ESTIMATES COMMITTEE (1981-82)

(SEVENTH LOK SABHA)

TWENTY SEVENTH REPORT

MINISTRY OF ENERGY (DEPARTMENT OF POWER

Action Taken by Government on the recommendations contained in the Thirteenth Report of Estimates Committee (Seventh Lok Sabha) on the Ministry of Energy (Department of Power)-Power Generation-Central Electricity Authority.

Presented to Lok Sabha on 27 APR 1982



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I, the Chairman of the Estimates Committee having been authorised by the Committee to submit the Report on their behalf, present this Twentyseventh Report on action taken by Government on the recommendations contained in the Thirteenth Report of Estimates Committee (7th Lok Sabha) on the Ministry of Energy-(Department of Power)—Power Generation—Central Electricity Authority.

2. The Thirteenth Report was presented to Lok Sabha on 29 April 1981. Government furnished their replies indicating action taken on the recommendations contained in that Report between November and March 1982. The replies were examined by Study Group 'I' of Estimates Committee at their sitting held on 31st March 1982. The draft Report was adopted by the Committee on 7th April 1982.

- 3. The Report has been divided into the following Chapters:-
 - I. Report
 - II. Recommendations which have been accepted by Government.
- III. Recommendations which the Committee do not desire to pursue in view of Government's replies.
- IV. Recommendations in respect of which replies of Government have not been accepted by the Committee.
 - V. Recommendations in respect of which final replies of Government are still awaited.

4. An analysis of action taken by Government on the recommendations contained in the Thirteenth Report of Estimates Committee is given in Appendix. It would be observed there-from that out of 104 recommendations made in the Report 86 recommendations *i.e.* about 82 per cent have been accepted by the Government and the Committee do not desire to pursue two recommendations *i.e.* about two per cent in view of Government's replies. Replies of Government in respect of four recommendations *i.e.* about 4 per cent have not been accepted by the Committee. Final replies of Government in respect of 12 recommendations *i.e.* about 12 per cent are still awaited.

NEW DELHI;	•	S. B.	P. 1	PATTABHI	RAMA RAO,
April 15, 1982	· · · · ·	-			Chairman.
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CHAPTER I

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REPORT

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This Report of the Estimates Committee deals with action taken by Government on the recommendations contained in their 13th Report (7th Lok Sabha) on the Ministry of Energy (Department of Power) —Power Generation—Central Electricity Authority, which was presented to Lok Sabha on 29th April, 1981.

1.2. Action taken notes have been received in respect of all the-104 recommendations contained in the Report.

1.3. Action Taken notes of the recommendation of the Committee have been categorised as follows:---

- (i) Recomendations/observations which have been accepted by Government—Chapter II.
 - S. No. 2, 3, 4, 8, 9, 10, 12 to 53, 55 to 69, 73 to 76, 84 to 87, 90 to 104. (Total 86)—Chapter II
- (ii) Recommendations/observations which the Committee do not desire to pursue in view of Government—replies Chapter III.

S. No. 77, 80 (Total 2)—Chapter III.

(iii) Recommendations/observations in respect of which Government's replies have not been accepted by the Committee.

S. No. 1, 11, 79, 83 (Total 4)—Chapter IV.

(iv) Recommendations/observations in respect of which final replies are still awaited:

S. No. 5, 6, 7, 54, 70, 71, 72, 76, 78, 81, 82, 88, 89. (Total 12)—Chapter V.

1.4. The Committee will now deal with action taken by Gov-erament on some of the recommendations.

National Policy on Power

(Recommendation S. Nos. 1, 11, paras No. 1.8 & 1.60)

1.5. The Estimates Committee in their 13th Report recommended that Government should formulate a National Policy on Power without any further delay giving clearly their long-term projections for the development of power, share of different sources of power generation viz. Hydel, thermal, nuclear etc. as well as the role of Central Government and State Governments in the field of generation and distribution. The Committee further recommended that the Government should present a White Paper on Power Policy to Parliament by the end of this year—1981—(if possible) to facilitate a national debate on the subject.

1.6. In its reply the Ministry have stated (March, 82):

"The Power Policy of Government has been laid down in the Industrial Policy Resolution, 1956 which puts generation and distribution of electricity in Schedule 'A' wherein all new units, save where their establishment in the private sector has already been approved, will be set up by the State. This does not however preclude the expansion of the existing privately-owned units or the possibility of the State securing the cooperation of private enterprise in the establishment of new units when the national interests so require. The Policy laid down in the Industrial Policy Resolution is being followed.

The demand for power is essentially a derived one depending on the development profiles in other sectors of the national economy. Planning for power cannot be done in isolation without reference to the profiles of development in other sectors of the nation's economy. Power planning is an integral part of the overall planning of the economy which is done by the Planning Commission. Planning Commission in the Sixth Plan document has already outlined the development perspective for the period 1979-80 to 1994-95. Central Electricity Authority has initiated action on long term power planning exercise involving projection for demand for power and energy over a long-term horizon identification of new generation projects for benefits during the planning horizon. optimisation studies to select generation scenarios resulting in lower operating costs, power system studies and integration of generation and transmission scenarios leading to the optimal path of power develop-ment." 5.

1.7. The Ministry's reply is nothing but an attempt to evade the issue of National Policy on Power which the Committee have been recommending since 1977-78. The Ministry had made a statement before the Committee (1980-81) that "once the 15 years prospective plan..... is ready and Government have taken decisions on the recommendations of the Committee on Power, it would be possible for the Government to formulate the components of a National Policy on Power." In evidence tendered before the Committee (January, 1981) also, the representative of the Ministry of Energy had stated that a formal paper on power policy for being placed before Parliament would be ready in "some months." The stand now taken by the Ministry tantamounts to challenging the necessity of formulation of National Policy on Power on the ground that policy in this regard is already laid down in the Industrial Policy Resoluton, 1956, which, the Ministry says, is being followed by the Government

The Committee are unhappy at the Ministry's going back on its earlier commitments and strongly deplore the delays in formulating a National Policy on power. The Committee urge that there should be no further delay in framing National Policy on Power, giving clearly the long term projections for the development of power, share of different sources of power generation namely hydel, thermal, nuclear etc. as well as the role of Central Government and State Governments in the field of generation and distribution. The Committee also reiterate that Government should present a White Paper on Power Policy to Parliament without delay thereafter to facilitate a national debate on the subject.

Settlement of Inter-State Water Disputes Recommendations Sr. No. 54 (Para No. 3.34 & 3.36)

1.8 With regard to the question of resolving Inter-State Water disputes, the Committee had felt that "national interest demands a more drastic approach to the problem than adopted in the past. Either the legislative measures already existing should be given strong enough teeth to deal with the river water disputes within a prescribed time limit through arbitration or otherwise, without any right to any party to prolong the dispute through the device of appeals or reviews to higher authorities; or through constitutional amendment, if necessary, water may be declared as a national resource, to be exploited by the Centre with due consideration being shown to the State or States in which the resources lies. The Committee urged that the matter should be considered at the highest level without delay with a view to finding a speedy and abiding solution to the chronic problem. 1.9 In reply the Ministry has stated (Nov-Dec. 1981):

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"Realising that the number of projects involving substantial potential are held up on account of various inter-State disputes, this Ministry has taken initiative in holding discussions with the various States with a view to resolving the problem. This Ministry has also suggested to the States that such projects could be taken up for execution in the Central Sector pending resolution of differences.

Regarding resolution of inter-State disputes within a prescribed time limit, it may be stated that this recommendation made by the Committee, though very desirable, not capable of implementation under the present arrangements available. It is not possible to lay down short time limits of settlements of disputes or automatic reference to an arbitration in case of non-settlement of such disputes. However to enable the Central Government to play a more active and dynamic role in water development, Ministry of Irrigation has made some proposals in a Note for consideration of the Cabinet Committee on Political Affairs for enacting legislation within the ambit of the Union List for smooth implementation of various water development projects on inter-State rivers. The Rajadhyaksha Committee on powers has also made recommendations for expeditious settlement of these disputes."

.1.10 The Committee take note of the steps being considered by the Ministry to resolve inter-State disputes in regard to hydel power generation schemes. The Committee would again urge the Government that conclusive and immediate measures should be taken to ensure that hydel power projects which are subject of inter-State disputes are taken up and implemented without delay in the Central sector pending resolution of differences between the States and such inter-State disputes are not allowed to hold up power development programme of any region. The Committee would like to be informed of the outcome of the various steps being considered by Government.

Improving Quality of Power Equipment

Recommendation, Sl. No. 58 (Para No. 6.22)

1.11 'The Committee had felt that, as suggested by Rajadhyaksha Committee, "the ideal arrangement to bring about improvement in the design and production quality of power equipment would be to have a consultative forum where the representatives of manufacturers, users and executing agencies like NTPC and HMPC to gening with the representatives of Central Mectricity Authority could meet and discuss design and operational problems of power equipment in the light of their experience to enable the manufacturers is incomporate changes in the design and manufacture of new equipment." The Committee had suggested that "the system of consultative machinery on these lines should be introduced at an early date in the larger interest of production quality equipment in the country."

1.12 In its reply the Ministry has stated (March, 1982) that "Government accepts the above recommendation of the Committee."

1.13 The Government has accepted the suggestion made by the Committee to set up a consultative forum where representative of manufacturers of power equipment, users, executing agencies and the CEA could meet and discuss design and operational problems but it has indicated as to what is going to be done in this regard. The Committee would expect a consultative forum to be set up at an early date.

Delay in Clearance of Projects

Recommendation, Sl. No. 79 (Para No. 7.29)

1.14 The Committee had found that while the states thought that CEA was taking too long a time in giving approval to their proposals, the CEA attributed delay in approval to the incomplete data furnished by states in project reports. The Committee had expressed unhappiness at the shifting of blame for delays on each other. The Committee had desired the "CEA not only to lay down in clear terms guidelines for preparation of project reports which they appear to have done in the case of thermal projects but not hydel projects, but also take initiative to educate the SEBs on the manner of preparing comprehensive project reports giving complete data to avoid any delay at the techno-economic approval "The Committee strongly felt that "CEA also have a resstage. ponsibility to clear all projects referred to them within a time schedule. No project should as far as possible, remain pending for more than 2 years. All objections and the additional information required with reference to any project should be communicated to the States concerned in one lot and not piece meal. Where any data in a project report is found wanting, the CEA should nsit down with the representatives of the SEBs and help them fill the gaps with a view to according techno-economic approval to the project without further delay. All those projects which are at present pending with the CEA for over two years should be cleared within six months and in any case before on year." The Committee desired to be apprised of the progress in the clearance of the pending project together with the reasons for delay in the case of pending project within 6 months.

1.15 In reply the Ministry has stated (March 1980): "The reconmendations of the Committee in this regard have been communicated to the CEA. Svery effort is being made by the CEA to clear projects expeditiously. However, since in a number of cases, clarifications and discussions with various agencies are involved, it becomes sometimes difficult for CEA to adhere to the time limit for clearing of projects within two years. A separate statement will be furnished to the Committee showing details of projects pending clearance by CEA beyond a period of 6 months with reasons for delays in clearance. The suggestion of the Committee has been noted."

1.16 The Ministry's reply is incomplete and evasive. It has not indicated the action taken on the various procedural matters suggested by the Committee. The Committee are not at all satisfied with the reply. The Committee would like to reiterate that the CEA should be directed to instil a sense of urgency in its working so as to clear all projects within two years. The Committee regret to observe that in spite of their recommendation, the CEA has not been able to clear the projects, which were pending with them for 2 years. The Committee will not be satisfied merely with reasons for delay which the Ministry has agreed to submit for their consideration separately. They would like to see the CEA acting with the maximum of speed and clearing pending projects without any further delay and ensuring that in future no project remains pending for more than 2 years.

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Delay in Completion of Power Schemes

Recommendation Sl. No. 83 (Para 7.47)

1.17. One of the statutory responsibilities of CEA is to assist in the timely completion of power schemes. Out of 51 thermal schemes sanctioned during the last five years only one scheme was completed in time; an dout of 65 hydro schemes only 2 were executed on schedule. From this the Committee was constrained to conclude that CEA has miserably failed to discharge this important statutory responsibility. 1.18 "In reply the Ministry has stated (March 82) that:

"The power projects are being implemented in the State Sector by the SEBs and the various Corporations in the The Central Electricity Authority Central Sectors. approve techno-economic clearance for all these projects before the investment decision is taken either by the Planning Commission or by the Cabinet. The implementation of the projects would depend on various factors like timely acquisition of land, timely placement of orders, receipt of equipmets in a sequential fashion from the various manufacturers, availability of all critical inputs like cement and steel, effective coordination at the project, site and the allocation of adequate resources bv the various agencies like the State Government and the Government besides these, the progress in the Central commissioning of the projects would depend upon the various contributory factors like industrial relations etc. Thus, the Commissioning of the projects would largely depend upon the effective project management supported by the adequate resources and support of the Government. CEA have been monitoring the progress in the commissioning of the projects very closely. The monitoring by CEA has been strengthened considerably recently. CEA have been rendering effective assistance to the State Governments and the SEBs by advising them on the need for timely decision on various fronts. The Coordination meetings conducted by CEA with the project authorities and the equipment suppliers have been largely helpful to coordinate the supply of equipments to the projects. CEA have been extending necessary technical guidance to the project authorities wherever necessary. CEA is also ragging for supply of key inputs like cement and steel to SEBs. In view of the above, Government feel that there has been no failure on the part of CEA in performing its role in timely completion of projects."

1.19 In the Committee's opinion the efficiency of an organisation is to be judged by the results and not by the reasons, however cogent, explaining the non-achievement of results. The Committee have, therefore, no reason to review their earlier conclusion and they maintain that the CEA's inability to have 113 out out of 116 power projects completed in time during 5 years period testifies to its failure to discharge an important statutory responsibility.

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Power Needs of Andaman & Nicobar Islands

Recommendation Sl. Nos. 95 and 95 (Paras 8.46 and 8.47)

1.20 Commenting on the power demand of Andaman and Nicobar Islands the Committee observed that there were certain parts of India like Andamans and Nicobar and Lakshadweep Islands which being far removed from the mainland, cannot look to the regional grids or the proposed national grid for help in times of power , shortage or power breakdown there. The Committee felt that these Islands should have to be made self-reliant to meet the power demand even at peak periods on their own.

The Committee further suggested that to enable them to do so, the CEA should arrange to build up adequate reserve stocks of diesel, coal and spare parts in these Islands to keep their power stations running even in the event of temporary and unavoidable delays in the movement of these inputs by ships.

1.21 In the reply (Nov.—Dec., 81) the Ministry however stated that the mode of power generation in the U.T. of A. & N. Islands and Lakshadweep is mainly by diesel generation sets. There is a power house in operation in almost all the major Islands of the above Union Territories with adequate diesel generating capacity installed in each power house for making the Island self-reliant in respect of power generation. Action is being taken by CEA/UT authorities to augment the installed capacity in each power house from time to time to match with the growing power demand in each Island. To meet the long term power needs of South Andaman a coal based thermal station with an initial installed capacity of 2×5 MW has been approved by the Planning Commission. The complete engineering consultancy, framing of specifications etc. for this project is being done in CEA.

1.22 In every power house in the A & N Islands and Lakshadweep, there is provision for storing adequate quantity of diesel, oil and essential spares so as to ensure uninterrupted operation of the power house round the year even if there is temporary delay in movement of these inputs by ship. CEA is rendering necessary assistance these UTs in the procurement of stores for electrification works including diesel oil and other essential spares by way of placing of indents with DG&D, answering queries of technical nature, scrutinising and approving of drawings etc. 1.23 The Committee take note of the statements made by the Ministry to the following effect:---

- (1) There is a power house in operation in almost all the major islands of the Union Territory of Andaman & Nicobar Islands and Lakshadweep with adequate diesel generation capacity installed in each power house for making the island self-reliant in respect of power generation.
- (2) In every power house in the Andaman & Nicobar and Lakshadweep Islands there is provision for storing adequate quantity of diesel, oil and essential spares so as to ensure un-interrupted operation of the power house round the year.

These are general statements and the Ministry has not submitted any concrete data in support of these statements. It is, therefore, difficult for the Committee to judge whether the generation capaciy of power stations in Islands is adequate to cope with the demand and whether the diesel oil and essential spares stored in the power houses in these islands have been adequate enough to guard against interruption in operations round the year on account of shortage of these commodities. The Committee would, therefore, like the Ministry to furnish complete data in support of the aforesaid statements made by it at the earliest.

Hydel Power Potential in Andaman & Nicobar Islands

Recommendation Sl. No. 98 (Para No. 8.50)

1.24 With regard to developing hydel potential, the Committee recommended that in order to have a judicious combination of thermal and hydro power which will give the power systems in these islands stability, the Central Electricity Authority should explore the feasibility of exploiting micro and mini hydel potential on irrigation channels and small streams and rivers in the islands. The study which the Committee have recommended earlier in this Report to assess the small hydel potential in the various parts of the country should also be made in Andamans and Nicobar Islands (e.g. on Kalpong River in Andamans), Lakshadweep Islands and other such Islands.

1.25 In the reply (Nov.—Dec., 1981) the Ministry stated that "the Central Electricity Authority have initiated action regarding exploitation of mini and micro hydel projects on small streams/ canal falls etc. in the country. Possibilities of developing minimicro hydel schemes in Andaman and Nicobar Island, Lakshadweep Islands etc| will also be examined by the Central Electricity Authority."

1.26 The Committee note that the Central Electricity Authority is considering examination of the possibility of developing mini and micro hydel projects in Andaman and Nicobar and Lakshadweep Islands etc. Here too, the Ministry has not stated as to when this study will be undertaken and to which areas and rivers in these islands this study will be confind. The Committee would like to know in concrete terms the areas and rivers in these islands which have been or will be taken up for examination of the possibility of developing mini/micro hydel schemes in these islands. The Committee would like to know in particular whether this study would be undertaken in respect of Kalpong river in Andmana and Nicobar Islands.

Implementations of Recommendations

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1.27 The Committee would like to emphasize that they attach the greatest importance to the implementation of the recommendations accepted by Government. They would, therefore, urge that Government should ensure expeditious implementation of the recommendations accepted by them. In case where it is not possible to implement the recommendations in letter and spirit for any reason, the matter should be reported to the Committee in time with reasons for non-implementation.

1.28 The Committee also desire that the final replies in respect of the recommendations contained in Chapter V of this report may be finalised by the Government and furnished to the Committee expeditiously.

CHAPTER II

RECOMMENDATIONS WHICH HAVE BEEN ACCEPTED BY GOVERNMENT

Recommendation Sl. No. 2 (Para 1.21)

The Committee, however, regret to note that even in the First year of the Sixth Plan (1980-81), out of 22 hydro and thermal units targeted to be commissioned, 5 units will not be completed and will slip over to the next year. Similarly, during 1981-82, 10 units out of 42 are expected to slip over to the following year. What is disturbing is that many of the factors which were responsible for slippages in the earlier Five Year Plans like delays in the supply of equipment by indigenous manufacturers, delays in civil works due to shortage of inputs like cement, steel etc. and inadequate funds are the ones which even now are holding up the timely commissioning of projects. And this is so inspite of the claim made by the Secretary (Power) that they have identified the constraints responsible for shortfalls in earlier plans most of which can be controlled, and inspite of an elaborate monitoring system set-up in the Central Electricity Authority. From this, the Committee cannot but conclude that measures taken have not so far been effective in preventing the slippages in the commissioning of projects. The Committee would like to point out that if the target of capacity addition of 20,000 MW during Sixth Plan is to be achieved, Government would have taken more effective measures than taken hither to in order to ensure timely commissioning of power prejects from year to year so as no excuse is allowed to delay the project according to schedule.

Reply of the Government

The setting up of power generating projects is a complex task involving the coordination of various inputs. The target of addition of capacity of 20,000 MW capacity during the Sixth Plan could be achieved only with timely allocation of adequate funds, supply of equipment by the manufacturers and availability of inputs like steel, cement, etc. and timely support from various agencies involved in the erection and commissioning of coal handling system, ash handling system, chimney, cooling water towers, and cabling etc. Besides these external factors, the effectiveness of the project management and the time taken to settle the various tenders in time would also determine the pace in commissioning of the projects. The constraints listed above have been gone into in detail and steps have been taken to tackle them. It has to be recognised that the constraints in the availability of funds and critical inputs apply equally to other sectors of the economy and hence the availability of these would depend upon the overall development in all sectors of the economy. However, the close monitoring evolved by CEA recently have been of considerable help in identifying the immediate constraints and sorting them out in collaboration with the various equipment maufacturers. CEA have been discharging their role adequately in guiding the various project authorities for effective project management and the State Governments concerned to achieve the commissioning of the projects due in the Sixth Plan. The observation of the Committee on the need for continued measures to prevent slippages is accepted by the Government.

> [Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-/ Coord., dated the 16th March, 1982].

Recommendation S. No. 3 (Para 1.27)

The Committee are of the view that if the new strategy of longterm power perspective has to succeed, it is absolutely necessary to tie up the 15 year power plan not only with 15 year investment planning but also with long-term planning and development of all other inputs like coal, steel, cement, equipment and infrastructure like transport capacity so that funds and materials required for power projects become available at the right time and the projects are commissioned on Schedule. The Committee would like the Ministry of Energy to take up these matters with the Planning Commission and other concerned authorities and draw up a comprehensive plan covering all aspects well in time.

Reply of the Government

As has been given in reply to item 1, the CEA is at present formulating a comprehensive long-term plan. Once this plan is ready, the same would be discussed with the Planning Commission. In finalising the plan, the Planning Commission would, no doubt, take into account the long-term development of other sectors, like, coal, steel, cement, equipment and transport capacity needed to implement the long-term power plan. The Planning Commission would also dovetail the power plan with the development scenarios of the other sectors so as to achieve consistency between the development of the different sectors.

> [Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 16th March, 1982].

Recommendation S. No. 4 (Para 1.39)

The Committee agree with the view that for optimum utilisation of resources and minimising cost of power and for a balanced development of the country as a whole, the power planning should be done on a regional rather than on state-wise basis.

Reply of Government

The concept of power planning on a regional basis has been well recognised. The recommendations of the Estimate's Committee in this regard will be kept in view in the preparation of the 15 year power plan. In these studies optimised generation expansion programmes will be developed for each region.

> [Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 16th March, 1982].

Recommendation Sr. No. 8 (Para No. 1.57)

The Committee feel that captive power plants in private sector should be allowed to be set up by Government liberally provided that Private sector can raise resources of their own without approaching the Public financial institutions.

Reply of Government

Except in the case of electricity production as a by-product it is not economical to have captive generating sets to meet a part or whole of the power requirements of industry, because of factors like higher investment/KW, higher fuel consumption rate and larger O & M costs, absense of spare capacity during break down etc. The view of the Government is that the setting up of captive power stations should not normally be encouraged and efforts should be made to increase the capacity of the power utility system to meet the demands with high reliability. However, in industry where process steam is required or where waste heat is available, captive generating capacity would been couraged in accordance with the "Total Energy Concept". Industries may also be allowed, to instal indigenous diesel generating stand by sets without any hinderance. It will, therefore, be observed that the present policy of the Government does not preclude the possibility of captive generating sets being put up by industries. Government would take a liberal view in granting permission for setting up captive units based on coal. Each case will be considered on merit. The recommendations of the Estimates Committee will also be kept in view while taking a decision on various proposals.

> [Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 16th March, 1982].

Recommendation S. No. 9 (Para No. 1.58)

The Committee also feel that as an extension of the concept of captive power plant, Government may also view sympathetically any proposal for setting up power plants on cooperative basis which might serve cluster of industries situated in a compact area. Mere too, the entrepreneurs of the proposal should be able to raise funds of their own.

Reply of Government

The Policy relating to setting up of captive power plants has already been mentioned in reply to the Recommendation No. 8 contained in para 1.57. As regards the role of private sector as utility, the position has also been brought out in para 1.43 of the 13th Report of the Committee. Government's view on setting up power plants on cooperative basis would be strictly on merits of the proposal and in line with the spirit of the Industrial Policy Resolution.

> [Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81— Coord., dated the 16th March, 1982].

Recommendation Sr. No. 10 (Para No. 1.59)

The Committee would not like the control on transmission and distribution of power generated from captive o_r cooperative power plants to be handed over to the Private sector except to the extent to which it is necessary for them to supply power to the units for which the power plants are set up. Any surplus power generated by such plants should be fed into the national or regional grid.

Reply of Government

The Government have made it clear that they do not propose to allow the transmission and distribution of the electricity to be dealt with other than by public sector utilities except by those private sector licensees which are already in existence. The Government, therefore, agree that transmission and distribution of power generated from captive power plants should not be left to the private sector except to the extent necessary for supply of power to the units for which the power plants have been set up. Government is not likely to accord permission for excess capacity but wherever surplus power is generated by such plants, it would be made incumbent upon the plant to transfer the surplus power into the national, regional or state grid.

> [Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 16th March, 1982].

Recommendation Sr. No. 12, (Para No. 2.13)

The Committee note with concern that the utilisation of capacity in thermal power stations has been showing a deteriorating trend since 1976-77 and the plant load factor of the thermal power stations declined from about 56 per cent in 1976-77 to 45.4 per cent in 1979-80. The Committee cannot but conclude that this deterioration in the utilisation of capacity in thermal power stations has been the major contributing factor to the power shortage experienced in the country during the last three years. If the generation had attained the level of 61 per cent as envisaged by the Central Electricity Authority or as stated in Economic Survey (1980-81) even 58 per cent as considered "reasonable" by Rajadhyaksha Committee on power, the thermal generation in 1979-80 could have been 30 per cent higher with the same level of installed capacity and the total generation of power would have been 18 per cent higher which would have more than wiped out the estimated power deficit of 16 per cent experienced in 1979-80. What is still more disturbing is that in spite of the claim made by the Department that the reasons for low utilisation of capacity have been identified, methodology for maximising generation has been developed and the position is being continuously monitored. The Plant load factor of thermal power stations in the first 6 months of 1980-81 instead of showing improvefurther declined to 42.5 per cent. The Committee are ment has afraid that if the downward trend in utilisation of capacity is not reversed even the projected addition of about 20,000 MW capacity in 6th Five Year Plan, which would be mainly in thermal power sectors would not be able to solve the problem of power shortage in the country. Now when the detailed methodology for maximising power generation has been developed, all that is required to be

done is a vigorous and sustained follow-up action to put the methodology into practice. The Committee would like to urge with all the emphasis at their command that the administrative and technical agencies all over India should be fully geard so as to keep station under observation with a view to preventing unscheduled outage and to mobilise all sources to bring each power station up to the ideal level of performance.

Reply of Government

The Government shares the anxiety of the Committee in the comparatively unsatisfactory performance of thermal power stations in the country. However, a series of measures have been taken and are being taken on a continuous basis to improve the performance of thermal power stations. As a result of these measures the plant load factor of thermal power stations in the country which had come to a low-level of 42.1 per cent during the period April, 1980 to September, 1980 has increased to 47.2 per cent during the period October, 1980 to March, 1981. This improvement in thermal power stations was almost in a steady manner and the plant load factor achieved during the month of March, 1981 was 52.2 per cent.

19 units of 200 MW are already in operation and in future majority of the units to be put up would be units of this rating. A Task Force was therefore, set up with specialists from CEA, BHEL, ILK and the State Electricity Boards to identify the deficiences and to prepare time bound programme for rectifying these defects. As a result of these measures, the PLF of 200 MW units has improved from 36.9 per cent in 1980-81 to 41.7 per cent in 1981-82 (April-August). The capacity utilisation of thermal power stations in the country for the year 1981-82 is expected to be of the order of 49 per cent as against the plant load factor of about 45 per cent during the year 1979-80 and 1980-81. The long term measure to further improve the capacity utilisation of thermal power stations are also being implemented so as to achieve the plant utilisation factor of 55 per cent in the first instance. With a view to achieve the above goal, the State Electricity Boards, manufacturing agencies and the Central Electricity Authority are in constant touch with each other to help and complement each other in their efforts in this direction. Wherever, the State Electricity Boards or the Station authorities are unable to prepare long term plant betterment programme, the Central Electricity Authority and BHEL help the State Electricity Boards in preparing it and are assisting them in implementing it.

> [Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981. 2nd December, 1981].

Recommendation Sr. No. 13 (Para No. 2.14)

The Committee note that when plant load factor (PLF) in 1979-80 in some of the States was as low as 24 per cent to 38 per cent and all India average was 44.7 per cent. Maharashtra and Madhya Fradesh, to take two examples, were able to achieve a capacity utilisation of 55.6 per cent and 52.6 per cent respectively, by employing modern method of capital and preventive maintenance of equipment and by organising practical training of high standard for their operators and engineers. From the example of these two states the Committee cannot but conclude that the problem of low utilisation of capacity is not uncontrollable. The Committee have no doubt that if other States can be persuaded to take similar steps and it should not be difficult for the Centre to do so, the plant load factor can show substantial improvement all over the country. The Committee would like that the Centre shuold keep a watch over this and see that the utilisation aspect is not allowed to slip.

Reply of the Government

The Government agree with the views of the Committee that the problem of low utilisation of capacity is not uncontrollable. It is with this fact in mind and with the determination to improve the performance of thermal power stations that the Government have initiated a number of measures and the State Electricity Boards have been advised to prepare plant betterment programmes, and implement them in a time bound time frame for every power station in the country. These programmes are formulated on the basis of the experience gained in the analysis of the better performance of the State Electricity Boards including Madhya Prapdesh and Maharashtra and on the analysis made of the reasons for the poor performance of some of the State Electricity Boards. As a result of the various measures taken, the plant utilisation factor of thermal power stations which had reached a low level of 42.1 per cent during April to September, 1980 has increased to a level of 47.2 per cent, during the period October, 1980 to March, 1981. This steady improvement is being maintained and steps are being taken to further improve the plant utilisation factor to 55 per cent. The break-through achieved in the capacity utilisation of thermal power stations will not be allowed to slip.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981.]

Recommendation Sr. No. 14 (Para No. 2.15)

The Ministry have claimed that the plant load factor of thermal power stations in India (which was 45.94 per cent in 1976) is comparable with that in many other countries (in the same year) like USA (44.04 per cent) France (44.19 per cent) USSR (55.57 per cent), Japan (49.99 per cent) and UK (40.22 per cent). The Committee would like to point out that such a comparison would be erroneous. As pointed out by Rajadhyaksha Committee on Power, while in other countries, the plant load factor is low because of their policy to keep considerable reserve capacity to meet sharp peaks and unexpected breakdowns, which though available remain unutilised due to lack of load for most of the time, in India the low plant load factor is not due primarily to lack of demand but low plant availability as a result of which demand for power cannot be met. The Committee would, therefore, like to caution the Government against any sense of cmplacency on this account.

Reply of the Government

The Government is conscious of the need to step up plant load factor and all efforts are being made on a continuous basis to increase the plant utilisation of thermal power stations to 55 per cent in the first instance. Plant betterment programmes for many of the thermal stations are under preparation/implementation. Efforts are also made to assure the supply of adequate quantity & quality of coal, as well as to ensure timely availability of spare parts. The performance of thermal station is regularly monitored and corrective action advised to the concerned utilities.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981.]

Recommendation Sr. No. 15 (Para 2.16)

A suggestion has been made to the Committee that planning in power should be done on the basis of 50 per cent capacity utilisation so as to have adequate spare capacity in reserve to provide for scheduled outages and unforeseen breakdowns or demands. The Committee also take note of the facts that Power is a capital intensive industry and demand for power in the country is increasing rapidly and due to constraint of resources it has not been possible to provide adequate funds even for the capacity on the basis of 60 per cent utilisation factor. The Committee, therefore, feel that while planning on the basis of 50 per cent utilisation may be an ideal in the long run, it will perhaps not be a practicable proposition in the present situation in the country.

Reply of the Government

We broadly agree with the recommendations of the Estimate's Committee. While planning on the basis of the 50 per cent utilisation may be an ideal in order to provide adequate spare capacity, in view of various constraints particularly that of funds, it would not be a practicable proposition at present in the country. It may also be mentioned that while preparing the long term plan for power development, various exercises will be carried out using computerised studies to determine optimal generation capacity expansion programme in each region for acceptable level of reliability of power supply.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 16th March, 1982.]

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Recommendation Serial No. 1/6 (Para No. 2.31)

The Committee note that Kulkarni Committee appointed by the Central Government (1974) had made a number of recommendations for streamlining and rationalising maintenance procedures in large thermal stations on a scientific basis but their recommendations, though accepted by State Electricity Boards are not being followed by them in toto. According to Rajadhyaksha Committee, the recommendations made by the Kulkarni Committee are as valid today as when they were made. Since efficiency in power sector is as much the concern of the centre as that of the States, the Central Electricity Boards in adopting the modern maintenance procedures in their thermal stations recommended by the Kulkarni Committee and render them every possible help to overcome the difficulties. The Committee would like to be informed of the progress made on this point, statewise.

Reply of the Government

Recommendations of the Kulkarni Committee have been accepted by the Boards as guidelines for maintenance work. But the implementation of the same has not been as wide as the acceptance of recommendations. Main reasons for non-implementation are lack of proper planning and organisation, tools and spares etc.

It has also been experienced that in a number of instances units taken out for boiler overhaul or capital maintenance needed extra work such as replacement of large number of boiler/economiser tubes, damaged turbine blades etc., as a result of which work could not be completed with the time frame recommended by Kulkarni Committee.

Central Electricity Authority has been able to draw up schedules for maintenance work of thermal units of the country in consultation with the Boards for 1980-81. This schedule has been drawn up mainly on the basis of the recommendations of Kulkarni Committee. These programmes have been circulated to the various Electricity Boards and the actual work is being reviewed by the Central Electricity Authority on a continuous basis.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord.,

dated the 30th March, 1982.]

Recommendation Sr. No. 17 (Para No. 2.32)

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The Committee would also lik_e the Central Electricity Authority to impress upon the State Electricity Boards that while adhering to time schedules for preventive maintenance and overhaul, the quality and standard of maintenance should not be ignored.

Reply of the Government

The Government accepts the recommendation of the Committee. In fact it has already been impressed upon the State Electricity Boards not to sacrifice quality of maintenance, while taking up maintenance and overhaul works in their anxiety to bring down the time of outages.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981.]

Recommendation Serial No. 18 (Para No. 2.33)

The Committee have been informed by Maharashtra and Madhya Pradesh State Electricity Boards that they had been able to achieve a high level of performance in their thermal power stations only due to systematic planning and observance of preventive and capital maintenance schedules. The Committee would like to suggest that the maintenance procedures and practices adopted by the Maharashtra and Madhya Pradesh State Electricity Boards which have been found to have yielded good results should be widely publicised and circulated by Central Electricity Authority for the benefit of the State Electricity **Boa**rds in other States.

Reply of the Government

The Central Electricity Authority has already circulated to the State Electricity Boards the detailed review on preventive and capital maintenance work. The actual work in this regard is being reviewed by Central Electricity Authority on a continuous basis. The above programme has been prepared in the light of experience gained in the various State Electricity Boards including Maharashtra State Electricity Board and Madhya Pradesh Electricity Board.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 30th March, 1982.]

Recommendation Sr. No. 19 (Para No. 2.34)

A Roving Team of Central Electricity Authority is stated to have so far visited 20 power stations and brought to the notice of the State authorities deficiencies in the working of the plant and equipment and the modern maintenance procedures followed elsewhere. The Committee would like that a time bound programme should be prepared by the Central Electricity Authority for the visits of this Team to all the Power Stations whose performance is below the all India level. The Central Electricity Authority should not only keep a watch on the actual implementation to the suggestions made by the Roving Team but also help the SEBs where necessary, in their implementation.

Reply of the Government

The recommendation made by the Committee is already being implemented. With the available staff strength of the Central Electricity. Authority, attempts are being made to cover all the power stations with poor performance record in the activities of the roving team of the Central Electricity Authority. It is also proposed to cover all power stations in the country for monitoring by the roving team.

Implementation of the suggestions of the roving team mainly depends on the State Electricity Boards. There may be some administrative and managerial hold-ups causing delay in implementation. The feed back from some of the State Electricity Boards in this regard is poor. However, it is confirmed that assistance is being given by CEA to the maximum extent possible to the State Electricity Boards in the implementation of the suggestions made by the roving team through inter-action with equipment suppliers and other agencies.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981.]

Recommendation Sr. No. 20 (Para No. 2.35)

The Ministry of Energy, it is seen, appreciate the usefulness of mutual exchange of experience with regard to the problems of maintenance of power stations and would welcome the idea of having regular meetings and seminars for the purpose. The Committee however find that though seminars have been arranged by Government and semi-government organisations to discuss various aspects of power generation and equipment, the problems of maintenance and overhaul of power units have not been discussed specifically at such seminar. The Committee feel that CEA should take initiative to inspire State Electricity Boards to hold meeting of their respective power engineers on a regular basis to enable them to exchange in formation and experience about the maintenance problems in power stations, such meetings should also be held by CEA at national level with adequate preparations and results of deliberations circulated to all the State Electricity Boards.

Reply of the Government

The recommendation has been accepted for implementation and CEA is working out the details of the programme. CEA is also sponsoring on Indo-German Power Plant Symposium in January, 1982 at New Delhi which would be attended by all the power plants expert from all over the country and about 25 experts from Germany.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981.]

Recommendation Sr. No. 21 (Para No. 2.36)

The Committee are informed that in order to make up for shortfall in hydro-generation in 1979-80 because of severe drought conditions, a number of thermal stations, which were due for overhaul, were not taken up for overhaul that year. It was admittedly a wrong and short-sighted decision. The Committee would like the CEA to ensure, through a system of regular monitoring and liaison with the State Electricity Boards, that maintenance and overhaul schedules, on which depend the health of a plant and its availability for maximum generation, are not disregarded in their anxiety to temporarily tide over a difficult situation.

Reply of the Government

This recommendation has already been brought to the notice of the State Electricity Boards for their guidance. The Central Electricity Authority are also maintaining a close liaison with the State Electricity Boards to monitor the maintenance schedule programme of the thermal power stations.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981/2nd December, 1981.]

Recommendation Sr. No. 22 (Para No. 2.37)

It will be immensely helpful to power stations and State Electricity Boards if detailed data about the age, conditions, weak points of each power units, defects developed by it in the past and repairs carried cut from time to time, and other aspects requiring sepcial attention is collected and analysed in a scientific manner and kept handy for reference purposes not only for drawing up future maintenance programmes but also for carrying cut repairs in times of breakdowns. The Committee would like that Central Electricity Authority to draw up a detailed scheme for setting up data banks on these lines in the State Electricity Boards and urge the Boards to give it a concrete shape.

Reply of the Government

The recommendation has been accepted and Central Electricity Authority have already initiated action to prepare a scheme for setting up data banks as suggested by the Committee and State Electricity Boards will be asked to implement it the scheme has been finalised.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 30th March, 1982]

Recommendation Sr. No. 23 (Para No. 2.62)

The Committee take note of the result of study of relative economics of transmission of coal Vs. transmission of electrical energy which shows that transmission of power would be more economical over a distance of 500 km. and 1000km. Besides being cost effective, pithead location of power stating would also lead to greater efficiency in power generation since the problem of low availability of coal because of transport diffculties will not be there. The Committee, therefore, welcome the Government decision to set up Super Thermal Power Stations (STPS) at pitheads as a step in the right direction.

Reply of the Government

It is an observation made by the Estimates Committee and, a note on follow up action is not necessary.

[Ministry of Energy (Dept⁴. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981/2nd December, 1981.]

Recommendation No. 24 (Para 2.63)

The Committee also welcome the decision of the Government to set up these power stations in the Central Sector to meet the requirements of the concerned regions and not merely of the States in which they are located. This is a positive step in the right direction of regional planning for power as recommended by the Rajadhyaksha Committee and also by this Committee in earlier chapter. These power stations being the property of the nation as a whole the Committee hope that distribution of power from these Power Stations would be done in the most equitable manner so as to ensure that the really needy States in each region receive optimum benefits from the Super Thermal Power Station in that region.

Reply of the Government

The pithead thermal power stations being set up in the Central Sector are intended to supplement the efforts of the individual States to meet their anticipated power requirements through their State Power Plants. There is a uniform formula for allocation of power on a regional basis from the Central Sector large pithead thermal stations. According to this formula, 15 per cent power is kept unallocated at the disposal of the Centre to meet the needs of individual States from time to time, 10 per cent is allocated to the home State and the remaining 75 per cent is allocated to the other States of the region including the home State on the basis of the Gadgil formula for Central assistance to the States and the power generation of the individual States in the last five years. The needs of the Union Territories are also taken care of through appropriate allocations from these Stations.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord.. dated the 28th November, 1981; 2nd December, 1981.]

Recommendation Sr. No. 25 (Para No. 2.64)

The Committee are concerned at the delay that has already taken place in placement of orders for major equipment for Neyveli Second Power Station resulting in postponing the date of commissioning of its three units by more than a year in each case. As the decision about placement of orders for the equipment has not even now been taken there is likelihood of further delay in the commissioning of projects. The Committee recommend that decision in the matter should be taken without any further delay and all possible efforts made to avoid any further delay in the erection and commissioning of the projects at Neyveli Second Power Station.

Reply of the Government

The orders for the main plant and equipment have since been placed. All out efforts are being made for earliest completion of the project.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981.]

Recommendation No. 26 (Para 2.65)

The Committee are glad to note that the work on the four super thermal power stations at Singrauli, Korba, Farakka and Ramagundam is progressing according to schedule and in the case of Korba in certain fields the work is progressing ahead of schedule. The Committee hope that all the units in the Super Thermal Power Station will be commissioned by target dates and the Centre would be able to give a lead to the State Electricity Boards in this regard

Reply of the Government

All efforts are being made to ensure the timely commissioning of the super thermal power stations being set up by the National Thermal Power Corporation.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981/2nd December, 1981]

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Recommendation Sr. No. 27 (Para 2.66)

The Committee note that this has been made possible by the introduction of an integrated project management and control system aimed at integrating the efforts of all functions to meet the ambitious time schedules, maintain quality and control project costs. The Committee would expect the CEA to persuade the State Electricity Boards to adopt the integrated project management and control system of the NTPC in their projects.

Reply of the Government

Detailed guidelines were issued to all State Electricity Boards in July, 1980. These guidelines, which were drawn up in consultation with NTPC, inter-alia, include the proforma used for control and various net works—net work for infrastructure development, master net work etc. The Deptt. of Power and the Central Electricity Authority are persuading the State Electricity Boards to adopt these management aides for effective project management.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981/2nd December, 1981] Recommendation No. 28 (Para No. 2.67)

It is noted that 3 of the Power Stations viz. Singrauli, Kobra and Ramagundam will be having 500 MW generating sets at later stages in 1986-87 and 1987-88. A number of experts and non-officials have expressed doubts about the desirability of introducing 500 MW generating sets on the ground that India does not still have adequate technical capacity or expertise to manufacture, install or operate these sets and that the impact of sudden outage of anyone of these sets on the entire system could be so severe as to plunge a whole State into darkness and what the country should prefer at the present juncture is availability rather than efficiency. It is also stated that the availability of bigger generation sets was poorer than that of smaller sets. Secretary (Power) has stated in his evidence that all preparatory action has been taken to ensure that well trained technical staff are available for the operation and maintenance of 500 MW sets and that these sets will be introduced only in bigger grids in which they will not constitute more than 5 to 6 per cent of the total system size and the impact of outage would not create any stability problem. The Committee, however, feel that the opinions expressed by experts who are quite eminent in the field merit a more dispassionate consideration. The Committee are, therefore, of the opinion that it would be prudent to consider the question of introduction of 500 MW sets in the power system in greater depth in the light of the level of technical development achieved here and the experience of foreign countries identically placed before taking a final decision.

In the context of the rapid expansion of the power sector, the question of unit sizes of thermal plants has been discussed extensively in different technical fora. The concensus has been that

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while 210 MW units would form the core of new capacity addition in the Sixth Plan, 500 MW units should be introduced at carefully selected locations. The main advantages of larger size units are lower per capita cost, lower operating cost on account of higher thermal efficiency and acceleration in the rate of addition of new capacity. It should be remembered that the number of sites which can meet all the requirements for location of thermal power stations is limited. Where large power generation is feasible and rapid expansion of capacity is contemplated, larger size units offer a distinct advantage. For each proposed location, CEA carries out power system stability studies in order to make sure that even under outage conditions the concerned power system remains stable. It is for these reasons that the introduction of 500 МW units is not contemplated at all new power stations, but at selected locations only. As far as the operation of these units is concerned, adequate technical training facilities are being developed and efforts will be made to ensure that trained staff is posted in the power stations with large sets. BHEL have already entered into collaboration with KWU of West Germany to manufacture the 500 MW units and the standard of manufacture would confirm to requisite standards. To reiterate, given the limited number of suitable locations and the timeframe for expansion of generating capacity, there seems to be no alternative but to go in for larger size units in a selective manner taking care to ensure that power system stability is not affected.

Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 16th March, 1982.

Recommendation No. 29 (Para Nos. 2.78 and 2.79)

2.78. Delay in the timely availability of spares of requisite quality has been one of the reasons for the poor performance of thermal power stations in the country.

A major reason for non-availability of spares could have been that the major indigenous manufacturers in their eagerness to meet the target dates for the supply of equipment of power stations have not given adequate attention to the manufacture of spares and their quality. The State Electricity Boards have also not been placing orders of spares with the manufacturers sufficiently in advance. For the solution of the problem of spares both the manufacturers as well as the State Electricity Boards will have to make a cooperative endeavor, the former by sparing adequate capacity for the manufacture of spares and the latter by placing orders in time 2.79. The Committe, therefore, recommend that the indigenous manufacturers should give due priority to the manufacture of spares and should have separate department under a high ranking officer to supervise the manufacture and supply of spares.

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Reply of the Government

Ministry of Energy and the Central Electricity Authority have been impressing upon both the BHEL and IIK the need to step up the manufacture of spare parts to ensure their ready availability to the power plants. BHEL have reported that they have reserved about 10% of their manufacturing capacity for manufacturing spares. The need for giving organisational impetus towards supply and manufacture of spare from BHEL for various equipments has been recognised. A separate spares division headed by Deputy Manager has been created at Delhi with senior level counterparts Yin the manufacturing plants at Triuchi, Bhopal Hardwar and Hyderabad.

Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981/2nd December, 1981.

Recommendation No. 30, (Para No. 2.80)

The State Electricity Boards should also assess their requirements of spares well in time and place orders with indigenous manufacturers sufficiently in advance so as to give adequate notice to the manufacturers to meet their requirements withuot delay. Now that the catalogues of different spares have been prepared by the manufacturers except in the case of 200 MW which are also expected to be prepared shortly along with the time required for delivery, the State Electricity Boards would be themselves to blame if they do not place orders for spares with the manufacturers in time.

Reply of the Government

The State Electricity Boards have been requested to place their orders on M/s BHEL against the catalogues supplied to them by BHEL for spares for the units supplied by BHEL.

Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981/2nd December, 1981.

Recommendation No. 31 (Para No. 2.81)

The Committee further recommend that Central Electricity Authority should monitor the placing of orders for spares by the **State Electricity Boards and the supply of spares by manufacturers** and if at any stage delay in the part of the manufacturers in the
supply of spares is apprehended the matter should be taken up by CEA with the highest authority in order to ensure timely supply of the spares.

Reply of the Government

M/s BHEL have prepared lists of slow and fast moving spares together with their cost prices and the delivery periods. These lists have been forwarded to various State Electricity Boards for finalising their requirements and placement of orders of BHEL.

The position of ordering of BHEL spares has been reviewed from time to time. The power stations were requested to review their requirement quickly and place orders on BHEL from the spares required by them for 2 to 3 years of operation to enable BHEL to plan their rolling programmes and to supply these spares to the concerned Board. Central Electricity Authority would also review the status of ordering of the spares by the Electricity **Boards and then supply by the main manufacturers like BHEL &** IIK and take up the matter with the manufacturer whenever necessary for expeditious supply of the spares.

Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981/2nd December, 1981.

Recommendation (Sr. No. 32, Para No. 2.82)

The Committee noted that Maharashtra State Electricity Board have taken steps for the development of some spare parts either in their own workshops or with some local suppliers so that the dependence on the manufacturers of equipment for the supply of spares may be minimised. The Committee recomend that the other state Electricity Boards may also be advised to emulate the example of Maharashtra State Electricity Board in the matter and try to manufacture maximum number of spares either in their workshop or make arrangements to procure the same from the reliable local suppliers.

Reply of the Government

The SEBs have been advised by CEA to try to manufacture maximum number of spares either in their workshop or make arrangements to procure the same from reliable local suppliers. BHEL have also been requested to supply requisite drawings and material specifications to the SEBs to help them in this directions.

Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981/2nd December, 1981.

Recommendation Sr. No. 33 (Para No. 2.83)

To enable the SEBs to have spares manufactured locally it is necessary that manufacturers viz. Bharat Heavy Electricals Ltd., and Instrumentation Limited Kota should make the drawings and specifications of spares available to the State Electricity Boards. The Committee would expect the CEA to assist the SEBs in getting drawings and specifications of such spares from the manufacturers as early as possible.

Reply of the Government

The Central Electricity Authority have already asked M/s. BHEL to make available drawings and specifications of spare parts to the State Electricity Boards. M/s BHEL have, requested the State Electricity Boards to furnish a list of spare parts for plant and equipment which they would like to get manufactured from alternative sources or procure directly from venders so as to enable BHEL to supply the required drawings/specifications of the spares.

M/s. ILK are also being requested by the CEA to make available drawings and specifications of spares to the State Electricity Boards.

[Ministry of Power (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981/2nd December, 1981.]

Recommendation Sr. No. 34, (Para No. 2.84)

The Committee also feel that each State Electricity Board who have a number of thermal power stations under their control should be encouraged, advised and assisted to start a "Spares bank" where all the spares which are frequently required can be stored for ready availability.

Reply of the Government

The State Electricity Boards, who have a number of TPS under their control are being encouraged to maintain adequate stock of spares for ready availability.

[Ministry of Power (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981/2nd December, 1981.]

Recommendation Sr. No. 35, (Para No. 2.85)

The Committee have no doubt that with progressive decentralisation and better coordination and with the CEA playing the role of a mentor as well as a monitor, the position of spare parts availability would case and improve to the satisfaction of SEBs.

Reply of the Government

The Government assure the Committee that CEA would continue to assist the State Electricity Boards in getting the spare parts

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required for power generation equipments. CEA would also coordinate the various efforts in this direction which has resulted in improving the position of availability of spare parts to some extent and it is expected that, the position would improve further.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981/2nd December, 1981.]

Recommendation No. 36 (Para No. 2.112)

The Committee urge that the problems of extrangeous matters in coal and oversize coal should be tackled on a priority basis by installing coal handling plants in all open cast mines as are linked with power stations, according to a time-bound programme. Till coal handling plants are installed in such mines, coal authorities should ensure by engaging extra labour that extraneous matter are manually removed from coal to the extent possible before it is despatched to Thermal Power Stations. In the future, whenever a mine is taken up for development for the purpose of supplying coal to thermal stations, it should be ensured that coal handling plant is installed there before it is commissioned.

Reply of the Government

Complaints particularly with respect of supply of oversized coal, presence of extraneous material to a large extent could be obviated by installing coal handling plants at the mines. Coal companies have been advised to draw up a time bound programme of installation of coal handling plants with the suitable arrangements screening of coal and for slow moving picking belts to ensure removal of stones, shales and other extraneous materials. At present about 40/45% of the production of coal from Coal India Ltd. is handled through such mechanical coal handling plants. The CIL has taken a crash basis installation of coal handling plants. The present position of which is as under:

Company								Existing	Under constru- ction	Total
ECL	•	•	•	•	•	•	•	37	30	67
BCCL .		•	•	•	•	•	•	20	4 'i	61
CCL .	•	•	•		•	•	•	14	8	2
WCL .	•	•	•		•		•	53	16	71
								124	97	122

With a view to ensure that the coal loaded is as per specification, the power houses in particular have been requested to post their representatives at the loading points to supervise coal loading. Besides the above, coal companies have given specific instructions to exercise strict supervision over the loading so as to ensure that oversized coal, extraneous material are not laded in the wagons alongwith the coal. Where the coal handling facilities are not available, coal companies have engaged manual labour for picking up the oversized coal and other extraneous materil present in the coal. Coal companies have programmed to install more coal handling plants and crushers in the coalfields from where the bulk of coal is supplied to power stations.

[Ministry of Energy (Deptt. of Power), O. M. No. 32(3)/81-Coord., dated the 28th November, 1981/2nd December, 1981.

Recommendation No. 37 (Para No. 2.113)...

The Committee recommend that other State Electricity Boards should also be advised to follow suit and depute their representat ves to exercise check over the quality of coal at the loading stage. The Committee hope that the representatives of the State Electricity Boards deputed at coal mines, will be given full cooperation by coal autorities to enable them to keep an effective waich over the quality of coal intended for power stations.

Reply of the Government

The State Electricity Boards were advised to depute their representatives at the mine heads to exercise check over the quality of coal at the loading stage so that their power stations get coal of proper quality and specification. In so far as the pit-head thermal power stations are concerned, their officials are in constant consultation with coal suppliers. Some of the State Electricity Boards/ Power Station Authorities have posted their representatives at the mine heads. Some of the Electricity Boards have expressed reservations on account of certain difficulties. Since each power station is linked to several coal mines the posting of a representative at . each mine would involve considerable number of personnel being diverted for this work. Besides the Power Stations very often receive coal not from the coal mines which they are linked but from supplies diverted from other power stations and mines. In such cases the posting of a representative is rendered ineffective. These difficulties are being looked into by all concerned.

In addition, the Coal Companies have also posted their representatives at certain stations from where complaints regarding quality are more frequent, such a Badarpur, Bhatinda, Panki and Obra. These efforts have (a) helped in indentifying collieries which supply oversized coal or extraneous material alongwith coal and has enabled the coal companies to take corrective action at the collieries (b) internsified supervision of the coal loadng at the sidings to ensure that no oversized coal or extraneous material : loaded alongwith coal (c) intensified manual picking of coal to remove shale and ther extraneous material from coal before loading and (d) have intensified breaking of coal by manual means to reduce the size of coal to the desired extent.

[Ministry of Energy (Deptt. of Power), O. M. No. 32(3)/81-Coord., dated the 28th November, 1981/2nd December, 1981.]

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Recommendaton No. 38 (Para No. 2.115)

The Committee regret to observe that because of lack of coordination between coal producers and Railways, power generation in the country is suffering with the consequent loss to the entire economy. Now, that the Cabinet Committee on infrastructure is supervising the problem of movement of coal, the Committee feel that a permanent solution to this problem should be found out at the earliest so that Thermal power stations in the country do not suffer for want of coal.

Reply of the Government

The Cabinet Committee on Industrial Infrastructure is keeping a close watch on the distribution and movement of coal to various sectors of the economy and lays down targets which are followed by both the Deptt. of Coal and Railways. Movement of coal to thermal power stations since January '81 are given below:—

Month											Loading
											(No. of wagon per day
January '81							•				3643
February '8	I .		•	•	•	•	•	•		•	3974
March, 81									•	•	3831
April, '81	•									•	3936
May '81			•				•		•		3585
June '81	•					•			•	•	3710
July '81	•	•				•			•	•	3703
August '81	•	•	•						•		37 44

The coal stock position of all the major thermal power stations has improved despite increase in generation of power.

[Ministry of Energy (Deptt. of Power), O. M. No. 32(3)/81-Coord., dated the 28th November, 1981/2nd December, 1981.]

Recmmendation No. 39 (Para No. 2.116)

The Committee are glad that there has been considerable improvement in supply of coal to thermal power stations during the last four months and in February, 1981, coal movement was stepped upto 3970 wagons a day as against a requirement of 4100 wagons. The Committee hope that Railways will continue their endeavour to improve loading of wagons further and will be able to reach the target of 4100 wagons per day for the thermal power stations at the earliest.

Reply of the Government

The distribution and movement of coal is now being arranged as per guide-lines given by the Cabinet Committee on Industrial Infrastructure. The movement of coal to power stations from October onwards is given below:—

Month										Loading
									No.	of wagons per day
October'80					•					3059
November'80		•							•	3197
December'80						•		•		3533
January'81								•		3643
February, 81										3974
March, 81			•							3831
April, 81										3936
May'81 .	•	•	•	•	•	•		•	•	3585
June, 81.	ŀ									3710
July, 81 .									•	3703
August, 81		•		•		•	•	•	•	37 44

Railways are now largely meeting the wagon requirements in all the fields except in Jharia coalfields.

[Ministry of Energy (Deptt. of Power), O. M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981.]

Recommendation No. 40: (Para No. 2.117)

The Committee urge that the Department of Coal should formulate a detailed plan with yearly targets to step up coal production and take concerted measures from now on to increase the coal output so as to meet in full the requirements of the Thermal Power Stations in the Five Year Plans. It should be ensured that the production of coal every year matches with the requirements and that shortage of coal should not prove to be a constraint in the achievement of power targets in the Five Year Plans.

Reply of the Government

Demand for coal of different consuming sectors including power is determined by the Planning Commission in consultation with the Ministries/Agencies concerned. This is done on an annual basis as also for the Plan period. Coal industry has in 1980-81 achieved a production considerably higher than the production target fixed. Marginal shortages were noticed in respect of coking grade coal only and not for other grades. Despatches are being made regularly to meet the demand. However, many of the thermal power stations have been complaining of coal of sub-standard quality being supplied to them. The Department of Coal have initiated both shortterm and long-term measures to improve the overall quality of coal supplied to the power stations. Shortage of power grade coal is felt by the thermal power stations for the inability of the railways to move the required quantity in time. Considering the demand for coal likely to arise from thermal power stations upto 1990 linkages have been worked out.

[Ministry of Energy (Deptt. of Power), O. M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981.]

Recommendation No. 41: (Para 2.118)

The Committee feel that as adequate capacity in the Railways is an essential pre-requisite for the efficient working of power sector as well as of other key sectors it will be disastrous if the freight capacity of Railways does not keep pace with the demand. The Committee feel that this is an aspect which should be taken serious note of now, rather than later, and not only by Railways but also Deptt. of Power and Coal and reviewed jointly by them in consultation with Planning Commission to make sure that the Railways are allotted adequate funds to develop transportation capacity to the desired level and the development programme kept pace with the growing requirements.

Reply of the Government

The above views of the Estimates Committee have been brought to the notice of all concerned for compliance. The long term requirements of railway transportation for coal supplies to the power sector are kept in view by the Government while formulating the sectoral plans. The Planning Commission have confirmed that they allocate maximum funds to each sector keeping in view their requirements as well as the resources available for plan finance.

[Ministry of Energy (Deptt. of Power), O. M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981.]

Recommendation No. 42 (Para No. 2.119)

The Committee find that Railways have nt so far been informed of the quantity of coal that will be required to be transported by them for thermal power stations during the next 15 years. This would be done at the earliest.

Reply of the Government

The programme for thermal capacity additions upto the year 1994-95 was sent to the Department of Coal in August, 1980. This programme was circulated to all concerned including Ministry of Railways for consideration in the SLC meeting held on 19-8-80. It was decided in the said meeting that the requirement for the period 1990—95 would be taken up later after the coal companies had formulated their production programme for this period.

[Ministry of Energy (Deptt. of Power), O. M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981.]

Recommendation No. 43 (Para No. 2.120)

The Committee would suggest that feasibility of organising alternate systems of coal transport (including coastal shipping) should be explored with a long term perspective in view and an integrated long term approach evolved to deal with the problem before it becomes too acute for the Railways to handle it alone.

Reply of the Government

The Sixth Plan document specifically provides for exploring the possibilities of development of pipeline transportation in slurry from from pit-heads to thermal power houses in such segments where the requirements are heavy and of a long-term nature and where coal is, in any case, required in pulverised form. Accordingly, it has recently been decided by the Planning Commission to organise an indepth techno-economic feasibility study of pipeline transportation of coal in slurry form to power houses in the Northern and the Western Regions of the Country. The Planning Commission has indicated that the study is expected to be completed by the end of January, 1982. After the techno-economic feasibility of coal slurry pipeline in a particular segment is established, detailed comparison of the cost of movement of future coal traffic in that segment by alternative modes like Railways, EHV transmission or slurry pipeline will be undertaken by the Planning Commission and appropriate decisions for investment_s in the concerned modes taken in the light thereof.

The Plan document also emphasises the need for strengthening coastal shipping facilities in respect of such cargo for which it is for economically viable. The National Transport Policy Committee (1980) set up by the Planning Commission and the Coastal Shipping Committee (1981) set up by the Ministry of Shipping & transport have examined in detail the role of coastal shipping as an essential adjunct to the inland transport system of the country. Both these committees have emphasised that coastal shipping can relieve pressure on inland transport especially of coal, salt, etc. The recommendations made by these Committees for development of coastal shipping are under the consideration of the Government in Planning Commission and the Ministry of Shipping & Transport respectively.

The Sixth Five Year Plan, *inter-alia* emphasizes the need for development of the relatively more energy efficient modes of transport including coastal shipping, inland water transport and pipeline transportation, wherever feasible. A long term approach in regard to the transportation of coal will be evolved depending on relative economics of these different modes of transportation.

[Ministry of Energy (Deptt. of Power), O. M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981.]

Recommendation Serial No. 44 (Para No. 2.130)

The Committee are constrained to observe that performance of the Badarpur Thermal Power Station during the last three years has not been fully satisfactory. The Plant Load Factor in 1977-78 and 1978-79 was as low as 23.62 per cent and 43.80 per cent. If 1979-80 P. L. F. improved to 52.80 per cent. (though this was lower than the level of performance achieved by a number of Thermal Power Stations in Maharashtra and Madhya Pradesh and even that of Indraprastha Power Station in Delhi), the quality of power supply turned poor in as much as the station had as many as 260 trippings in this year (1979-80) as compared to 108 in 1977-78. The Committee feel that the reasons for poor performance of this Power Station should be clearly identified and action taken ' forthwith to improve the quality of power supply and capacity utilisation of the Station.

Reply of the Government

The various reasons for poor performance of the various units at Badarpur have been identified and a renovation programme covering various modifications and replacements of super heater, economiser, air heater etc. has been drawn up. These works have been undertaken on Unit II during the overhaul from September-November, 1980. Works o Units I & III is programmed to be taken up and completed within the next 12 months by taking each of these Units out for maintenance for period of three months or so.

In addition, recommendations of the VGB team from West Germany on Units I, II & III and that of BEI from U. K. on Unit IV are also in the process of implementation. It is hoped that with the completion of the various works, the performance of the power station will considerably improve.

[Ministry of Energy (Deptt. of Power), O. M. No. 32(3)/81-Coord, dated the 28th November, 1981; 2nd December, 1981.]

Recommendation S. No. 45 (Para No. 2.131)

The number of trippings in the Badarpur Power Station during the last 3 years have increased from 108 in 1977-78 to 260 in 1979-80. The reasons for the trippings are stated to be mainly delayed overhauling or non-overhauling annual maintenance difficulties in the Northern Grid system. The Committee feel that at least the power plants in the Central Sector should have adhered to the annual maintenance/overhaul schedule.

The trippings could then have been reduced to the minimu It is a short-sighted approach to delay or postpone overhauling or periodical maintenance just on considerations of expediency in this regard of long term consequence. The Committee expect that in future the annual overhauling maintenance will not be delayed or postponed beyond a safe limit.

Reply of the Government

Action is being taken to carry out annual maintenance/ overhaluing regularly.

[Ministry of Energy (Deptt. of Power), O. M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981.]

Recommendation No. 46 (Para Nos. 2.132 and 2.133)

The Committee are disappointed to note that although the 210 $M\Psi^7$ unit in the Badarpur Power Station was put into commercial operation hardly a year ago, after overcoming teething troubles and rectifying design deficiencies it has started showing major operational constraints requiring further design modifications. The Committee recommend that the authorities should arrange to have necessary modifications made in this power plant at the earliest so as to make it operationally efficient and reliable.

The Committee also recommend that in the next 210 MW unit which is under erection, steps should be taken right now to ensure that there are no design deficiencies when it is put into commercial operation.

Reply of the Government

The deficiencies identified in the 210MW unit supplied by BHEL in Badarpur Thermal Power Station have been rectified and the unit is now under commercial operation Necessary rectifications of design deficiencie identified in the 210MW units of BHEL at other in Badarpur Thermal Power Station have been rectified and the unit has been made available by the State Electricity Boards for rectification work.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981.]

Recommendation-S. No. 47- (Para No. 2.134)

The Centre is poised to play a big role in power sector in the years to come. Badarpur Power Station is perhaps the first thermal station being run and managed by the central sector. The Committee feel that the central agency charged with the reponsibility

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of running Badarpur Power Station should spare no effort to operate this power station as a model of efficiency, in order to inspire confidence about its capacity to manage bigger units that are coming up elsewhere.

Reply of the Government

National Thermal Power Corporation, which is managing the operation of the Badarpur Thermal Power Station, has been advised to take necessary steps to ensure that the power station runs as a model to the power station authorities all over the country.

It is learnt that NTPC has already initiated steps in this direction.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., 28th November, 1981; 2nd December, 1981]

Recommendation (S. No. 48—Para Nos. 3.19 & 3.20) (S. No. 49—Para 3.21)

Para 3.19 Although hydro power has been admitted to be the cheapest source of energy and is replenishable and pollution free, the Committee regret to note that adequate attention has not been given to the development of power from hydro resources. Hardly 11 per cent of the vast hydel potential estimated to be about 1 lakh MW has so far been developed. What is causing concern to the Committee is that the share of hydro power in the total installed capacity in the country is on the decline, in that the share of hydro power in the total installed capacity has come down from 42 per cent in 1975-76 to 30 per cent in 1980-81, and will go down 42 per cent in 1975-76 to 30 percent in 1980-81, and will go down from further to 34 per cent in 1984-85. This development is clearly inconsistent with the policy of the Government to give "high priority" to development of hydro power. For this the Committee cannot but held the Central Electricity Authority responsible in spite of the States preference for thermal power since the Central Electricity Authority having been vested with statutory power to coordinate the activities of the State Electricity Boards could and should have corrected the inbalance at the planning stage.

Para 3.20 In view of the need to conserve coal for future generation and in view of the fact that hydro-power is a perennial, regenerative pollution-free and the cheapest source of energy that can be transmitted to any part of India through regional and national grids, the Committee cannot over-emphasize the desirability of giving hydro-power development the "high priority" in actual practice. The Committee would expect that at least hereafter the Central Electricity Authority should ensure that development new power capacity conforms to the policy of "high priority" being given to hydro power.

Para 3.21 The Committee agree with the view expressed by a power expert that long-gestation factor of hydro power development can be taken care of by adopting a long term strategy of taking up a number of hydro-power projects in quick succession and so planning their execution that they become available for service one after the other according to a well-thought out time frame.

Reply of the Government

A 15 year long-term perspective plan for development of hydroelectric power in the country is already under preparation. However, planning for generating capacity additions etc. at technical level is done as a continuous process in the Central Electricity Authority with the cooperation of State Electricity Boards State Governments, covering a long range of 15 year. For the purpose of formulation of five year plans, segments of this 15 year plan are selected from the view point of investment planning. In the five year Plan formulation process the investment requirements of power projects usually get divided into:—

- (i) Fund requirements of engoing projects;
- (ii) Fund requirements for advance action on new subsequent plans.

Resource constraints have often resulted in this latter part being curtailed, which would have a natural impact of delaying and slowing down new starts and thereby causing a possible gap in capacity additions.

2. Presently, 94 hydro-electric projects with a total capacity of about 15,000 MW are under consideration for yielding benefits during 1985—90 and beyond. With a view to expedite the investigation of hydro-electric projects, the Central Electricity Authority had been monitoring the progress of various schemes at regular intervals. It is expected that the proportion of hydro power in the total installed capacity would be about 41 per cent by the end of 1985—90, after the various schemes under consideration are implemented.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 16th March, 1982.] The Committee regret that although large amount of hydro power capacity has been sanctioned and cleared by the Central Electricity Authority, the apex body in techno-economic field, it has been held up for want of approval by the Planning Commission. Seeing the tardy development of hydro-power in the past, the Committee would recommend that fully investigated and techno-economically cleared hydro-project should be given highest priority at all levels, including the Planning Commission. The Committee would like the CEA to pursue the matter with the Planning Commission and apprise the Committee of the outcome.

Reply of the Government

The approval to the hydro-electric schemes is accorded by the Central Electricity Authority after the technical and economic feasibility is established. Simultaneously, the hydro projects are also appraised by the Environmental Appraisal Committee in the Department of Environment from environmental angle. The investment approval to the hydro schemes is accorded by the Planning Commission by including the scheme in the Plan, after the project is cleared by the Central Electricity Authority and Deptt. of Environment.

Details of hydroelectric/multipurpose schemes presently under consideration of the Planning Commission for inclusion in the Plan are given in the statement enclosed. With a view to expedite the clearance of these schemes, the matter was taken up with the investment approval to the hydro schemes is accorded by the Planning Commission by this Ministry. In this connection, Planning Commission have intimated that some of the schemes have been kept pending because of constraints of funds in the State Plan. The Planning Commission have already approached the State Governments concerned to explore the possibility of additional resources to enable them to accord investment approval to those schemes.

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ANNEXURE 1

]	Name of Scheme	State	I.C. (M	W) Date of recom- mending the scheme to the Planning Com- mission	Reasons for delay in according investment approval to the scheme by the Planning Co- mmission
1	. Palamaneri	. U.P .	3×47•5	Feb. 1981	Constraints of funds in the State Plan.
2	. Ghatprabha	. Karnata	ka 2×16	Nov. 1980	D o.
3	. Nagarjunasagar Left Bank Canal	. A.P.	2×30	May, 1981	D o.
4	Pochampad	. A.P.	3×9	July, 1980	Do.
5.	Thein	Punjab	4×120	Sept. 1980	Planning Commission have desired that the inter-State aspects in- volved may be resolved first.
6	. Dhansri	. Assam	19	Feb. 1981	Planning Commission have raised certain points regarding tech- nical features of the scheme which are being ascertained from the State authorities.
7.	Hirakud St-III	. Ori ss a	37.5	August, 1981	Clearance of the scheme from environmental angle from Deptt. of Environment and lack of resources in the State Plan.
8.	Thirot .	H. P.	3×1	Feb. 1982	
9.	Kundah St V Extn. (Power House VI)	Tamil Nadu	1×30	Jan. 1982	
10.	Serlui-A Micro Hydel Schemc.	Mizoram	1	Jan. 1982	
11.	Dadupur Micro Hydel Scheme.	Haryana	4×1.5	Do.	
12.	Lower Periyar .	Ker ala	3×60	March, 1982	Clearance of the scheme from environmental angle is awaited.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dt. the 30th March, 1982]. The Committee are unhappy to note that although the North-Eastern region has vast potential for Hydro-power, only 0.3 per cent of this potential has been exploited so far. The Committee appreciate that there are geotechnical problems in the region. Even so an attainment of mere 0.3 per cent of potential for hydro power in this region is too low. The Committee attach great importance to the exploitation of untapped hydro-power potential in North-Eastern region. They would urge that, in the interest of the economic development of the North Eastern region, no efforts should be spared in mobilising all available technical and other inputs with a view to overcome all constraints in the way of development of hydro-potential in that region expeditiously.

Reply of the Government

In order to exploit the hydro-electric potential of the North-Eastern Region, the North Eastern Electric Power Corporation has undertaken investigation of a number of hydro-electric schemes there to meet out the power requirements of the region. In addition, Central Water Commission, Brahmaputra Flood Control Commission and State Electricity Boards/State Governments are also carrying out investigation work of multipurpose/hydro-electric projects in the region. Presently, there are 19 major hydro-electric schemes under investigation in the North Eastern Region with an installed capacity of 12,435 MW.

2. Benefits from the four projects under construction in the North Eastern Region during the Sixth Five Year Plan period (1980-85) would be 311 MW. Also the anticipated hydel additions during 7th and 8th Plans are as under:—

Period		М₩
1985—90		900
199095 .	·*	2045

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 16th March, 1982].

Recommendation S. No. 52 (Para No. 3.24)

The Committee note that the Government have decided in principle to induct foreign technology in selected areas of hydel power

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generation. It is unfortunate that even after an experience of nearly a quarter of century in designing, execution and operating hydel projects like Bhakra Project, the country has not been self-reliant in this branch of expertise. The Central Electricity Authority should have been alive to the areas of weakness and taken steps long ago to fill the technological gaps in hydel power generation. The Committee cannot but express their unhappiness at this state of helplessness in which the country finds itself today in this vital field. The Committee would like the government to take stock of the situation and if import of foreign technology is unavoidable in the national interest, it may be imported without delay, but in selecting foreign technology, it should be ensured that the latest and the most dependable technology is imported to put an end to the problems in this field at the earliest.

Reply of the Government

The design and engineering of hydro electric projects in India has been done by the Central Electricity Authority. Central Water Commission and various State Organisations since independence and the projects with an aggregate capacity of more than 11 MKW added in this period have all been designed in the country expecting one or two projects where foreign consultancy has to be taken for reasons such as conditions of foreign aid or for some special technical In addition, the design and engineering of almost all problems. hydro-electric projects currently under execution, aggregating to about 10.7 MKW is also being provided in the country and the design, engineering and execution expertise available in the country is capable of dealing with the work of projects to be executed in future. However, there have been some advances in the technology abroad due to higher level of research and development activities in these countries in matters such as construction equipments. execution techniques etc. whose induction into the practices in this country is expected to improve and accelerate execution. The induction of foreign technology has to be viewed in this specified context.

> [Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 16th March, 1982].

Recommendation S. No. 53 (Para No. 3.25)

At present 5 hydro power projects with a capacity of 794 MW are under execution in the Central Sector and another 4 projects with a capacity of 2100 MW have recently been taken up in the Central

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Sector. Besides, investigation and execution of 6 other projects (4070 MW) have been taken up in the Central Sector. The Committee would like Government to ensure that execution of the nine projects under implementation is regularly monitored at the highest level with a view to avoiding any slippage and completing them in accordance with a time-bound programme. The Committee would like to be apprised of the programme of their execution. The Committee would also like that in order to instill a sense of urgency to the investigation of new projects decided to be taken up in Central Sector, a definite programme should be formulated for carrying out investigations of the projects and progress watched. (Serial No. 53).

Reply of the Government

At present, the following 3 projects are under execution in the Central Sector by NHPC:---

- (1) Loktak HE project (105 MW).
- (2) Baira Siul Project (280 MW).
- (3) Salal HE project (345).

In addition, NHPC is also executing Devighat HE project (145 MW) in Nepal on agency basis.

NESPCO is also executing Kopli HE project (150MW). The total installed capacity of these 5 projects is 794 MWs. The programme of execution of these projects and their completion is as given below:—

(i)	Salal Project	. —3x115 MW	Unit- I Unit-II Unit-III	August, 37 Nov., 87 Feb., 88
(i i)	Baira Siul Project H.E.	. —3x60 M₩ 1	Unit-I Unit-II Unit-III	March, 1980 March, 1980 Sept. 1981
(iii)	Loktak Project	. —3x35 MW	All the three ! Units.	Dec., 1982
(iv)	Devighat Project	. —3x₄.7M₩	Unit-I Unit-II Unit-III	June, 1983 August, 1983 Oct., 1983
		* Kh	andong Power Ho	u.se
(v)	Kopili HE Project .	· —2x25+2x50] (MW)	Unit-I Unit-IF	Feb. 1983 May, 1983
			Kopili Pos	ver House
			Unit-I	Dec., 1983
			Unit- II	Feb., 1984

The projects which have recently been taken up by NHPC are Dul Hasti (J & K) with an installed capacity of 390 MW and Koel Karo (Bihar) with an installed capacity of 710 MW. The programme of completion of Dul Hasti and Koel Karo Projects is as given below:—

(i) Dul Hasti Project .	—3x130MW	Unit- I Unit-II	Dec., 1988 Dec., 1988
		Unit-III	March, 1989
(ii) Keol Karo Project .	-6x115+1x20 (MW)	Sept. 1988	

Investigation of projects:

Out of the projects entrusted to NHPC for investigation, action has been initiated in respect of the following projects.

- (i) Chamera project Stage-I (HP)
- (ii) Dhaleshwari project (Mizoram)
- (iii) Dhauliganga project (UP)
- (iv) Kol Dam project (HP)

While the investigations for Chamera Stage—I have been completed, the investigations of Dhaleshwari have been initiated recently. The sanction for investigation estimates for Kol Dam project has been issued. However, funds have not been released for this project as agreement on sharing of benefits with the Home State (H.P.) has not been reached so far, and also there has been some rethinking on the part of Himachal Pradesh for execution of this project in the Central Sector. In the case of Dhauliganga project also, the formal investigation sanction has not been issued as the agreement with Government of UP for sharing of benefits from the project has not been reached so far.

In addition, the following projects have also been entrusted to NHPC for investigation/execution:—

- (i) Parvati HE project (1900 MW)-UP.
- (ii) Eastern Ramaganga (80 MW)-UP.
- (iii) Eastern Ramaganga (80 MW)-UP.
- (iv) Tanakpur (100 MW)-UP.
- (v) Uri (480 MW)—J&K.

The work on these projects have not been startel so far and is likely to start shortly.

Definite programme for carrying out investigation of projects:

The NHPC has worked out a definite programme for carrying out investigation of each project. Such a programme is envisaged even at the time when the investigation Estimates for a project are prepared and a detailed programme of investigation is incorporated in the investigation Estimates themselves. The progress, of investigation activities are monitored closely and effectively so as to ensure that the schedule as envisaged is adhered to.

The definite programme as incorporated in the investigation estimates of the four projects referred to above are given below:—

	Completion date of investigation as envisaged in the Estimate	Actual period of completion of investigation
(i) Chamera Stage-I .	27 Months	12 months.
(ii) Dhaleswari Project	18 months	taken up
(iii) Dhauliganga Project	24 months	yet to be taken up.
(iv) Kol Dam Project .	24 months	yet to be taken up

Out of these four projects, investigations in respect of Chamera Stage-I are over and the Feasibility Report on the project as under finalisation. In the case of this project, a period of 27 months was envisaged for completion of investigation work and preparation of Feasibility Report. On account of close monitoring of various activities and effective supply of inputs at the appropriate time, the investigation of the project and the completion of the Feasibility Report was over in a period of 12 months i.e. much ahead of the schedule as envisaged in the Estimates. It may be pointed out here that a definite strategy was adopted for achieving the completion of Chamera project Stage-I much ahead of the schedule.

Monitoring System:

The NHPC attaches great importance to a systematic and scientific monitoring for implementation of the projects entrusted to it. An elaborate monitoring set-up has been established in the Corporate Office for closely monitoring the project activities against predetermined targets. The Monitoring system in the Corporate Office analyses progress and programme of project construction works, identify areas of shortfalls/slippages, anticipated bottlenecks/constraints and prepare Exception Reports for quick decision making at top management level. This Monitoring Group in the Corporate Office directly reports to the Chief Executive of the Corpn. A corresponding monitoring set-up exists in each project which directly reports to the Head of the project for affective monitoring purposes.

Apart from the monitoring system as briefly described above, the corpn. has an elaborate Management Information System under which various Reports/Returns are submitted to various authorities for monitoring the progress of the construction activities. Some of the important reports are given below:—

- (1) Monthly progress Report in respect of all works on the project is obtained from the project. It is sent to the Ministry of Energy, Planning Commission and Central Elecy. Authority for information while it is critically examined and analysed in the Corporate Office to locate areas of shortfalls/slippages, anticipated bottlenecks/ constraints.
- (2) For critical items of works, daily progress is called for from the projects. This Report is put up to the top Management of the Corporation.
- (3) On the basis of monthly progress reports, exception reports are prepared for the top Management. These are sent ot the concerned projects and also to various support groups for action/compliance.
- (4) A quarterly progress report is sent to BPE/Planning Commission giving the details of completion schedules, slippages, bottlenecks and help required.
- (5) A note on the progress of works on each project is put up to the Board of Directors in every Meeting for review.
- (6) Meeting of the General Managers of projects with the various support groups in the Corporate Office (called General Managers' Coordination Meeting) is held once in two months in which the status of works is reviewed and various constraints for timely completion are analysed and necessary decision taken.

Like NHPC, NEEPCO also attaches great importance to the monitoring of the project under execution. Apart from the close monitoring undertaken by the Corporations the progress of the projects is also monitored at the highest level in the Ministry. Review meetings are held from time to time by Secretary (E) and Minister/Minister of State for Energy. In addition, quarterly review meetings are also held on the performance of the Corporations, as prescribed by the BPE, wherein the progress of the projects is also scrutinised closely, bottlenecks identified and remedial measures taken to avoid slippages in the completion schedule.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 16th March, 1982.]

Recommendation S. No. 55, (Para No. 3.36)

The Committee would also recommend that as a stop gap arrangement, to be arrived at in consultation with the State Governments, a power project which is held up because of inter-state dispute, should be taken up by the Centre without delay subject to the condition that the power and water from such project could be shared among the disputing States according to the decision that may ultimately be taken by the tribunal or arbitrator that may be appointed in the matter. This approach would at least allow the intervening period to be utilised towards the execution of the project and translating it into reality by the time the dispute is resolved.

Reply of the Government

Realising that the number of projects involving substantial potential are held up on account of various inter-State disputes, this Ministry has taken initiatives in holding discussions with the various States with a view to resolving the problem. This Ministry has also suggested to the States that such projects could be taken up for execution in the Central Sector pending resolution of differences.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 16th March, 1982].

Recommendation Sr. No. 56, (Para No. 3.45)

The Committee note that although there is a potential of 5000 MW in Mini Hydel Projects in the country, of which 300 MW capacity has been exploited and 1000 MW capacity is under execution, no systematic study of the small hydel potential available in the country is stated to have been undertaken so far. The Committee feel that in view of the fact that Mini Hydel projects have a short gestation period save on transmission and distribution networks, major civil works, and transportation of fuel and can meet the power needs f remote and rural areas in the country

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situated away from regular grid, a systematic and detailed study of small hydro potential available on canal falls, irrigation outlets and small hill streams and rivers should be undertaken expeditiously and comprehensive plan to exploit small hydro potential should be drawn up for the implementation.

Reply of the Government

Government attaches great importance to the installation of Mini/small hydel units utilising low beads, generally available at irrigation outlets, canal-falls etc. The Central Electricity Authority have initiated action in regard to the exploitation of mini and micro hydel projects on small streams, canal falls etc. In addition, the Central Water Commission have been requested to give consideration to make provisions at the small and medium irrigation dams for setting up of mini and micro hydel projects as and when required and found feasible. The Central Water Commission have also been requested to address the State Governments to include in their proposals for medium and minor irrigation schemes, the possibility of power generation at the irrigation outlets and the canal falls. It should be noted however that mini hydro projects are not necessarily inexpensive and the economics of each case has to be closely examined.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981].

Recommendation Sr. No. 57, (Para No. 3.40)...

Some of the reasons why mini hydel projects have not been developed in the country are stated to be high cost of generation in these projects, non-availability of equipment from indigenous sources and non-standardisation of equipment and lack of interest among indigenous manufacturers in the manufacture of requisite type of generating equipment and turbines for small projects. The Committee feel that the problems of setting up mini and micro hydel projects which can prove to be very useful to meet the local needs of remote and rural areas, should be examined by the Central Electricity Authority in collaboration with manufacturers of power equipment in public and private sectors, with a view to standardising the equipment for mini projects and encouraging their manufacture so as to make them more economical.

Reply of the Government

The Government are keen on standardising and encouraging the manufacturing of equipment for mini/micro hydel projects so as to make them more economical. The Central Electricity Authority has been emphasizing at various discussions with the State/ project authorities the need to standardize the canal falls, wherever possible, so that the equipment could be standardized and manufactured in bulk to bring down their costs. A Committee under the Chairmanship of Member (HE), Central Elecy. Authority has also been constituted to formulate the necessary Guidelines in the matter for circulation to the States. The recommendations of the Committee are awaited.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981].

Recommendation Sr. No. 58, (Para No. 3.47)

While the committee are glad that Central Government attaches great importance to the installation of small hydel projects this activity will have to be undertaken by the State Governments concerned. The Central Government should impress upon the State Governments concerned the usefulness of mini and micro hydel projects and organise technical and consultancy services to help the States take up construction of small hydel projects at the most suitable sites.

Reply of the Government

The need for the exploitation of mini and micro hydel potential on small streams, canal falls etc. has been impressed upon the state authorities/project authorities from time to time at different forums. In this connection, a Committee under the Chairmanship of Member (HE), CEA has been constituted to formulate the necessary guidelines for circulation to the States. The recommendations of the Committee are awaited.

As regards technical and consultancy services, Central Electricity Authority at the instance of the Planning Commission, has already undertaken the job of technical examination of small/ micro hydel project proposals in the North Eastern region of the country, even though these schemes are costing less than Rs. 1 crore and do not requires statutory clearance by C.E.A.

[Ministry of Energy (Dentt: of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981].

Recommendation Sr. No. 59, (Para 4.17)...

The Committee hope that in the 15 years power plan being formulated by the Central Electricity Authority the need to step up the role of nuclear power stations will be given due attention.

Reply of the Government

We agree with the recommendation which will be kept in view while formulating the plan for the 15-year period.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 16th March, 1982].

Recommendation Sr. No. 60, (Para 4.18)

The Committee are aware of the constraints that are coming in the way of development on nuclear power on a large scale. These constraints are mainly of technology, inadequacy of industrial infrastructure and manufacturing capacity in the country and shortage of heavy water. The Committee are glad to note that considerable strides have been made in overcoming these constraints and the country is rapidly advancing towards self reliance in the fields of technology as well as equipment manufacture. The Committee would urge that every possible assistance should be provided to our scientists and indigeous industries to fill the gaps in technology and industrial capability and capacity so as to enable the country to embark upon a programme for nuclear power development on a larger scale and at faster pace than in the past.

Reply of the Government

1. A Standing Import Substitution Group exists in the Department of Atomic Energy which was established with a view to directing the efforts for indigenisation of components and equipments on a continuous basis. It has been possible to develop indigenous capability to indigenously manufacture several sophisticated components. However, in some cases although indigenous know-how for production has been developed, the quantities involved are not large enough for economic industrial production.

2. As regards assistance to indigenous industries to step up the manufacture of equipments and components required for long term nuclear power programme a meeting was organised by Department of Atomic Energy on September 11, 1981 with representatives from 40 major industries both from public sector and private sector. The suggestions made at the meeting are being examined for suitable action.

3. The Association of Indian Engineering Industry comprising members both from the public and private sector have also constituted a "Nuclear Plant and Equipment Division" inter alia to liaise with the Department of Atomic Energy in the matter of indigenisation.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coora., dated the 16th March, 1982].

Recommendation Sr. No. 61, (Para No. 4.19)

An integrated picture of the nuclear power potential and the available capacity in the country to exploit the potential is vey necessary for planned development of this resource of energy. The Committee would suggest that a joint survey of the nuclear power potential, technical manpower and industrial capacity in this field should be undertaken by the Government to have a sound base to formulate realistic programme for setting up unclear power stations in coming years.

Reply of the Government

Noted. A power co-ordination Committe earlier set up by the Department of Atomic Energy is already on the task of surveying the nuclear power potential, technical manpower and industrial capacity in this field in order to formulate realistic programmes for settig up nuclear power stations in coming years.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 16th March, 1982].

Recommendation Sr. No. 62, (Para No. 4.20)

There is great weight in the suggestion made by power expert that nuclear power stations should be set up at places which are far away from coal stocks and hydel sources. The Committee are glad to note that Government have been following this criterion in the selection of sites for such stations in the past. The Committee hope that the nuclear power stations to be set up hereafter will be located at the most suitable sites and will be selected on merits in the light of the aforesaid criterion.

Reply of the Government

Notes. The Government have already been following the criterion of setting up nuclear power stations at sites which are for away from coal stocks and hydel sources.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 16th March, 1982].

Recommendation Serial No. 63, (Para No. 4.21)

The Committee have taken note of the recommendation of the Committee on Power (Rajadhyaksha Committee) that there should be an independent body outside the Department of Atomic Energy to lay down and monitor observation of minimum standards for sitting, design, construction, operation, maintenance and safety of nuclear power plants, and the reply of the Department of Atomic Energy that the research and development activities on the one hand and the construction and operation of the power projects and plants on the other are only complementary to one another in the field of nuclear power generation and cannot be mutually exclusive, The Committee would like that this aspect should be dispassionately examined by the Government in the larger interest of future nuclear power development in the country.

Reply of the Government

Noted. The creation of an Atomic Energy Regulatory Board is under the active consideration of the Government. Pending creation of the Board, a Safety Review Committee, independent of the plant management, continuously monitors, the safe operation of the nuclear facilities. Recently this Committee has been given the responsibility for carrying out all the regulatory and safety obligations of the Central Government as envisaged in the Atomic Energy Act.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981].

Recommendation Sr. No. 64, (Para No. 5.15)...

The Committee cannot over-emphasize the importance of attaining self-sufficiency in energy as early as possible. Besides making all out efforts to expand energy supply from conventional sourceshydro, coal and nuclear. There is need to explore and develop new and renewable energy sources to supplement the energy supply available from conventional sources, if energy needs of the country, have to be met fully. The Committee are informed that considerable research and development efforts are being made to develop non-conventional sources of energy. The Committee welcome the decision of Government to set up a Commission for Additional Sources of energy for organisation well-coordinated and integrated research and development programme for harnessing alternate sources of energy like solar, wind, and bio-mass. The Committee hope that the institutional mechanism now set up by the Government will identify

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the energy potential from all types of renewable sources, including geo-thermal tidal wave, ocean thermal energy and initiate major and sustained efforts for rapid development of these renewable sources of energy.

Reply of the Government

Government attaches considerable importance for the development of new and renewable sources of energy for supplementing energy supply in the context of the present energy situation and of depleting fossil fuel. The broad approach for the devlpmnt of such sources of energy likely to be followed in the Sixth Five Year Plan will be:—

- (a) to implement on a large scale programme such as those of energy forestry and biogas where technology development has alrady reached a stage which permits field application;
- (b) to carry out field testing and demonstration on a country-wide basis of technologies, which have the potential to become commercially viable in the next five to seven years; and
- (c) to intensify research and development of other technologies where the potential is likely to be available over a longer time horizon.

With a view to provide necessary impetus to the programmes for development of new and renewable sources of energy a Commission for Additional Sources of Energy (CASE) has been constituted with the responsibility for formulating policies and programmes or the development of such sources of energy and also for coordinating and intensifying research and development activities in this field etc. The scope of the activities of the CASE would cover solar thermal and solar photovoltaic technologies, wind energy, bio-mass and bio conversion technology, decentralised energy system, ocean energies and other new areas. The Commission is also to fuction as a data bank of all aspects of new and renewable sources of energy The responsibilities assigned to the CASE would be carried out through the agency of various organisations and Institutions, by direct execution of certain projects, by building up of specialised centre under the CASE, by supporting R&D activities and /or undertaking promotion work including dissemination of information. It is expected that the CASE would also coordinate efforts in identifying the energy potential for all types of new and renewable sources. CASE is also expected to initiate concrete measures for developing renewable sources of energy at a rapid rate.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981].

Recommendation Sr. No. 65 (Para No. 6.19)

The Committee are informed that out of 16/200 MW sets manufactured so far indigenously, 13 sets commissioned upto the end of March, 1980 have been taken up for stabilisation work by a Team of engineers of Central Electricity Authority Central and indigenous manufacturers viz. BHEL and ILK and the defects had been rectified in 8 of them by March, 1981; the remaining sets were expected to be renovated by June, 1981. The performance of the renovated sets is stated to have shown marked improvement since then The Committee recommend that the central team should . prepare a time-bound programme for rectifying the manufacturing defects and design deficiencies in all the indigenous sets of not only of 200/210 MW capacity but also of 110/120 MW capacity, on which renovation work was taken up but has not yet been completed.

Reply of the Government

A time bound programme for rectifying the manufacturing defects and design deficiencies in all the indigenous sets of 200/210 MW capacity has also been prepared and is under implementation. A similar programme has been prepared by CEA for the rectification of 6 sets of 110 MW at Panipat and Bhatinda thermal power stations in consultation with BHEL and ILK. The progress of this programme is being reviewed periodically by CEA. Similar programme would be prepared for other units also.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981].

Recommendation Sr. No. 66 (Para No. 6.20)

The Committee take note of the measures taken by BHEL for monitoring the working of power stations, analysing forced outages and other problems and holding consultation with SEBs and CEA etc. in order to draw up the implement coordinated plants for stabilising the indigenous sets. The Committee welcome these measures and hope that CEA will so arrange that the SEBs draw the maximum benefit from these measures in the interest of improving performance of their indigenous sets.

Reply of the Government

The Central Electricity Authority is already monitoring the working of power stations and analysing the forced outages. With regard to the measures for stabilisation and improvement in the performance of the indigenous units, this has also been done for 200/210 MW units. Work on 110/120 MW units has already been initiated by the Central Electricity Authority. The above measures have been taken with the close cooperation and participation of the State Electricity Boards and manufacturing agencies and it would certainly help SEBs in improving the performance of their power stations.

> [Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981].

Recommendation Serial No. 67 (Para No. 6.21)

The Committee also recommend that while entering into foreign collaboration agreement the indigenous manufacturers viz. Bharat Heavy Electricals Ltd., Instrumentation Ltd., Kota etc. should make sure that the design of the equipment for which the agreement is being made suits Indian conditions.

Reply of the Government

The above views of the Committee have been brought to the notice of the Ministry of Industry. The Government's endeavour in this context would be naturally in line with th nrecommendations of the Committee

> [Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981],

Recommendation No. 68 (Para 6.32)

The Committee are informed that on the basis of the experience gained in carrying out renovation of the 13 sets already identified for the purpose, subsequent sets under manufacture by BHEL are being modified at the manufacturing/erection stages to prevent similar problems arising in future. The Committee feel that, as suggested by Rajadhyaksha Committee, the ideal arrangement to bring about improvement in the design and production quality of power equipment would be to have a consultative forum where the representatives of manufacturers, users and executing agencies like NTPC and NHPC together with the representatives of Central Electricity Authority could meet and discuss design and operational problems of power equipment in the light of their experience to enable the manufacturers to incorporate changes in the design and manufacture of new equipment. The Committee suggest that the system of consultative machinery on these lines should be introduced at an early date in the larger interest of producing quality equipment in the country.

Views of the Government

The Government accepts the above recommendation of the Committee.

[Ministry of Energy (Deptt. of Power), O. M. No. 32(3)/81-Coord., dated the 16th March, 1982].

Comments of the Committee

Please see Para 1.13 of the Report-Chapter I.

Recommendation Serial No. 69 (Para 6.23)

The Committee hope that the Model Contract will be finalised at an early date and State Electricit_{y} Board's advised to execute a formal contract on the standard lines for each transaction and enforce it to ensure timely supply of equipment of guaranteed quality and design.

Reply of the Government

It is expected that the Model Contract would be finalised soon. It may, however, be mentioned that the Model contract would be advisory in nature to the State Electricity Boards in so far as the projects being executed in the state sector are concerned.

> [Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981].

Recommendation Serial No. 73 (Para No. 6.43)

Bharat Heavy Electricals Ltd. is stated to be deficient in technology for lignite fire boilers and bulb turbines for hydro projects. It is also stated to be short of capacity for critical piping and pressure parts. The Committee would recommend that the areas in which Bharat Heavy Electricals Ltd. lacks technology or capacity should receive urgent attention of the Government.

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Reply of the Government

Bharat Heavy Electricals Ltd. has a technical collaboration agreement with Combustion Engineering, USA and through them, the lignite-fired boiler-technology is available for use in India. It may be mentioned that M/s. EVT of West Germany are the leading designer and manufacturers of lignite-fired boilers and they themselves are the licensee of the technology of Combustion Engineering, and the BHEL--CE Agreement provides the know-how of EVT, West Germany available through CE, USA for Indian manufacturers.

The observations of the Committee regarding BHEL's capacity for critical piping and pressure parts, and the technology for the bulb turbines have been intimated to Ministry of Industry. It may, however, be mentioned that any step to increase the BHEL's capacity on piping and pressure parts would necessarily have to take into account the capacity of other manufacturers in this country in this field. With reference to bulb turbines for hydro projects an attempt has now been made to get up to date technology as part of a general collaboration agreement for hydro turbines in an attempt to update the present technology. The choice of collaborator is under consideration and a few of them have already indicated their willingness to assist BHEL in the technology for bulb turbines as well.

> [Ministry of Energy (Deptt. of Power), O. M. No. 32(3)/81-(Coord., dated the 28th November, 1981; 2nd December, 1981].

Recommendation Serial No. 74 (Para 6.44)

The Rajadhyaksha Committee have pointed out that a problem which has frequently occurred is the bunching of orders when manufacturers are asked to supply equipment for a number of projects at the same time. This should not be a problem difficult of solution if a proper planning is made by the CEA, Central Public Sector Undertakings in the field of power and State Electricity Boards. The Committee would expect the Ministry to impress upon all these agencies the need for a proper planning to avoid bunching of orders.

Reply of the Government

The power projects are examined techno-economically by the Central Electricity Authority and cleared by Ministry of Energy and the Planning Commission according to the power programme of each state. Schemes which are required to be completed during the Plan period and early part of the next plan are cleared to ensure appropriate phasing of the programmes. Although, this should give the necessary phasing of the equipment orders for the various agencies, certain amount of bunching is likely to emerge if the time taken by the various State Electricity Boards and the Projects authorities to settle the contracts vary considerably as has been noticed recently. It would not be possible for Central Government to coordinate the placing of orders by the various agencies but BHEL and other manufacturers could certainly indicate their Order Book position to the various SEBs and the project authorities and accordingly expedite the clearance of the various orders. However, the Government accept the recommendations of the Estimates Committee on the need for appropriate planning to avoid bunching of orders.

> [Ministry of Energy (Deptt. of Power), O.M. No 32(3) 81-Coord., dated the 16th March, 1982].

Recommendation Serial No. 75 (Para 6.45)

The Committee note that Bharat Heavy Electricals Ltd. is facing difficulty in getting payments from State Electricity Boards and the outstanding amount as at the end of January, 1981 was Rs. 101.1 crores. Secretary, (Power) has stated that the model contract being prepared by them will take care of these details *viz*. that the equipment is delivered in right sequence and the payment is made promptly. The Committee would like the Department of Power and CEA to look into this genuine difficulty of BHEL and evolve an arrangement which will enable BHEL to receive payment for the equipment supplied to SEBs and other agencies without delay.

Reply of the Government

The release of payments by the SEBs to BHEL would be essentially in line with the contract/agreement between the BHEL and the respective SEB. The general question of payments outstanding against different SEBs in respect of BHEL, Coal India Ltd., Railway and ILK was included in the financial performance of SEBs, an item on agenda discussed during the recent Power Ministers Conference held on November 6—9, 1981. Some of the SEBs have in turn, represented that the supply of equipment from BHEL and ILK has not often been in accordance with the time schedule indicated by them, and non-sequential and delayed supplies have not only been affecting the project construction programme, but also the financial position of the SEBs. It is, however, felt that the adaptation of the model contract, being finalised by SEBs should take care of timely release of payments by the SEBs to BHEL.

> [Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 16th March, 1982].

Recommendation No. 7/6 (Para Nos. 7.25 and 7.26)

The Central Electricity Authority (CEA) is a statutory body set up under the Electricity (Supply) Act 1948, *inter alia*, to develop a sound, adequate and uniform national power policy, formulate plans for power development and coordinate the activities of planning agencies in relation to the control and utilisation of national power resources. It is expected to be the main adviser to the Central Government as well as to the State Electricity Boards and other organisations engaged in the generation, distribution and transmission of power in the country. But the reports reaching the Committee from SEBs and non-official circles suggest that the CEA is merely an appendage to the Department of Power; it has not failed in the field of planning as well as implementation it lacks technical adequacies and adequate powers and has not cared to take States into confidence or allowed them due participation in the formulation of policy or implementation plans.

From the contradictory statements made by the Ministry of Energy (Deptt. of Power) before the Committee it is obvious that a confusion prevails in the Ministry about the role of the CEA in the formulation of national power policy; and on wonder, because of this confusion, CEA has, as stated by a State Electricity Board, not played a positive role in the formulation of energy policy. While initially, giving evidence, Secretary (Power) took a position that responsibility of policy making is that of the Ministry and the CEA is only a Planning body, but when his attention has drawn to the statutory provisions, he agreed that "the policy is laid down by CEA". The Committee would like the Department of Power not to confuse the role of the CEA in this regard and arrogate to themselves a function which the Electricity (Supply) Act, 1948 has clearly assigned to CEA. One of the most important functions of CEA under section 3 of the Act, is to "develop a sound, adequate and uniform national power policy" and it should be allowed to perform this function without any obstacle. In this task the involvement of Planning Commission, Department of Power and States and other organisations is, of course, essential and should be brought about."

Reply of the Government

It is not correct to state that the CEA is merely an appendage to the Department of Power. There has been no attempt by the Government to dilute in any way the statutory responsibilities placed on the CEA by the Electricity (Supply) Act, 1948.

The CEA continues to play a vital role in policy formulation, planning, implementation of the Plan and rendering technical advice to the Electricity Boards in power development. The role played by the CEA in these areas is briefly described below:—

- The CEA conducts annual power surveys in order to assess the demand requirements in power for the various States. This is a detailed exercise carried out taking into account the growth of industries in various States, the pace of rural electrification and other relevant factors. In this exercise. CEA holds detailed discussions with the States and the final demand projections are made with close participation of the States. The CEA also prepares periodical assessments of demand and supply and makes recommendations to Government in regard to the projects that should be taken up to meet the demand of power. They are also responsible for examining various project reports submitted by the State Governments from technoeconomic angle. Investment approvals are given only after CEA has cleared these projects from the technoeconomic angle. The CEA has also a consultancy wing which advises the SEBs in regard to the technical aspects of power projects. Regular monitoring in regard to implementation of various power projects is carried out by the CEA in consultation with the States. Various bottlenecks in regard to supply of equipment by manufacturers and supply of key raw material inputs are also analysed and the CEA assist the State Governments and the SEBs in getting over these bottle-necks.
- It would thus be seen that the CEA plays a very positive and major role in the formulation and implementation of the Plan. The Government rely largely on the technical advice given by the CEA in regard to the execution of power projects.
- During the formulation of the Five Year Plans and the Annual Plan discussions, the CEA is actively involved in the

discussions. Prior to the discussions at the Planning Commission level, the CEA have detailed discussions with each Electricity Board in order to arrive at fund requirements for various projects. The recommendations of the CEA in this regard are taken into full account by the Planning Commission while finalising outlays for the Five Year Plan as well as each Annual Plan.

It may be mentioned that the CEA has recently been entrusted with the preparation of a 15 year perspective power Plan. This will form the basic frame-work for the Government to take policy decisions in regard to power development, It should be emphasised that Planning is an exercise where various limbs of the Government have to interpower plan has necessarily to be finalised act. The keeping in view the development of the other sectors of the economy. The constraints on account of finances or other raw material inputs and availability of manufacturing capability have also to be taken into account while tinalising the power plan. Since the overall position in this regard is known only to the Planning Commission, the finalising of the Plan is basically the responsibility of Planning Commission but in finalising the plan, the CEA and the Department of Power are no doubt actively involved. It should be clear that the CEA, the Department of Power and the Planning Commission along with the States and other organisations involved in power development have each their own role and involvement in the formulation of the Power plan and its implementation. There has been no attempt to curtail the statutory function of the CEA which has been assigned to it under Section 3 of the Electricity (Supply) Act, 1948 and the CEA continues to advise the Government on the power policy and plans.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 30th March, 1982]

Recommendation Serial No. 84 (Para No. 8.10)

The Committee feel that a person employed to operate and maintain the power stations or transmission and distribution systems should not only be suitably qualified but also adequately trained before he is put on the job. For this purpose it should be necessary that when a power station is to be taken up for erection the engineers and other technical staff required for erection, operation and
maintenance should be recruited well in advance, and given practical training both with the manufacturers of the equipment and in power stations so that technically competent persons of the reguired disciplines are available to take up responsibility and handle the work of erection, Operation and maintenance, as the case may be, at the appropriate time.

Reply of the Government

The above recommendation of the Committee has been communicated to the States/Electricity Boards and other concerned organisations for necessary action.

> [Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th Nov., 1981|2nd Dec., 1981.]

Recommendation No. 85 (Para No. 8.11)

The Committee would suggest that the Power Engineers Training Society should take stock of the training needs of all kinds of the entire power sector in the country vis-a-vis training facilities already available and not only augment the training facilities to meet the growing requirements in full in accordance with a comprehensive plan to be drawn up in consultation with the SEBs but also help the States in upgrading the existing training facilities to high standard consistent with the requirement. In doing so, the Committee would expect that duplication of facilities will be avoided and requirement of each region will be taken care of. The Committee would like the CEA to liaison between the Society and the Boards to bring about coordinated development and optimum utilisation of training facilities.

Reply of the Government

The Power Engineering Trainnig Society has been estimated with the work of organising and coordinating training in the thermal power field only for the time being. So the task in hand of PETS is identifying the training needs of thermal field only. PETS has not taken any steps for identifying training needs in transmission an distribution and hydro electric engineering. PETS has set up four Technical Groups one for each region to identify the training needs. PETS is taking stock of all the facilities available in the country and particularly of the training facilities available with SEBs like Madhya Pradesh, Maharashtra and U.P. Having taken note of these facilities PETS have taken steps for starting training in maintenance disciplines. One simulator has also been installed at Delhi Institute proposals are afoot for installation of simulators at other three Institutes, namely, Durgapur, Nagpur and Neyveli. PETS has also initiated a number of short-term courses on specialised subjects. There is absolutely no duplication in these areas. In fact the effort required for training in management of high technology is very large and the efforts being put in by PETS is very meagre. PETS is in contract with Indian Institute of Technologies and the National Research Laboratories and is organising courses with their help.

PETS is engaged in drawing up a comprehensive training programme and it is hoped that by December, 1982 we will have a document which will show full training needs and how it is proposed to meet them.

> [Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 16th March, 1982]

Recommendation No. 86 (Para No. 8.12)

In the Committee's opinion training should not be one-time operation. After a thorough training in the beginning, refresher course and courses in new technology, well before its introduction, should be held for serving engineers and technicians to keep their efficiency at optimum level.

Reply of the Government

Proposals are under formulation for managing refresher courses and course in new technology. Power Engineering Training Society as it is constituted is not equipped to run specialised short-term courses and course in new technology.

> [Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 16th March, 1982]

Recommendation No. 87 (Para No. 8.13)

The Central Electricity Authority should ensure that training requirement of all those Electricity Boards which do not have well established training facilities of their own are met by the Institutes run by the Power Engineers Training Society or the neighbouring SEBs having such facilities till the time they set up their own independent training Institutes.

Reply of the Government

Proposals have been formulated for involving all the State Electricity Boards in the formulation of training plans to meet their plant specific needs.

> [Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 16th March, 1982]

Recommendation S. No. 90 (Para 8.26)

It has been brought to the notice of the committee that while in some of the States, power cuts are imposed after consulting major consumers, in some other States the cuts are unplanned arbitrary and abrupt. The Committee feel that while in certain situation such sudden break-downs, unplanned power cuts may not be unavoidable altogether, as far as possible, the power cuts should be planned and announced in the advance. The Committee would expect the CEA to impress upon the State Electricity Boards the need to plan and notify power cuts in advance to enable the industries, agriculturists and hous-holders to regulate their operations, accordingly and thus mnimise the loss.

Reply of the Government

For regulating power supply to the various categories of consumers, during the power shortage conditions, the Central Government have issued guidelines to the State Governments in May, 1974 for supply of power in the form of graded priority. Whenever there is shortage of power in the State, State Governments generally announces power cuts on various categories of consumers for the anticipated period of power shortages in advance. However, when multiple outages of the thermal generating units take place, the State Electricity Boards are compelled to impose power cuts or resort to load shedding to meet the unforeseen circumstances. In such cases it is not possible to give advance notice to the con-However, when major units are taken out for annual sumers. maintenance and planned shut down, the major consumers like steel, aluminium and cement are informed in advance to regulate their requirement and production, programme accordingly. Bihar is the only State which has not imposed notified power cuts even though the state is facing power shortage for quite some time. Since the major source of power for Bihar. System comes from Patratu and Barauni thermal power stations and their performance has not been constant and steady for a long time, the State

Electricity Board is unable to anticipate the quantum of power available from these power stations. Hence, the State Electricity Board finds it not possible to notify power cuts on a regular basis.

However, as desired by the Estimates Committee, CEA has been asked to again write to the State Govts./SEBs impressing the need to announce the power cuts on various categories consumers, in advance, to the extent feasible.

> [Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 28th Nov., 1981[2nd Dec., 1981.]

Recommendation Serial No. 91 (Para 8.27)

As laid down in the Electricity (Supply) Act, there is to be a consultative machinery of consumers in every State Electricity Boards. These bodies, it is stated by Secretary (Power), are generally not functioning well. If these bodies can be activised, they can play a very useful role in the matter of planning of power cuts and laying down general guidelines for the guidance of SEBs and thus protect consumers' interests. The Committee would like CEA to take up this matter with SEBs and persuade them to activise these bodies in their as well as consumers' interests.

Reply of the Government

Section 16 of the Electricity (Supply) Act, 1948 makes it obligatory for the State Governments to constitute a State Electricity Consultative Council (SECC) for the State. The SECC is to consist of the Members of the SEB and other Generating Companies within the State and also representatives of the var ous consumer categories. The Chairman of the SEB is the ex-officio Chairman of the SECC. The Act clearly lays down that the SECC should meet at least once every three months and its functions comprise, mainly of advising the SEB and other generating companies on major questions of policy and major schemes and also reviewing their progress and work. It is also obligatory on the part of the SEB to place before the SECC its annual financial statement for consideration before it is submitted to the State Government.

The State Governments and the SEBs have been requested to examine the manner in which the SECCs can be activised as recommended by the Estimates Committee. The replies from a few State Governments and some SEBs have been received. They have generally stated that SECCs have been constituted in their respective States as provided for in the Electricity (Supply) Act, 1948. They have also stated that SECCs have been meeting regularly and advising the State Governments on major questions of policy and The Rajasthan State Electricity Board has stated that schemes. during the last Rabi season, when Rajasthan was facing acute power shortage, the SECC had been actively associated in planning the power cuts and guiding the Board in regard to the manner in which the available power was to be distributed equitably. The Assam State Electricity Board has also reported that functioning of the SECC in the State has been quite effective. The Tamil Nadu Electricity Board has similarly reported that the SECC in the State has been playing a very useful role by offering suggestions relating to distribution of power, formulation of tariffs, planning for power development, imposition of power cuts, peak load restrictions, etc., apart from appraising the SEBs on a confirming basis of the difficulties faced by the different categories of consumers.

The Committee on Power, while examining the aspect of consumer relations in respect of SEBs has expressed the view that the SECCs have not been of much assistance in bridging the communication gap and finding solutions to problems of electricity supply. The Committee has, therefore, suggested that SECCs should be activised by independent full time Secretariats responsible to the Chief Secretary of each State. The State Governments have been requested to examine the recommendation of the COP and offer their comments so that further necessary action may be taken. The implementation of the recommendation of the COP for activising the SECCs may necessitate some statutory changes. The comments of the State Governments in this regard have not, so far, been received. All the recommendations of the COP including the one on activising the SECCs have now been proposed to be discussed in detail at the Power Ministers' Conference proposed to be held from 6th to 9th November, 1981.

> [Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 28th Nov., 1981|2nd Dec., 1981.]

Recommendation Serial No. 92 (Para 8.31)

The Committee, therefore, feel that CEA would do well to bring it home to State Electricity Boards that the cost of production is controllable and can be brought down to some extent if certain capital and running costs are taken proper care of.

Reply of the Government

As per the provisions of the Electricity (Supply) Act, 1948, the State Governments are primarily responsible for the efficient functioning of the State Electricity Boards. The Central Government have also been reviewing the functioning of the State Electricity Boards on a continuing basis with a view to improve their overall performance. The Department of Power have issued guidelines from time to time to improve the working of the State Electricity Boards. These guidelines cover, inter alia, the improvements in the financial performance of the State Electricity Boards through betterment of plant and equipment and increased capacity utilisation, control over manpower and inventory and better project management. While the Department of Power monitors the perof the Electricity Boards on a continuing basis, the formance performance of the individual boards is also reviewed in deta 1 at the Annual Power Ministers' Conferences. The overall performance of the State Electricity Boards was reviewed last at Conference of the State Electricity Boards held on 17th July, 1981 when the Finance Minister, Minister of Energy and the Minister of State for Energy were also present. Specific guidelines were issued at that time to all the State Electricity Boards to improve their operational performance.

The Committee on Power, which was constituted to *inter-alia* examine all aspects related to the functioning of the State Electricity Boards has specifically examined the scope for bringing an improvements in the project implementation and the overall operational performance of the State Electricity Boards. The Committee has made several important recommendations for reducing the capital and running costs of the State Electricity Boards in the long run. The recommendations of the Committee have been furnished to all the State Electricity Boards for further action. These were also discussed in some detail at the Regional Power Ministrs' Conferences held during the first quarter of this year. Since the response from the different SEBs has not been adequate, it has now been proposed to discuss all these recommendations in detail at the Power Ministers' Conference proposed to be held from 6th to 9th November, 1981.

As desired by the Estimates Committee, the Central Electricity Authority has already addressed all the SEBs requesting them to initiate follow up action on the recommendation of the Committee. The SEBs are yet to indicate the specific action taken by them.

> [Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 28th November, 1981/2nd December, 1981.]

Recommendation Sr. No. 93 (Para No. 8.45)

In order to transmit power to each and every part of the country and to transfer power from surplus areas to deficit States it is necessary to have a national grid with transmission lines cutting across the State and regional boundaries. At present the integration of the State Power systems into regional power grids is being carried out. By the end of Sixth Five Year Plan, regional grids with permanent load facilities at the regional and State levels would become operational. There is at present no time bound programme for providing all facilities for the National Grid as this is stated to be an evolutionary process. The Committee are unable to appreciate as to why. if regional grids can be fitted within a time-frame, time bound programme cannot be drawn up for completing the National Grid. The Committee are afraid that the theory of "evolutionary Process" Department of Power would bring in leisurely adopted by the attitude in the execution of the National Grid and would delay it further to the detriment of national interest. Committee The would like that just as a programme for establishing the regional grid with by the end of Sixth Five Year Plan had been formulated, a time bound programme for completing the various stages of the national grid should also be laid down and progress monitored with a view to making the national grid a reality by a target date.

Reply of the Government

With a view to accelerating the formation of National Power Grid time bound programmes for requisite transmission and power system operation and control facilities are being formulated within the framework of the Five Year Plans. At the beginning of the Sixth Plan 2103 circuit KM of 400 KV lines and nine 400 KV sub-stations with an aggregate capacity of 3720 MVA had been constructed. In the Sixth Plan (1980-85) 10707 circuit KM of 400 KV transmission lines (including 3844 circuit KM in the Central Sector) and 36 substations with an aggregate capacity of 17355 MVA have been programmed for construction. These lines and sub-stations have been identified as elements of the National Grid. Upto June, 1981, 412 circuit KM of 400 KV lines have already been constructed. 1866 circuit KM of 400 KV lines for completion in the early Seventh Plan have also been identified.

For facilitating the integrated operation of the Regional Grids permanent load despatch centres are in operation or under construction. In the Southern Region the RLDC at Bangalore is in operation. The RLDCs at Delhi (for Northern Region), Bombay (for Western Region) and Calcutta (for Eastern Region) are expected to become operational by the end of 1983.

Based on the above programmes and projected developments it is expected that a fully integrated National Power Grid will be operational by 1995.

> [Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 16th March, 1982]

Recommendation S. No. 94 (Para No. 8.46)

There are certain parts of India like Andamans and Nicobar and Lakshadweep Islands which being for removed from the mainland, cannot look to the regional grids or the proposed national grid for help in times of power shortage or power breakdown there. The Committee, therefore, feel that these Islands will have to be made self-reliant to meet the power demand even at peak periods on their own.

Reply of the Government

The mode of power generation in the U. T. of A&N Islands and Lakshadweep is mainly by diesel generation sets. There is a power house in operation in almost all the major Islands of the above Union Territories with adequate diesel generating capacity installed in each power house for making the Island self-reliant in respect of power generation. Action is being taken by CEA/UT authorities to augment the installed capacity in each power house from time to time to match with the growing power demand in each Island. To meet the long term power needs of South Andaman a coal based thermal station with an initial installed capacity of 2X5 MW has been approved by the Planning Commission. The complete engineering consultancy, framing of specifications etc. for this project is being done in CEA.

> [Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981.]

Comments of the Committee

Please See Para No. 123 of the Report-Chapter-I.

, Recommendation S. No. 95 (Para No. 8.47)

To enable them to do so, the CEA should arrange to build up adequate reserve stocks of diesel, coal and spare parts in these Islands to keep their power stations running even in the event of temporary and unavoidable delays in the movement of these inputs by ships.

Reply of the Government

In every power house in the A&N Islands and Lakshadweep, there is provision for storing adequate quantity of diesel, oil and essential spares so as to ensure uninterrupted operation of the power house round the year even if there is temporary delay in movement of these inputs by ship. CEA is rendering necessary assistance to these UTS in the procurement of stores for electrification works including diesel, oil and other essential spares by way of placing of indents with DGS&D, answering queries of technical nature, scrutinising and approving of drawings etc.

> [Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December 1981]

Comments of the Committee

Please see Para No. 123 of the Report-Chapter-I.

Recommendation No. 96 (Para 8.48)

The Committee would also like to suggest that the power planning in the case of Andamans and Nicobar Island, Lakshadweep Island and such other Islands should be done keeping in mind the imperative need to keep the power capacity always ahead of demand to ensure progressive growth of economy of these islands.

Reply of the Government

The Government accept the suggestion of the Estimate's Committee. Schemes pertaining to power developmnt works in Andamans and Nicobar Island and Lakshadweep are framed in consultation with the CEA taking into account the projected demand of load in these islands. As far as possible, action is being taken to augment the generating capacity in these islands ahead of the Projected load demand.

The present maximum demand in Andaman and Nicobar Island is of the order of 3150 Kw. Against this the total installed capacity in these islands is 7770 KW. In addition, there is an arrangement with the Navy to purchase 500 to 600 KW to meet peak demand by 1984-85. The peak demand in Andaman is expected to increase to about 7000 KW by 1984-85. In order to meet the growing demand, installation of diesel generation schemes with a capacity of 2390 KW has been sanctioned and are under implementation. Further a capacity of 6435 KW is being planned for installation during the Sixth Plan period. A project for establishment of a 2X5 MW thermal power station has been sanctioned. The first 5 MW unit of this is expected to be commissioned by the end of 1984-85.

As regards Lakshadweep, the maximum demand is of the order of 698 KW. Against this the present installed capacity is 1960 KW. The maximum demand is expected to increase to 1190 KW by 1984-85. To meet this demand, an additional capacity of 1034 KW has been sanctioned for implementation by 1984-85.

> [Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 16th March, 1982]

Recommendation No. 97 (Para 8.49)

The Committee feel that criteria to judge the viability and techno-economic feasibility of power projects in these Islands cannot be the same as for the rest of the country for obvious reasons. Apart, from other considerations, national security will be an additional factor which will have to be given due weight while planning and approving new power systems there.

Reply of the Government

This suggestion is accepted. A liberal criteria is already being adopted to judge the viability and techno-economic feasibility of the power projects for the far-flung Union Territories of Andamans and Lakshadweep. This is in view of the fact that in these U.T.S. which are of strategic importance, electricity generation based on diesel generating sets is the only option for the present in almost all the locations.

> [Ministry of Power (Deptt. of Power), O. M. No. 32(3)/81-Coord., dated the 16th March, 1982].

Recommendation No. 98 (Para 8.50)

In order to have a judicious combination of thermal and hydro power which will give the power systems in these islands stability, the Central Electricity Authority should explore the feasibility of exploiting micro and mini hydel potential on irrigation channels and small streams and rivers in the islands. The study which the Committee have recommended earlier in this Report to assess the small hydel potential in the various parts of the country should also be made in Andamans and Nicobar Islands (e.g. on Kalpong River in Andamans), Lakshadweep Islands and other such Islands.

Reply of the Government

The Central Electricity Authority have initiated action regarding exploitation of mini and micro hydel projects on small streams/ canal falls etc. in the country. Possibilities of developing mini/ micro hydel schemes in Andaman and Nicobar Islands, Lakshadweep Islands etc. will also be examined by the Central Electricity Authority.

[Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981.]

Comments of the Committee ... Please see Para No. 1.26 of the Report—Chapter 1

Recommendation No. 99 (Para 8.51)

The Committee feel that the remote areas such as North Eastern Region also require special attention in the matter of build up of adequate reserves of inputs like coal, diesel, spare parts, etc. without interruption and it should be ensured that power stations in such areas do not suffer because of shortage of these inputs in the event of sudden and unforseen transport bottlenecks.

Reply of the Government

Three coal based thermal power stations have been contemplated for installation at Bongaigoan $(4 \times 60 \text{ MW})$, Bangolai $(4 \times 30 \text{ MW})$ and Garo Hills $(2 \times 30 \text{ MW})$. The first unit of 60 MW at Bongaigoan has already been commissioned during 3/81. All the units have been linked for supply of coal from Raniganj Coalfields for the period upto the year 1989-90. This thermal power station presently has linkage of about 20,000 tonnes of coal per month and 1,000 kl of oil per month from September, 81. No difficulty is envisaged in meeting the coal/oil requirements of this TPS. Regarding supplies beyond 1989-90, the Railways have been advised to create adequate lines and necessary infrastructures for uninterrupted supply of inputs like coal and oil. Coal has been linked to Garo Hills TPP (2x30 MW) from North Eastern coalfields. These units are targetted to be commissioned during 1987-88 and 1988-89. Bangolai TPS (4x30 MW) is likely to be commissioned after 1990. It has been envisaged that this station will draw its coal from Assam coalfields. However, the linkage is yet to be finalised.

The proposal for import of spare parts of the generating plants received in the Ministry are examined on priority basis and recommendation for release of foreign exchange are processed accordingly. Power Station authorities have also been requested to assess their requirement of spare parts for two or three years operation and place orders on BHEL/ILK so that these could be included in the rolling programmes of manufacturers.

> [Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981.]

Recommendations Serial No. 100 (Para 8.52)

It has been opined by a State Electricity Board and a Power expert that the 400 KV transmission lines which are at present being laid for the proposed national grid would not be adequate and these lines should be of 500 KV. It has been admitted by Secretary (Power) that the national grid is a continuous thing and will grow on from year to year, and studies have been undertaken on a long term basis on high voltage level for adoption on a future date. The Committee would like the Government to consider the matter from all points of view and take a decision on merits in the larger interest of the efficiency of National Grid System. They expect that the studies into the high voltage level for adoption in the future would be completed expeditiously and the on-going and new programme of transmission lines would be reviewed in the light of the studies.

Reply of the Government

Power System Perspective Studies covering a period of 15-20 years have been initiated by the CEA. These studies would consider the feasibility of introduction of the next higher voltage and new technologies like VDC. The on-going and the new programme of lines would be reviwed in the light of these studies and, whenever required the transmission system would be superimposed by the next higher voltage transmission lines.

> [Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981.]

Recommendation Serial No. 101 (Para 8.53)

- According to an expert, construction of transmission towers for single circuit as is being done at present, would prove to be а big blunder as any expansion of circuits in future would not only be much more expensive but also lead to occupation of more agricultural land which could otherwise be put to better use. From the statement of Secretary (Power) it is seen that construction of towers having facilities for two circuits would require an extra expenditure of 20 per cent. The Committee would like the Department of Power to compare the extra cost of 20 per cent now with the estimated expenditure likely to be incurred later on providing extra circuits and see whether it would not be farsightedness to go in straight-away for towers which should have provision for taking 2 or more circuits, depending on the future needs, but which may at present have one circuit as is required now.

Reply of the Government

The number of transmission lines from a generating station for evacuation of power are decided keeping in view the capacity proposed and the ultimate capacity envisaged in the generation complex. Similarly for other transmission lines, the number of circuits required in a particular corridor are decided keeping in view the long-term requirements. In several cases where transmission corridor problems exist or where need for more transmission circuits in the future is indicated, the Central Electricity Authority has planned on double circuit tower construction in some cases with both circuits strung while in other cases with single circuit strung leaving the second circuit to be strung in the future. The problems of evacuation from large generating complexes, both hydro and thermal, are being specially studied and the need for multi circuit towers (more than two circuits) and higher voltages (then 400 KV) is being examined in the context of the long term plan.

> [Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981.]

Recommendation Serial No. 102 (Para 8.61)

The Committee note that it is proposed to instal load frequency control system in different regions to control the system power flow, optimise the system operation and reduce losses. While this system has already started working in Southern Region, and Eastern and Western Regions have agreed to the same, the scheme is being opposed by the states in the Northern region as they apprehend that they will lose control on their hydro stations. However, the Central Electricity Authority feel that the system is essential for the successful functioning of National Grid. As the continued opposition of these Northern States is likely to delay the operation of Regional Grid, the Committee would like the CEA/Department of Power to discuss this matter with the Authorities concerned at the highest level, with a view to allaying their apprehension and bringing them round to agree to LFC system in the larger interest of efficient working of National Grid.

Reply of the Government

The suggestions of the Estimates Committee are being followed.

[Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981.]

Recommendation Serial No. 103 (Para 8.64)

A number of Committees have been appointed in the past to examine the problems faced by the power sector and these Committees have made a number of useful recommendations but these recommendations it is stated have not been methodically implemented. Government, have, however stated that the Rajadhyaksha Committee on Power have considered the observations and recommendations of the various Committees set up earlier and have taken them into account while formulating the views and Government are taking steps to consider the recommendations of the Committee on Power and initiate follow up action. The Committee hope that the examination of the recommendations of the Rajadhyaksha Committee would be completed expeditiously and follow up action taken without delay. The Committee further hope that the Report of the Rajadhyaksha Committee on Power will not meet the same fate as the Reports of some of the earlier Committees have met.

Reply of the Government

The Department has already started detailed examination of the various recommendations of the Rajadhyaksha Committee on Power. Important recommendations have been circulated to the State Governments/State Electricity Boards and the concerned Departments and Ministries. In the Department itself several internal meetings have been held to examine the pros and cons involved in the implementation of the various recommendations. The matter was also discussed in a general way in the various regional Power Ministers Conferences held sometime early this year. The Minister of Energy has already written to the State Chief Ministers to expedite their comments on the various recommendations. It is now proposed to discuss these recommendations again in the forthcoming Power Ministers' Conference.

> [Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord, dated the 28th November, 1981; 2nd December, 1981]

Recommendation Serial No. 104 (Para 8.71)

The need for professionalisation of management in State Electricity Boards is too obvious to require any emphasis. The Central Government, Rajadhyaksha Committee and many other Committees have impressed upon the SEBs the desirability of reorganising the structure and management of the Boards and in particular, evolving a sound system of making appointments of Chairman and Members of the Boards. The question of devising a suitable selection machinery for top posts has now also been taken up at the level of State Power Ministers' Conference. The Committee would recommend that the matters regarding professionalisation of top management in the SEBs and the system of top appointments should continue to be pursued by the Central Government with the States with a view to bringing about improvement and efficiency in the Working of the Boards.

Reply of the Government

Changes in the top management of State Electricity Boards is also one of the recommendations of the Rajadhyaksha Committee on Power. This recommendation is being pursued with the States as in the case of the other similar recommendations.

[Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981.]

CHAPTER III

RECOMMENDATIONS WHICH THE COMMITTEE DO NOT DESIRE TO PURSUE IN VIEW OF GOVERNMENT'S REPLIES

Recommendation Sr. No. 77 (Para 7.27)

The Central Electricity Authority is a statutory organisation with powers to appoint a Secretary and such other officers and staff as it considers necessary for the performance of its functions, on such salary, remuneration, allowances, etc., as the Authority may in consultation with the Central Government, fix (Section 3) (6). But the Committee are surprised to find that the 'Office of the CEA' has been declared to be an 'Attached Office of the Government of India' under the Department of Power under an Order (dated 19th April, 1975) issued by an Under Secretary of the Ministry without referring to the source of authority under which he issued that order. This shows that CEA has, as alleged been virtually made an appendage to the Ministry. In an attempt to clarify the position Secretary (Power) in his evidence stated that 'It is not CEA which is the attached Office. It is the office of the CEA'. This is nothing but legal quibling as Office. The Electricity (Supply) Act envisaged CEA as an apex organisation in the power sector to act as an adviser and consultant to the Central and State Governments and a planning and coordinating body of all-India standing. In this scheme set out in the Act the Central Government's role and powers vis-a-vis the Central Electricity Authority have also been clearly set down. After considering all these matters, the Committee are of the view that the Ministry of Energy have no authority to declare a statutory body like CEA, as an 'Attached Office' under the Department of Power. Committee would like that the opinion of the Ministry of Law be taken in the matter, if necessary, and the CEA given its rightful status which is essential if it has to discharge the onerous responsibilities assigned to it under the Act.

Reply of the Government

The Central Electricity Authority has been constituted by the Central Government as required by Section $\mathfrak{Z}(1)$ of the Electricity (Supply) Act, 1948. The Ministry of Law (Department of Legal Affairs) who were consulted in the matter held that the Central Electricity Authority is not conferred a corporate status and by reason of the fact that it is constituted by the Central Government, it is a Government organisation, and as such, is subject to the usual budgetary and financial sanctions and procedures and cognate matters.

2. As regards the recruitment selection and promotions of the staff of the Central Electricity Authority, the Ministry of Law further held that the members of the staff are persons holding posts in connection with the affairs of the Union and the provisions of part XIV of the Constitution applied to them. As a result, the Ministry of Law further held that these matters are governed by Article 320 (3) of the Constitution and the U.P.S.C. will have to be consulted thereon unless such consultation is dispensed with under any of the provisions of the U.P.S.C. (Exemption from Consultation) Regulations, 1958, as amended from time to time

3. The declaration of the office of CEA as an Attached Office of the Govt. of India has a limited connotation for certain administrative purposes only. As far as the powers and functions of the CEA are concerned, the statutory provisions, it is needless to say, prevail and are being observed. The present arrangements do not detract from CEA's status and CEA has been able to perform its role visa-vis the Central and the State Governments.

> [Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 16th March, 1982]

Recommendation Serial No. 80 (Para 7.44)

The sanctioned strength of the Central Electricity Authority is a Chairman and 6 Members but at present the Chairman and 4 Members are in position and the posts of Member (Thermal) and Member (Planning) have been lying vacant for nearly a year at a time when thermal generation and Power Planning are at a critical stage. It is difficult to accept Secretary's (Power) view that Central Electricity Authority's work has not suffered on this account. The principal reason why Central Electricity Authority has not been able to draw suitable candidates for these posts is that the salary and conditions of service are not sufficiently attractive. The Committee are unable to appreciate why this deficiency was not removed when it was already known to the Department of Power. The Committee cannot but hold Department of Power responsible for lack of planning and casual attitude for this state of affairs and would urge them to take urgent steps to fill the vacancies without delay.

Reply of the Government

The post of Member (Thermal) has since been filled.

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2. Concerted efforts are being made to find a suitable officer for appointment as Member (Planning). The vacancy will be filled as soon as a candidate suitable for the post becomes available. 3. The post of Member (Power Systems) has since fallen vacant on the appointment of its incumbent as Chairman & Managing Director of the National Thermal Power Corporation. Names of officers of the State cadres and those at the Centre have been received. It is expected that selection for the post would be finalised scon and the vacancy would be filled before long.

4. The post of Member in the erstwhile Central Water & Power Commission (Power Wing) now the Central Electricity Authority carried the fixed pay of Rs. 2750/- until May, 1974, with the exofficio status of Joint Secretary to the Government of India. 'The Pay scale of the post was revised upward at Rs. 3000/- p.m. (fixed) and its incumbents have been conferred the ex-officio status of Additional Secretary to the Government of India with effect from 21st August, 1975.

> [Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981.]

CHAPTER IV

RECOMMENDATIONS IN RESPECT OF WHICH REPLIES OF GOVERNMENT HAVE NOT BEEN ACCEPTED BY THE COMMITTEE

Recommendation No. 1 (Para 1.8)

Government should formulate a National Policy on Power without any further delay giving clearly their long-term projections for the development of power, share of different sources of power generation viz. hydel, thermal, nuclear etc. as well as the role of Central Government and State Governments in the field of generation and distribution. The Committee further recommend that the Government should present a White Paper on Power Policy to Parliament by the end of this year (if possible) to facilitate a national debate on the subject.

Reply of the Government

The Power Policy of Government has been laid down in the Industrial Policy Resolution, 1956 which puts generation and distribution of electricity in Schedule 'A' wherein all new units, save where their establishment in the private sector has already been approved, will be set up by the State. This does not however preclude the expansion of the existing privately-owned units or the possibility of the State securing the cooperation of private enterprise in the establishment of new units when the national interests so require. The Policy laid down in the Industrial Policy Resolution is being followed.

The demand for power is essentially a derived one depending on the development profiles in other sectors of the national economy. Planning for power cannot be done in isolation without reference to the profiles of development in other sectors of the nation's economy. Power planning is an integral part of the overall planning of the economy which is done by the Planning Commission. Planning Commission in the Sixth Plan document has already outlined the development perspective for the period 1979-80 to 1994-95. Central Electricity Authority has initiated action on long term power planning exercise involving projection for demand for power and energy over a long-term horizon, identification of new generation projects for benefits during the planning horizon, optimisation studies to select generation scenarios resulting in lower operating costs, power system studies and integration of generation and transmission scenarios leading to the optimal path of power development.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 16th March, 1982.]

Comments of the Committee

Please See Para No. 17 of the Report-Chapter I.

Recommendation S. No. 11 (Para No. 1.60)

The Committee would suggest that a White Paper setting down the Government Policy in this regard in clear terms should be prepared and placed before Parliament at an early date.

Reply of the Government

The Government Policy on power industry is laid down in the Industrial Policy Resolution, 1956. The generation and distribution of electricity have been put under Schedule 'A' to the Resolution. All new units in Schedule 'A', save where their establishment in the private sector has already been approved, will be set up only by the State. This however, does not preclude the expansion of the existing privately-owned units or the possibility of the State securing the cooperation of private enterprise in the establishment of new units when the national interests so require. Government policy therefore is sufficiently clear.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 16th March, 1982.]

Comments of the Committee

Please See Para 1.7 of the Report-Chapter I.

Recommedation No. 79 (Para No. 7.29) ...

The Committee are unhappy at the shifting of blame for delays on each other. The Committee would like CEA not only to lay down in clear terms guidelines for preparation of project reports which they appear to have done in the case of thermal projects but not hydel projects, but also take initiative to educate the SEBs on the manner of preparing comprehensive project reports giving complete data to avoid any delay at the techno-economic approval stage. The Committee strongly feel that CEA also have a responsibility to clear all projects referred to them within a time schedule. No project should as far as possible, remain pending for more than 2 years. All objections and the additional information required with reference to any project should be communicated to the States concerned in one lot and not piecemeal. Where any data in a project report is found wanting the CEA should sit down with the representatives of the SEBs and help them fill the gaps with a view to according technoeconomic approval to the project without further delay. All those projects which are at present pending with the CEA for over two years should be cleared within six months and in any case before one year. The Committee would like to be apprised of the progress in the clearance of the pending project together with the reasons for delay in the case of pending project within 6 months.

Reply of the Government

The recommendations of the Committee in this regard have been communicated to the CEA. Every effort is being made by the CEA to clear projects expeditiously. However, since in a number of cases, clarifications and discussions with various agencies are involved it some times becomes difficult for CEA to adhere to the time limit for clearing of projects within two years. A separate statement will be furnished to the Committee showing details of projects pending clearance by CEA beyond a period of 6 months with reasons for delays in clearance. The suggestion of the Committee has been noted.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 16th March, 1982.]

Comments of the Committee

Please See Para No. 1.7 of the Report-Chapter I.

Recommendation S. No. 83 (Para 7.47) ...

One of the statutory responsibilities of CEA is to assist in the timely completion of power schemes. It is seen that out of 51 thermal schemes sanctioned during the last five years, only one scheme was completed in time; and out of 65 hydro schemes only 2 were executed on schedule. From this the Committee are contrained to conclude that CEA has miserably failed to discharge this important statutory resposibility.

Reply of the Government

The power projects are being implemented in the State Sector by the SEBs, and the various Corporations in the Central Sector. The Central Electricity Authority approve techno-economic clearance for all these projects before the investment decision is taken either by the Planning Commission or by the Cabinet. The implementation of the project would depend on various factors like timely acquisition of land, timely placement of orders, receipt of equipments in a sequential fashion from the various manufacturers. availability of all critical inputs like cement and steel, effective coordination at the project site and the allocation of adequate resources by the various agencies like the State Government and the Central Government. Besides these, the progress in the commissioning of the projects would depend upon the various countributory factors like industrial relations etc. Thus, the commissioning of the projects would largely depend upon the effective project management supported by adequate resources and support of the government. CEA have been monitoring the progress in the commissioning of the projects very closely. The monitoring by CEA has been strengthened considerably recently. CEA have been rendering effective assistance to the State Governments and the SEBs by advising them on the need for timely decision on various fronts. The coordination meetings conducted by CEA with the project authorities and the equipment suppliers have been largely helpful to coordinate the supply of equipments to the projects. CEA have been extending necessary technical guidance to the project authorities wherever necessary. CEA is also arranging for supply of key inputs like cement and steel to SEBs. In view of the above, Government feel that there has been no failure on the part of CEA in performing its role in timely completion of projects.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 16th March, 1982.]

Comments of the Committee

Please See Para 1.7 of the Report-Chapter I.

CHAPTER IV

RECOMMENDATIONS IN RESPECT OF WHICH FINAL REPLIES ARE STILL AWAITED

Recommendation Serial No. 5 (Para No. 1.40)

The Committee do not agree with the view that the entire generation and transmission should be taken over by Centre. The Committee, however, feel that the Central share in power generation should increase substantially and this aim should be achieved not by acquiring any existing power stations run by the States but by progressively taking up more and more of new projects in central sector. Power projects which are beyond the resources of States or are likely to become subjects of Inter-State disputes, particularly hydro projects, should be taken up in Central Sector straightway without any loss of time.

Reply of the Government

The Department of Power is in agreement in principle with the recommendation that the Central share in power generation should increase substantially and this aim should be achieved by progressively taking up more and more of new projects in the Central Sector. In enlarging the role of Central generation, the Department of Power also agrees with the recommendation that priority should be given to such of those power projects which are beyond the resources of the States or are likely to become subjects of Inter-State disputes, particularly hydro projects. The two Central Sector Corporations, namely, National Thermal Power Corporation (NTPS) and the National Hydro-Electric Power Corporation (NHPS) were specifically created for taking up power projects, both thermal and hydroin the Central sector.

One of the recommendations of the Rajadhyaksha Committee on Power has been that the share of Central generation in total power generating capacity should gradually increase form the present 12 per cent to at least 45 per cent by the turn of the century. The Government have already started establishing super thermal power stations and large regional hydro-electric stations in the Central sector, and with this, the role of Central generation is expected to increase in the coming years. At the Power Ministers' Conference held in November, 1981, the States pleaded for more time for examining the recommendations of the COP. For any substantial increase in the share of the Central sector generation, in the near future, the Department of Power is of the view that prior consultation with the States is essential, as this would inevitably have a bearing on Centre-State flow of Plan reserves and relative size of Central and State sectors of the Five Year Plans.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 30th March, 1982.]

Recommendation Serial No. 6 (Para No. 1.41)

The Committee agree that in order to derive maximum benefits from increasing Central share in generation and regional planning and operation, it will be absolutely necessary for the Centre to have under its ownership and control all inter-state and inter-regional high tension transmission lines together with their sub-stations.

Reply of the Government

The question of control of inter-state and internal regional transmission lines is linked with the Regional Electricity Authorities/ Regional Electricity Generating Companies, the setting up of which has been recommended by the Rajadhyaksha Committee on Power. Although the setting up of a National Grid has been approved by the Government in principle this would involve a major restructuring of the Power Sector of the country involving assumption of regulatory powers by the Centre. This issue is proposed to be discussed in the forthcoming Power Ministers' Conference.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981|2nd December, 1981.]

Recommendation Serial No. 7 (Para No. 1.42)

The question of transfer of 'Power' from Concurrent list of Union List may be examined and if in the larger interest, it is considered necessary Government should not hesitate to go in for a constitutional change. Then, the nature and structure of the organisation at the Centre for handling efficiently and economically the gigantic task of erecting, operating and maintaining power stations all over the country would also have to be critically examined keeping in view the experience in this field.

Reply of the Government

"Power" is an item which comes within the purview of the Concurrent responsibility of the Centre and the States under the Constitution of India. However, the electricity supply industry has been governed mainly by the Central Legislation and policy in this field. The legislative measures taken in 1948, i.e., the enactment of the Electricity (Supply) Act, 1948 to organise the industry and the Industrial Policy Resolution of 1956 have primarily guided the organisational structure of the industry to its present pattern. Even though the Centre has as much responsibility as the States taking upon the responsibility for generation, transmission and distribution of electricity, historically, the State Electricity Boards have been largely involved in setting up, operating and maintaining required for the generation, the facilities transmission and distribution of electricity in their respective areas. Under the Electricity (Supply) Act, 1948, the State Electricity Boards are primarily responsible to the respective State Governments.

Considering the uneven distribution of energy resources in the country, in order to minimise the overall costs to the economy, the Committee on Power has recommended that additions to power generation and transmission capacity should be planned on a regionwise, rather than a State-wise, basis and that in order to achieve this, the Centre's role in power generation will need to be enlarged so as to achieve ownership of atleast 45 per cent of power generation capacity by 2000 AD. The Committee has also recommended that the Centre should forthwith take steps to acquire the ownership of such EHV transmission I nes and sub-stations as would enable it to operate the regional grid optimally.

Keeping in view the relationship between the Centre and the States, within the framework of the Constitution, it is felt desirable that the States should be fully consulted before any major structural changes are brought about in the power supply industry in the contry. The recommendations of the Committee on Power were forwarded to the different State Governments for their considered views as early as in January, 1981. The major structural and other recommendations were also discussed by the Department of Power with the different State Governments and the State Electricity Boards at the Regional Power Ministers' Conferences held during the first quarter of this year.

At these meetings, the State Governments had requested for more time for examining the recommendations in depth. Minister of Energy had recently addressed the Chief Ministers of the different States requesting them to expedite their comments. The recommendations were discussed at the Power Ministers' Conference held in November, 1981 when the States pleaded for more time to examine the report and offer their comments.

The question of transfer of 'Power' from the Cuncurrent list to the Union List is a major policy issue on which the Deptt. of Power is of the view that prior consultation with the States is essential. After a decision is taken on these lines in consultation with the States, the modalities of the nature and structure of the organisation at the Centre for handling efficiently and economically the task of installation and operation of power stations will be examined.

[Ministry of Energy (Deptt. of Power) O. M. No. 32(3) 81-Coord., dated the 30th March, 1982.]

Recommendation Sr. No. 54, (Para Nos. 3.34 & 3.35)

Para 3.34 A major hurdle in the way of development of hydro power in the country is that a number of projects, fifteen to be precise, as on March 1981 with a generation potential of about 4000 MW have been held up because of inter-State disputes. Some of these projects have been held up for more than 15 years. It is highly unfortunate that at a time when country badly needed power for national reconstruction and development, colossal quantities of energy should have been allowed to be wasted because of inter-State disputes and the disputes should have remained unresolved for years even though there are legislative provisions under Inter-State Water Disputes Act, 1956 and the Rivers Boards Act, 1956, laying down detailed procedures for settling such disputes. Seeing the inordinately long time as much as 20 years taken to resolve Narmada River valley problem, the Committee cannot help feeling that the existing procedures have failed to deliver the goods and a new approach has got to be evolved if the country has to be saved from colossal loss that results from such disputes.

Para No. 3.35 The Committee feel that national interest demands a more drastic approach to the problem than adopted in the past. Either the legislative measures already existing should be given strong enough teeth to deal with the river water disputes within a prescribed time limit through arbitration or otherwise, without any right to any party to prolong the dispute through the device of appeals or reviews to higher authorities; or through constitutional amendment, if necessary, water may be declared as a national resource, to be exploited by the Centre with due consideration being shown to the State in which the resources lies. The Committee would urge that the matter should be considered at the highest level without delay with a view to finding a speedy and abiding solution to the chronic problem.

Reply of the Government

Realising that the number of projects involving substantial potential are held up on account of various inter-State disputes, this Ministry has taken initiatives in holding discussions with the various States with a view to resolving the problem. This Ministry has also suggested to the States that such projects could be taken up for execution in the Central Sector pending resolution of differences.

Regarding resolution of inter-State disputes within a prescribed time limit, it may be stated that this recommendation made by the Committee, though very desirable, is not capable of implementation under the present arrangements available. It is not possible to lay down short time limits of settlements of disputes or automatic reference to an arbitration in case of non-settlement of such disputes. However, to enable the Central Government to play а more active and dynamic role in water development, Ministry of Irrigation has made some proposals in a Note for consideration of the Cabinet Committee on Political Affairs for enacting legislation within the ambit of the Union List for smooth implementation of various water development projects on inter-State rivers. The Rajadhyaksha Committee on Power has also made recommendations for expeditious settlement of these disputes.

[Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981]

Comments of the Committee

Please see Para 1.10 of the Report Chapter I

Recommendation Serial No. 70 (Para 6.24)

The Department of Power have informed the Committee that although various State Electricity Boards carry out inspection of power equipment during manufacture and erection, the inspection has not been carried out to the desired extent. The Committee feel that inspection of power plant and equipment is a highly specialised job and it is doubtful if all the Electricity Boards would be in a position to set up an inspection cell in their organisation capable of conducting rigorous inspection of a satisfactory nature. The Committee would, therefore, suggested that CEA should take stock of the expertise and facilities available in the various SEBs and evolve a joint mechanism in consultation with the Boards for conducting quality inspection during manufacture and erection of power equipment. If such a mechanism is not evolved, the inspection by SEBs may continue to be unsatisfactory with consequent effect on generation efficiency.

Reply of the Government

The Government accept the suggestion of the Committee on the need for systematic inspection of power equipment during manufacture and erection. Efforts would be made to persuade the SEBs to introduce suitable mechanism for the same. It has already been indicated in response to the recommendation at Serial No. 69 that model contract is being prepared and the SEBs would be appropriately advised on finalisation of the same. The contract would have suitable provisions for quality plans to be mutually agreed between the plans manufacturers and the SEBs. A large number of agencies are involved in implementing power programmes and there are number of units under commissioning under each agency. The Committee on Power have also recommended for the creation of an appropriate agency to render the necessary services to these agencies. Government is examining the Report of the Committee. The recommendations of the Estimates Committee would receive due consideration while finalising the recommendations of the Report.

[Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 16th March. 1982]

Recommendation Sr. No. 71 (Para No. 6.28)

Many State Electricity Boards are stated to have held BHEL's monopolistic position as a reason for unsatisfactory quality of power equipment manufactured by them. The Rajadhvaksha Committee on Power have made out a case of setting up one or more facilities either in the public or private sector to produce power equipment to foster competition with BHEL. Secretary (Power) has also emphasised the need for having atleast two, if not more, organisations to produce power equipment in order to improve the rituation by the natural process of competition While the Raiadhvaksha Committee have suggested that the foreign collaboration in the new manufacturing units could be the same as '3HEL's Secretary (Power) feels that the new units should be based on different collaborations. The Estimates committee have gone into this matter. They feel that another unit to be set up in public sector would not only bring about improvement in quality through competition but would also accelerate the pace of production to

meet the expanding needs of power sector. The Committee recommend that this aspect may be examined, critically and dispassionately.

Reply of the Government

Primarily, the decision to set up another public sector undertaking for manufacturing power generating equipments, as recommended by the Estimates Committee, is to be taken by the Ministry of Industry. The recommendation of the Estimates Committee for setting up of another public sector undertaking for manufacturing electrical equipments on the lines of BHEL has, therefore, been referred to the Department of Heavy Industries for their comments. Their comments are still awaited.

[Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981]

Recommendation Serial No. 72 (Para 6.40, 6.41 & 6.42)

The commissioning of a number of power projects has been delayed because of delayed supply of equipment by indigenous manufacturers particularly BHEL. One of the reasons for delays in the supply of equipment by BHEL is stated to be inadequate manufacturing capacity for critical piping and pressure parts. though according to Rajadhyaksha Committee the plant capacity of BHEL appeared to be adequate to fulfil the generation programme during the next decade. Taking into consideration the projected increase in installed capacity of 20,000 MW in Sixth Plan and 30,000 MW in Seventh Plan, the country, would require on an average power equipment of about 5,000 MW per annum up tò 1981-82, and it is likely to be 4,000 MW in 1982-83, 5,570 MW in 1983-84 and 5,720 MW during 1984-85 to 1988-89.

Secretary (Power) stated during evidence that during each of the years 1979-80 and 1980-81 only 1200 MW equipment rolled out of BHEL works. But the actual production of thermal equipment during 1977-78, 1978-79 and 1979-80 was between 1500 to 1600 MW; in 1980-81, it lose to 2400 MW; leaving orders to the extent of 4500 MW (Thermal) outstanding. As regards hydro sets it is seen that BHEL has outstanding orders for 54 Hydro sets at the end of 1980-81 as against a total production of 69 sets during the last five years (1976-81).

However, Committee cannot but agree with the observation of Secretary (Power) that "the capacity is what is produced and not what is written on paper". It is rather difficult to imagine that

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BHEL will be able to step up its net production to 5,000 MW per year in the near future which is the estimated requirement for the Sixth and Seventh Plans.

After going into the whole matter, the Committee cannot help feeling that it would be rather risky if the country depends only < on BHEL for the supply of entire equipment required indigenously for the execution of power plan during the period 1980-90. The Committee would suggest that a critical review of the actual production vis-a-vis installed capacity in BHEL should be undertaken immediately by the Department of Power in consultation with BHEL and other connected organisations to determine whether, in the light of past experience. BHEL can be relied upon to deliver the equipment on schedule to keep pace with the plan. It would, in the Committee's opinion be better to err on the right side and provide for slightly higher manufacturing capacity in the country than the actual need and it would be preferable to set up another unit in public sector. In this connection, the Committee would like to draw attention to their recommendation on the subject earlier in this Chapter.

Reply of the Government

For achieving the Sixth Five Year Plan target the CEA are interacting with BHEL in the matter of equipment supply. However the advice of the Committee has been noted and a copy of the same has been sent to the Ministry of Industry. The subject of equipment supply by the indigenous manufacturers for sustaining the country's power programme would continue to engage attention of the Government from time to time and action deemed necessary would be taken.

[Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord.. dated the 16th March, 1982]

Recommendation No. 78 (Para No. 7.28)

The Committee feel that unattractive pay scales and allowances are partly the result of declaring CEA as an "Attached Office" of the Government of India and for this the Department of Power are themselves to blame. Now when this deficiency has been forcefully highlighted by SEBs and Rajadhyaksha Committee and admitted by Department of Power, the Committee expect that the Department will look into this matter seriously and immediately and take measures necessary to attract and induct the best available talent in the CEA so that the CEA becomes the repository of experts to whom State Electricity Boards can look for guidance.

Further Reply of the Government

The pay scales in the SEBs have been delinked in the various States to the advantage of the staff serving in these utilities. The role of CEA and their statutory responsibilities require that the CEA should continue to remain as a Government body. Even if the CEA were to be delinked as suggested by the Rajadhyaksha Committee on Power and as endorsed by the Estimates Committee, it would substantially depend on the Government by way of grants to meet the cost of its establishment. In Government, various Central Engineering Services with equally important technical functions have been linked, by way of scales of pay and allowances, with the rest of the Government. These services, except in the case of Central Water Engineering Services, do not draw any staff from the State Government on deputation. The need for the extent of deputation from the SEBs to the CEA have been reviewed from time to time. We are taking up the matter with the Department of Personnel about delinking the salary of the Officers of the Central Electricity Authority from other Central Technical Services in line with the recommendations. Although we feel that it may, prima facie, be difficult for the Government to delink the emoluments of officers of one stream from those of other sister technical organisations, will pursue the proposal with the appropriate Department for their accepting this recommendation.

[Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 30th March, 1982]

Recommendation Serial No. 81 (Para 7.45)

The Committee take note of the suggestions made by Rajadhyaksha Committee to restructure and strengthen the Central Electricity Authority by creation of certain new posts and reorganise the system of work and control in the Central Electricity Authority. They would like the Department of Power to take final decision in the matter expeditiously in the larger interest of efficient working of power sector.

Further Reply of the Government

To enable Central Electricity Authority to discharge its statutory functions effectively, regular discussions are held between Central Electricity Authority and the Ministry of Energy with regard to structuring and strengthening of Central Electricity Authority. Consistent with the overall need for economy in Non-Plan, expenditure and the need to provide adequate infrastructure, new Directorates have been sanctioned from time to time. Besides the cadre of Central Electricity Authority has also been taken up for review recently and a final decision is likely to be taken shortly. The Government would like to ensure that the various posts already created in the Central Electricity Authority are filled up with competent persons of very high calibre. The recommendations of the Rajadhyaksha Committee on Power on the restructuring of Central Electricity Authority have got considerable linkages with the creation of Regional Electricity Authority, the decision on which is awaiting responses from the State Governments and the evolution of a concensus. Till such time, it is considered that the present structure of Central Electricity Authority is adequate for effective discharging of its role.

[Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 30th March, 1982]

Recommendation Serial No. 82 (Para 7.46)

There is a Directorate in Planning Wing of the Central Electricity Authority monitoring the progress of power schemes. There are identical Directorates in Hydro-electric Wing, Thermal Wing and Power System Wing doing monitoring work. If fact in Hyrdo-electric Wing alone, Planning and Construction Directorates are both doing monitoring work of one kind or the other. Similarly ther is duplication of arrangements in regard to techno-economic appraisal in various wings of CEA. Despite the denial of duplication of work, it appears to the Committee that there is overlapping of work and the allocation of work among various wings can be rationalised and economies effected without loss of efficiency. The Committee would expect the Staff Inspection Unit of the Ministry cf Finance, which is making a study into the structure and staff strength of CEA, to look into the matter and make recommendations for a scientific allocation of work among various wings with a view to avoiding duplication of work.

Reply of the Government

The Staff Inspection Unit of the Ministry of Finance which is making a study into the structure and staff strength of the Central Electricity Authority, have been requested to keep in view the recommendation of the Estimates Committee while discussing and finalising their reports about staff requirement in the Central Electricity Authority. The Central Electricity Authority have also been instructed to discuss this matter with the Staff Inspection Unit and to take action to eleminate over-lapping of functions in various Wings of the Central Electricity Authority.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)/81-Coord., dated the 28th November, 1981; 2nd December, 1981].

Recommendation Serial No. 88, (Para 8.14)

The Estimates Committee expect that the Government would examine the recommendations made by the Rajadhyaksha Committee on Power regarding training of Engineer & Operators expeditiously and take an early decision thereon. They would like to be apprised of the Government decisions in this regard and the followup action take in pursuance thereof.

Reply of the Government

Action has been initiated to set up a special group to examine all aspects of training requirements during the current five year Plan and the ensuing plans. The group is expected to report urgently on the role of the Centre and the States in the different areas of training and to suggest a suitable organisational structure so that training activities in the Power Sector could be put on a sound footing.

[Ministry of Energy (Deptt. of Power), O.M. No. 32(3)081-Coord., dated the 28th Nov. 1981; 2nd December, 1981].

Recommendation Sr. No. 89, (Para 8.18)

Power System is no longer the exclusive concern of a State. Regional planning and inter-dependence have added a new dimension and before long the power system, no matter where it is located, will assume national proportions. In view of these developments, the Committee feel that the creation of an all-India pool of senior engineers of the level of Superintending Engineers and above, through the establishment of an all-India Service of Power Engineers or otherwise. will be necessary to provide for mobility of Power experts and handle the power problems across the State frontiers.

Reply of the Government

The All-India Services Act, 1951, was amended *inter-alia* to provide for the constitution of the All-India Service of Engineers comprising three branches namely Irrigation Branch, Power Branch and Building & Road Branch. The scheme for the formation of the I.S.E. provides for the encadrement of the posts at the Centre and the States. The proposal for the constitution of the I.S.E. is under consideration in consultation with the State Governments. The concept of All-India Service of Power Engineers was considered by the Committee on Power but, it has not accepted in its entirety. It is pertinent to point out that All-India Services, such as they are constituted today, are designed to serve the State and the Central Government whereas the Power Engineers would essentially serve the State Electricity Board and the various public sector undertakings of the Central Government. The appropriateness and the legal implications of an All-India Service and its extension to autonomous organisations like State Electricity Boards and public sector undertakings will have to be examined more closely before taking the final view. Ministry of Home Affairs who is concerned with the constitution of All-India Service are processing the case in consultation with the State Governments.

[Ministry of Energy (Deptt. of Power) O.M. No. 32(3)/81-Coord., dated the 16th March, 1982.]

NEW DELHI;

S. B. P. PATTABHI RAMA RAO, Chairman,

April 15, 1982 Chaitra 25, 1904 (S)

Estimates Committee.

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APPENDIX

(Vide Introduction)

Analyses of action taken by Government in the 13th Report of the Estimates Committee (7th Lok Sabba).

I	Total number of recommendations .	104	
п	Recommendations which have been accepted by Government		
	(Nos. 2, 3, 4, 8, 9, 10, 12 to 53, 55 to 69, 73 to 76, 84 to 87, 90 to 104)	86	
· •	Percentage to total	82%	
III	Recommendations which the Committee do not desire to pursue in view of Government's reply.	2	
	Percentage to total	2 2%	
IV	Recommendations in respect of which replies of Government have not been accepted by the Committee		
	(Nos. 1, 11, 79, 83)	4	
	Percentage to total	4%	
v	Recommendations in respect of which final replies of Govern- ment are still awaited.		
	(Nos. 5, 6, 7, 54, 70, 71, 72, 78, 81, 82, 88, 89) . 12	2	
	Percentage to total	12%	

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