 1960	August, 1960 August, 1962
11	Factory Roads	.	July, 1958	Dec. 58	Jan. 59	April, 1961
12	Drainage/Sewerage	.	July, 1958	..	March, 59	June, 1960
13	Railway siding	.	Do.	May, 59	May, 59	March, 1960
14	Other Ancillary and Office Buildings.	.	Jan. 63	July, 60	Oct. 57	August, 1962
15	Block VI	.	..	..	Sept. 63	Work in progress

APPENDIX III

(Vide Part I, 113)
 Product Mix.

Statement "A"

Product	As per original Project Report		Supplementary Project Report		Planned by Heavy Electricals	
	Range	Physical Unit	Range	Physical Unit	Range	Physical Unit
1. Switchgears						
1 11kV Metalclad OCB Type BVP	6-6/11kV/100/250 MVA	1000 Nos.	11kV, 200/350 MVA	2000	66/11kV 100/250/350 MVA	1500
2 11kV Isolator type IB4	To match above	As required		250	do	150
3 11kV Rural OCB Type GPC	11kV, 75 MVA	300	11kV, 75 MVA	500	11 kV, 75 MVA	350
4 11kV Rural OCB Self Setting.	11kV	As required		..		
5 Single Phase OCB for Traction	25kV	"				
6 Single Phase Air Blast Circuit Breaker	25kV	"	25 kV	100	..	..
7 33kV OCB Type LG1	33kV, 500/750MVA	214	33kV, 750/1000 MVA	500	33kV, 500/750 MVA	400
8 66kV OCB Type LG3	66kV, 750 MVA	96	66kV, 1000/1500 MVA	50	66kV, 750/1000/1500 MVA	100
9 66kV OCB (3 tank) LG3	110/132kV, 1000/2500 MVA	102			..	..

10	132kV Air Blast Circuit Breakers GAX Do.	132kV, 3500 MVA 220kV, 5000 MVA	20 40	132kV, 3500/5000 MVA	150	132kV, 2500/3000 MVA 220 kV, 5000 MVA	100
11	OCB 132 KVA	3500 MVA	20				
12	DC Traction High Speed Circuit Breaker	1500/3000 V	140				
13	DC Panel Mounted Type Circuit Breakers	440/660 V	200		..	400—600, V 300 AMP	1000
14	Control Boards and Decks	..	600		..	Various Ranges	600
15	Surge Divertors	Upto 220 kV	As required	220kV	As required		

II. Controlgear

1	Industrial	Various	1260	To suit Motor Programme		Various Ranges	1000
2	DC Controlgear for Motor Coaches	1500/3000V	22 sets	1500 V	20	Do.	25
3	DC Controlgear for Loco	..	60 sets	..	5	Do.	24
4	AC Traction Control Coaches	25kV	As reqd.	25kV	40		50
5	AC Traction Control Locos	25kV	..	25kV	60		..
6	AC Traction Control Diesel	Various	..	Various	50	BG and MG	175

III. Transformers

1	Power	6.6 to 220 kV	96 (1372 MVA)	11kV—220kV	230 (6000 MVA)	11kV—400 kV	6000
2	On load Tap Changers	For 10 MVA & above	30"		175		
3	Petersen Coils	11kV, 33 kV	16	..	..	..	..

1	2	3	4	5	6	7	8
---	---	---	---	---	---	---	---

4 Voltage Regulators (Transformer 100-5000 KVA type)

5 Instrument Transformers

(i) Voltage VT's Upto 220 kV

(ii) Current CT's

6 Welding Transformers

7 Rectifier Transformer (Stationary)

8 Rectifier Transformers on (Rolling Stock)

9 Rectifiers Rly. Electrification (Stationary)

10 Rectifiers Rly. Electrification on Rolling Stock

11 Traction Transformer EMU

12 Traction Transformer Freight Loco

13 Industrial Rectifiers

IV. Capacitors

V. Traction Motors.

1 D.C. Traction Motors

2 MG Sets

30							
834	Upto 220kV		454	33-400 kV			450
8470	"		12050	"			
400			200				200
54	Upto 3 MVA		As required				
52	Upto 2.4 MW		100				
54	1500/3000 V upto 3MW		40				
52	600/750V 2.4 MW		60	25kV			50
..			..	25 kV			50
..			..	25 kV			160
As required			As required	As required			100(250000kv)
10,8,000KVAR	400 V, 3 KV		27000KVAR	Upto 132 kV			3,00,000KVAR
2700KVAR			2700KVAR				
432	Upto 600 HP		810	1400 HP			1800
138	Upto 30 HP		75	As required			350

3	AG Sets	To suit Diesel Motor	To suit Diesel Motor	..	..	..
4	Traction Generator TG5301	To suit Diesel Motor	To suit Diesel Motor	..	..	..
VI. Industrial Motors						
1	AC Industrial Motors	Upto 1000 HP	248	Upto 1000HP	460	Upto 1000HP(AC,DC)
2	AC Crane Motors	Upto 100 HP	260			
3	Small DC Motors	Upto 10 HP	960			
4	DC Crane Motors	Upto 100 HP	140			
5	DC Welding Generators	Upto 10 kV	200			
VII. Heavy Rotating Plant.						
1	Generators for Water Turbine	Upto 50 MW	22(352.2MW)	12 (402 MW)	Upto 180 MW	7(500MW)
2	AC Synchronous Condensers	Upto 15000 KVA	As required	Upto 15000 KVA	As required	
3	AC Generators for Diesel Sets	Upto 500 kW	560(68MW)	100kW-2000KW	10 8(50MW)	..
4	Large AC Motors	Upto 5600 HP	8	5500 HP	20	Above 1000 HP 27(75000HP)
5	Large DC Motors	Upto 5000KW	3	5000 KW	54	
6	Medium DC Motors	Upto 500 KW	3	500 KW	4	
7	DC Exciters	For AC Diesel Generators	582		108 Diesel 12 AC	
8	Generators for steam Turbines	..	..	Upto 150 MW	7(600MW)	Upto 120 MW 5(600MW)
VIII. Water Turbines						
		Upto 50MW	22(352MW)	Upto 150MW	12(402MW)	Upto 180 MW 7(500MW)
IX. Steam Turbines						
		..	..	Upto 150 MW	7(600h.p.)	Upto 120 MW 5(600h.p.)

APPENDIX IV

Summary of Conclusions/Recommendations

S. No.	Reference to para No. of the Report	Summary of Conclusions/Recommendations
1	2	3
1.	18.	<p>The Committee desired to be informed of the payments made to the AEI under various clauses of the Agreements, as the information could not be gathered from the written replies though the Chairman of the Company promised during evidence to compile the figures and furnish them to the Committee later on. The argument that the amounts were negligible and hence no accounts of these payments were kept separately is not convincing. In terms of sub-clause (e) of Clause XVI the payment could be upto Rs. 12 lakhs of rupees and under sub-clause (g) Rs. 11.64 lakhs have been paid to the Consultants. The Committee consider that whenever public undertakings engage foreign consultants, it is necessary that proper accounts of the payments made to the Consultants under various clauses of the Agreements are maintained.</p>
2.	29.	<p>The Committee consider that the provisions in the subsidiary agreements regarding payments to be made by HEIL or the Government to the AEI for reimbursement to the subsidiary consultants have no basis in the provisions of the main consultancy Agreement entered into with the AEI; more so, as the Consultants had given an undertaking in their letter dated the 19th June, 1955 that the lumpsum payments to them would not be exceeded on account of their having to engage subsidiary consultant.</p>
3.	30.	<p>The Committee regret the further payments made to the AEI after they had been adversely</p>

1

2

3

commented upon by a Parliamentary Committee specially without referring the matter to the Parliamentary Committee. The Committee hope that Government would examine the issue expeditiously; particularly, the possibility of recovery of the amounts already paid to the AEI for reimbursement to the subsidiary Consultants. The question of recovery of the amounts from the persons who authorised such payments may also be explored.

4.

37.

The Committee consider that some of the provisions of the Purchasing Agency Agreement cannot be considered as conducive to the best interests of the undertaking. From the information furnished, it will be noticed that payments had been made to the consultants under this agreement for plant and machinery valued over £12,00,000 which either they or their subsidiaries manufactured and supplied to HEIL. In other words consultants have acted both as agents and suppliers of the equipment. The Committee are not happy at this arrangement.

5.

39.

The Committee are not happy over the agreement according to the provisions of which payments, apparently, are made on certificate of auditors of the Consultants. By agreeing to such a provision, the undertaking, virtually bound itself to accept such a certificate as final in regard to the fairness of the remuneration for the services rendered under the Agreement. The Committee consider that Government could and should have insisted on an examination of the accounts/documents of the consultants by Government or its nominee in order to satisfy itself about the fairness and reasonableness of payments made to them for agency work.

1

2

3

-
6. 41. "Cost to the AEI (including a reasonable provision for overheads) of performing such services" is a crucial provision in this clause. It was essential that such charges should have been properly screened and separate figures maintained for them. The Committee are surprised that neither the Government nor the Company had the means to check the claims of the consultants, nor did they feel the necessity of doing it.
7. 44. The Committee feel concerned that purchases of over £15 lakhs in value were made through the AEI on single tender basis. It is surprising to note that though Audit pointed out the defect in the year 1964, the representatives of the undertaking were unable to explain why purchases were made without calling tenders. They have only now offered to investigate and submit their findings. The Committee would also stress that where there are Audit objections these should be attended to promptly as otherwise their utility is lost.
8. 49. It will be seen that right from the beginning neither the Government nor the Company were aware of the total amount which will have to be paid to the Consultants. Even now Government are not sure as to what would be the total amount which would ultimately be paid to the Consultants as the divergence between the Government's and HEIL's estimates about the total payment that will have to be made to the Consultants is over one crore of rupees. From the rough figures which have been given to the Committee, the total figure is going to be over 10 per cent of the estimated cost of the project. The Committee consider it high. The Committee hope that for the rest of the Consultancy period utmost economy would be exercised in availing of the services of the Consultants so that payments to them could be reduced to the minimum.
-

1

2

3

9. 52-53.

After going through all the Agreements, the Committee have come to the conclusion that some provisions in the agreements overlap and some clauses of the subsidiary agreements seem to be repugnant to the provisions of the main agreement. Also, as Audit have pointed out some of the provisions included in the final agreement were at variance with the original proposals. It appears that various provisions in the agreements are being so construed that payments are being made to the consultants without any scrutiny or check by the undertaking. If to the estimated amount of Rs. 8 crores of fees likely to be paid to the Consultants is added the profit which they might have earned by sale of plant and machinery manufactured and supplied to the undertaking, the amount the consultants would realise from HEIL would be appreciably much more than the estimated figure of Rs. 8 crores. The Committee would, therefore, recommend that Government should appoint a Departmental Committee with legal and financial experts to go into the implications of the various provisions of the agreements and the payments which have been made to the Consultants under these agreements. The payment of £6,000 to the consultants for reimbursement to one of the subsidiary Consultants and subsequent payment of £20,000 for reimbursement to the other subsidiary Consultant should also be looked into. The Departmental Committee should also examine as to what extent the working of these Agreements has been in accordance with the expectations entertained at the time of the signing of the main Agreement.

10. 54.

The Committee hope that future agreements to be entered into with foreign parties for the establishment of projects in the public sector will receive the utmost care and attention of Government. In this connection, the Committee would suggest that Government should also

1**2****3**

examine the creation of a permanent agency in the Government to advise in the negotiations with foreign parties regarding amendments to be entered into with them for setting up projects in the public sector.

11. **59.** The Committee regret that full details regarding the expenditure on London Office was not made available. It is, however, learnt that for seven months from September, 1958 to March, 1959, the expenditure was £3,500. The Committee feel that the work of HEIL at London has come down considerably and as such it does not warrant a separate organization for this undertaking exclusively in London. The Committee also learn that another undertaking viz., Hindustan Steel Ltd. is maintaining an office in London for performing similar functions. The Committee feel that the work in London for both these organisations has dwindled considerably and there is no necessity of maintaining separate offices with large number of personnel, and incurring huge expenditure yearly. Both the organizations are running separate offices while purchases for them are on the decline. The Committee feel that the work can be handled by India Purchase Mission, London without engaging additional staff. If necessary a man from each organization can be attached to India Purchase Mission to look after their interests. The Committee expect that considerable economy can be effected by this arrangement.
12. **60.** It is seen that the original project report of the consultants had been changed from time to time either to meet the likely increase in the demand for the products or modified in view of the prevailing financial stringency. The conclusion is inescapable that when the Government decided to proceed with this project it had no precise idea of the items to be produced, their
-

1

2

3

specifications, dimensions, quantity or cost. It does not speak well either of the various Committees or the persons who constituted those committees which were appointed at the initial stages to assess the country's requirements of electrical equipments on the basis of which this project was conceived. The result of wrong assessments was that the Government had to ask for three Projects Reports from several foreign parties which seen in retrospect, did not serve much useful purpose as even the one which was eventually accepted and on the basis of which this project was initiated had to be modified frequently to suit changing circumstances. The latest revised estimates of the project which the Government have sanctioned is Rs. 5,847 lakhs for an annual output of Rs. 3,365 lakhs. During evidence, the Additional Secretary of the Ministry of Industrial Development also stated that by 1970 the estimated cost of the project would go up to Rs. 80 crores. This is a clear case of wrong assessment of demand, inadequate planning and frequent revisions of project reports.

13.

71.

The Committee are not convinced by the arguments advanced for not covering the cost and profit calculations of individual and products in the project Report. Firstly, when it was stipulated in the Agreement, it should have been ensured that such information was incorporated in the project Report; secondly, without having a clear idea about the estimated cost of individual products, the overall figures of profit, losses and the cost can only be a mere guess. That these aspects were not included in the project report is manifestly in violation of the provisions of the Agreement. In the absence of any such assessment at the outset, the Committee are at a loss to understand as to how the undertaking or the

1**2****3**

Government judge whether the production of individual items was profitable or not.

14. 72.

The Committee consider that although the Government and the undertaking had no experience of setting up such a project, the AEI, at any rate had the requisite experience and knowledge of setting up such a factory and knew what formed the essential and basic parts of a project report.

15. 73.

The Committee noted with regret the observations of the representatives of the Ministry and the undertaking that the projections in the project report do not hold good to any great extent due to the fact that the scope, product-mix and the time schedule have been materially altered. That the actual execution of the project should be so much at variance with the assumptions made in the project report, even during the course of construction of project is a reflection on those who conceived and decided to implement this project on unprocessed data, inconclusive project report, and over-lapping agreements with the Consultants.

16. 80.

The Committee learnt that it is not only HEIL but other projects also in the public sector e.g. Heavy Engineering Corporation Ltd. and Bharat Heavy Electricals Ltd. which have suffered on account of non-availability of steel in time and in required quantities. Since delay in the construction of the project, inevitably, adds to the cost of the project, it is absolutely essential that the projects are completed according to the schedule initially laid down. In view of this, while sanctioning such big projects, Government should ensure by advance planning that the projects get the required type and quantity of steel for construction in time.

1	2	3
17.	81.	<p>The Committee also feel that when there are only five or six big firms in the country which can undertake fabrication work, the undertakings undertake fabrication work, the undertakings especially those which comprise manufacturing industry should undertake departmental fabrication whenever these big firms cannot cope with the lead of fabrication work.</p>
18.	84.	<p>It would be seen that only 21 per cent of the Plant and Machinery was obtained from the indigenous sources. The Committee would recommend that effort should be made to procure more of these plant and machinery for the public undertakings from the indigenous sources, in the context of national efforts required towards import substitution and self-reliance in the industrial field and the scarcity of foreign exchange.</p>
19.	87.	<p>In the case of Heavy Rotating Test Plant the consultants themselves were asked to supply the Test Plant. The AEI are Technical Consultants for the Project. It was expected that when orders were placed on them for equipment, they would supply it in time. That HEIL did not know the reasons as to why the delivery of the plant was delayed shows that the attitude of the authorities was one of complacency towards the obligations of the consultants. The Committee feel that at the time of signing the main Consultancy Agreement the Government should have ensured that there were firm and unequivocal stipulations, coupled with penalty clauses, in the Agreement to ensure that orders placed on them were honoured and the equipment supplied in time.</p>
20.	92.	<p>The Committee are glad that over the years HEIL have been able to reduce the import content of the components of its various equipments. It is however, essential that HEIL gets its components at reasonable price, which should be lower than that of the imported components and</p>

1

2

3

also should be of high quality. It appears that the indigenous suppliers are neither able to maintain quality of components nor are able to sell them at reasonable price. Also, these components have to be procured by HEIL from far off places. In view of this the Committee would recommend that HEIL should assist in the establishment and promotion of industries to support the plant.

21

95.

That only 2 per cent of its requirements of components could be procured from the ancillary industries shows that they required further encouragement to develop especially when the quality of the items obtained from them is in accordance with the specification laid down by HEIL. Since there is wide scope for import substitution it is essential that HEIL should assist in the promotion of these industries technically and financially, if need be.

22

98.

It is apparent that the project report had envisaged that all the manufacturing work pertaining to various equipments would be done within the factory premises and accordingly facilities have been created for manufacture of all the components within the factory. The Committee consider that at the time of preparation of project reports or at the time of their approval, it should also be scrutinised to see what items could be manufactured by ancillary industries rather than within the factory premises. In the case of HEIL, obviously, it has not been done. The Committee would not like an undertaking to manufacture ordinary components within its premises which could with advantage be farmed out to ancillary industries. They hope that the capacity of HEIL would be utilised more for the sophisticated and heavy electrical equipments for which it is designed rather than

1

2

3

utilise its resources and capacity for the manufacture of items, which could with some help, be manufactured by ancillary industries, with comparatively lesser investment.

23 104.

Whatever might have been the procedural difficulties, the fact remains that the Company has suffered a loss of over Rs. 28 lakhs. For an undertaking which has been incurring heavy losses over the years it is two big an amount. That between 1961 and 1963 nothing was done by the Company to secure the concession shows a certain degree of indifference on the part of the Company after initiating action in the matter.

24 110.

It is seen that the undertaking had to import some of its raw materials which were available, indigenously, because indigenous production was not sufficient to meet their requirements. The Committee would expect that all the requirements of steel of the public undertaking would normally be met by the steel plants, by including in their production programme the types of steel required by them. It is learnt that the stainless steel plates required by HEIL are generally above $\frac{1}{2}$ " thickness (viz. 13 mm to 75 mm) while the present plan to produce this item in the country is upto 12 mm only. In the circumstances unless the Indian steel mills take up rolling of heavier plates also, HEIL will have to continue to resort to imports. It is an anomalous situation to which the Committee hope, Government would give serious thought, and have this item, which is a drain on the foreign Exchange resources, manufactured within the country.

25 111.

It is learnt that projects are coming up in the public sector for manufacturing Aluminium. HEIL's demand of this metal would be sizeable. The Committee hope that the type of Aluminium

1

2

3

which HEIL required would be included in the manufacturing programme of these projects because the existing plants in the private sector are unable to meet the requirements of HEIL.

26 112.

It is estimated that India can hardly meet 5—10 per cent of the demand of the industrial consumers from its own production. In view of the above and the fact that the prospects of becoming self sufficient in copper in the near future are remote, the Committee recommend that the Government should consider implementing the following suggestion made by the undertaking.

“Till we are self-sufficient in producing indigenous copper it is doubtful whether we will be able to do without imports specially in view of the requirements of Heavy Electrical Industry and the need of stepping up industrialisation in the country. In view of the above, it is suggested that Government may channelise the import of copper in such a way that at the time the copper is cheap in the international market India buys in large quantity.”

27 125.

Leaving aside the external causes the Committee are not convinced of the other reasons attributed for the shortfall in production; because these reasons could have been foresoon at the time of fixing of targets. Unfortunately there is no yardstick now in the light of which the performance of the Undertaking in regard to production could be judged. The figures given in the project report cannot be the basis now for such an assessment as the product-mix as originally laid down in it has undergone considerable change. The Committee would recommend that the undertaking should prepare and lay down targets in a realistic manner, and once those tar-

1

2

3

gets are laid down, every effort should be made to achieve them.

28

127

The Committee do not consider that delay in operation of the Purchasing Agency Agreement should have stood in the way of the undertaking ordering machine tools and raw materials. The signing of the Purchasing Agency Agreement had not precluded the operation of the provisions of the main consultancy agreement. In terms of clause III (iv), the consultants were to "state the delivery requirements of all plant, machinery and equipment and production materials in accordance with the general programme, progress the delivery of such items as are ordered by them on behalf of the Government, and carry out similar duties for equipment ordered by the Government, if requested to do so,....." and clause XVI (b) prescribes the method of payment for it. The Committee, therefore, are not convinced by the plea that the orders for the production material could not be placed on account of delay in operation of the Purchasing Agency Agreement. In case of delay, the provisions of the main Agreement could have been invoked.

29

131

The Committee feel that it should have been ensured at the outset by inclusion of firm provisions in the agreements, that as far as supply of components was concerned, the Consultants would supply these according to the time schedule agreed to between the undertaking and the Consultants. There are stipulations in the Agreements regarding components and other production materials in regard to which the services of Consultants would be availed of. There are also provisions regarding the rate of payments which will have to be made for those services but, surprisingly, there are no provisions to safeguard the interests of the Company in case of default by the Consultants.

1	2	3
30	132	<p>The Committee learn that in the case of the projects of the Bharat Heavy Electricals Ltd., which were originally part of HEIL there are separate agreements containing clear and unequivocal terms regarding the supply of spares and components by the Consultants. Perhaps, for the project at Bhopal, those who carried out the negotiations at the initial stage did not or could not foresee difficulties on this account and so the undertaking is faced with this problem now.</p>
31	139	<p>From the reports of the Consultants and the evidence tendered before the Committee it will be seen that there are numerous internal causes which have contributed to low production. The Management, after this long experience, should be able to foresee and anticipate the difficulties so that the areas likely to provide a bottleneck for production are located and remedial action taken in time.</p>
32	140.	<p>The Committee feel that one of the major causes which could be attributed to the fall in production was the purchasing procedure followed by HEIL. The Committee are glad to learn that now the position in the Purchasing Department had improved and the average time taken to convert a requisition into a purchase order had come down. However, the latest report of the Consultants says, "while there has been some improvement in the operations of the Purchase Department, there is still a too great a tendency to consider purchasing as an end in itself, rather than as essential service to the manufacturing departments." Thus it appears that the purchase department requires further improvement.</p>
33	141.142	<p>The Chairman of the Company stated during evidence that in his present capacity he was able to function just like a person in private sector with least constraints. In view of this, there</p>

1

2

3

should not be any difficulty in removing any procedural difficulty. During evidence, the Committee also gathered the impression that there were still some Governmental rules and regulations which the purchase department had to follow in making purchases, and these stood in the way of arranging quick purchases. The Committee cannot reconcile to a situation in which there is shortfall in production because the undertaking cannot overcome procedural difficulties in the system of procurement of production material. They recommend that the purchase procedure should be rationalise and simplified so that delays at various stages are avoided.

34 143.144

Some of the steps introduced by the undertaking to ensure fulfilment of annual targets are: Standardisation, production incentives, suggestion scheme, application of net work techniques and improvement in procedures. The Committee hope that these steps would bear fruit but other factors which have hitherto been hampering achievement of production targets were the difficulty in the indigenous development of materials and components and inadequacy of experienced supervisory staff. The undertakings should also take concrete steps to overcome these difficulties as speedily as possible.

35 153

The undertaking is faced with a paradoxical situation. On the one hand its production targets are not being achieved while on the other, it has not got sufficient orders to reach rated capacity, in spite of the fact that at present there is complete ban on the import of equipment which HEIL is producing and there are very few competitors for some of its products. This situation would, inevitably, affect the earning capacity of the project. The prospect for the undertaking, in this respect, would seem to be bleak as the

1

2

3

Governmental expenditure on power generation is going down and consequently the order position for HEIL would further deteriorate.

36

155

Finding Market for the Company's products at present is no less important than the utilisation of its installed capacity. In the present circumstances even if the installed capacity could be utilised, there will not be market to sell the products. The undertaking, therefore, shall have to take energetic efforts to explore markets abroad for its established products like Switchgear and Transformers.

37

160

It appears to the Committee that had the designs the specifications been given to HEIL in time, perhaps, they would have manufactured and supplied the equipment to the Railways in time. It seems that the indecision on the part of railways delayed the timely action being taken by the undertaking to manufacture these equipments.

38

161

That after the receipt of designs and specifications the factors which delayed it further were non-availability of foreign exchange and tools and equipments from the suppliers of HEIL is very unfortunate. The Committee realise that there are difficulties in the allocation of foreign exchange but at the same time there is no wisdom in not making it available in time since delay only leads to import of whole equipment which is costlier and retards and development of the know how in the country.

39

167-168

The Committee understand that the expansions which are under way or which will be taken up later on are being resorted to with a view to improving the earning capacity of the project. The project, as originally conceived, was not going to be an economic proposition and these expansions were a compulsive necessity in order to

1

2

3

make the project viable. Apart from the fact that these expansions have delayed the completion of the project, the Committee feel concerned about some of the demand projections going wrong. Already there is a fall in the order position of some of its equipment including the Steam turbines. The revised estimate of this expansion scheme Steam-turbines is about Rs. 17 crores. The actual expenditure incurred on this project up to 31st March 1967 was Rs. 321.65 lakhs and for the balance commitments have already been made. It is, however, learnt that those who had placed orders on this project seem to be backing out. Generally, for most of its products, State Electricity Boards are the customers and since most of these Boards do not have enough funds at their disposal, the Committee are apprehensive about the future prospects. In fact, this project was proceeded with only on the basis of the expected demand of electrical equipments in the country and the savings on foreign exchange—the economic aspect was either not thoroughly examined, or it was given secondary importance. It will be seen that for all the expansions and diversifications of its productmix there now seems to be some uncertainty about the demand. Added to this the undertaking itself is not sure that the expansions would improve the profitability of the project because it is, according to them, based on “too many assumptions”.

40

169

The Undertaking should place an embargo, except on a marginal basis, on all further expansions till the resources already established are made fully productive. Whatever might have been the plans, production programmes and the sanctions, the undertaking should concentrate on utilising the present installed capacity rather than augment it.

1

2

3

41

171

The Committee would recommend that whenever expansion of a project during construction stage or otherwise is undertaken it is absolutely necessary that the undertaking and the Government should thoroughly examine the profitability of the expansion scheme as well as its repercussion on the execution of the entire project, particularly, its effect on the economics of it. In the case of HEIL some of the expansions had been undertaken merely on the basis of the expected savings in foreign exchange. The Committee are surprised that in the case of Steam Turbine Project, whose revised estimated cost is about Rs. 17 crores, no profitability figures had been worked out in the supplementary Project Report which covered this scheme. The Committee hope that in future whenever expansions are to be undertaken Government would not proceed on such meagre data, but provide a yardstick with which to measure the achievements of the undertaking.

42

172

The Committee would also stress that in public undertakings like HEIL where continuous expansions are taking place profitability and economy of the working of the plant should be tested from time to time. The cost of production of the established items should be worked out separately. An appropriate percentage of the overhead accounts should notionally be attributed to the working of the plants where these established items are being produced. The profitability of the working of the project should then be examined. Unless this is done the Committee feel that the project management will not be on their toes.

43

174

The Committee notice that on the Board of Directors of the Company are two members, one of whom is serving on 28 and the other on 15 other Corporations|Companies|Bodies. There is no doubt of the advantage in associating with

1

2

3

a public undertaking person having wide and varied experience in business. The Committee, however, feel that by and large holding of Directorship in a large number of companies may not enable a person to find sufficient time to attend to the business of an undertaking and to make effective contribution in its progress. They would, therefore, recommend that at the time of making nominations on the Board of Directors, Government should bear in mind that only such persons as are able to devote sufficient time to the affairs of the undertakings are appointed.

44 176

The Committee consider the constitution of a standing sub-Committee of the Board a good arrangement but it is hoped that only urgent matters which cannot await the convening of a meeting of the Board would be considered by the Sub-Committee. The Committee notice that at present the Sub-Committee is constituted of only the official members of the Board. The Committee would recommend that a non-official member of the Board should be associated with the Sub-Committee.

45 177

The Committee also notice that at present one member on the Board is from the U.P. Electricity Board. Since, for most of its products State Electricity Boards are the customers, the Committee would recommend that representatives of Electricity Boards of the States should be nominated in rotation.

46 189

The Committee feel that up till now the undertaking had been carrying more staff on its strength than required. It has not been possible for the Committee to assess the monetary loss to the undertaking on this account, but judge from the fact that the loss which the undertaking had to suffer on account of surplus trainees alone would be more than Rs. 14 lakhs, the total

1

2

3

loss on account of over-staffing in the project as a whole be quite substantial.

47 190

The Committee feel that the assessment of the requirements of staff which has been made in the original Project Report and the supplementary Project Report cannot be very helpful to the undertaking now in determining the staff strength because frequent expansions of the original schemes and the new lines of production have rendered many assumptions of the project report, unrealistic in the present circumstances. The Committee would, therefore, recommend that the undertaking should make reassessment of staff requirements strictly in accordance with the anticipated manufacturing programme. The Committee expect that it would also be possible to economise on administrative and establishment charges.

48 194

The Committee's findings reveal that accelerated promotions have not been given only to the specialists or technical categories but also to non-technical personnel. The Committee feel that rapid promotions given to certain persons and denied to others, bring about discontent amongst the employees, which is not conducive to smooth running of a factory. The Committee would, therefore, recommend that the Company's promotion policy should be so framed that there is no room for favoured treatment.

49 195

The Committee would also recommend that the present rules in this regard may be revised to include specific provisions whereby such accelerated promotions are not given without cogent reasons. As at present the rules framed are too general to ensure such a policy.

50 199

Labour unrest and strained labour-management relations are a problem with which many

1

2

3

public undertakings are afflicted. HEIL has also suffered from this malice. The Committee cannot too strongly stress that for an undertaking like HEIL which is not able to achieve its production targets ever since it has gone into production and is incurring heavy losses over the years, cordial relations between the workers and the management are of paramount importance. That maintenance of good labour relations is necessary for sustained high level of production needs no emphasis. The Committee would urge both the employees and the employers to recognize their mutual rights and duties towards this national undertaking and help it in showing better results in future. The Committee hope that the demands of the workers which have been referred to other authorities would be decided speedily.

51

203

The Committee consider the expenditure on township viz. 19 per cent of the cost of the project as much on the high side—more so, when the return from the township is hardly enough to meet the expenses on its maintenance leaving aside the charges towards interest and depreciation amounting to approximately Rs. 35 lakhs per year uncovered. The Committee feel that the expenditure on township would be a constant drag on the economic working of this Project. It is apparent that expenditure on township is being incurred without taking any account of its repercussion on the project. The Committee would stress that utmost economy should be observed in this direction.

52

204

The Committee realise that most of the public undertakings are located in out of the way and inaccessible places and, therefore, the provision

1

2

3

of a township is essential. But, at the same time, many projects cannot bear the heavy burden of expenditure on this account because ultimately the finished output has to bear its cost. Obviously, the cost of township will have to be borne by the products of the company, in terms of increased prices. The Committee, therefore, suggest that Government should examine the economic and administrative aspects of setting up a Housing Corporation for the public sector projects and take an early decision in this regard.

53 207

The Committee hope that effective steps would be taken to minimise the loss of revenue on account of pilferage and leakage of electricity.

54 214

It is seen that the project cost of about Rs. 35 crores as per Project Report has risen to Rs. 62 crores. Thus the project cost has risen by about 77 per cent. The increased cost can partly be explained by the various expansions which have been undertaken during the course of construction since the estimates as given in the Project Report were approved. It will also be seen that amongst the items which have necessitated major revisions are the Administrative charges and interest charges—the former accounting for an increase by about Rs. 1½ crores, i.e., 100 per cent increase, and the latter over Rs. 90 lakhs which had not been shown in the original estimates. The Committee are surprised that such a heavy increase should have occurred in a short period on account of administrative charges. Similarly the Committee feel that the 'Interest Charges' are not an item which could have been entirely unforeseen at the time of framing the original estimates.

55 215

The Committee would recommend that the estimate should be prepared realistically in as detailed a manner as possible covering all the

1

2

3

items for expenditure to give a clear idea of the total outlay on a Project.

56

229

It is seen that bulk of the outstandings of the undertaking are mostly against Government Department, State Electricity Boards and Government undertakings. HEIL as mentioned earlier is faced with difficulty in regard to funds for its working Capital needs. *A fortiori* it is essential that prompt recovery of all dues should be made. The Committee are not happy to learn that procedural difficulties stood in the way of recovery of dues from the Government Departments and State Undertakings. They hope that energetic steps would, henceforth, be taken to make the recoveries.

57

235

The Committee feel that as the actual production from year to year has fallen short of targets, it is likely that overstocking had taken place in the absence of corresponding restriction in the procurement programme. For instance, the Committee are not convinced of the justification of accumulating Rs. 31.48 lakhs of slow moving stores when its annual rate of consumption was only 20 per cent. Some specific cases of surplus and sub-standard stock of goods had also come to the notice of the Committee, e.g., paints and varnishes valued about Rs. 8 lakhs had accumulated for which efforts were made to dispose off. It is also learnt that up till 1965 the maximum and minimum stock holding limits for common stock items had not been determined. That the stock of stores and spares and raw-materials was equivalent to only 14.4 months' consumption in 1966-67 in comparison to 17.7 months' in 1965-66 and 22.3 months' in 1964-65 although production is rising shows that up till now the undertaking was carrying excessive inventory.

58

236

The Committee would, therefore, recommend that as high inventories block capital, and in-

1

2

3

crease the operational cost of the project, minimum and maximum stock holding limits should be fixed as far as practicable after having regard to production cycle, time taken for importation of components, normal requirements of indigenous materials, based on current level of production etc. It looks anomalous that for 1964-65, sales were Rs. 600.14 lakhs and inventory, Rs. 1,229.50 lakhs; similarly, for 1965-66, sales were Rs. 770.39 lakhs and inventory Rs. 1,585.36 lakhs, and for 1966-67, sales were Rs. 1,134.22 lakhs and inventory Rs. 2,485.68 lakhs. The Committee learn that the inventory turnover ratio in private industry ranges generally from 1.3 to 1.6 (e.g., G.E. and Westinghouse of America and ASEA of Sweden are all operating with a ratio of between 1:4.5 and 1:5.5). The Committee hope that with need for imported components going down, it would be possible for HEIL to manage with lower inventory level.

59 247

It is learnt that the cost of production of each of the end products has not been worked out in the Detailed Project Report. In the absence of any norms it is difficult for the Committee to judge the reasonableness of these costs. The Committee consider that unless estimates of cost as would prevail on attainment of normal production are made out to find a norm for judging the reasonableness of the cost of production, no rational pricing policy can be evolved. The Committee would, therefore recommend that the undertaking should work out such costs of production in respect of each of its products.

60 249

From the instance of the Capacitor, and according to the calculation that in respect of Steam turbines the price to customer is about 126 per cent of the landed cost of completely imported machines, whatever might be the justification from

1

2

3

the point of view of the Company for these apparently high prices, it can realise the high prices from its customers only because of the restrictive effect of exchange control. HEIL for some of its products, will be trading in monopoly conditions. It is, therefore, necessary that consumer's interest is also protected. The Committee have a feeling that the high prices of equipment of HEIL are due to high operational costs of the factory as will be seen from the Committee's findings in this Report and what company Auditors have said about the direct labour cost involved in production for the year 1965-66. The Committee recommend that the undertaking should reduce its operations cost as much as possible, otherwise, even after reaching full production, the prices of its products will continue to rule high.

61

250

Whatever pricing policy the undertaking might adopt, whether it is cost-plus basis for the Railway Traction equipment, or competitive price for the competitive range of products or reasonable prices for its monopoly goods, ultimately what is of essence is that the prices should compare favourably with the international prices and in any case should not be above the landed prices of similar equipment.

62

251

In this connection, the Committee realise that HEIL has some initial difficulties. Most of the products of the undertaking are highly specialised, sophisticated and also custom-built. For designing the first product, considerable amount has to be spent on developing design, although there may not be much demand for that product later. Similarly, there is expenditure on training and initial setting up of the production capacity. In such cases, should the customer pay the cost of designing etc. in the shape of high price? This problem is not peculiar to HEIL but also to other public undertakings which have been set up with a

1

2

3

view to producing things which were not earlier produced in the country. It is a national problem. The Committee recommend that the Government might give serious thought to this problem so that the consumers do not have to pay high price.

63

263

The Committee realise that in any new industry the initial years during which development of production is taking place are bound to be period of high production costs. The Committee are constrained to observe that some of the reasons which have contributed to the mounting loss were not such which the management could not have controlled by better planning of its production and personnel management. The Committee's findings have revealed that over the years the undertaking had been carrying higher inventory, surplus staff, surplus plant and machinery etc. All these have cumulatively added to the cost of production. The Committee feel that the most potent cause of the large build-up of losses by HEIL is its exceedingly poor utilisation of resources. Another reason is that capital expenditure on new schemes and expansions has been undertaken before giving a chance to the previously invested capital to become productive. The Committee have made some observations and recommendations touching on each of these aspects and hope that the undertaking will, by husbanding its resources and better planning, would be able to reduce its losses appreciably.

64

264

The Committee cannot but deprecate the licensing of other units for production of items which HEIL is also designed to produce especially when licensing of such units has the effect of creating surplus capacity in the country. In the case of Switchgear, production is in excess of demand. The Committee recommend that whenever fresh licenses for establishment of new factories for production of items of equipment which HEIL or other undertakings in the private or public

1	2	3
		sector produce are granted it should be invariably ensured that excess capacity is not created.
65	267	<p>The Committee would like to highlight one aspect which at the present stage affects the undertaking vitally. A number of Committees had preceded the setting up of this undertaking to determine the need for an Electrical Factory and the product-mix that was to be produced therein. Several project reports were prepared and even after taking the decision to proceed with one of the project reports the scope of the project was enlarged and product-mix diversified to include new items. As late as 1965 another Technical Committee was appointed to determine the requirements of electrical equipments in the country. In spite of several investigations, demand projections are not assured. In respect of some of the equipments there is surplus capacity in the country whereas for some other products the undertaking does not have enough orders. It is a peculiar situation about which the Committee feel concerned.</p>
66	268	<p>The Committee during evidence of the representatives of the Ministry of Industrial Development and Company Affairs and the Undertaking had desired certain information to be furnished to the Committee in writing within ten days. Complete information was, however, not furnished to the Committee till the time of finalisation of this report. The Committee cannot but deprecate the delay.</p>

Sl. No.	Name of Agent	Agency No.	Sl. No.	Name of Agent	Agency No.
27.	Bahree Brothers, 188, Lajpatrai Market, Delhi-6.	27	33.	Bookwell, 4, Sant Naran-kari Colony, Kingsway Camp, Delhi-9.	96
28.	Jayana Book Depot, Chaparwala Kuan, Karol Bagh, New Delhi.	66			
				MANIPUR	
29.	Oxford Book & Stationery Company, Scindia House, Connaught Place, New Delhi—1.	68	34.	Shri N. Chaoba Singh, News Agent, Ramlal Paul High School Annex, Imphal.	77
30.	People's Publishing House, Rani Jhansi Road, New Delhi.	76			
				AGENTS IN FOREIGN COUNTRIES	
31.	The United Book Agency, 48, Amrit Kaur Market, Pahar Ganj, New Delhi.	88	35.	The Secretary, Establishment Department, The High Commission of India, India House, Aldwych, LONDON, W.C.—2.	
32.	Hind Book House, 8a, Janpath, New Delhi.	95			

© 1968 BY THE LOK SABHA SECRETARIAT.

PUBLISHED UNDER RULE 382 OF THE RULES OF PROCEDURE AND CONDUCT OF
BUSINESS IN LOK SABHA (FIFTH EDITION) AND PRINTED BY THE GENERAL MANAGER,
GOVERNMENT OF INDIA PRESS, MINTO ROAD, NEW DELHI.
