STANDING COMMITTEE ON ENERGY

25

(2007-08)

FOURTEENTH LOK SABHA

MINISTRY OF POWER

DEMANDS FOR GRANTS
(2008-09)

TWENTY FIFTH REPORT

LOK SABHA SECRETARIAT
NEW DELHI
April, 2008 / Chaitra, 1930 (Saka)

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Presented to Lok Sabha on 22.04.2008
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* Ceased to be Members of the Committee consequent upon their retirement from Rajya Sabha w.e.f. 09.04.2008.

INTRODUCTION

I, the Chairman, Standing Committee on Energy having been authorized by the Committee to present the Report on their behalf, present this Twenty Fifth Report (Fourteenth Lok Sabha) on Demands for Grants of the Ministry of Power for the year 2008-09.

2. The Committee took evidence of the representatives of the Ministry of Power on 18th March, 2008. The Committee wish to express their thanks to the representatives of the Ministry of Power for appearing before the Committee and for furnishing the replies to the points raised by the Committee in connection with examination of the Demands for Grants (2008-09).

3. The Standing Committee on Energy considered and adopted this Report at their sitting held on 16th April, 2008.

4. For facility of reference and convenience, the observations and recommendations of the Committee have been printed in bold letters in the body of the Report.

NEW DELHI;
16th April, 2008
27 Chaitra, 1930 (Saka)

GURUDAS KAMAT,
Chairman,
Standing Committee on Energy

PART-I

CHAPTER – I

INTRODUCTORY

1.1.1 Electricity is a concurrent subject at Entry 38 in List III of the Seventh Schedule of the constitution of India. The Ministry of Power, which started functioning independently with effect from 2nd July, 1992 is primarily responsible for the development of electrical energy in the country. The Ministry is concerned with perspective planning, policy formulation, processing of projects for investment decision, monitoring of the implementation of power projects, training and manpower development and the administration and enactment of legislation in regard to thermal and hydro power generation, transmission and distribution.

1.1.2 The Ministry of Power is entrusted with the evolution of the general policy in the field of Energy. Under the Allocation of Business Rules, the Ministry is responsible for the following: -

i) General Policy in the electric power sector and issues relating to energy policy. (details of short, medium and long-term policies in terms of formulation, acceptance, implementation and review of such policies, cutting across sectors, fuels, regions and cross country flows).

ii) All matters relating to hydro-electric power (except small/mini/micro hydel projects of and below 25 MW capacity) and thermal power and transmission system network.

iii) Research, development and technical assistance relating to hydro-electric and thermal power and transmission system network.

iv) Administration of the Electricity Act, 2003 (34 of 2003) the Damodar Valley Corporation Act, 1948 (14 of 1948) and Bhakra Beas Management Board as provided in Punjab Reorganisation Act, 1966 (31 of 1966)

v) All matters relating to Central Electricity Authority and Central Electricity Regulatory Commission.

vi) Rural Electrification, Power Schemes in Union Territories and issues relating to power supply in the States and Union Territories.

vii) Administrative control of Public Sector Undertakings, Statutory and Autonomous Bodies functioning under the Ministry.

viii) Other Public Sector Enterprises concerned with the subject included under this Ministry except such projects as are specifically allotted to any other Ministry or Department.

ix) All matters concerning energy conservation and energy efficiency pertaining to Power Sector.

1.1.3 In all technical and economic matters, Ministry of Power is assisted by the Central Electricity Authority (CEA). While the Authority (CEA) is a Statutory Body constituted under the erstwhile Electricity (Supply) Act, 1948, later replaced by the Electricity Act, 2003, where similar provisions exist, the office of the CEA is an "Attached Office" of the Ministry of Power. The CEA is responsible for technical coordination and supervision of programmes and is also entrusted with a number of statutory functions. It is headed by a Chairperson, who is also ex-officio Secretary to the Government of India and comprises six full time Members of the CEA of the rank of ex-officio Additional Secretaries to the Government of India. They are designated as Member (Thermal), Member (Hydro), Member (Economic & Commercial), Member (Power Systems), Member (Planning) and Member (Grid Operation and Distribution) 14 subordinate offices are functioning under the control of Central Electricity Authority.

1.1.4 Following the enactment of the Central Electricity Regulatory Commission's Act (1998) since submerged in Electricity Act, 2003 the Central Electricity Regulatory Commission (CERC) was constituted in July, 1998 with a Chairman and three full time members. The main functions of the CERC are to regulate tariff of Centrally owned or controlled generating companies, regulate inter-state transmission including tariff of transmission entities, to regulate inter-state Bulk Sale of Power, to advise the Central government in matters of tariff policy formulation, etc.

1.1.5 There are five Statutory Bodies, six Public Sector Undertakings, three Joint Venture Corporations, two Autonomous Bodies (Societies) under the administrative control of the Ministry. These are: -

a) STATUTORY BODIES (Non-Commercial):

1) Central Electricity Regulatory Commission (CERC)
2) Appellate Tribunal for Energy (ATE)
3) Bureau of Energy Efficiency (BEE), New Delhi;

b) STATUTORY BODIES (Commercial):

1) Damodar Valley Corporation (DVC), Kolkata;
2) Bhakra Beas Management Board (BBMB), Chandigarh;

c) PUBLIC SECTOR UNDERTAKINGS:

1) NTPC Limited, New Delhi;
2) Power Grid Corporation of India Ltd. (PGCIL), New Delhi;
3) National Hydro-electric Power Corporation (NHPC), Faridabad;
4) North-Eastern Electric Power Corporation (NEEPCO), Shillong;
5) Rural Electrification Corporation (REC), New Delhi
6) Power Finance Corporation (PFC), New Delhi;

d) JOINT VENTURE CORPORATIONS:

1) Satluj Jal Vidyut Nigam Limited (SJVN), Shimla (HP);
2) Tehri Hydro Development Corporation (THDC), Rishikesh, Uttarakhand

e) AUTONOMOUS BODIES:

1) Central Power Research Institute (CPRI), Bangalore;
2) National Power Training Institute (NPTI), Faridabad.

1.1.6 **Programmes and Schemes Implemented by the Ministry**

i. Secretariat: This scheme takes care of Establishment matters for the Secretariat of the Ministry of Power. Ministry of Power has 12 schemes under its administrative supervision as explained hereafter.

ii. Central Electricity Authority: Provision under the scheme is made to the Central Electricity Authority coordinating the activities of the various agencies in relation to control and utilization of national power resources. It helps CEA in carrying out the survey and studies, collection and recording of data concerning generation, distribution, utilization and development of power resources.

iii. Research and Development: Scheme of Research & Development is implemented through the Central Power Research Institute, Bangalore. CPRI serves as a National Laboratory for applied research in the field of electrical power and also functions as an independent authority for testing, evaluation and certification of electrical equipment and components.

iv. Training: This scheme intends to impart training in various aspects of power stations, operation and maintenance and is implemented through the National Power Training Institute's training facilities in the country.

v. Central Electricity Regulatory Commission: Under the provision of the ERC Act, 1998, the Central Government has constituted the Central Electricity Regulatory Commission (CERC). The Central Commission is a statutory body with a quasi judicial status. The new Electricity Act, 2003 passed by the Parliament and notified in the Gazette of India on 2nd June, 2003 has come into force with effect from 10th June, 2003. The provision for the scheme is to meet the expenditure on establishment of CERC and other related costs.

vi. Appellate Tribunal for Electricity: Under the provision of Electricity Act, 2003, the Central Government has set up the Appellate Tribunal for Electricity. It hears appeals against the orders of the adjudicating officer or the Appropriate Commissions under the Electricity Act, 2003. The provision under the scheme is for meeting the forums' running expenses.

vii. Consultancy charges for APDRP projects: A proposal for appointment of Advisor cum Consultants under APDRP has been made for studying the utility and effectiveness of APDRP Scheme. The scheme is meant for reduction of T&D losses, Improvement in billing and revenue realisation require adoption of new technologies in the areas of IT, consumer indexing. GIS mapping, SCADA/DMS etc., for revival of distribution sector.

viii. Funds for evaluation studies and consultancy: This scheme provides funds for evaluation of specific projects regarding upgradation and Strengthening of Sub-transmission and distribution network including energy accounting and metering in the distribution circles.

ix. Rural Electrification/RGGVY: This scheme of rural Electricity Infrastructure and Household Electrification has been introduced in April, 2005 for achieving the National Common Minimum Programme objective of providing access to electricity to all rural households over a period of four years. As per census 2001 only 44% of the rural households have access to electricity. Improvement of rural electricity infrastructure is essential to empower rural India and unleash its full growth potential. Rural Electrification Corporation (REC) is the nodal agency for the programme. Under the scheme, projects can be financed with 90% capital subsidy for provision of Rural Electricity Distribution Backbone (REDB), Creation of Village Electrification Infrastructure (VEI) and Decentralised Distributed Generation (DDG) and Supply. REDB, VEI and DDG would also cater to the requirement of agriculture and other activities including irrigation pump-sets, small and medium industries, khadi and village industries, cold-chains, healthcare, education and IT. RGGVY has been continued for the 11th Plan. Under this scheme un-electrified below poverty line

(BPL) households will get electricity connection free of charge, as per norms of Kutir jyoti Programme in all rural habitations.

x. Comprehensive Award Scheme: The scheme for awarding shields/ certificates is introduced by the Ministry of Power for outstanding performances of the Thermal Power Stations and Utilities.

xi. Accelerated Power Distribution Reform Programme During XIth Plan (Under Proposal for Restructuring): The focus of the restructured APDRP scheme has been proposed to be on establishment of base line data, which shall enable reduction of AT&C losses in major towns of the country through strengthening and upgradation of Sub-Transmission and Distribution network and adoption of Information Technology in the areas of energy accounting & auditing and improvement in consumer services through establishment of Bijlee Sewa Kendra. The programme will cover urban areas only, covering all District Headquarters and towns with population of more than 50,000. The programme would include preparation of Base-line data for the town/city covering consumer Indexing, GIS Mapping, Metering of distribution Transformers and Feeders, and Automatic Data Logging for all distribution Transformers and Feeders, Renovation, Modernization and strengthening of the sub-transmission and distribution network.

xii. Scheme for Equity Gap Funding: Government has sanctioned several hydroelectric projects in the Central Sector, some of which are under construction. It was envisaged to provide equity for these ongoing projects from gross budgetary support (GBS) of Government and internal accruals of the Central Public Sector Undertakings (CPSUs). Government has approved the proposal for augmentation of resources of National Hydroelectric Power Corporation (NHPC) through Initial Public Offer (IPO) route and the proposal for bringing out IPO of North East Electric Power Corporation (NEEPCO) is under consideration. However, the funds mobilized from the IPO and the internal accruals of CPSUs would not be sufficient to meet the equity requirements of the sanctioned and ongoing projects. A new scheme namely “Equity Gap Funding” is proposed to be introduced for funding the gap in equity in respect of such projects.

xiii. Future Gen Project: Future Gen Project has been initiated as a multi-national programme in a public-private partnership model for developing emission-free coal-based generation pilot project. Government of India is required to contribute US$ 10 million to this project. It would enable India to be a partner in development of this technology aimed at establishing techno-economically viable coal-fired emission-free plant. India has become a full charter member in the Future Gen Government Steering Committee (GSC), which is

the mechanism to provide guidance, input and recommendations on the direction of the Future Gen Project.

xiv. Energy Conservation Related Activities: Provision under the scheme would be utilized for carrying out the Energy Conservation related activities i.e. National level awareness campaign, National Energy Conservation awards and National level painting competition for school children.

xv. Investment in Public Enterprises: Provision under the scheme is towards capital investment in the generation and transmission projects taken up in the Central Sector through CPSUs like NTPC, NHPC, NEEPCO, THDC, SJVNL, and POWERGRID.

1.1.7 The Committee in their 20th Report on Demands for Grants (2007-08) had given 20 recommendations. The Minister of Power made a statement regarding the status of implementation of recommendations made by the Committee in their 20th Report in Parliament on 07.12.2007. The Minister in his statement asserted that all the 20 recommendations have been accepted for implementation by the Government. However, an analysis of status of implementation of recommendations suggests that the number of recommendations actually under implementation amounts to only 12 and final reply in respect of one recommendation, i.e., recommendation at Sl. No.14 is still awaited. 7 recommendations have been reiterated which include recommendation of Sl. No.2, wherein the Ministry has been asked to consider the views of expert bodies like NPL, TERI & CEA to check the peak shortages of power in the country. In **Rec. Sl. No.4,** the Committee have desired that all the issues regarding poor participation of private sector in power sector, be addressed to ensure that these do not come in the way of private investment in Power Sector during the XIth Plan. In **Rec. Sl. No.5** it has been reiterated that more firms should be encouraged to take up manufacturing of equipment required for the power sector. Regarding the important issue of Ultra Mega Power Projects, (**Rec. Sl. No.7**), the Committee have desired that the 'bidding guidelines' for these power projects should be reviewed so that all loopholes therein are plugged. Similarly, in **Rec. Sl. No.13,** it has been desired that encouragement be given to the private participation in the transmission of power in 11th Plan to achieve the targets fixed for the purpose. In regard to the recommendation at **Sl. No.15**, the Committee have stated that necessary changes should be made in RGGVY Scheme so that the activities like irrigation, small and medium industries, khadi, coldchains and healthcare which form backbone of the rural economy also qualify for funding under the rural electrification programme. Under Accelerated Power Development and Reforms Programme (APDRP) (**Rec. Sl. No.16**), it has been recommended that funds released by the Central Government should be released onwards by the State Governments to the implementing agencies for the programme – without delay – for effective working of the scheme. In **Rec. Sl. No.18,** the Committee have desired that Central Power Research Institute (CPRI) which takes up research

work in the power sector should take up projects judiciously so that dropping of projects midway can be avoided.

1.1.8 The Minister for Power laid on the Table of the Lok Sabha, the detailed Demands for Grants (2008-09) relating to the Ministry of Power on 14th March, 2008. The detailed Demands for Grants, for the Ministry of Power show a budgetary provision of Rs.6075.00 crore comprising of Rs.6000 crore as Plan and Rs.75.00 crore as Non Plan provisions.

1.1.9 The Committee have examined the Demands for Grants of the Ministry of Power in detail. The Committee on their part fully endorse the Demands of the Ministry subject to their observations/recommendations, which are contained in the next Chapter.

CHAPTER II

ANALYSIS OF DEMANDS FOR GRANTS AND PLAN BUDGET OF THE MINISTRY OF POWER

A. Plan Outlay

2.1.1 Financial Performance of the Ministry of Power during the last four years has been as under:

(Rs. in crore)

Year	Budget Estimates (BE)	Revised Estimates (RE)	Actuals	Utilisation w.r.t. RE (in percentage)
2004-05	15630.32	14041.06	12947.57	92.21
2005-06	23013.90	19150.11	16847.54	87.98
2006-07	27623.70	25325.77	22848.71	90.22
2007-08	33153.26	30690.00	18054.36*	58.83

* Till 25th February, 2008

2.1.2 When enquired about the quarterly utilization of funds comprising GBS of Rs.5483.00 crore and IEBR of Rs.27670.26 crore (BE) by the Ministry of Power during 2007-08, the Committee have been informed as follows:

(Rs in crore)

	GBS	IEBR	Total	% Utilization in financial year 2006-07 (w.r.t. BE)
Expenditure during 1st quarter	401.37	3778.87	4180.24	12.60%
Expenditure during 2nd quarter	194.37	4309.55	4503.92	13.58%
Expenditure during 3rd quarter	1565.26	5039.46	6604.72	19.92%

2.1.3 The budgetary allocation of the Ministry of Power for the year 2008-09 is proposed as Rs.40460.10 crore as per the details given below: -

(Rs. in crore)

		INTERNAL & EXTRA BUDGETARY RESOURCES (IEBR)		
SL. NO.	ORGANISATION/SCHEMES	INTERNAL & EXTRA BUDGETARY RESOURCES	GBS	TOTAL PLAN OUTLAY
A. CENTRAL PLAN				
1.	N.T.P.C.	**13588.00**	**0.00**	**13588.00**
2.	N.H.P.C.	**4351.19**	**34.00**	**4385.19**
3.	POWERGRID	**8040.00**	**0.00**	**8040.00**
4.	D.V.C.	**6612.65**	**0.00**	**6612.65**
5.	T.H.D.C.	**693.92**	**111.00**	**804.92**
6.	S.J.V.N.	**556.84**	**0.00**	**556.84**
7	NEEPCO	**617.50**	**155.00**	**772.50**
8.	MOP (OTHER)	**0.00**	**5700.00**	**5700.00**
	A.TOTAL CENTRAL PLAN	**34460.10**	**6000.00**	**40460.10**

B. Ministry of Power Schemes			
Rural Electrification Scheme	0.00	5500.00	5500.00
N.P.T.I. (Training & HR)	0.00	20.00	20.00
C.P.R.I. (Research & Testing)	0.00	50.00	50.00
Programme & Infrastructure improvement of CEA	0.00	15.00	15.00
Bureau of Energy Efficiency	0.00	90.00	90.00
Other MOP Schemes	0.00	25.00	25.00
Total -B	0.00	5700.00	5700.00
GRAND TOTAL	**34460.10**	**6000.00**	**40460.10**

2.1.4 On being enquired about the financial requirements of the Ministry during 2008-09 and as finally approved by the Planning Commission, the Ministry of Power furnished the following statement to the Committee:

(Rs. in crore)

Name of Orgn.	Outlay proposed by Ministry of Power			Finally approved by the Planning Commission		
	GBS	**IEBR**	**Total**	**GBS**	**IEBR**	**Total**
NTPC	0.00	13588.00	13588.00	0.00	13588.00	13588.00
NHPC	33.82	4351.19	4385.01	34.00	4351.19	4385.19
PGCIL	0.00	8040.00	8040.00	0.00	8040.00	8040.00
DVC	0.00	6612.65	6612.65	0.00	6612.65	6612.65
THDC	229.00	810.77	1039.77	111.00	693.92	804.92
SJVN	0.00	556.84	556.84	0.00	556.84	556.84
NEEPCO	465.77	617.50	1083.27	155.00	617.50	772.50
MOP Schemes	31109.47	0.00	31109.47	5700.00	0.00	5700.00
	31838.06	**34576.95**	**66415.01**	**6000.00**	**34460.1**	**40460.10**

2.1.5 It has been reported to the Committee that the amount approved by the Planning Commission was sanctioned by the Ministry of Finance.

2.1.6 By analysing the financial performance of the Ministry, the Committee noted that BE for the year 2007-08 including IEBR was Rs.33153.26 crore while the RE has been kept at Rs.30690 crore which is 92.57% of BE. The utilisation of the funds earmarked for various schemes till 25th February, 2008, is Rs.18054.36 crore showing 58.83% of utilisation of RE: the major reduction reflected in RE is in the Annual Plan of NTPC, SJVNL, NEEPCO. The revised estimates in case of NTPC were Rs.11618.00 crore as against the BE of Rs.12792.00 crore, that of SJVNL were Rs.399.87 crore as against the BE of Rs.642.80 crore. NEEPCO was unable to utilise the allocated amount of Rs.1258.70 crore and its RE was pegged at Rs.260.29 crore.

Utilisation of Plan Outlays by PSUs

2.1.7 In reply to a query by the Committee about major reasons for shortfall in utilisation of the plan outlays by various PSUs during 2007-08, the following information has been submitted by the Ministry:

"**A. National Thermal Power Corporation (NTPC)**

(i) Against the BE of Rs. 1175.20 crore for proposed Central Generating Station of NTPC at Darlipalli Project, the RE figures are Rs. 55 crore, thereby leaving a shortfall of Rs. 1120.20 crore.

(ii) Against BE 07-08 of Rs. 267.70 crore, RE for Badarpur Expansion Project is Rs. 7.28 crore leaving a shortfall of Rs. 260.42 crore. Expansion of Badarpur with a capacity of 1000 MW (2x500 MW) was envisaged at the land available in the Ash Pond area. However, after detailed studies it was not found techno-economically feasible to take up the project due to soil conditions and non-availability of relaxation of chimney height from MOEF.

There are small positive and negative variations in RE figures of other schemes, however the net effect on overall IEBR is a shortfall of Rs. 1174 crore.

B. Satluj Jal Vidyut Nigam Limited (SJVNL)

(i) Against the BE of Rs. 368.21 crore, the RE figures for Rampur HEP are Rs. 272.10 crore leaving a shortfall of Rs. 96.11 crore. Major civil works for Rampur Project were scheduled to be awarded by June 2006, however, the works could be awarded only in February 2007 after CCEA

clearance on 25.1.07. Further, due to poor rock strata, the work in Goshai adit of the HRT has suffered slowing down the progress.

The project is funded by World Bank and the process of awarding the packages has to be in consultation with World Bank. SJVNL is now in the process of awarding the electro-mechanical packages and therefore it was not possible to fully utilize the provision of mobilization advance in the financial year 2007-08.

(ii) Against the BE 07-08 of Rs. 162.83 crore, the provision of RE is Rs. 20.24 crore for Luhri Project, leaving shortfall of Rs. 142.59 crore. This reduction has happened due to non-signing of Implementation Agreement between Govt. of Himachal Pradesh and SJVN. The draft agreement was almost finalized when elections in Himachal Pradesh were declared. The matter is being discussed with the new Government.

While above are major reasons for the shortfall, the total impact of positive and negative variations in all projects/ schemes is a shortfall of Rs.249.93 crore.

C. <u>North Eastern Electric Power Company Limited (NEEPCO)</u>

The main reasons for low utilisation of plan outlays by North Eastern Electric Power Company Limited (NEEPCO) were due to delay in implementation of Kameng HE project (600 MW). Among the main factors causing delay were the problems encountered in

the excavation of Head Race Tunnel (HRT). As excavation from Face-II continued, an 8 m high cavity formed inside the tunnel at HRT Ch. 1214 m due to adverse geological condition. The geology encountered was a mixed flowing face with combination of kaolin, schist, and carbonaceous shale which had to be arrested before the work area could be made operational. This led to temporary suspension of boring works w.e.f. 12.01.2007 for taking up rectification works which took about 8 (eight) months. The excavation works resumed from end of August'07. However, the progress again stopped w.e.f. 28.12.2007 due to formation of cavity and heavy seepage of water. Progress of excavation from Face-VI was also severely affected since 17.02.2007 due to heavy ingress of water to the tune of 6000 to 6500 lpm. Due to such ingress of water entire portion of HRT from the adit junction had been submerged to the level of 2.50 m. On implementation of remedial measures as suggested by renowned experts from CWC and GSI, the seepage could be controlled. Due to the reasons mentioned, a period of about 3 (three) months, w.e.f. 17th February, 2007 to 11th April, 2007 was lost. Works resumed on 12.04.2007 and have been under progress.

Other factors leading to the delay in this project include re-designing the Bichom Dam and Spillway, lowering of Spillway of Tenga Dam, hurdles in maintaining slope of power house excavation and change of HPT from underground to partly over ground etc."

2.1.8 As regard the other reasons for low utilisation of plan outlays, the following information was furnished to the Committee:

(i) Non-formulation of the new Scheme of Equity Gap Funding (Rs.289.49 crore) for financing the gap in equity funding of NHPC projects is planned after the IPO of NHPC is over.

(ii) Merging of the features of the scheme of consultancy charges for APDRP Project (Rs.271 crore) into the proposed restructured APDRP scheme.

(iii) Dropping of the scheme of preparation of DPRs of New HE Schemes (Rs.60.75 crore) due to lack of response of the hydro rich states for taking up the schemes for S&I and preparation of DPRs of balance schemes under 50,000 MW Hydro initiative.

2.1.9 The Ministry has further informed about the various reasons for inability to utilise the funds:

> "We make full provision to prevent any uncertainty of funds leading to stoppage of works or delayed procurement or sudden demobilization giving rise to contractual claims. However, during the course of the year, certain unanticipated factors delay the process of clearances and award of works including disruptions beyond the control of the Ministry. To address such issues, we are constantly innovating to foresee problems and issues and prepare ourselves to meet such contingencies."

2.1.10 On being asked by the Committee about various steps taken by the Ministry for effective utilisation of funds, the Ministry informed that they have taken, the following steps to remove the bottlenecks for the effective utilisation of funds:

(i) Weekly review is taken by Secretary (Power) of the status of investment approval of new projects. Constant follow-up with Ministry of Finance and Planning Commission is taken up to expedite the approval of the Competent Authority and thereby utilisation of budgeted expenditure.

(ii) Monthly review by Chairman, CEA of all projects.

(iii) Three-stage approval process of Hydro Projects to ensure adequacy of Survey & Investigation and creation of all essential infrastructure required for commencement of construction before accord of final approval by the CCEA.

(iv) Comprehensive quarterly review by Secretary (P) of status of all ongoing and new projects.

(v) Periodic reviews with States on capacity addition/APDRP/village electrification.

(vi) Periodic Inter-ministerial coordination meetings with Ministry of Petroleum & Natural Gas; Ministry of Coal; Ministry of Environment & Forests; Ministry of Water Resources to expedite clearances for the projects.

(vii) Periodic visits to the States- Comprehensive review with the State Governments.

(ix) Periodic visits to the projects sites.

2.1.11 The Committee observe that during the year 2007-08, the utilisation of Plan outlays has not kept pace with the allocations. Though, the budgetary allocations are being hiked year after year, yet, due to slippages in various programmes, the same are not being fully utilised. The Budget Estimates for the year 2007-08, including IEBR were Rs.33153.26 crore while the Revised Estimates were kept at Rs.30690 crore which is 92.57% of Budget Estimates. The utilisation of funds earmarked for various schemes till 25th February, 2008, is Rs.18054. 36 crore, showing a utilisation of only 58.83% of the Revised Estimates. The Committee note that the major under-utilisation of Plan outlays reflected in Revised Estimates is in the annual plan of NTPC, SJVNL, NEEPCO and other Schemes of the Ministry of Power including non-formulation of the new Scheme of Equity Gap Funding (Rs.289.49 crore), merging of the features of the scheme of consultancy charges for APDRP project (Rs.271 crore) and dropping of scheme of preparation of DPRs of new hydro electric scheme (Rs.60.75 crore). The Committee fear that under-utilisation of Plan outlays by power generating companies during 2007-08 would further delay the execution of projects as the quarterly utilisation of funds upto the third quarter during 2007-08 has only been 46%. Moreover, non-utilisation of funds earmarked for preparation of DPRs of new hydro electric projects only indicates the lackadaisical approach of the Government in exploiting the hydro power potential in the country. In the background of the fact that projects/schemes of the Ministry of Power are normally completed in a

span of five to ten years, the Committee wonder as to why funds are not being utilised substantially in the first three quarters of the financial year itself. The quarterly utilisation of funds indicates a lack of proper planning and execution of Projects/Schemes in the Ministry of Power.

2.1.12 The Committee had noted a similar phenomenon while examining the Demands for Grants (2007-08) of the Ministry of Power and recommended in their 20th Report that the Government should analyse the reasons for low utilisation of Plan outlays for the year 2006-07 and the continuing trend of making expenditure in the last quarter of the financial year so that the same story should not be repeated the next year. Taking an exception to low utilisation of Plan outlays by PSUs and Ministry of Power during 2007-08 as well, the Committee feel that although various steps for effective utilisation of funds like weekly review by Secretary, Ministry of Power regarding investment approval, monthly review by Chairman, CEA, periodic inter-ministerial coordination meetings, etc. are reported to have been taken by the Government, not much headway has been made in utilising the Plan outlays. The Committee, therefore, cannot but reiterate their earlier recommendation and desire that more effective steps should be taken by the Government, to plan realistic targets and also ensure regular and adequate infusion of funds in various projects/schemes in each quarter of the financial year so that Plan outlays could be fully utilised. The Committee hope that the trend of under-utilisation of funds would be checked in the financial year 2008-09.

B. Power Generation and Capacity Addition Programme

2.2.1 As regards the power generation and capacity addition programme in the country, the Committee have been informed that the all India generating capacity of electric power generation stations as on 29th February, 2008, was 1,41,500 MW consisting of 91,146 MW (64.4%) thermal, 35,379 MW (25.0%) hydro, 4120 MW (2.9%) nuclear and 10,855 MW (7.7%) from Renewable Energy Sources (RES). The following statements provides the total power generation capacity in the country:

Hydro	35,379 MW (25%)
Thermal Coal + Lignite 75,252 MW Gas 14,692 MW Diesel 1,202 MW	91,146 MW (64.4%)
Nuclear	4120 MW (2.9%)
Renewables	10,855 MW (7.7%)
Captive generation (above 1 MW)	22,335 MW

2.2.2 Asked about the power generation programme for 2007-08 and actual achievements for the year, the Ministry informed the Committee:

A. Programme for 2007-08

(in MWs)

	Central sector	State sector	Private sector	Total
Thermal	3490	4767.20	750	9007.20
Hydro	690	1682	0	2372
Nuclear	660	0	0	660
Total	4840	6449.20	750	12039.20

B. Achievement – 2007-08 (till 26.03.2008):

(in MWs)

	Central sector	State sector	Private sector	Total
Thermal	1990	860	220	3070
Hydro	3580	1279	0	4859
Nuclear	750	0	0	750
Total	6320	2139	220	8679

2.2.3 As regards the targets for power generation during 2008-09, the Committee have been informed:

(in MWs)

	Central sector	State sector	Private sector	Total
Thermal	3070	2649	3107	8826
Hydro	0	1022	0	1022
Nuclear	1660	0	0	1660
Total	**4730**	**3671**	**3107**	**11508**

2.2.4 From the above tables the Committee note that the performance of power generation during 2007-08 in the State sector was poor.

2.2.5 When asked about the targets vis-à-vis the actuals for power generation during the VIIIth, IXth & Xth Plans, the Committee have been informed as under:

Plan	Target	Actual	
VIIIth	30,538	16,423	(54%)
IXth	40,245	19,015	(47%)
Xth	41,110	21,180	(52%)

2.2.6 To a query by the Committee regarding 10th Plan capacity addition targets – sector-wise, the following information was provided by the Ministry:

Targets

(in MWs)

SECTOR	Hydro	Thermal	Nuclear	Total (%)
CENTRAL	8,742	12,790	1,300	22,832 (55.5%)
STATE	4,481	6,676	0	11,157 (27.2%)
PRIVATE	1,170	5,951	0	7,121 (17.3%)
TOTAL	**14,393**	**25,417**	**1,300**	**41,110 (100%)**

Actual achievements

(in MWs)

Sector	Hydro	Thermal	Nuclear	Total	% Achievement
Central	4495	7330	1180	13005	**56.9**
State	2691	3553.6	0	6244.6	**55.9**
Private	700	1230.6	0	1930.6	**27.1**
Total	7886	12114.2	1180	21180.2	**51.6**
% Achievement	**54.8**	**47.6**	**90.8**	**51.6**	

2.2.7 When enquired categorically about the Central, State and Private sector projects planned during the 10th plan, which have slipped into 11th plan, the Ministry has furnished the following information to the Committee:

Hydro Projects

Sr. No.	Project Name/ Executing Agency/ State	No.of units x Rating=MW	Capacity slipped from 10th plan to 11th plan
Central Sector			
1	**Sewa-II** NHPC J&K	3x40=120	120
2	**Teesta Low Dam-**III NHPC West Bengal	4x33 = 132	132
3	**Teesta LD-IV** NHPC West Bengal	4x40=160	160
4	**Omkareshwar** NHDC M.P.	8x65=520	520
5	**Koteshwar** THDC Uttaranchal	4x100=400	400
6	**Teesta-V** NHPC	3x170= 510	510

Sr. No.	Project Name/ Executing Agency/ State	No.of units x Rating=MW	Capacity slipped from 10th plan to 11th plan
	Sikkim		
7	**Rampur** SJVNL Joint Venture H.P	6x68.67= 412	412
8	**Tehri PSS** THDC Uttaranchal.	4x250=1000	1000
	Sub Total (C.S.)		**3254**
	State Sector		
9	**Maner Bhali St-II** UJVNL Uttaranchal	4x76= 304	304
10	**Baglihar** JKPDC J & K.	3x150= 450	450
11	**Ghatghar PSS** GOMWRD Maharashtra	2x125= 250	250
12	**Bhavani Barrage II** TNEB TN	2x15=30	30
13	**Bhavani Barrage-III** TNEB TN	2x15=30	30
14	Priyadarshini Jurala, APGENCO AP	6x39 = 234	78
15	**Balimela Extn** OHPC Orissa	2x75= 150	150
16	**Purulia PSS** WBSEB W.B	4x225=900	900
17	**Myntdu** MeSEB Meghalaya.	2x42=84	84
18	**Kuttiyadi Extn.** KSEB Kerala	2x50=100	100

Sr. No.	Project Name/ Executing Agency/ State	No.of units x Rating=MW	Capacity slipped from 10th plan to 11th plan
	Sub-total (S.S)		**2376**
	Private Sector		
19	**Maheshwar** MHPCL M.P.	10x40=400	400
	Sub-total (P.S.)		**400**
Total All India (C.S.+S.S.+P.S.)			**6030 MW**

Targets of 10th Plan hydro capacity addition: 14393 MW
Capacity achieved during 10th Plan: 7886 MW
Capacity Slipped (6507 MW + 4 MW-difference due to change in capacity*): 6511 MW
Projects considered for 11th Plan: 6030 MW
Remaining capacity yet to be taken up for construction: 481 MW

(*The difference of 4 MW is due to change of capacity of Teesta Low Dam-IV from 168 MW to 160 MW and Rampur HE project from 400 MW to 412 MW.)

Thermal Projects

Sector, Project Name	State/Impl. Agency	Unit No.	Cap. (MW)	Cap. (MW) Included in 11th Plan Target
Central Sector				
Barh STPP	Bihar/NTPC	U-1	660	660
North K Pura TPP	Bihar/NTPC	U-1	660	660
Sipat STPP-I	Chhattis./NTPC	U-1&2	1320	1320
Sipat STPP-II	Chhattis./NTPC	U-4	660	500
Chandarpura TPS Extn.	Jharkhand/DVC	U-7&8	500	500
Maithon RBC TPP	Jharkhand/DVC	U-1 to 4	1000	1050
Barsingsar Lignite TPP	Rajasthan/NLC	U-1&2	250	250
Neyveli TPS-II Exp.	TN/NLC	U-1&2	500	500

Monarchak CCPP	Tripura/NEEPCO	GT/ST	500	750
Dadri TPS-II	UP/NTPC	U-1	490	490
Total (Central Sector):				**6680**
State Sector				
Rayalaseema TPS-II	AP/APGENCO	U-4	210	210
Lakwa WH	Assam/APGCL	ST	38	37.2
Korba East TPP St-V	Chhattis./CSEB	U-2	210	250
Kutch Lignite Extn	Gujarat/GSECL	U-4	75	75
Bellary TPP	Karnataka/KPCL	U-1	500	500
Birsingpur TPS Extn. St-III	MP/MPPGCL	U-5	500	500
Guru Har Gobind TPS-II	Punjab/PSEB	U-3&4	500	500
Anpara-C TPS	UP/UPRVUNL	U-1	500	600
Bakreshwar TPS-II	WB/WBPDCL	U-4	210	210
		U-5	210	210
Sagardighi TPP	WB/WBPDCL	U-1	250	300
Total (State Sector):				**3392.2**
Private Sector				
Gautami CCPP	AP/Gautami Power Ltd.	GTs+ST	464	464
Konaseema CCPP	AP/Konaseema EPS OPL	GTs+ST	445	445
Ratangiri CCPP-II	Mah./RGPPL	Block-III	704	740
Goindwal TPP	Punjab/GVK Power Ltd.	U-1&2	500	600
Total (Private Sector):				**2249**
Total:				**12321.2**

2.2.8 Giving details of the constraints in achieving the capacity addition targets, the Ministry has specified the following points in a presentation made before the Committee during evidence:

(i) Inadequate Manufacturing Capacity - for both the Main Plant and Balance of Plant equipment.
(ii) Delays and non sequential supplies of Main Plant & Balance of Plant equipment.
(iii) Inadequate availability of construction machinery
(iv) Inadequate contracting agencies particularly in civil works of hydro power projects.
(v) Shortage of skilled manpower: Welders, Bar benders, Crane operators, Commissioning team etc.
(vi) Deficiencies in project management

2.2.9 As stated by the Ministry of Power, the existing generating capacity is 1,41,500 MW (February 2008), i.e., 14% (19,597 MW) in the Private sector, 34% (47,521 MW) in the Central sector and 52% in the State sector (74,382 MW). The power situation in the country looks pretty grim with the energy requirement at 5,43,394 MU and availability of 4,97,793 MU with a deficit of 8.4%. The Economic Survey (2007-08), however, has reported the energy deficit to the tune of 8.4% during (April-December) 2007-08 and peak power deficit is at 14.8% during the same period of the year.

2.2.10 The Committee observe that out of the 10th Plan projects target of 41,110 MW, projects aggregating 19829 MW could only fructify during the course of 10th Plan and remaining capacity of 21,281 MW slipped from the target. Setting aside the projects which were not taken up by the project developer due to various reasons and consequently were dropped, Projects aggregating 18351.2 MW slipped into 11th Plan.

2.2.11 The sector-wise details of these projects were given in the following table:

(in MWs)

	Central	**State**	**Private**	**Total**
Thermal	6680	3392.2	2249	12321.2
Hydro	3254	2376	400	6030
Total	**9934**	**5768.2**	**2649**	**18351.2**

2.2.12 The Committee have been informed of the following reasons for failure to achieve capacity addition targets during the 10th Plan period:

(i) Delay in supplies/erection by suppliers/contractors,
(ii) Delay in tie-up of super critical technology by BHEL,
(iii) Non-availability of Gas,
(iv) Delay in award of works mainly in state sector,
(v) Projects not taken up/Escrow cover not given/financial closure not achieved/funds not tied up specially of Private Sector Projects,
(vi) Delay in clearance/investment decision (Hydro projects).
(vii) Hydro Project - delay in environmental clearance, geological surprises, natural calamities, R&R issues, delay in signing of MoU, Court Cases

2.2.13 As submitted by the Ministry of Power, the per capita consumption of electricity was 672 kwh/yr (2006-07). The plant load factor during 2007-08 upto February 2008 on All India basis is reported to be 78.2%, in the Central sector, it is 86.4%. The Generation Performance (during 2007-08) upto February 2008, as submitted by Ministry of Power is 643 Billion units (6.6%) growth over corresponding period of previous year.

2.2.14 When asked about the Capacity Addition programme during the 11th Plan by the Committee, the following information was furnished by the Ministry:

A. Projects Commissioned as on 18.03.2008

(in MWs)

	HYDRO	**TOTAL THERMAL**	**THERMAL BREAKUP**				**NUCLEAR**	**TOTAL**
			COAL	**LIGNITE**	**GAS/LNG**	**Liq.fuel**		
Central Sector	690	1990	1250	0	740	0	220	2900
State Sector	1279	3580	3320	0	260	0	0	4859
Private Sector	0	750	750	0	0	0	0	750
All-India Sector	1969	6320	5320	0	1000	0	220	8509

B. PROJECTS UNDER CONSTRUCTION								
Central Sector	7964	18940	18190	750	0	0	3160	30064
State Sector	2203	13019	11715	450	854	0	0	15222
Private Sector	3491	12122	9005	1080	2037	0	0	15613
All-India Sector	13658	44081	38910	2280	2891	0	3160	60899
C. LETTER OF AWARD (LOA) YET TO BE PLACED								
Central Sector	1000	4570	3820	0	750	0	0	5570
State Sector	0	3600	3600	0	0	0	0	3600
Private Sector	0	0	0	0	0	0	0	0
All-India Sector	1000	8170	7420	0	750	0	0	9170
TOTAL (A+B+C)								
Central Sector	9654	25500	23260	750	1490	0	3380	38534
State Sector	3482	20199	18635	450	1114	0	0	23681
Private Sector	3491	12872	9755	1080	2037	0	0	16363
All-India Sector	16627	58571	51650	2280	4641	0	3380	78578

2.2.15 To a query on the capacity addition programme, the Committee were informed that the likely population of the country by 2011-12 (census 2001) would be about 121 crore. If the per capita consumption is 1000 units per year, the generation required would be 1210 BU. The installed capacity as on 01.04.2007 (excluding renewables) is 1,24,568 MW. The net capacity addition required during the 11th Plan is 73,932 MW, keeping in mind the spinning reserve requirement @ 5%, i.e., approximately 7,600 MW, the total capacity addition required would be approximately 81,532 MW. The capacity feasible at present is 78,578 MW, which still shows a shortfall in providing a per capita consumption of 1000 units annually.

2.2.16 In response to a query about the steps taken to mitigate the constraints faced in the capacity addition programme during the 11th Plan period, the Committee have been informed:

Main Plant Equipment

(i) BHEL's plan to enhance Main plant equipment manufacturing capacity from 6000 MW/ year

- 10,000 MW by end of 2007
- 15,000 MW by end of 2009
- 20,000 MW by 2012 (yet to be approved by BHEL Board)

(ii) BHEL taking advance procurement action for critical material like forgings and castings which have a long lead time.

(iii) MOU between NTPC and BHEL for carrying out EPC activities and equipment manufacturing in power sector.

(iv) MOU between NTPC and Bharat Forge Ltd. for JV company to manufacture castings, forgings, fittings, high pressure piping, power plant equipment etc.

(v) Agreement entered into between Larsen & Toubro and MHI, Japan to manufacture super critical boilers and large size Steam Turbines.

Balance of plant equipment/construction agencies

(vi) International Conclave of suppliers/vendors of Coal handling plant/ Ash handing plant/ Water treatment plant equipment held followed with two Regional Workshops

- Enhance manufacturing capacity of existing vendors
- Widen vendor base and create new entrepreneurs.

Industry Associations like CII and ICC being encouraged to hold Workshops/ Seminars to promote manufacture of BoP equipment with active participation of MoP/CEA.

(vii) Qualifying Requirements revised to encourage more vendors for Main Plant equipment and are being finalized for BOP.

Project management

(viii) Advanced procurement action for critical imported material like P91, CRGO steel, forging of casting being taken.

(ix) Introduction of IT based project management system.

(x) Better coordination between project sites & manufacturing units.

(xi) Power Projects Monitoring Panel being constituted.

2.2.17 During a study visit to Bangalore in January-February 2008, it has been submitted before the Committee by BHEL that Balance of Plant Work has been identified as critical items for timely commissioning of Thermal Power Projects. It was pointed out to the Committee that a number of thermal units were getting delayed due to delay in commissioning of Balance of Plant Works such as coal handling plants, Ash handling plants, etc. In this regard, it was submitted before the Committee that there is a need to develop more vendors for the following Balance of Plants works:

i) Ash handling plant
ii) Coal handling plant
iii) Water Treatment Plant including DM Plant
iv) CW and make up system
v) Cooling tower
vi) Fuel oil Handling System
vii) Chimney
viii) Civil and Mechanical design consultancy packages
ix) Desalination plant
x) Condensate polishing unit

2.2.18 On being asked about the requisite steps taken by the Ministry in regard to Balance of Plant Works, the Committee have been informed:

> "The industry has been sensitized about the long term requirements of power sector in a conclave organized by MOP and CEA on 4th and 5th July, 2007. A task force of MOP, CEA and CII has been formed to follow up the decision taken in this conclave.

A concept paper on strategy for 11th plan has been prepared by CEA and CII and the first meeting to discuss the concept paper was held with the members of CII at Chennai on 25th August, 2007 followed by meeting at Chandigarh on 26th October, 2007 in which Secretary (Power) and Chairman, CEA had participated. It is proposed to hold similar meetings at other regional industrial hubs in the country in the next few months.

A committee under the Chairmanship of Dr. Kirit Parikh, Member, Planning Commission on standardization of specifications of thermal power plants and development of vendors for balance of plants has been set up."

2.2.19 To a query of the Committee that in view of the poor performance of the Ministry in the previous Plan periods, how they would assure the Committee that the capacity addition targets for the 11th Plan would be achieved, the Secretary, Ministry of Power stated during evidence:

"Even though the Working Group on Power for the Five Year Plan had suggested that we should be placing orders by September, 2008, yet we tried to advance the dates to a comfortable zone. We felt that at least by about March, we should have most of the orders in place. The current indication shows that among the list of planned projects which I will shortly be placing before you, the letters of award for various projects should be in place by June this year, with the exception of one project – the Tehri Pump Storage Project. We have tightened the project monitoring mechanism. We have begun to interact more than once in a year with all the States collectively and, of course separately. I myself and the Chairman, Central Electricity Authority have been interacting. We have also formed a panel of consultants dealing with different projects taken from outside the Government. We thought that people who are not in the structure could also advise us; let us know where the projects are slipping and what more can be done. This panel has just been selected."

2.2.20 To a pertinent query by the Committee that in view of the existence of horizontal divisions among the Ministries or agencies at the Centre which are crucial for achievements in the power sector which *inter alia* include Ministry of Power, Ministry of Environment and Forests, Finance, etc. and vertical divisions between the Centre and State Governments and other agencies, what kind of

functional integration can be brought about for the better performance by the power sector, the Secretary, Ministry of Power submitted as follows:

> "----- if the Ministry of Power can present before them some concrete suggestions for integrating some of our disintegrated functions and bring about a unified chain of command for implementation of the projects. This is a serious issue. I shall discuss this with my colleagues. There have been some discussions in the past. There is an Integrated Energy Policy. There is today an Energy Coordination Committee which is headed by the Prime Minister himself which reviewed different facets of the energy sector in which relevant Ministers of the Cabinet are involved including the Finance Minister. Some of the crucial issues come up for discussion there. Under this Economic Coordination Committee, there are some groups also which are formed like the one under the Finance Minister who is looking at capacity addition and funding. The Planning Commission also has created a secretariat for infrastructure and they give their inputs and advice. We shall certainly take your very generous offer and shall place before you our considered views for your deliberation and consideration ------"

2.2.21 The Committee note that the capacity addition target of power generation for the 11th Plan is 78578 MW – 16627 MW in the hydro sector, 58571 MW in the thermal sector and 3380 MW in the nuclear sector. The Committee note with great concern that capacity addition targets in the previous Plan periods had failed miserably as the target achieved in the 8th, 9th and 10th Plans were only 54%, 47% and 51.6% respectively of the planned capacity targets. What further raises alarm is the fact that as against the total target of capacity addition of 12039.20 MW in the year 2007-08, actual capacity addition of 8679 MW could be achieved as on 26.03.2008. The Committee also note that against the target of 78,578 MW for the 11th Plan, 60899 MW capacity is under construction, but Letters of Award for the projects totalling 9170 MW are yet to be placed. The Committee would like to know the reasons for not issuing Letters of Award for projects amounting to 9170 MW so far and recommend that action in this regard may now be completed in a time bound manner and at the earliest as the gestation period of power projects is generally quite long and as it is equally important that all clearances are expedited and put in place well in time so that the 11th Plan capacity addition targets can be achieved. The Committee would also like to be informed of the status of the remaining projects of about 8500 MW capacity targeted to be commissioned in the 11th Plan. Further, to speed up work and ensure proper coordination among different Ministries/agencies involved in the process, the Committee desire that the idea of creating a unified chain of

command may be taken up for consideration at the highest level of the Government as was agreed to by the Secretary, Ministry of Power during evidence. The Committee would await the considered views of the Government for their deliberation and consideration.

2.2.22 The Committee note that there is shortage of vendors to execute Balance of Plant Works like (i) Ash handling plant, (ii) Coal handling plant, (iii) Water Treatment Plant including DM plant, etc., and this has become the main hindrance in completion of power projects resulting in delayed capacity addition. The Committee observe that the Government is taking certain steps to meet the constraints in the setting up of power plants such as tie-ups for obtaining critical equipment and for execution of the balance of plant works. Efforts are reportedly being made to involve international conclave of suppliers/vendors of coal handling plants/ash handling plants/ water treatment plants equipment to enhance the manufacturing capacity of the existing vendors and to widen the vendor – base and create new entrepreneurs. The Ministry is also taking steps to revise the qualifying requirements to encourage more vendors and new entrepreneurs to come forward for manufacturing main plant equipment. The Committee would, however, like to know the outcome of the steps taken by the Government to develop vendor base for Balance of Plant Works of power plants.

2.2.23 The Committee further note that a Committee under the Chairmanship of Dr. Kirit Parikh, Member, Planning Commission, on standardization of specifications of Thermal Power Plants and

development of vendors for balance of plants has been set up. Since the second year of the 11th Plan period has already commenced, the Committee desire that the aforesaid Committee should be asked to come up with its findings and recommendations in a specified time so that the same could be turned into a concrete action plan.

2.2.24 As regards enhancing the manufacturing capacity in respect of main power plant equipment, the Committee note that the BHEL has planned to gradually enhance their main plant equipment manufacturing capacity from 6000 MW/year to 15,000 MW by the end of 2009. Further, BHEL is also reported to be taking advance procurement action for critical power plant materials like forgings and castings which have a long lead time for manufacture. An MoU has been signed by NTPC and BHEL for carrying out EPC activities and equipment manufacturing in power sector. Further, NTPC and Bharat Forge Ltd. have also forged a Joint Venture company to manufacture castings, forgings, high pressure pipings, power plant equipment etc. The Committee also note that an agreement has been signed between Larsen and Toubro and Mitsubishi Heavy Industries (MHI) of Japan to manufacture supercritical boilers and large size steam turbines. However, taking note of the fact that manufacturing facilities from these Joint Ventures may also take few years to come up, the Committee are apprehensive that the constraints in supply of equipment will be overcome immediately. The Committee would, therefore, like to know the time frame within which these Joint Venture Schemes will yield results and also till

that time when other alternatives are available with the Government to meet the present requirements of power sector.

2.2.25 While examining the constraints expressed by the Ministry in the capacity addition programme, the Committee note that there is a shortage of skilled manpower, i.e., welders, bar benders, crane operators, commissioning team etc. in the power sector. The Committee see an opportunity in the fact that the development of the power sector will help provide more and more jobs to the youth, trainees in these skills in various ITIs located in various States across the country. The Committee, therefore, recommend that the Government should impress upon the State Governments to arrange to provide training to students of ITIs in these and other power sector related tasks and, if necessary also increase the number of seats in these training institutes; and give more funding to National Power Training Institute (NPTI) in Faridabad to increase its training facilities.

C. Hydro Power Generation

2.3.1 The Committee feel that Hydro Power is one such source of energy which is to be accorded priority from the consideration of energy security. However, execution of hydro projects require thorough Survey and Investigation, preparation of DPR, development of infrastructure, Environment Impact Assessment (EIA) and other preparatory works, which are time consuming and require two to three years for their preparation. It would take about 5 years to execute a hydro project after the work is awarded for construction. Thus in order to achieve completion of a hydro project during 11th Plan, the project should either be already under construction or execution should start at the beginning of the Plan.

2.3.2 According to the Economic Survey (2007-08), India is endowed with an estimated hydro power potential of more than 1,50,000 MW. However, only 21.14 per cent of the potential has been developed till date and 9.53 per cent is being developed. The main reasons for the slow development include difficult and inaccessible potential sites, difficulties in land acquisition, rehabilitation, environmental and forest-related issues, inter-State issues, geological surprises and long gestation period. Private sector participation is, therefore, negligible but has been increasing in the recent past. There are 10 schemes with an installed capacity of 3991 MW under construction while 67 schemes with an installed capacity of 18,030 MW have been allotted to private developers by States. Overall, there are 45 hydro projects with an aggregate capacity of 15,000 MW under construction. Preparation of pre-feasibility reports of 162 schemes with aggregate installed capacity of 49,930 MW has been completed by CEA. Bulk of the potential which is in the Himalayan region – the hill States of Jammu & Kashmir, Himachal Pradesh, Uttarakhand and the North-East – is yet to be tapped.

2.3.3 The Government has formulated a new hydro policy. The Electricity Tariff Policy, which was notified in January 2006, allows a special dispensation for

project development by the State and Central PSUs on the basis of capital cost and norm based tariff to be determined by the Regulatory Commission. The dispensation, allowed for PSUs, would now be available to the private sector for the same period of five years (from January 2006). This is contingent on a transparent procedure being followed by the host State in allotting projects and on timely achievement of specified milestones. The project developer would have to set apart 1 per cent of the power generated towards the development of the affected local area and provide 100 units of free power per affected family per month for a period of 10 years. A similar 1 per cent matching contribution is expected from the host State for local area development. These provisions are expected to provide a regular stream of revenue for the welfare of the project affected people. While the initiative for allocation of the projects would remain with the State Government, the scrutiny by the regulator and the CEA would ensure that the project is designed and built in an optimal and economic manner, and that the interest of the consumers is protected. The Project Affected Families (PAFs) are expected to get a better relief and rehabilitation (R&R) package. From the point of view of the developer, the procedure envisaged would reduce the risks associated with the construction, Operation and Maintenance (O&M) of hydro projects and facilitate early financial closure.

2.3.4 A Task Force has been constituted for the development of hydro power under the Chairmanship of Minister of Power. It has the Deputy Chairman, Planning Commission, Member (Power), Planning Commission, and the Minister(s) of Power of various State Governments as members. The Task Force shall examine and resolve issues relating to hydro power development such as allocation of sites, clearances of hydro projects, environment and wildlife issues, compensation to host States, land acquisition, rehabilitation and resettlement, sharing costs and benefits of power generation, water storage, navigation, and flood moderation of hydro power projects with States downstream of storage projects.

2.3.5 In reply to a query by the Committee, the total hydro generation during the 10th Plan was stated to be 14.9 per cent, the details of which are as under:

(Figure in BU)

	Year	Hydro Generation		Total Generation (Actual)
		Target	Actual	
10th Plan	2002-03	82.814	63.834	531.607
	2003-04	83.050	73.775	558.336
	2004-05	84.000	84.497	587.416
	2005-06	93.080	103.057	617.503
	2006-07	105.050	116.369	662.523
Total			441.532	2957.385

* Including Bhutan import.

2.3.6 To a query on the hydro generation capacity addition programme of the Government during the 11th Plan period, the Ministry has stated that the energy generation targets are fixed on year to year basis based on discussion by CEA with all the power utilities. The hydro generation target fixed for the years 2007-08 and proposed target for 2008-09 was 115.04 BU and 124.07 BU respectively.

Figure in BU

	Year	Hydro Generation*	Actual Generation Target
11th Plan	2007-08	115.093	710.00
	2008-09	124.074	773.044

*Including Bhutan import

National Hydro Power Corporation (NHPC)

2.3.7 Giving details, the Ministry has informed the Committee that the 10th Plan capacity addition target for NHPC was 4357 MW (11 number of Projects). Subsequently, during the mid term appraisal in the year 2004 the target was revised to 3252 MW (8 number of projects) against which the actual capacity addition has been 1970 MW (4 number of projects). One of the major reasons for slippage in achievement of capacity addition was stated to be that the slipped projects, except Teesta-V, which were included in X plan, were at initial stages of preparation of DPR and as a result the approvals could not be obtained in time.

In some cases, the contracted completion dates were beyond the 10th Five Year Plan.

2.3.8 The main projects which were delayed and which slipped in the capacity addition programme, as informed by the Ministry are:

(i) Purulia Pumped Storage Scheme (900 MW)
(ii) Bav II Project (37/20 MW)
(iii) Sewa-II Project (120 MW)
(iv) Teesta Low Dam-III Project (132 MW)
(v) Omkareshwar Project (520 MW)
(vi) Teesta Low Dam-IV Project (168 MW)
(vii) Teesta V Project (510 MW)

2.3.9 Responding to a query of the Committee on the Financial and Physical Slippage in targets by NHPC during the 10th Plan and the targets fixed for the 11th Plan, the Ministry has informed:

> "The total X Plan allocation for NHPC was Rs.32,226 crore including Rs.14,200 crore as Budgetary Support. The Plan outlay was revised (during Mid-Term Appraisal) to Rs.20,107 crore, which included budgetary support of Rs.10,645 crore. The actual utilization during X plan has been Rs.10,888 crore including budgetary support of Rs.4,982 crore.
>
> In the 11th Plan period, NHPC plans to add 4713 MW from nine hydroelectric projects which do not include 520 MW from Omkareshwar (NHDC). Out of this 170 MW (from Unit #2 of Teesta-V) has already been commissioned and 4543 MW is under execution. Civil and E&M packages for all the projects scheduled for commissioning in 11th Plan have been ordered. NHPC is also targetting to commission two more projects viz. Nimoo Bazgo (45 MW) and Chutak (44 MW) HE Projects, which are under execution in the 11th Plan, on best effort basis."

2.3.10 11th Plan Commissioning Schedule of Hydro Projects being executed by NHPC was stated to be:

S.No.	Name of Project/Executing Agency/State	Status	Rating Nox MW = MW	Year wise Capacity addition in MW during 11th plan					Total
				2007-08	2008-09	2009-10	2010-11	2011-12	
Units Commissioned									
1.	Teesta-V (Unit #2) NHPC, Sikkim.	Exec. C.S.	3x170 = 510	170					
	Sub-Total			**170**					**170**
Units under execution									
2.	Teesta-V (Unit #1 & #3) NHPC , Sikkim.	Exec. C.S.	3x170 = 510	340					
3.	Parbati St.-II NHPC, HP.	Exec. C.S.	4x200 = 800					800*	
4.	Chamera St.-III NHPC, HP.	Exec. C.S.	3x77 = 231				231		
5.	Parbati St.-III NHPC, H.P.	Exec. C.S.	4x130 = 520				520		
6.	Uri-II NHPC, J&K	Exec. C.S.	4x60 = 240				240		
7.	Sewa-II NHPC, J&K.	Exec. C.S.	3x40 = 120			120			
8.	Teesta Low Dam-III NHPC, WB.	Exec. C.S.	4x33 = 132			132			
9.	Teesta Low Dam- IV NHPC, WB.	Exec. C.S.	4x40 = 160				160		
10.	Subansiri Lower NHPC, Ar.Pr.	Exec. C.S.	8x250 = 2000					2000	
	Sub-Total			**340**		**252**	**1151**	**2800**	**4543**
	Total			**510**		**252**	**1151**	**2800**	**4713**

* Tentative commissioning

2.3.11 In addition to above, the following Hydro projects of NHPC are also stated to be under construction for commissioning in 11th Plan:

i. Nimoo Bazoo (3x15 MW) 45 MW
ii. Chutak (4x11 MW) 44 MW
Total = 89 MW

Besides this, NHDC, a subsidiary of NHPC has already commissioned Omkareshwar HE Project (520 MW) in 11th Plan in the year 2007-08.

2.3.12 To a query on the present status of Subhansiri Power Project, the Committee were apprised that the CCEA clearance for execution of Subansiri Lower HE Project in the Central Sector was accorded vide letter no. 11/1/2002 – DO (NHPC) Vol – II dated September 9, 2003. It has to be completed within a period of 7 years from the date of approval by the Govt. of India. The major civil construction work packages for Dam Works & Power House Works were awarded on 19.12.03 with a completion period of 72 months each. However, in view of the fact that final forest clearance on account of imposition and subsequent payment of Net Present Value, could be obtained only in Nov/Dec'04, physical possession of encumbrance free land could be effected only in 1st January, 2005. Further, the Committee have been informed that based on the delays already experienced and contractual terms and conditions, the commissioning schedule of the project has been finalized. This revised construction schedule of Subansiri Lower HE Project is under active monitoring by CEA. The project has successfully achieved the milestones of diversion of the river in December 2007, and completion of Power House excavation during August 2007. Subsequently, based on delays already occurred and contractual terms & conditions, an Integrated Construction Schedule, without financial implications, has been finalized with a commissioning schedule of 1st unit as 30th Oct'2011 and commissioning schedule of the 8th unit by 20th Jan'2012.

2.3.13 To a query on how the project was being monitored for its timely completion, the Committee were informed that the following steps were being taken:

(i) In order to make up whatever slippages have taken place, effective monitoring of all activities is being under taken at regular frequency and corrective/remedial measures are also being implemented at places wherever shortfalls are identified.

(ii) A "Steering Committee" comprising of Executive Directors has been put in place by NHPC to address the site specific problems encountered in the execution of the Project and suggest suitable remedial solutions to overcome the same.

2.3.14 The Ministry has stated that monitoring of construction projects on daily / monthly / quarterly basis is being done by NHPC/concerned Agencies to stick to schedules and remedial measures, if any taken immediately.

NEEPCO

2.3.15 Similarly, it may be seen that NEEPCO has not been able to use the funds allocated to it as against BE of 1258.70 crore in 2007-08, it is able to use only a small amount as the RE are 260.90 crore. In the year 2006-07 also as against a BE of 381.48 crore, the actual was 204.08 crore. The main reasons were the slippage in the Kameng HE project (600 MW). The Kameng H.E.Project was originally envisaged to be completed in November, 2009. Considering various hurdles encountered, geological surprises in particular, the commissioning schedule of the project has been revised to March, 2011. Although work had suffered initially due to various factors like unprecedented geology, poor approach road as well as delay in mobilization of equipment and manpower by the package contractor, the progress in various major work fronts has now geared up. The following steps are being taken by the Government as explained by the Ministry to expedite the progress of the works:

(i) Monitoring mechanism has been strengthened to achieve targets by designating a nodal officer for each project, both at the conception stage as well as during execution. The nodal officers facilitate resolution of problems which may delay the project by escalating the issue to appropriate levels for immediate resolution. In addition, regular review meetings are being organized in the Ministry of Power.

(ii) Visits are made by officers to the various projects under construction and various bottlenecks are identified and solutions thereof are decided in consultation with the project authorities. Meetings are held with major equipment suppliers and other major contractors executing the major works of dam, head race tunnel, power house etc. for solving the major constraints delaying the execution of the projects at

project site/their works. Efforts are being made to minimize contractual problems so as to avoid delays during project execution.

(iii) Head Race Tunnel (HRT) of 14.5 km is the critical component of the project due to adverse geology encountered during the progress of the work. Additional equipment is being deployed to accelerate the progress of the HRT boring works.

2.3.16 The Ministry has stated that NEEPCO have constituted a Panel of Experts (PoE) comprising personnel of national repute to assist and render advice on design and construction apects of Kameng H.E.Project which would expedite the progress. Moreover, adequate number of officers of appropriate level have been posted at site who will fulfill responsibilities for different segments of the project.

2.3.17 Asked about the CPSUs like NHPC and NEEPCO losing projects in the North-Eastern Region to private entrepreneurs, the Committee were informed during evidence:

> "We have placed this point before the concerned Governments; Arunachal Pradesh, Jammu and Kashmir, Himachal and Uttrankhand and we do hope that our PSUs will not lose project because they are not able to give money up-front. A new tendency has started; some States have started demanding money upfront for each MW of power. CPSUs cannot give that kind of money. The private sector is taking up the project by giving upfront money. Let us see how soon they can develop. At least from our side they will get all the encouragement but the time will tell whether they can do it or not."

2.3.18 The Committee note that hydro power is a benign source of energy and the sector needs to be accorded high priority from the point of view of energy security as fuels like coal and gas are likely to be exhausted in the near future. The Committee find that the bulk of the hydro potential which is in the Himalayan region in the States of Jammu and Kashmir, Himachal Pradesh, Uttarakhand and the North-Eastern Region is yet to be tapped. Although India is endowed with an estimated hydro power potential of more than 1,50,000 MW, the installed capacity is only 35,379 MW, i.e., 25% of the total power generating capacity in the country. The Committee regret to note that 45 hydro projects with an aggregate capacity of 15,000 MW only are under construction at present and preparation of feasibility reports of 162 schemes so far with an aggregate capacity of 49,930 MW only has been completed by CEA. The Committee are further constrained to observe that even during the 11th Plan, while the major capacity addition from the thermal power stations is pegged at 58,571 MW, from Hydro power plants, it is to be only 16,227 MW. The Committee note that a task force has been constituted under the Chairmanship of Minister of Power to look into various aspects of hydro power. The Committee would like to be informed of the steps so far taken by the Task Force to overcome the bottlenecks in implementation of hydro electric projects.

2.3.19 The Committee are surprised to note that a scheme of preparation of DPRs for new hydro electric projects amounting to Rs.60.75 crore was dropped due to lack of response of hydro rich States for taking up the

schemes for survey and investigation under 50,000 MW hydro initiative. The Committee feel that this would not have been the case if the necessary and proactive action had been taken by the CEA in persuading the hydro rich States to agree for survey and investigation. While noting that preparation of DPRs is only a first step for development of hydro power, the Committee recommend that the matter regarding preparation of DPRs for hydro projects should be taken up with the State Governments on top priority and an action plan clearly indicating the physical and financial targets should be drawn up for execution in the 11th Plan period and the Committee be apprised of the same.

2.3.20 The Committee observe that the 10th Plan capacity addition target for NHPC which was 4357 MW (11 number of projects), was revised to 3252 MW (8 number of projects) during the mid term appraisal in the year 2004. The Committee also note that the total 10th Plan allocation for NHPC was Rs.32,226 crore including Rs.14,200 crore as Budgetary Support. The Plan outlay was revised (during Mid-Term Appraisal) to Rs.20,107 crore, with a budgetary support of Rs.10,645 crore. The actual utilization out of this, however, during the 10th plan has only been Rs.10,888 crore including budgetary support of Rs.4,982 crore. The Committee are unhappy to note that only about 33 per cent of the total outlays could be used by NHPC in the 10th Plan period. The Committee were informed that the main reason for the slippage was that the projects included in the 10th Plan were at the initial stages of preparation of DPRs and the approvals could not be

obtained in time. The Committee are constrained to observe that the actual capacity addition of 1970 MW (4 number of projects) achieved by NHPC during the 10th Plan was quite small as against the target of 4357 MW set for the Plan period. The Committee, therefore, cannot but deplore the way the unrealistic targets (both physical and financial) were set for NHPC during the 10th Plan period. The Committee further observe that NHPC plans to add 4713 MW from nine hydro electric projects during the 11th Plan period. The Committee hope that the achievement of targets by NHPC for the 11th Plan would not follow the same path as that of the 10th Plan. The Committee, therefore, recommend that execution of hydro projects by NHPC should be taken up not only in a more realistic manner but also on a fast track mode. The Committee expects the NHPC to achieve both the physical and financial targets during the 11th Plan period.

2.3.21 Regarding Subhansiri Hydro Electric Project being executed by NHPC, the Committee observe that although the project got the CCEA approval on September 3, 2003, for execution within a period of 7 years and the civil construction work packages for Dam works and Power Home Works were awarded on 19th December, 2003, the project was delayed pending final forest clearance and on account of imposition and subsequent payment of net present value – which further delayed physical possession of encumbrance free land. After achieving the milestones of diversion of the river in December, 2007, and completion of Power House excavation in August, 2007, the commissioning of the 1st unit of the project

is now scheduled for 30th October, 2011. Expressing confidence that now with the constitution of a 'Steering Committee' to address the problems encountered in the execution of work, the Committee desire that the project be positively completed in the 11th Plan period as per revised schedule. The Committee would, however, like to be apprised of the developments taking place in implementation of this important project from time to time.

2.3.22 The Committee are further constrained to note that in the case of NEEPCO also, as against Budget Estimates of 1258.70 crore in 2007-08, the Revised Estimates during the year were only Rs.260.90 crore. The main reason for low Revised Estimates was the slippage of Kameng hydro electric project which was initially envisaged to be completed by November 2009. The Committee note that work on Kameng hydro electric project suffered initially due to various factors like unprecedented geology, poor approach road as well as delay in mobilization of equipment and manpower by the package contractor. The Committee further note that the Government has appointed a panel of experts comprising personnel of national repute to assist and render advice on design and construction aspects of Kameng hydro electric project so that the project is expedited as rescheduled. The Committee hope that the project would now be completed as per revised commissioning schedule of March, 2011.

D. National Thermal Power Corporation (NTPC)

Plan Outlays

2.4.1 The Committee note that the BE for NTPC during 2007-08 was 12792.00 crore and the RE was 11618.00 crore, showing a substantial variation. As against the BE of Rs. 1175.20 crore for proposed Central Generating Station of NTPC at Darlipalli, the RE figures are Rs. 55 crore, thereby leaving a shortfall of Rs. 1120.20 crore.

2.4.2 On being asked about the reasons for the variation by the Committee, in principle, it has been stated by NTPC that clearances for land and water from the Govt. of Orissa were received and site specific studies were in progress. However, subsequently State Govt. vide letter dated 03.11.2007 has intimated that water allocation to the Project (160 cusecs) from Hirakud reservoir has been withdrawn. Further, State Government's response on CWC's observation i.e. "No detail study has been supplied to ascertain the Water Availability" was awaited. The issue was taken up by both NTPC and Ministry of Power. Secretary (Power) vide letter dated 21.11.2007 requested Chief Secretary, Orissa for his intervention to resolve the issue and to extend all assistance in land acquisition. Industrial Promotion and Investment Corporation of Orissa Ltd. (IPICOL) vide letter dated 14.01.2008 put conditions for sharing of power to be generated from the project. Matter is under discussion with Government of Orissa for an early resolution.

2.4.3 In regard to the execution of Badarpur Expansion Project, the Committee were informed:

> "As against BE 07-08 of Rs. 267.70 crore, RE for Badarpur Expansion Project is Rs. 7.28 crore leaving a shortfall of Rs. 260.42 crore. Expansion of Badarpur with a capacity of 1000 MW (2x500 MW) was envisaged at the land available in the Ash Pond area. However, after detailed studies it was not found techno-economically feasible to take up the project due to soil conditions and non-availability of relaxation of chimney height from MOEF."

Research and Development

2.4.4 To a query on the Research and Development (R&D) efforts being made by NTPC, the Ministry has informed that since inception, NTPC has laid emphasis on plant availability, reliability and enabling sustained plant performance over longer period. The efforts, which have gone in these developments, have given NTPC spectacular results. Such efforts, though developmental in nature, did not exactly qualify as 'R&D' since the research component in fundamental science was minimum. In view of the above, the actual amount spent on product and process improvements in the form of modifications in the stations and R&M (renovation and modernization) is not included in R&D expenditure. If that is taken into account, investment by NTPC in R&D would be several folds higher. About Rs.400 crore in IGCC project was proposed out of which the expenditure was very little. NTPC's investment in R&D during the 10th Plan Period was as follows:

(Rs. Lacs)

Sl. No.	Year	Total R&D Expenditure	Total expenditure on Energy Technology Centre	Total expenditure on R&D and Energy Technology Centre
1	2002 – 2003	490	-	490
2	2003 – 2004	470	-	470
3	2004 – 2005	450	2413 #	2863
4	2005 – 2006	630	363 ##	993
5	2006 – 2007	610	219	829
TOTAL 10th PLAN		**2650**	**2995**	

includes Rs.2410 lakhs on land
includes Rs.185 lakhs on land

2.4.5 The Committee categorically desired to know the R&D efforts to be made by NTPC during the 11th Plan period. In this regard, the Ministry informed that NTPC had set up R&D Centre at a cost of about Rs.28 crore with a mandate to provide scientific services to various power projects. NTPC envisages to further upgrade/strengthen the R&D centre facilities during the 11th Plan.

2.4.6 The Committee were informed that in order to boost R&D efforts and focus on R&D activities from the point of view of future energy scenario, NTPC has planned to develop state of the art technologies through a strong emphasis on fundamental R&D by setting up world class Energy Technology Research Centre precisely to cater to such a cutting edge work. In this regard, 75 acres of land at Greater Noida has been acquired at a cost of approximately Rs.27 crore. Pre-fabricated temporary campus has already started functioning at Greater Noida. The construction of Phase-I of main campus consisting of around 5500 Sq. Mtr. of built-up area at an estimated cost of Rs.22 Crore is under progress and is likely to be completed in 2008-09. Meanwhile, the activities of Energy Technology Research Centre have already started and NTPC has entered into research collaborations with 10 leading research institutes for 14 research projects in various areas of efficiency and environment, w.r.t. power generation to be completed over a time period of 18 to 48 months at a cost of around Rs.9.5 crore (Rs.1.31 crore spent in 10^{th} Plan).

2.4.7 To a query as to what would be the investment of funds in future in R&D, the Ministry has informed the Committee that NTPC Board has committed an investment of 0.5% of its net profit every year on R&D activities over and above the capital expenditure for Energy Technology Research Center.

2.4.8 The Committee are constrained to note that NTPC, a Central PSU engaged in power generation for the last three decades, was unable to target realistic outlays during 2007-08. Against the Estimated plan outlays of Rs.12792.00 crore for NTPC during 2007-08, Revised outlays were Rs.11618.00 crore, showing a substantial decrease. The Committee note that the Budget Estimates of Rs.1175.20 crore for the proposed thermal power station of NTPC at Darliplli, were drastically reduced at Revised Estimates stage to Rs.55 crore, showing a shortfall of Rs.1120.20 crore as there were various problems regarding supply of water to the project. Also another important project, i.e., Badarpur Expansion Project could not be taken up due to soil conditions and non-availability of relaxation of chimney height from Ministry of Environment and Forests. The Committee expect realistic Plan outlays to be formulated by NTPC in future and at the same time they desire that the Plan outlays for 2008-09 be fully utilised by NTPC. The Committee would like to be apprised of the action plan formulated by the NTPC for the year 2008-09 in this regard.

2.4.9 The Committee note that NTPC had taken up R&D works in the 10th Plan period. However, the efforts made were developmental in nature and did not exactly qualify as R&D since research component in fundamental science was minimum. The Committee further observe that NTPC envisages to upgrade and strengthen the R&D centre facilities established by it at a cost of Rs.28 crore. The Committee are also happy to note the commitment on the part of NTPC to invest 0.5% of its net profit every year

on R&D activities, over and above the capital expenditure for Energy Technology Research Centre and that NTPC has also entered into research collaborations with 10 leading research institutes for 14 research projects in various areas of efficiency and environment, with reference to power generation, to be completed over a time period of 18 to 48 months at a cost of around Rs.9.5 crore. The Committee, however, desire to know the details of the 14 R&D projects proposed to be taken at a cost of Rs.9.5 crore and recommend that the proposed outlays be fully and properly utilised by NTPC and the projects completed as targeted.

E. Coal and Gas linkages for power plants

2.5.1 The Committee desired to know the coal and gas linkages available to the power plants in the country. Responding to this, the Ministry informed that NTPC has already obtained the long-term coal linkage for the coal based capacity identified for XI Plan Period. In the case of Barh-II (1320 MW) coal is envisaged to be supplied from coal blocks allocated to NTPC. NTPC and CIL have initialed the model fuel supply agreement which will be signed with subsidiary companies of CIL for supply of coal to power stations. Further, any shortage in coal supplies from linked sources is envisaged to be made good from the coal block namely Pakri Barwadhi allocated to NTPC as basket source. In case the gap still remains between coal requirement and supplies, NTPC may also resort to import of coal to meet the requirement.

2.5.2 The Committee were further informed about the requirement of coal by the power industry for the terminal year of 11th Plan which has been estimated at 564.1 million tonne (MT). Out of this, 20.3 MT is for the projects based on imported coal. Thus, total coal required from indigenous sources works out to be 543.8 MT. Against this, total coal availability from indigenous sources has been indicated as 477.7 MT to power utilities, as per the Ministry of Coal's Report on Working Group on Coal and Lignite for formulation of the 11th Plan. This results in a gap of around 66 MT in the terminal year of the 11th Plan. As per New Coal Distribution Policy issued by the Ministry of Coal on 18th October, 2007, Coal India Ltd. (CIL) has been entrusted the responsibility of meeting the requirement of power plants as per Fuel Supply Agreements (FSA), with import of coal, if required. In the light of the said Policy, the CIL along with power utilities will, therefore, be required to import 44 MT coal (equivalent to 66 MT of indigenous coal) in the terminal year of the 11th Plan.

2.5.3 On the availability of coal, the Ministry was asked to specify the power plants which were critical. In this connection, the Ministry has furnished the following information:

"Number of power stations called 'critical' depends upon the stock of coal available at the thermal power plant. Power stations having coal stock for less than 7 days are called 'Critical' and those having less than 4 days are called 'Super Critical'. At present i.e. As on 17.2.2008, the All India Coal stock at thermal power stations is 8.836 Million Tonnes (MT) (8 days) and out of the total 75 thermal power stations monitored by CEA on daily basis, 26 thermal power stations are critical, having a coal stock of less than 7 days."

2.5.4 To a query on the Gas Supply Position in the country, the Committee were informed that going by the assessment of CEA, the gas supply position as on 31.01.2008 was as under:

1	Gas based capacity (up to Jan'08)	13,444 MW
2	Gas Requirement At 90% PLF	**65.74 MMSCMD**
3	Avg. Gas Supply (April- Jan'08)	36.75 MMSCMD(sustained 53% PLF)
4	Gas Shortage (at 90% PLF) (2-3)	28.99 MMSCMD
5	Fully stranded capacity (Not able to commission because of non-availability of Gas)	1285 MW (Gas Requirement at 90% PLF: **6.17 MMSCMD**)
6	Liquid fuel capacity that can be converted to Gas	1002 MW* (*275 MW not running any more)
7	Gas requirement @ 90% PLF (for the conversion of Liquid based capacity)	**5.26 MMSCMD**
8	Total Gas requirement at 90% PLF (Approx)	**77 MMCSMD (66+6+5)**

2.5.5 It was further reported to the Committee that the allocation of gas comes within the purview of Ministry of Petroleum & Natural Gas. However to meet the demand of the gas, Ministry of Power has continuously been pursuing the matter of supply of gas to power plants, with Ministry of Petroleum & Natural Gas.

2.5.6 The Committee were informed that the Government is in process of finalization of Gas Utilization Policy. To a specific query of the Committee about the steps taken by Ministry of Power for adequate supply of gas to power plants, the Committee have been informed that the Ministry of Power has requested the

Ministry of Petroleum & Natural Gas to accord priority to Power Sector while finalizing the above policy and that power sector be kept at par with Fertilizer Sector, while finalizing the gas allocation policy.

2.5.7 Further, about the new gas based capacity addition, in XIth Plan, the Ministry of Power has stated in a written reply that Kawas II (1300 MW) and Gandhar II (1300 MW) are proposed to be added. For long term tie-up of fuel, Letter of Intent (LOI) was placed on M/s RIL who was selected on International Competitive Bidding (ICB) and LOI was acknowledged by RIL. However, the Gas Sale & Purchase Agreement (GSPA) is yet to be signed and the matter is sub-judice. NTPC has also signed an MOU with Govt. of Nigeria. As per the provisions of the MOU, Federal Govt. of Nigeria (FGN) shall provide at least three (3) million tones of Liquefied Natural Gas (LNG) per annum on long-term basis to NTPC subject to availability for a period of 25 years at a reasonable price. Upon successful operation of above obligation by FGN, NTPC shall set up and operate 500 MW coal based power plant and 700 MW gas based power plant in Nigeria subject to techno-commercial feasibility. Upon fructification of the above MOU, the LNG can be utilized to meet the shortfall of existing gas-based power stations and / or setting up new gas based power plants. NTPC is also making efforts to secure long-term supplies of LNG through strategic participation in LNG value chain.

2.5.8 During evidence, when asked about the gas supply policy of the Government, the representative of the Ministry of Power replied:

> "…….where Central Government is concerned. There are also some areas of conflict like what should be the gas policy. Where to allocate the gas and where to give it as first priority? What are the conditionalities of the NELP under which gas has been given out? How much you can interfere? We do have a few GoMs, and we have put it across that whereas fertiliser can be imported, power cannot be imported in large quantities. In such meetings, we do put up our points across. We would sincerely take your advice."

2.5.9 The Committee observe that the Government is making all efforts to obtain long term coal linkages based on the capacity addition targets for the 11th Plan. The Committee also note that NTPC and CIL have initiated the model fuel supply agreement which will be signed with subsidiary companies of CIL for supply of coal to power stations. Further, NTPC has kept all options open for the import of coal. Taking note of the fact, that 26 thermal power plants monitored by CEA have been declared as critical due to short supply/stock of coal, the Committee recommend that the Government should take necessary steps to ensure adequate supply of coal to existing thermal power stations. At the same time, the Committee urge the Government to identify well in advance the dedicated coal blocks/linkages for thermal power plants targeted to be completed in the 11th Plan.

2.5.10 The Committee further observe that due to shortage of gas in the country, the actual supplies to NTPC's gas based power station by GAIL has fallen short of the contracted quantity. Taking note of the fact that the Government is in process of finalisation of Gas Utilisation Policy, the Committee observe that it is high time that a debate is initiated at the highest level in the country over according relative precedence to various competing sectors, the main being fertiliser and power sectors, in the proposed Gas Utilisation Policy. At the same time, the Committee see a merit in the argument put forward to the Committee by the Secretary, Ministry of Power that while fertilisers can be imported, power cannot be.

The Committee, therefore, recommend that the power sector be accorded priority over all other competing sectors including the fertiliser sector in the matter of allocation of gas and coal because it is the power sector which drives the economy.

F. Ultra Mega Power Projects (UMPPs)

2.6.1 Regarding Ultra Mega Power Projects (UMPPs), the Ministry has informed the Committee that after finalization of sites in consultation with the States bidding process has been initiated in respect of four Ultra Mega Power Projects. Out of these four, bidding process in respect of UMPPs to be located in Sasan (Madhya Pradesh), Mundra (Gujarat) and Krishnapatnam (Andhra Pradesh) has been completed and the Special Purpose Vehicle has been transferred to Reliance Power Limited in respect of Sasan and Krishnapatnam UMPP and to Tata Power Company Limited in respect of Mundra UMPP, being the successful developers identified through tariff based competitive bidding process. The bidding process in respect of the fourth project i.e. Tillaiya UMPP is currently on.

2.6.2 In view of the resentment from local residents and alternate sites being identified for developing UMPPs at Girye in Maharashtra, Tadri in Karnataka, Akaltara in Chhattisgarh and IB Valley in Orissa, the Committee desired to know the present status of these projects. In this regard, following information has been submitted to the Committee:

> **"(i) UMPP in Maharashtra**
>
> A site at Girye in Sindhudurg district was selected for setting of UMPP in consultation with the State Government. In the pre-bid conference held in Mumbai on 17.4.2006, State Government of Maharashtra had confirmed giving full support for setting up the UMPP at Girye. The local residents in and around the Girye site identified for the UMPP are agitating against setting up of UMPP on Environmental consideration and probable damage to the mango plantations. Due to resentment of local residents against setting up of UMPP at Girye, the developmental work at Girye has not been taken up.
>
> State Government suggested an alternative site near Dighi port in Raigarh district. This site was visited by CEA/PFC team in June 2007 alongwith State Government officials. But the site is found to have constraints in regard to Coastal Regulation Zone (CRZ) Regulations.

Recently one more site has been suggested by the State Government near Kasarde village in Sindhudurg district. This site has also been visited by CEA/PFC team alongwith State Government officials. The Principal Secretary (Energy), Government of Maharashtra has been requested by CEA to furnish the details of land and the water availability data with regard to the site. Government of Maharashtra has however now proposed another site in Malvan Taluka of Sindhudurg district. The suitability of site is being studied with respect to environmental considerations and possibility of setting up of a port near the site.

(ii) UMPP site in Karnataka

Due to environmental issues opposition by local people, work at the site identified for UMPP, i.e., Tadri could not be taken up further. Government of Karnataka appointed a Committee to resolve the issues. Consent of the State Government is still awaited. Further actions shall be taken after finalisation of the site. State Government in their communication dated 6th September, 2007, have suggested one additional site at Ghataprabha in Belgaum district. Ministry of Power has written to the State Government to get the necessary clearances for both the site before further action is initiated. The response of State Government is still awaited.

(iii) Chhattisgarh UMPP

The site for the project was earlier identified by CEA at Akaltara based on coal blocks in Korba coalfield in association with the Chhattisgarh State Electricity Board officials. Ministry of Power had requested Ministry of Coal to allocate captive coal blocks from Korba coalfields. Ministry of Coal/CIL expressed difficulty in making available coal blocks from Korba coalfields and subsequently coal blocks in Hasdeo-Arand coalfield were earmarked for this project. Considering the Akaltara site being far off from the allocated coal blocks in Hasdeo –Arand coal fields, alternative sites near Hasdeo –Arand coalfields were identified and visited by CEA and PFC team alongwith State Government agencies. The report on sites visited by the team was sent to Government of Chhattisgarh. Based on the above report Government of Chhattisgarh vide letter dated 7.2.2008, intimated that the site near Salka and Khamaria villages near Udaipur in district Sarguja appeared to be only suitable site keeping in view the availability of adequate water from Rehar river. Availability of 135 million cubic meter of water from Rehar river near village Salka (Udaipur) was also confirmed. The details about site indicating its location, villages, settlements, type of land marked on the map, land use wise break up, number of settlement/population

likely to be displaced etc. is under compilation by Government of Chhattisgarh.

Various studies for development of the project would be initiated by Power Finance Corporation after receipt of above details from Government of Chhattisgarh.

(iv) Orissa UMPP

Consequent to Government of Orissa's decision in March 2007, to support UMPP in Orissa without any precondition, a meeting was held by Secretary (Energy), Government of Orissa with CEA and PFC officials when it was decided that Industrial Development Corporation of Orissa (IDCO) shall obtain the necessary details of land use, ownership pattern and population to be affected including extent of cultivation, habitation for the two alternative sites earlier identified by CEA/PFC. IDCO will engage local agency for which necessary charges shall be borne by the SPV, i.e., M/s Orissa Integrated Power Ltd. and based on which final location for the UMPP shall be decided. Subsequently on the advice of the State Government a study on land Status Assessment for the identified sites was got carried out in July 2007, from Orissa Computer Application Centre, Bhubaneshwar through IDCO. Based on this Study Report, CEA vide letter dated 20.9.2007 communicated its recommendation for the site near Bedabahal and requested the State Government to give its consent for the selected site.

Further, CEA had proposed to draw water from Hirakud dam to the tune of 150 cusecs for UMPP. Intake from the reservoir is located at a distance of 40 km from the site. Government of Orissa suggested that an alternative study may be conducted by WAPCOS to locate a barrage in the Ib valley which is flowing adjacent to the site. The study was conducted by WAPCOS and it was found that creation of a barrage would necessitate submergence of land of seven villages which would result in major R&R issue. Accordingly, the source and water availability for this project is yet to be finalised by the State Government.

CEA and PFC are vigorously pursuing with the State Government officials to expedite the consent of Government of Orissa for land and water availability. In this regard, a number of meeting have been held at Bhubaneshwar with the officials of Government of Orissa. The consent of the State Government is however awaited.

Three coal blocks namely Meenakshi, Meenakshi 'B' and Meenakshi Dip-side have been allocated by Ministry of Coal for

Orissa UMPP. Ministry of Power has requested Ministry of Coal to allocated one more coal block namely Chaturdhara as three coal blocks already allocated would not be adequate.

Preparation of project report and the bidding process will be initiated after receipt of approval from State Government for selected site and water allocation."

2.6.3 The Committee have been apprised that the large sized UMPPs aimed to meet the power needs of a number of States/distribution companies are being developed on a Build, Own, and Operate (BOO) basis. In view of the fact that promotion of competition is one of the key objectives of the Electricity Act, 2003, and of the legal provisions regarding procurement of electricity by distribution companies, identification of the project developer for these projects is being done on the basis of tariff based competitive bidding. Guidelines for determination of tariff for procurement of power by distribution licencees have been notified in January 2005 under the provisions of the Electricity Act, 2003. The Power Finance Corporation (PFC), a PSU under the Ministry of Power, has been identified as the nodal agency for this initiative.

2.6.4 Elaborating further on the execution of Ultra Mega Power Projects (UMPPs) in the country, the Secretary, Ministry of Power informed the Committee during evidence:

"We have tried to push ultra mega power projects to the best of our ability. The availability of sites and clearances is virtually reviewed almost every week in the Ministry with the Power Finance Corporation and the Central Electricity Authority. Though four such projects are almost now at the stage of take-off barring one which is in the RFP stage, yet, three should begin their construction any moment. There are two or three coastal sites which we have not finalised – one is in Karnataka, the other one is in Maharashtra and the third one is in Tamil Nadu – for lack of an appropriate site. Different sites have been shown. There has been some local opposition in view of large land requirement. But we are looking at alternative sites. There are some pithead sites also in Orissa which are almost finalised. In Chhatishgarh also, it is close to identification and finalisation. In these projects also, it is the water source which is giving us some delay. I wish to inform the Committee that the

Government of Orissa has also agreed to host three additional sites for UMPPs through the Power Finance Corporation. Each project would be of the capacity of about 4000 MW. The host State will be getting about 50 per cent of power. At least the offer will be from our side to take 50 per cent power."

2.6.5 The Committee note that the Ultra Mega Power Projects (UMPPs) are ambitious projects of the Ministry as they would immensely help in the capacity addition programme of the Government. The Committee further observe that bidding process for UMPPs located in Sasan (MP), Mundra (Gujarat) and Krishnapatnam (Andhra Pradesh) has been completed and Special Purpose Vehicle has been transferred to the executing companies. The Committee note with satisfaction that because of the efforts made by the Ministry of Power four of the UMPPs are reported to be at the stage of take off and construction work for three of them would be started soon. The Committee, however, find that the Central Electricity Authority (CEA) has identified an alternate site for a UMPP in Orissa and the State Government was communicated the recommendations of CEA on 20th September, 2007, approval for identified site and water allocation has yet to be consented to by the Government of Orissa. The Committee further observe that the selection of site and initiation of bidding process for setting up UMPPs in the States of Chhattisgarh, Maharashtra and Karnataka are contingent upon the necessary inputs/clearances by the respective State Governments. While observing that involvement of State Governments in the whole process of identification of sites, allotment of land and water for the setting up of UMPPs as well as relocation of affected families in the respective State are very important for the timely development of these projects, the Committee once again reiterate their recommendation made in their 22nd report on Ultra Mega Power Projects,

that the success of UMPPs depends on the support of and co-ordination among various players involved, i.e., the Central Government, the State Government, project developers, consultants, etc. The Committee are of the opinion that lack of co-ordination among these agencies can derail the capacity addition programme during the 11th and 12th Plan periods. The Committee, therefore, recommend that the Government should ensure that all agencies work in tandem for the completion of UMPPs. The Committee also desire that Central/State Government should take necessary steps in advance to settle the local issues, if any, before the State Government offers a site to set up an UMPP. The Committee hope that the UMPPs would be set up in the specified timeframe to facilitate the capacity addition as targeted.

G. Captive Power Generation

2.7.1 The Committee have been informed that the installed capacity of captive power generation in the country as on 31.3.2007 is 22335 MW.

2.7.2 To a query on the steps taken by the Ministry to encourage and facilitate captive generation in the country, the Ministry have informed the Committee of following measures taken:

> "(i) As per the Electricity Act 2003, no license is required for a person to construct, maintain or operate a Captive Generating Plant. Captive Power Plant can be set up as per Provisions of Section 9 of Electricity Act 2003, which stipulates:
>
> (a) Notwithstanding anything contained in this Act, a person may construct, maintain or operate a captive generating plant and dedicated transmission lines; Provided that the supply of electricity from the captive generating plant through the grid shall be regulated in the same manner as the generating station of a generating company.
>
> (b) Provided further that no license shall be required under this Act for supply of electricity generated from a captive generating plant to any licensee in accordance with the provisions of this Act and the rules and regulations made thereunder to any consumer subject to the regulations made under sub-section (2) of section 42.
>
> (c) Every person, who has constructed a captive generating plant and maintains and operates such plant, shall have the right to open access for the purposes of carrying electricity from his captive generating plant to the destination of his use. Provided that such open access shall be subject to availability of adequate transmission facility and such availability of transmission facility shall be determined by the Central Transmission Utility or the State Transmission Utility, as the case may be: Provided further that any dispute regarding the availability of transmission facility shall be adjudicated upon by the Appropriate Commission.

(ii) Further Ministry of Power vide notification dated 8.6.2005, has prescribed the following electricity rules:

No power plant shall qualify as a 'captive generating plant' under Section 9 read with clause (8) of section 2 of the Act unless –

In case of power plant -

(i) not less than twenty six percent of the ownership is held by the captive user(s), and

(ii) not less than fifty one percent of the aggregate electricity generated in such plant, determined on an annual basis, is consumed for the captive use:

Provided that in case of power plant set up by registered cooperative society, the Conditions mentioned under paragraphs at (i) and (ii) above shall be satisfied collectively by the members of the co-operative society; Provided further that in case of association of persons, the captive user(s) shall hold not less than twenty six percent of the ownership of the plant in aggregate and such captive user(s) shall consume not less than fifty one percent of the electricity generated, determined on annual basis, in proportion to their shares in ownership of the power plant within a variation not exceeding ten percent;

In case of a generating station owned by a company formed as special purpose vehicle for such generating station, a unit or units of such generating station identified for captive use and not the entire generating station satisfy(s) the conditions contained in paragraphs (i) and (ii) of sub-clause (a) above including -

i) The electricity required to be consumed by captive users shall be determined with reference to such generating unit or units in aggregate identified for captive use and not with reference to generating station as a whole; and

ii) The equity shares to be held by the captive user(s) in the generating station shall not be less than twenty six per cent of the proportionate of the equity of the company related to the generating unit or units identified as the captive generating plant.

It shall be the obligation of the captive users to ensure that the consumption by the Captive Users at the percentages mentioned in sub-clauses (a) and (b) of sub-rule (1) above is maintained and in case the minimum percentage of captive use is not complied with in any year, the entire electricity generated shall be treated as if it is a supply of electricity by a generating company."

2.7.3 Further, the Ministry informed that the Conference of Chief Ministers on power sector held in May, 2007 under the Chairmanship of the Prime Minister has resolved to facilitate captive power plants to provide the spare generating capacity to the grid and strive to do away with restrictive levies, duties and regulations in a time bound manner.

2.7.4 The Committee have been further apprised that the Government is considering a proposal for amending the existing Mega Power Policy. The proposal, *inter-alia*, provides for extending the Mega Power Project status benefits to captive and merchant power plants, subject to qualifying conditions.

Zero Customs Duty: In terms of the notification of the Government of India in the Ministry of Finance (Department of Revenue) No.21/2002-Customs dated 1st March, 2002 read together with No.49/2006-Customs dated 26th May, 2006, the import of capital equipment would be free of customs duty for these projects.

Deemed Export Benefits: Under Chapter 8(f) of the Foreign Trade Policy, deemed export benefits are available to domestic bidders for projects both under public and private sector on following the stipulations prescribed therein.

Income Tax Benefits: In addition, the income tax holiday regime as per Section 80-IA of the Income Tax Act, 1961 can also be availed.

2.7.5 To a query, on the advantages and encouragement being provided for the captive power generation in the country, the Secretary, Ministry of Power submitted:

> "In the days to come at least we would in the Ministry like to encourage as many captive power plants as possible. I personally believe in decentralized generation because it reduces the T&D losses, it reduces the need to set up a transmission system; it brings about some efficiencies also and some degree of independence.

Incidentally, the figure that we arrived at after working at about 1000 units or about 1100 units per individual, from the Planning Commission side, we virtually came to the same figure, almost from the EPS side also, on what we need to do. But we assure you that we are being a little bit conservative in our projections of what we have in the portfolio. We are not mentioning in this 78,000 MW, the new captive power plants, whom we are also actively encouraging, and hope that they would also come; and also add to the stream as the Hon'ble Member mentioned about the Sterilites unit; We know that there are other such entrepreneurs; we are trying to help them with coal linkages or whatever is possible. Wherever private enterprise can step up in, I personally feel that it is more welcome than public enterprise getting in and moving into other areas. We are looking forward to a much greater participation from the private sector; the captive would be almost in that sector."

2.7.6 The Committee observe that the present installed captive power generation capacity in the country is 22335 MW. The Committee note that the captive power generation is a means of decentralized generation with low T&D losses; and to also reduces the cost as there is no need to set up a transmission system. Further, the Government is taking substantive measures to facilitate captive power generation plants to provide the spare generating capacity to the grid and it has also been striving to do away with restrictive levies, duties and regulations in a time bound manner. The Committee further note that the Government is considering a proposal for amending the existing mega power policy, which, *inter-alia* provides for extending the Mega Power Project status benefits to captive and merchant power plants, subject to qualifying conditions. The Committee strongly recommend that the Government should finalise the mega power policy at the earliest and benefits from the same should not be confined only to the captive power generators but the projects in the State sector should also be extended mega policy benefits in order to increase and encourage participation of the States in the power generation. The Committee also desire that the Government should also help captive power generators in getting coal linkages, water supply etc. and thereby encourage more and more private entrepreneurs to set up such power projects.

H. Use of Supercritical Technology and cleaner fuels in power sector

2.8.1 To a query, on the use of supercritical technologies and cleaner fuels in the power sector, the Ministry has informed that power plants using supercritical technology have a higher thermal efficiency of about 40 per cent as compared to 38.6 per cent for sub-critical units of 500 MW units or less advantage. According to the Ministry, the adoption of large supercritical units is expected to provide the following advantages:

(i) Faster capacity addition due to large unit size

Due to large unit sizes of about 800 MW contemplated for supercritical plants, significant improvement in pace of capacity addition would be possible. The cumulative overall tonnage and quantum of hardware to be erected with large unit size is comparatively less as compared to stations with multiple smaller sized units for same overall cumulative generating capacity although for individual unit of higher rating the tonnage is more. Further, the overall space requirements would also be less with higher sized units.

(ii) Higher Efficiency and reduced emission

Supercritical parameters would lead to higher efficiency. Depending on the steam parameters adopted, a relative efficiency gain of 1.8% to 5.1% is possible as compared to a 500 MW sub-critical unit. Thus a comparable saving in fuel consumption can be obtained by supercritical units. Apart from the savings in fuel consumption, an associated advantage of efficiency gain is corresponding reduction in emission also. For example, a 4000 MW station comprising 5 supercritical units of 800 MW with steam parameters of $565/593^0$C would result in coal savings of 0.79 million tonnes per annum and CO_2 emissions reduction of 1.15 million tonnes per annum, as compared to a similar overall capacity station comprising 8 units of 500 MW (sub-critical units) at a plant load factor of 80%.

(iii) Better Load Cycling with supercritical technology

Supercritical units by virtue of their construction are better suited for load cycling and rapid start ups. Part load efficiency of supercritical unit is also better compared to sub-critical unit.

2.8.2 To a query to this effect, the Committee was further informed about the prevalent clean coal technologies and also steps being taken to adopt those technologies in India as follows:

(i) Supercritical Technology: In India supercritical units of 660 MW are under installation at Sipat and Barh Thermal Power Stations (TPS) of NTPC Ltd. Apart from these, a number of supercritical units with unit size of 660/800 MW have been planned to be set up by NTPC Ltd. and State utilities. Ultra Mega Power Projects are also envisaged to be with supercritical parameters.

(ii) Circulating Fluidised Bed Combustion (CFBC) Technology: Four CFBC units of 125 MW each are operating at Surat lignite TPS and Akrimota TPS in Gujarat. Six CFBC units of 125 MW each are under execution at Surat Lignite, Giral TPS and Barsingsar TPS. CFBC units of 250 MW are being installed at Neyvelli by Neyvelli Lignite Corporation.

(iii) Integrated Gasification Combined Cycle (IGCC): So far the world over, IGCC technology has been adopted for low ash coal which is not suitable for Indian high ash coal. In India, efforts are underway to develop this technology through indigenous efforts.

2.8.3 On being enquired about the availability of equipment for Supercritical Units, the Committee have been informed that supercritical generating units are being manufactured by a number of countries viz, USA, Japan, Germany, Korea, Russia, China etc., BHEL has also an on-going collaboration for manufacture of

supercritical boilers and turbine generators with M/s Alstom and M/s Siemens respectively. M/s Larsen & Toubro Limited (L&T) has also formed a joint venture company for manufacture of supercritical boilers and turbine generators with M/s Mitsubishi Heavy Industries (MHI), Japan.

2.8.4 Further, CFBC boilers are already being manufactured in India and BHEL has been supplying boilers and turbine generators for 125 MW and 250 MW subcritical units installed by power utilities.

2.8.5 During evidence, replying to a query on the steps taken by the Ministry for using supercritical technology and cleaner fuels to reduce carbon dioxide emissions, the Secretary, Ministry of Power informed the Committee:

> "As far as supercritical technology is concerned, we feel that adoption of this technology for coal is one of the cleaner coal technologies which we believe will result in a saving of about four per cent of fuel and correspondingly less emission. In technical terms, at a moment, the steam pressure that we are having is about 170 kg per sq. cm. and temperature is about 537^0 Celsius. Now, these, we hope to take to about 247 kg per sq. cm. And temperature between 565-593 degrees Celsius. This is what we mean by supercritical technology. We are hoping that at least in all the Ultra Mega Power Projects, of course where this is a requirement, and also in many more projects that are going to come up in the country that are going to come up with this kind of a technology and it is expected that the unit sizes will be in the range of 660-800-1000 MW in times to come; may be, 660-800 MW is our requirement.
>
> In respect of clean coal, there is a Circulating Fluidized Bed Combustion Technology which also we are taking up in some units. There are four units of 125 MW operating at Surat Lignite, Akrimota, 6 numbers are under execution at Surat, in Giral, Barsingsar. These are the ones that are in place for cleaner technologies. There is the IGCC which we are very keen on, the Integrated Gasification Combined Cycle. The BHEL has been working on it for many years, but we have not been able to raise the level of technology. We had an agreement with the USA on this in the year 2000. Indian coal was tested out, but it has not yet come through on commercial scale. We are trying to push NTPC and BHEL to jointly set up this facility. NTPC is of the view that BHEL

should also come in with equity and not only look for manufacture because there is some degree of risk involved in all this and they wish to share the risks and the benefits. But sooner than later, we will be having this technology in place in our country at least that is my wish – we have had two full scale meetings on this issue with the private sector and also with the Government."

2.8.6 On the issue of carbon credits and CDM, the Secretary stated:

"I wish to bring before the Committee, that the point being talked about is CCS at the moment, is not carbon credit. It is carbon capture and storage. We in India believe that the output of CO2 is going to be so huge that it is not going to be very practical to be able to store it in a highly populated country, in land deposits, in mines in our country in such conditions."

2.8.7 Further, on the use of carbon dioxide for useful purposes, the Secretary, Ministry of Power added:

"We can reuse it, as we said that for enhanced oil recovery or something wherever there is an immediate productive use we are all for it. My point is if we can fix this carbon, as some studies are showing, into Ethanol, may be we wait for that time but if, Sir, we are going to put this carbon dioxide in huge deposits in our country, we are largely agriculture-based country, large portions of the country are depending on ground water exploitation and if this carbon dioxide were to go and contaminate our ground water aquifers it could even have some unstudied implications. We want to go cautiously on that. We are asking these countries who have polluted the environment, who are having per capita emissions of almost 22-23 times as compared to our one tonne, to first take a lead and show us that it is practically possible, there are no adverse affects and there are no legal implications. When it is successfully done, we shall not be second to anybody in adopting it.

As far as these cleaner technologies are concerned, we have said so repeatedly at the fora of Future Gen where we were the first partners of the United States and also in the CSLF that we have four 'E's which are our fundamental requirements. One is our requirement of Energy, which we need to take to our villages and to our deprived population. Next is Equity. There are countries in the world which have 16-20 times our level of availability of power. There should be equitable distribution across the globe. Environment must be protected. You again go down to per capita

emissions and see that our responsibilities are much less than yours. And fourth is Efficiency; that we believe in very aggressive policies on energy efficiency, as I said, for demand side management."

2.8.8 The Committee further desired to know about the fly ash management and its uses in the other sectors. In this regard, the Secretary informed the Committee during evidence:

"This is an area where we need to devote attention because we can save top soil if we use this fly ash. Wherever possible we are tying up with the cement industry, trying to see that if prefabricated structures like lining of water courses, lining of canals can be done by using fly ash wherever possible and mixing with other components."

2.8.9 The Committee note that the use of supercritical technologies helps in faster and cleaner capacity addition due to large unit size, fuel efficiencies and reduced emission. The supercritical technologies also give better load cycling. The Committee, however, express concern at the high levels of carbon dioxide emissions by power projects in the environment. The Committee also note that supercritical technology in the power plants has a higher thermal efficiency of about 40% as compared to 38.6% for sub-critical units of 500 MW. Apart from this, Circulating Fluidised Bed Combustion (CFBC) Technology is also being adopted as a cleaner technology in the power plants. Moreover, the Ministry has stated that the Integrated Gasification Combined Cycle (IGCC) has been adopted in the world for low ash coal, which is not suitable for Indian high ash coal. In this connection, the Committee recommend that multiprong efforts for development of indigenous technology should be made and a special R&D project be prioritized for developing suitable technology for use of high ash coal with reduced emissions. Besides adopting other cleaner technologies available in the world for reducing the carbon emissions by power plants, the Committee also recommend that the Government should examine the feasibility of using carbon dioxide for useful purposes like enhanced oil recovery or for making ethanol, etc.

2.8.10 The Committee note with satisfaction that the supercritical technologies are under installation at Sipat and Barh Thermal Power Stations (TPS) of NTPC Ltd. A number of other 600/800 MW power stations

based on supercritical technology are going to be set up by NTPC and the State utilities. The Ultra Mega Power Projects (UMPPs) are also envisaged to be set up with supercritical parameters. Taking note of the fact that the supercritical technology has been adopted by various developed countries like USA, Japan, Germany, Korea, Russia, etc., and that its use will result in the saving of about four per cent of fuel and correspondingly less emission, the Committee desire that the Government should accord high priority to the development and use of supercritical technology in the power plants to every possible extent.

2.8.11 Taking note of the fact that preservation of the top soil and proper management of fly ash from power stations is an area which requires urgent attention, the Committee recommend that the Ministry should accord top priority to issues relating to fly ash management and also explore the possibility of having suitable tie-ups for the use of fly ash with other sectors such as cement industry etc., to make maximum use of this significant byproduct of the thermal power plants.

I. Renovation and Modernisation in Thermal and Hydro Power Projects

2.9.1 The Committee desired to know in detail about the Renovation & Modernization (R&M) works in the 10th Plan period, the Committee were informed that four thermal stations of NTPC (25 units – 7460 MW) were undertaken which are at various stages of completion. Out of total 282 activities, work on 198 activities have already been completed and balance activities are expected to be completed by the year 2008-09. The expenditure upto 31.03.2007 was Rs.234.42 crore. The total expenditure on these R&M activities till January 2008 is Rs.257.89 crore against total estimated cost of about Rs.570.68 crore. No thermal power station of NTPC was taken up for Life Extension (LE) work. Bokaro 'B' TPS (Units 1 to 3), Chandrapur TPS (Unit 1 to 3) and Durgapur TPS (Units 3 & 4) identified for R&M/LE works, were included under Partnership in Excellence (PIE) Programme for performance improvement by implementation of better O&M practices, doing capital overhauls etc. NHPC was selected as PIE partner. Plant Load Factor (PLF) of DVC stations taken up under PIE Programme has increased to 65.5%.

2.9.2 Further, on the present status and achievement of R&M in the 10th Plan, the Ministry has informed the Committee that most of the R&M activities are under advanced stage of completion and the work on balance activities are expected to be completed by the year 2008-09. Shortfall in achievement targeted during the X Plan has been on account of some delay in finalization of schemes, delay in supplies by equipment suppliers and non-availability of unit shut down for carrying out the works. The Ministry has further informed that the R&M activities were primarily carried out for generation sustenance, to comply with present environmental stipulations and to incorporate latest technology.

2.9.3 Regarding the R&M in the hydro power sector, the Committee were informed that at the beginning of Xth Plan (2002-07), a total of 72 hydro R&M schemes having an installed capacity of 8088 MW at an estimated cost of Rs. 2802 Crore were programmed for completion during the Xth Plan. During the Xth

Plan, out of the 72 hydro R&M schemes, only 32 schemes (5 in Central Sector and 27 in State Sector) with an installed capacity of 4337 MW at an actual expenditure of Rs.1029 Crore have been completed and have accrued a benefit of 829 MW through Uprating, Life Extension and Restoration. Two projects of R&M have been shifted to the 12th Plan period.

2.9.4 To a query as to why only 32 hydro schemes for R&M have been completed during the 10th Plan, the Ministry has informed the Committee that since electricity is a concurrent subject and most of the old vintage plants pertain to State Sector, the target of 72 hydro R&M could not be completed. In consultation with the States and other stakeholders, Central Electricity Authority has prepared following R&M/LE programmes for implementation during the 11th Plan:

Description	Physical targets		Financial targets	
	R&M No. of units (MW)	LE No. of units (MW)	R&M (Rs. in crore)	LE (Rs. in crore)
On going units (from 10th Plan)	43 (11810)	28 (4144)	425	2725
Additional units considered during 11th Plan	34 (7395)	53 (8888)	3700	10680
Total schemes programmed for 11th Plan	77 (19205)	81 (13032)	4125	13405

2.9.5 Regarding the projects to be taken up in the 11th Plan and the funds available in this regard the Ministry informed that a total number of 60 hydro R&M schemes have been planned for implementation during the XIth Plan having an installed capacity of 11069 MW for renovation & modernization (R&M), uprating (U), life extension (LE) and restoration (Res) at an estimated cost of Rs.3987 Crore. After implementation of these schemes there will be a benefit of about 4392 MW towards uprating (257MW), life extension (4105MW) and restoration (30MW). Out of 60 schemes, till date only one scheme of the State Sector with an installed capacity of 40 MW at a cost of about Rs. 24 Crore has been

completed and has accrued a benefit of 50 MW through life extension (40MW) & uprating (10MW) and 41 schemes are on-going. On the balance 18 schemes, the works have yet to take off.

2.9.6 On being asked about the reasons for the delay in implementation/completion of these R&M works the Committee have been informed:

- Delay in carrying out Residual Life Assessment (RLA) studies
- Delay in finalizing the Detailed Project Reports (DPRs)
- Non-availability of shut downs and sequential execution of R&M works
- Revised/enhanced scope of works of R&M schemes
- Non-adherence of completion schedules by the concerned power authorities/utilities
- Poor response of the bidders for execution of R&M works
- No dedicated teams have been constituted by the SEBs/PSUs to carry out the R&M works and to tackle the constraints/bottlenecks and to fix up the responsibility for any delays etc.
- Delays in resolving the inter-state problems in certain cases e.g. Machkund in A.P./Orissa and Hampi and Tungabhadra in A.P./Karnataka.

2.9.7 The Committee note that the power plants in the State Sector have particularly low Plant Load Factors (PLF) and the following steps have been taken to improve the situation in States:

(i) Renovation and Modernisation (R&M) and Life Extension (LE) of old and inefficient generating units continues during the 11th Plan.

(ii) Enhancement of PLF of thermal power stations with PLF below 60% through tie-up with well performing power utilities under 'Partnership in Excellence' (PIE) Programme. The programme envisages improvement in PLF through toning up of operating and maintenance (O&M) practices, training of operating personnel,

capital overhaul, essential R&M, etc., as a precursor to major R&M/LE works based on Residual Life Assessment (RLA) studies, subject to techno-economic viability.

(iii) Reducing the duration of Planned Maintenance in the thermal power stations.

2.9.8 The Committee note that demand for electric power continues to grow at a rapid rate out-stripping the availability of the same. In the prevailing scenario of shortage of resources to build up new capacity on the one hand, and stringent environmental conditions on the other, Renovation and Modernisation (R&M) and Life Extension (LE) of power plants have been recognised as a well-proven, cost effective technique the world over for improving the performance of older power plants and thereby obtaining additional generation of power at a much lesser cost. The Committee are of the opinion that by infusion of small amount of funds, in these processes, the performance of power plants can be greatly increased. The Committee are constrained to note that against a total estimated cost of 570.68 crore for R&M of thermal power plants during the 10th Plan to undertake 282 activities, only 198 activities with a total expenditure of Rs.257.80 crore could be completed till January, 2008. Taking note of the fact that the 10th Plan targets of R&M activities of thermal power station slipped to the 11th Plan on account of some delay in finalization of schemes, delay in supplies by equipment suppliers, non-availability of unit shut down for carrying out the works, poor response of bidders for execution of R&M works and non-constitution of dedicated teams by SEBs/PSUs for R&M work etc., the Committee expect the Government to take necessary steps to complete the R&M activities during 2008-09 as targeted. The Committee would also like to know, the action plan of the Government to achieve the targets during the year.

2.9.9 The Committee are dismayed to note that during the 10th Plan, out of a total of 72 hydro schemes programmed for completion, only 32 schemes could be completed and 38 schemes slipped to the 11th Plan. Further, two of the projects are reported to have been shifted to the 12th Plan. The Committee feel that in view of the R&M works slipping in previous plan periods also, the Government should have taken advance action for carrying out Residual Life Assessment studies, finalising Detailed Project Reports and constituting dedicated teams for carrying out R&M etc., to overcome the likely delays in execution of R&M works during the 10th Plan period.

2.9.10 The Committee also note that the Government have been making some efforts for increasing the Plant Load Factor in the State Sector power plants by R&M and Life Extension work. The Committee further note that a total number of 60 hydro R&M schemes have been planned for implementation during the 11th Plan, having an installed capacity of 11069 MW for renovation & modernization, uprating, life extension and restoration at an estimated cost of Rs.3987 crore. After implementation of these schemes, there will be a benefit of about 4392 MW – towards uprating (257MW), life extension (4105MW) and restoration (30MW). The Committee are dismayed that out of 60 schemes identified for the 11th Plan, till date only one scheme of the State Sector with an installed capacity of 40 MW at a cost of about Rs.24 crore has been completed and has brought a benefit of 50 MW – through life extension (40MW) & uprating (10MW) and 41

schemes are on-going. On balance 18 schemes, the works have yet to take off. The Committee cannot but deplore the lackadaisical approach of the Central and State Government/Utilities responsible for implementing the R&M activities in the power sector. To carry out the R&M work in a time bound manner, the Committee urge the Government to take all necessary steps so that the R&M work of all pending projects be completed as per the revised schedule. The Committee also recommend that the involvement of the private sector in the R&M works may also be encouraged for speedy achievement of the targets.

J. Rajeev Gandhi Grameen Vidyutikaran Yojana (RGGVY)

2.10.1 Electrification is identified as an essential rural infrastructure input for the development of rural economy. Moreover, electrification is not only required for lighting purpose but also for irrigation, agro – based rural and semi – urban industries and for agricultural growth.

2.10.2 The Ministry has given the following data in regard to rural electrification as on 31.3.2007, as per revised definition of village electrification:

Number of inhabited villages - 5,93,732
Number of villages electrified - 4,88,754*
Balance unelectrified villages - 1,04,978

* Source: Central Electricity Authority and Rural Electrification Corporation Ltd.

2.10.3 As regards the status of rural household electrification, the Ministry has informed the Committee that as per 2001 census, the total number of rural households are 13,82,71,559, Households having electricity are 6,01,80,685 and Households without electricity are 7,80,90,874.

2.10.4 The Committee enquired about the targets and achievements of the rural electrification programme. In response, the Ministry furnished the following data:

Year	Targets (un-electrified villages)	Achievement (un-electrified villages)	Budgetary provision (Rs. in Crore)
2006-07	40,000	28,706	3000
2007-08	9,000	7,077 (as on 15.02.2008)	3944.56
2008-09	25,000	-	5500

Besides this, 6.56 lakh electricity connections have been released to BPL households during 2006-07.

2.10.5 To a query on the progress of work during 2007-08, the Ministry has informed that the continuation of the scheme in the 11th Plan was approved in January, 2008 as a result of which the work was not in full momentum during April, 2007 to December, 2007. Further, the Ministry has informed that they had projected a budget requirement of Rs.24,000 crore for RGGVY during the year

2008-09 with a view to achieve the target of electrification of 67,475 villages and connection to 2.12 crore BPL households. Against this requirement budget allocation to the tune of Rs.5500 crore has been made. For achieving the target of 25,000 unelectrified villages and providing connections to 60 lakh BPL households which has been projected in the outcome budget for the year 2008-09, the total requirement is placed at Rs.13,000 crore. Additional amount would be required for the scheme at RE stage.

2.10.6 During a study visit to Rajasthan during January-February, 2008, the Committee have been informed that the cost norms for village electrification need to be modified depending on the terrain and area. In this regard, the Committee enquired about the present cost norms for village electrification across the country. In response, the Ministry have informed the Committee as under:

1.	Electrification of un-electrified village	Cost (Rs. In lakhs)
a	In normal terrain	13
b	In hilly, tribal, desert areas	18
2	Intensive electrification of already electrified village	
a	In normal terrain	4
b	In hilly, tribal, desert areas	6
3	Cost of electricity connection to BPL household	0.022

2.10.7 The Committee have been further apprised that to provide access to electricity to all households, electrification of about 1.15 lakh un-electrified villages and electricity connections to 2.34 crore BPL households are required. At this stage, the capital subsidy of Rs. 28,000 crore has been earmarked during the 11th Plan period.

2.10.8 Giving details of rural electrification, the Ministry of Power has informed the Committee that they have taken an estimate of electrifying 25,000 villages and 60 lakh BPL households in 2008-09. This estimated targets can be achieved

if execution period of contract can be compressed, for which attempt will be made through Rural Electrification Corporation, the nodal agency. It is a fact that target of 1.15 lakh un-electrified villages and 2.34 crore BPL households will not be achieved in 2008-09.

2.10.9 To a query on the reasons why the targets could not be achieved, the Ministry replied that funds for RGGVY were sanctioned on 3rd January, 2008, leaving only 3 months in financial year 2007-08 for sanctioning new projects. The project implementation cycle is 18 months from the date of award. Attempt would be made to compress this period to 12 months in some of the projects and electrify additional 7000 village since financial year 2008-09 over and above the remaining 18000 villages of 235 projects sanctioned in X Plan. The combined total would then be 25000.

2.10.10 The Ministry further specified that during 2008-09, the scheme targeted to electrify 25,000 un-electrified villages and provide free connections to 60 lakh BPL households. About the overall status of RGGVY, the following statement was furnished to the Committee:

(Status as on 18.03.2008)

Proposals	**Projects**	**Project outlay (Rs. crore)`**	**Un-electrified/ De-electrified Villages**	**Electrified Villages**	**BPL Households coverage (in Lakh nos)**
Sanctioned in 10th Plan	235	9,696.3	67,012	1,11,936	83.1
Sanctioned in 11th Plan Ph I	283	12,596.4	46,254	2,01,627	124.4
Additional Proposed in 11th Plan Ph I	36	3,021.3	3,020	29,360	2.71
Total	554	25,314	1,18,037	3,24,923	234.6

2.10.11 To a query of the Committee on the plan of action for implementing Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) during the XIth Plan, the Ministry submitted the following details:

(i) The continuation of the Scheme was sanctioned on 3rd January 2008 with a subsidy provision of Rs. 28,000 Crore for Phase I of the scheme in the XIth Plan.

(ii) States to ensure a minimum daily supply of 6- 8 hours of electricity in the RGGVY network.

(iii) States to give assurance of meeting any deficit in this context by supplying electricity at subsidized tariff

(iv) Deployment of franchisees is mandatory for the management of rural distribution in projects financed under the scheme

(v) Three-Tier Quality Monitoring Mechanism introduced to ensure quality of material & implementation

(vi) States to notify their Rural Electrification Plans

(vii) With the implementation of Phase I of the XIth Plan, it is proposed to electrify 1.15 lakh un-electrified villages and provide electricity connections to 2.34 Crore BPL households

2.10.12 Giving further details about the projects to be taken up during the XIth Plan, the Ministry has informed that it proposes to take up 319 projects. So far, 283 projects have been sanctioned in phase –I of XI Plan (upto 18.03.2008), covering the following:

(i) Electrification of 46,254 un-electrified villages,

(ii) Intensive electrification of 2,01,627 electrified villages

(iii) Free connections to 124.45 lakh BPL households

2.10.13 The Ministry of Power submitted the following details regarding RGGVY in a presentation made before the Committee during evidence:

(i) Up to March 2007, 38,525 un-electrified villages electrified and free connections provided to 6.72 lakh BPL households.

(ii) During 2007-08, targetted to electrify 9,000 un-electrified villages and provide connections to 14 lakh BPL households.

(iii) As on 3rd March '08, 7381 villages electrified & connections provided to 13.54 lakh BPL households

2.10.14 To a query during evidence on the present status of RGGVY, the Secretary, Ministry of Power elaborated:

> "In respect of the Rajiv Gandhi Vidyutikaran Yojana, which is a very major programme and a part component of Bharat Nirman, we have got approval of the Cabinet for the Eleventh Plan in January this year. We will be getting, in the first phase, about Rs.28,000 crore as Central contribution for this scheme. 90 per cent will be Central contribution and 10 per cent will be State contribution. There is a phase II component also, from which, as and when funds are available, we hope to implement more projects."

2.10.15 The Committee note that the Rajeev Gandhi Grameen Vidyutikaran Yojana (RGVVY), a scheme for Rural Electrification Infrastructure and household electrification was introduced in April 2005, for achieving the National Common Minimum Programme objective of providing access to electricity to all rural households over a period of four years. Rural Electrification Corporation (REC) is the nodal agency for the programme. Under this scheme 90% capital subsidy is to be provided for rural-electrification infrastructure and 10% as the loan assistance on soft terms by REC. The Committee note that against a target of electrification of 40,000 villages during 2006-07, only 28,706 villages were actually electrified. Further, during 2007-08, the target for village electrification was kept very low, i.e., 9,000 and only 7,077 villages could be electrified as on 15th February, 2008. The reasons stated by the Ministry for the low target was that continuation of the scheme in the 11th Plan was approved only in January 2008, as a result of which the work was not in full momentum during April 2007 to December 2007. The Committee further note that the budget requirement for the year 2008-09 for RGGVY was projected at Rs.24,000 crore for achieving the target of electrification of 67,475 villages and providing electric connections to 2.12 crore BPL households. Against this projected requirement, a budget allocation to the tune of Rs.5500 crore has been made. For achieving the target of electrifying 25,000 unelectrified villages and providing connections to 60 lakh BPL households, which has been projected in the outcome budget for the year 2008-09, the total

requirement of funds is placed at Rs.13,000 crore. However, additional amount would be required to be released for the scheme at RE stage. The Committee are very unhappy with the pace and progress of the Rajeev Gandhi Grameen Vidyutikaran Yojana, an ambitious programme of the Government which was taken up with the aim of electrifying villages and hamlets for supplying power to the rural areas to unleash full economic growth potential of rural India. Not convinced by the reasons cited by the Ministry for non-achievement of targets under the programme, i.e., insufficient availability of funds and also the fact that continuation of the programme in the 11th Plan was only approved on 3rd January, 2008, leaving only 3 months in the financial year 2007-08 for sanctioning new projects, the Committee strongly recommend the Ministry to take up the programme progressively on top priority basis in the financial year 2008-09 so that the targets envisaged are achieved. The Committee further note that the Ministry is making an attempt to compress the implementation cycle from 18 months to 12 months in some of the projects and electrify additional villages in the financial year 2008-09. The Committee, therefore, recommend that the funds required for the scheme be made available in time for implementation of the scheme in the year 2008-09. The Committee note that 'cost of electrification of an unelectrified village' and the cost of 'intensive electrification of already electrified village' varies from Rs.13 lakh to Rs.18 lakh and Rs.4 lakh to 6 lakh respectively – in normal terrain and in hilly, tribal and desert areas. From the case made out before the Committee

during its study visit to Rajasthan and also by going through the figures of cost of village electrification and basis thereof, the Committee note that the cost of Rs.18 lakh for a village electrification in hilly, tribal and particularly in the desert areas is not sufficient as compared to the cost of electrifying a village in normal terrain. The Committee is also of the view that the present practice of presuming the cost of village electrification as the same for similar areas/terrain throughout the country without factoring in the State specific conditions, disregards the ground realities. The Committee, therefore, recommend that the present cost norms for village electrification should be revisited by the Government and suitably modified taking into account the local conditions in the terrain and areas in different States where electrification has to be carried out.

K. Accelerated Power Development And Reforms Programme (APDRP)

2.11.1 As informed by the Ministry the main objective of the APDRP programme was reduction of Aggregate Technical and Commercial (AT&C) Losses to around 15% in five years to begin with in the urban areas and high density/consumption areas. Further, it was also targeted to reduce commercial and cash loss of the utilities. Under Investment Component, Government provided Additional Central Assistance for strengthening and upgradation of Sub-transmission and Distribution Network to SEBs/Utilities. The assistance was in form of 25% grant and 25% loan of the project cost. Special category States were provided 90% grant and 10% loan. However, the loan portion was discontinued w.e.f. April 2005 on recommendation of 12th Finance Commission. Under Incentive Component SEBs/Utilities were incentivised for cash loss reduction to motivate them towards reduction of their losses. Funds are released for actual cash loss reduction, for every Rs.2 of cash loss reduction Rs.1 is given as grant. Right from the beginning, it was made clear to the States that the programme was reform oriented and not budget and expenditure oriented. The off take by the States was obviously slow as they had to agree for various conditionalities for becoming eligible for APDRP assistance (signing of MOA), standardise their technical specification, streamline their bidding process and switch over to turnkey contracting. Only a few States like Andhra Pradesh, Goa, Gujarat, Himachal Pradesh, Karnataka, Tamilnadu and Uttarakhand took early initiatives and most of their districts headquarter towns have been covered under the programme. These States have shown significant improvement in reduction of AT&C loss and commercial loss as well. The Aggregate Technical and Commercial Losses (AT&C), which were reported as 38.86% during 2001-02 reduced to 34.54% in 2005-06.

2.11.2 Giving further details as regards the APDRP, the Ministry has informed the Committee that nine States have achieved cash loss reduction of Rs. 5753.22 crore and became eligible for incentive of Rs. 2876.61 Crore under the APDRP. The Government has released Rs. 1959.70 Crore. The balance could not be

released due to low availability of budget. The details of the eligibility for incentives are given in the table:

(Status as on 18.03.2008) (Figures in Rs. Crore)

S.No.	State	Cash Loss Reduction	Eligibility	Incentive Released	Balance amount to be released
1	Andhra Pradesh	530.22	265.11	265.11	NIL
2	Gujarat	2078.62	1039.31	533.81	505.50
3	Haryana	210.98	105.49	105.49	NIL
4	Kerala	289.82	144.91	109.27	35.64
5	Maharashtra	275.78	137.89	137.89	NIL
6	Punjab	503.88	251.94	145.05	106.89
7	Madhya Pradesh	595.02	297.51	114.95	182.56
8	Rajasthan	275.42	137.71	137.71	NIL
9	West Bengal	993.48	496.74	410.42	86.32
	Total	**5753.22**	**2876.61**	**1959.70**	**916.91**

2.11.3 To a query on the release of funds, the Ministry has added that claims for the balance amount have been sent to Ministry of Finance for release. Balance incentive amount is expected to be released by Ministry of Finance by end of the year 2007-08.

2.11.4 When enquired about the proposal to continue APDRP during the XI Plan, the Ministry has informed the Committee that the scheme would continue with revised terms and conditions as a Centrally Sponsored Scheme. The focus of the programme shall be on actual, demonstrable performance in terms of loss reduction. Establishment of reliable and automated systems for sustained collection of accurate base line data, and the adoption of Information Technology in the areas of energy accounting will be necessary pre-conditions before sanctioning any projects for strengthening & up-gradation of sub-transmission and distribution networks. Projects under the scheme shall be taken up in Two Parts. Part-A shall include the projects for establishment of baseline data and IT applications for energy accounting/auditing & IT based consumer service centers. Part-B shall include regular distribution strengthening projects. Expected investment in Part-A (Baseline System) shall be Rs. 10,000 crore and that in

Part-B shall be Rs. 40,000 crore. The expected programme size of re-structured APDRP during XI Plan is Rs. 51,577 crore.

2.11.5 The Ministry has further informed that initially 100% funds for Part A and 50% funds for Part B projects shall be provided through loan from the Govt. of India. The balance funds for Part B projects shall be raised from financial institutions. The entire amount of loan for Part-A projects shall be converted into grant once the establishment of the required Base-line data system is achieved and verified by an independent agency appointed by MoP. Up to 50% of loan for Part-B projects shall be converted into grant on achieving the 15% AT&C loss in the project area. The automatic systems for collection of accurate baseline data are not available in all the States. Therefore, in the restructured APDRP, emphasis is laid on first establishing reliable and automated systems for sustained collection of accurate baseline data, and the adoption of Information Technology (IT) in the areas of energy accounting and auditing. The establishment of baseline data will result in fixing accountability at the lowest level in the electricity distribution utility, which is expected to bring down AT&C losses of the utilities. IT will also allow real time monitoring of quality of power and service level to consumers. The Expenditure Finance Committee (EFC) Memorandum for restructuring of APDRP has been circulated to all concerned and the meeting was expected to be held very soon. The proposal, therefore, shall be placed before the Cabinet Committee on Economic Affairs (CCEA) for approval and with a view to finalising the allocation for restructured APDRP. The scheme shall be operationalised as and when CCEA's approval is obtained. The EFC Memo for continuing re-structured APDRP during XI Plan has been circulated. The APDRP scheme in the revised format is yet to be approved.

2.11.6 Regarding the fund availability for restructured APDRP scheme, the Ministry informed:

> "In anticipation of availability of necessary clearance with regard to Restructured APDRP scheme, the fund requirement during 2008-09 against this scheme was placed at Rs.6650 crore. Against this,

a token amount of Rs.1 crore has been made available. Due to non-availability of approval and requisite provisioning of funds the implementation of Restructured APDRP scheme would be delayed."

2.11.7 To a query of the Committee again on continuation of the APDRP scheme in the 11th Plan during evidence, the representative of the Ministry of Power gave the following details:

"You have mentioned about the APDRP which is also slated for a review. We have had detailed interaction over the past one year with almost all the States and with some of the stakeholders. The Expenditure Finance Committee meeting is slated for later this month in the Ministry of Finance. The Ministry is of the view that we should have result-oriented incentives. If you attain the target of 15 per cent AT&C loss level in a project area which we consider to be a reasonable figure for the losses, you shall get proportionate benefits from the scheme. There are some other view points of other Ministries and the Planning Commission. The matter is still under very active discussion."

2.11.8 The Committee note the main objective of the APDRP programme was reduction of Aggregate Technical and Commercial (AT&C) losses to around 15% in five years to begin with in the urban areas and high density/ consumption areas. Further, the scheme was also targeted to reduce commercial and cash loss of the utilities. The Committee note that nine States have achieved cash loss reduction of Rs.5753.22 crore and had become eligible for incentive of Rs.2876.61 crore. But the Committee are constrained to note that out of this amount incentive of Rs.1959.70 crore only could be released. The balance could not be released due to low availability of budget. The Committee further note that it is proposed to continue APDRP during the 11th Plan with revised terms and conditions as a Centrally sponsored scheme. The focus of the programme is stated to be on the actual, demosratable performance in terms of loss reduction. Establishment of reliable and automated systems for sustained collection of accurate baseline data and the adoption of Information Technology in the areas of energy accounting will be necessary pre-conditions before sanctioning any projects for strengthening and upgradation of sub-transmission and distribution networks. The scheme will involve two parts – Part A shall include the projects for establishment of baseline data and IT applications for energy accounting/auditing and IT based consumer service centres and Part-B shall include regular distribution strengthening projects. The Committee find that the automatic systems for collection of accurate baseline data are not available in all the States. The Committee

also note that in the restructured APDRP, emphasis is laid on first establishing reliable and automated systems for sustained collection of accurate baseline data, and adoption of Information Technology (IT) in the areas of energy accounting and auditing. According to the Ministry, the establishment of baseline data will result in fixing accountability at the lowest level in the electricity distribution utility, which is expected to bring down AT&C losses of the utilities. Moreover, IT will also allow real time monitoring of quality of power and service level to consumers. Further, the Committee note that the Expenditure Finance Committee (EFC) Memorandum for restructuring of APDRP has been circulated to all concerned and the meeting is expected to be held very soon. The proposal is to be placed before the Cabinet Committee on Economic Affairs (CCEA) for approval and finalisation of the allocations for restructured APDRP. The Committee have been informed that the scheme shall be operationalised as and when CCEA's approval is obtained. The Committee strongly recommend that the proposal for restructuring APDRP should be submitted to CCEA for their approval at the earliest so that the revised APDRP scheme can be implemented at the earliest in the 11th Plan as one precious year of the plan period has already been lost. The Committee recommend that the APDRP scheme needs to be continued in its new form in the rural areas as well and the programmes such as Feeder Renovation Programme (FRP) as undertaken in the States like Gujarat and Rajasthan specifically needs to be included under the scheme The Committee further

recommend that the fund constraints should not be a hurdle for implementation of the scheme and funds for the same should also be made available without any reservations.

L. Energy Conservation and Efficiency

2.12.1 The Ministry has informed the Committee that the Bureau of Energy Efficiency (BEE) under the aegis of Ministry of Power has formulated an Action Plan in consultation with all the stakeholders during the early stages of the X plan. The Action Plan released by the Hon'ble Prime Minister on 23rd August, 2002 serves as a road map for BEE in charting out its activities. Thrust areas identified were:

(i) Indian Industry Programme for Energy Conservation
(ii) Demand Side Management
(iii) Standard and Labelling Programme
(iv) Energy Efficiency in Buildings and Establishment
(v) Energy Conservation Building Codes
(vi) Professional Certification and Accreditation
(vii) Manual and Codes
(viii) Energy Efficiency Policy Research Programme
(ix) Energy Efficiency and Conservation in School Education
(x) Delivery Mechanisms for Energy Efficiency Services.

2.12.2 The Ministry has informed in response to a query that one of the thrust areas of BEE are the Energy Efficiency Standards and Labelling programme. The Central Government, under the Energy Conservation Act 2001, has powers to direct display of labels on specified appliances or equipment and enforce minimum efficiency standards by prohibiting manufacture, sale, and import of products not meeting the minimum standards.

2.12.3 The main objective of this programme is to provide the consumer an informed choice about the energy saving, and thereby the cost saving potential of the marketed household and other equipment. Alongwith the fact that this would impact the energy savings in the medium and long run, it will also position domestic industry to compete in such markets where norms for energy efficiency are mandatory.

2.12.4 Regarding implementation of the scheme, the Ministry has informed the Committee that Hon'ble Union Minister of Power has launched the National Energy labelling programme on May 18, 2006 at New Delhi. The scheme is being implemented on voluntary basis for Refrigerator (No-Frost), Tubular Fluorescent Lamp, AC and Distribution transformer. The scheme is to be extended to other equipments as well and will be made mandatory. As the scheme has been initiated in the terminal year of X plan, it is expected that direct energy savings will commence from the first year of XI plan and it is likely to result in energy savings of about 6 billion units annually from 2011-12.

2.12.5 Further, giving details of the energy conservation and efficiency potential, the Ministry has specified that the Energy Conservation: potential assessed was 20,000 MW and the potential harnessed during Xth Plan was 877 MW, the targets for XIth Plan period are 10,000 MW.

2.12.6 Asked about the 11th Plan targets for the programme, the Ministry has mentioned the following major schemes during XIth plan:

(i) **Bachat Lamp Yojana:**
Promotes energy efficient and high quality CFLs as replacement for incandescent bulbs in households.

(ii) **Standards & Labelling Scheme:**
Targets high energy end use equipment and appliances to lay down minimum energy performance standards.

(iii) **Energy Conservation Building Code (ECBC):**
Sets minimum energy performance standards for new commercial buildings.

(iv) **Agricultural and Municipal DSM:**
Target replacement of inefficient pumpsets, street lighting, etc.

(v) **Operationalising EC Act by Strengthening Institutional Capacity of State Designated Agencies (SDAs):**
To build institutional capacity of the newly created SDAs to perform their regulatory, enforcement and facilitative functions in the respective States.

2.12.7 To a query on the stress laid by the Ministry on the energy conservation programmes, the Secretary, Ministry of Power replied:

> "We have placed before the Ministry of Finance the types of incentives that need to be given for greater installation of power generating capacity of our projects. We have not met with complete success I must confess. In that regard, we from the Ministry side had also made a plea for a progressive reduction in the excise duty for energy-efficient products, particularly the labelled products because we wanted that a signal should go out in the country that energy-efficient labelled products particularly ones that have Star Rating – like one, two, three, four and five – should have a differential rate of excise duty so that customers are encouraged to buy and manufacturers are encouraged to produce energy-efficient products. This is something which we have wished to happen. But let us hope if not this time, may be next time, this is the direction in which power consumption can go in this country. We believe that only supply side solution will not attend to our constraints. We have to do demand side management because the lesser the power we consume, the lesser will be the fossil fuel consumption, the lesser will be the emissions and the energy intensity of the country should go down. That, at least, is our view in the matter. We were emphatic in that matter in the projection of our demands. But, as you well appreciate, these are the issues which are beyond our scope."

2.12.8 Further, to a query on the fund constrains in the BEE programme of the Ministry, the Committee have been informed that the allocation of Rs.161.65 crore was proposed for the Bureau of Energy Efficiency (BEE) for 2008-09. This has been reduced to Rs.90 crore at the approval stage. With this cut in the budget, the schemes of (i) Designated Consumers and SMEs, (ii) Institutional Strengthening of BEE (iii) Agriculture DSM and Municipal DSM, and (iv) Contribution to State Energy Conservation Fund would be adversely affected.

2.12.9 The Committee note that the Bureau of Energy Efficiency (BEE) under the aegis of Ministry of Power had formulated an Action Plan in consultation with all stakeholders identifying the major thrust areas of its activities during the early stages of the 10th Plan. The Action Plan released by the Hon'ble Prime Minister on 23rd August, 2002, serves as a road-map for BEE. The Committee note that against the energy conservation and efficiency potential assessed in the country at about 20,000 MW, the potential harnessed during the 10th Plan was only 877 MW. The target for harnessing energy conservation during the 11th Plan is stated to be 10,000 MW. To achieve the 11th Plan targets of energy conservation, BEE has also launched schemes such as the Bachat Lamp Yojana and standard and labelling programme. The Committee are disappointed to note that the Ministry of Finance has not accepted the proposal of progressive reduction in excise duty for energy efficient products, particularly the labelled products. The Committee are of the considered opinion that concessions such as differential excise duty on energy efficient labelled products which have the potential to provide a great deal of encouragement towards energy conservation efforts should have been offered to the customers. The Committee would, therefore, recommend to the Ministry of Power to again take up the matter with the Ministry of Finance and the Committee be apprised of the outcome in this regard.

2.12.10 The Committee also note that as against the proposed allocation of Rs.161.65 crore for the BEE during 2008-09, an amount of only Rs.90 crore

was approved. The Committee are of the considered opinion that this would definitely affect some of the ongoing important schemes of BEE like (i) Designated Consumers and SMEs, (ii) Institutional Strengthening of BEE (iii) Agriculture DSM and Municipal DSM, and (iv) Contribution to State Energy Conservation Fund etc. To encourage energy saving, the Committee note that the funds proposed for energy efficiency schemes should not be curtailed. The Committee, therefore, recommend that the funds asked for to undertake the proposed energy conservation schemes during 2008-09 should be made available to the Bureau of Energy Efficiency (BEE).

M. Central Power Research Institute (CPRI)

2.13.1 The Committee have been informed that all laboratories of CPRI have been accredited under ISO-9001 for Research and Consultancy services, State of Art test facilities, design and investigation expertise has been acquired by the Institute.

2.13.2 To a query on the fund requirements of CPRI during 2008-09, the Ministry has informed the Committee that to carry out the critical R&D activities, Central Power Research Institute (CPRI) required GBS to the tune of Rs.202 crore. Against this requirement allocation made is just Rs.50 crore. With this huge cut major schemes of CPRI, namely, National and International accredition for CPRI laboratories and augmentation and modernization of CPRI laboratories, would be left with only token amount and augmentation of some of the laboratories to the international standards will get delayed. Furthermore, many of the new schemes approved under 11th Plan would be delayed in terms of implementation. These schemes include (i) Development of a Centre of Excellence of simulation of power system and failure analysis (ii) Refurbishment of 50 MVA short circuit test station, (iii) Modernisation and augmentation of switch gear test facility at CPRI, (iv) Modernisation of short circuit test facilities and augmentation of power transformer test facilities and (v) augmentation of test facilities for optimization of 800 kv AC/DC transmission system.

2.13.3 The Secretary, Ministry of Power giving details of the constraints faced in regard to Research & Development by CPRI stated:

> "A mention was made of very meagre allotment of funds to CPRI. We ourselves were greatly concerned about it. In fact, we had made a demand of Rs.202 crore but we were cut down by the allocating agencies to about Rs.50 crore for the coming year. We have put in our protest and I can share with the Committee the impact of this cut on our schemes. For this as well as for the energy conservation schemes we had a cut from our demand. The allocation that we had asked for the Bureau of Energy Efficiency and Energy Conservation was Rs.180.65 crore whereas we got an

approval of only Rs.100 crore in 2008-09. We can share this impact with you also, Sir."

2.13.4 The Committee note that the Central Power Research Institute (CPRI) had sought a Gross Budgetary Support of Rs.202 crore during 2008-09 to carry out critical R&D activity. Against this, an allocation of only Rs.50 crore has been made. The Committee further note that due to this huge cut in budgetary support, the major schemes of CPRI, namely, National and International accredition for CPRI laboratories and augmentation and modernization of CPRI laboratories would be left with only token amount and augmentation of some of the laboratories to the international standards will get delayed. Moreover, many of the new schemes approved under 11th Plan would also be delayed in terms of implementation. The Committee note that CPRI is a world class R&D Institute with expertise and advanced know-how in the field of technologies in the power sector. The Committee, therefore, recommend that the funds required by CPRI should be sanctioned to the Institute to enable it to carry out R&D projects and also to establish itself as a renowned research Institute of excellence not only in India but also the world over.

NEW DELHI;
16th April, 2008
27 Chaitra, 1930 (Saka)

GURUDAS KAMAT,
Chairman,
Standing Committee on Energy

STATEMENT OF CONCLUSIONS/RECOMMENDATIONS OF THE STANDING COMMITTEE ON ENERGY CONTAINED IN THE REPORT

Sl. No.	Reference Para No. of the Report	Conclusions/Recommendations
1.	2.1.11	The Committee observe that during the year 2007-08, the utilisation of Plan outlays has not kept pace with the allocations. Though, the budgetary allocations are being hiked year after year, yet, due to slippages in various programmes, the same are not being fully utilised. The Budget Estimates for the year 2007-08, including IEBR were Rs.33153.26 crore while the Revised Estimates were kept at Rs.30690 crore which is 92.57% of Budget Estimates. The utilisation of funds earmarked for various schemes till 25th February, 2008, is Rs.18054. 36 crore, showing a utilisation of only 58.83% of the Revised Estimates. The Committee note that the major under-utilisation of Plan outlays reflected in Revised Estimates is in the annual plan of NTPC, SJVNL, NEEPCO and other Schemes of the Ministry of Power including non-formulation of the new Scheme of Equity Gap Funding (Rs.289.49 crore), merging of the features of the scheme of consultancy charges for APDRP project (Rs.271 crore) and dropping of scheme of preparation of DPRs of new hydro electric scheme (Rs.60.75 crore). The Committee fear that under-utilisation of Plan outlays by power generating companies during 2007-08 would further delay the execution of projects as the quarterly utilisation of funds upto the third quarter during 2007-08 has only been 46%. Moreover, non-utilisation of funds earmarked for preparation of DPRs of new hydro electric projects only indicates the lackadaisical approach of the Government in exploiting the hydro power potential in the country. In the background of the fact that projects/schemes of the Ministry of Power are normally completed in a span of five to ten years, the Committee wonder as to why funds are not being utilised substantially in the first three quarters of the financial year itself. The quarterly utilisation of funds indicates a lack of proper planning and execution of Projects/Schemes in the Ministry of Power.
2.	2.1.12	The Committee had noted a similar phenomenon while examining the Demands for Grants (2007-08) of the Ministry of Power and recommended in their 20th Report that the Government should analyse the reasons for low utilisation of Plan outlays for the year 2006-07 and the continuing trend of

		making expenditure in the last quarter of the financial year so that the same story should not be repeated the next year. Taking an exception to low utilisation of Plan outlays by PSUs and Ministry of Power during 2007-08 as well, the Committee feel that although various steps for effective utilisation of funds like weekly review by Secretary, Ministry of Power regarding investment approval, monthly review by Chairman, CEA, periodic inter-ministerial coordination meetings, etc. are reported to have been taken by the Government, not much headway has been made in utilising the Plan outlays. The Committee, therefore, cannot but reiterate their earlier recommendation and desire that more effective steps should be taken by the Government, to plan realistic targets and also ensure regular and adequate infusion of funds in various projects/schemes in each quarter of the financial year so that Plan outlays could be fully utilised. The Committee hope that the trend of under-utilisation of funds would be checked in the financial year 2008-09.
3.	2.2.21	The Committee note that the capacity addition target of power generation for the 11th Plan is 78578 MW – 16627 MW in the hydro sector, 58571 MW in the thermal sector and 3380 MW in the nuclear sector. The Committee note with great concern that capacity addition targets in the previous Plan periods had failed miserably as the target achieved in the 8th, 9th and 10th Plans were only 54%, 47% and 51.6% respectively of the planned capacity targets. What further raises alarm is the fact that as against the total target of capacity addition of 12039.20 MW in the year 2007-08, actual capacity addition of 8679 MW could be achieved as on 26.03.2008. The Committee also note that against the target of 78,578 MW for the 11th Plan, 60899 MW capacity is under construction, but Letters of Award for the projects totalling 9170 MW are yet to be placed. The Committee would like to know the reasons for not issuing Letters of Award for projects amounting to 9170 MW so far and recommend that action in this regard may now be completed in a time bound manner and at the earliest as the gestation period of power projects is generally quite long and as it is equally important that all clearances are expedited and put in place well in time so that the 11th Plan capacity addition targets can be achieved. The Committee would also like to be informed of the status of the remaining projects of about 8500 MW capacity targeted to be commissioned in the 11th Plan. Further, to speed up work and ensure proper coordination among different Ministries/agencies involved in the process, the Committee desire that the idea of creating a unified chain

		of command may be taken up for consideration at the highest level of the Government as was agreed to by the Secretary, Ministry of Power during evidence. The Committee would await the considered views of the Government for their deliberation and consideration.
4.	2.2.22	The Committee note that there is shortage of vendors to execute Balance of Plant Works like (i) Ash handling plant, (ii) Coal handling plant, (iii) Water Treatment Plant including DM plant, etc., and this has become the main hindrance in completion of power projects resulting in delayed capacity addition. The Committee observe that the Government is taking certain steps to meet the constraints in the setting up of power plants such as tie-ups for obtaining critical equipment and for execution of the balance of plant works. Efforts are reportedly being made to involve international conclave of suppliers/vendors of coal handling plants/ash handling plants/ water treatment plants equipment to enhance the manufacturing capacity of the existing vendors and to widen the vendor – base and create new entrepreneurs. The Ministry is also taking steps to revise the qualifying requirements to encourage more vendors and new entrepreneurs to come forward for manufacturing main plant equipment. The Committee would, however, like to know the outcome of the steps taken by the Government to develop vendor base for Balance of Plant Works of power plants.
5.	2.2.23	The Committee further note that a Committee under the Chairmanship of Dr. Kirit Parikh, Member, Planning Commission, on standardization of specifications of Thermal Power Plants and development of vendors for balance of plants has been set up. Since the second year of the 11th Plan period has already commenced, the Committee desire that the aforesaid Committee should be asked to come up with its findings and recommendations in a specified time so that the same could be turned into a concrete action plan.
6.	2.2.24	As regards enhancing the manufacturing capacity in respect of main power plant equipment, the Committee note that the BHEL has planned to gradually enhance their main plant equipment manufacturing capacity from 6000 MW/year to 15,000 MW by the end of 2009. Further, BHEL is also reported to be taking advance procurement action for critical power plant materials like forgings and castings which have a long lead time for manufacture. An MoU has been signed by NTPC and BHEL for carrying out EPC activities and equipment

		manufacturing in power sector. Further, NTPC and Bharat Forge Ltd. have also forged a Joint Venture company to manufacture castings, forgings, high pressure pipings, power plant equipment etc. The Committee also note that an agreement has been signed between Larsen and Toubro and Mitsubishi Heavy Industries (MHI) of Japan to manufacture supercritical boilers and large size steam turbines. However, taking note of the fact that manufacturing facilities from these Joint Ventures may also take few years to come up, the Committee are apprehensive that the constraints in supply of equipment will be overcome immediately. The Committee would, therefore, like to know the time frame within which these Joint Venture Schemes will yield results and also till that time when other alternatives are available with the Government to meet the present requirements of power sector.
7.	2.2.25	While examining the constraints expressed by the Ministry in the capacity addition programme, the Committee note that there is a shortage of skilled manpower, i.e., welders, bar benders, crane operators, commissioning team etc. in the power sector. The Committee see an opportunity in the fact that the development of the power sector will help provide more and more jobs to the youth, trainees in these skills in various ITIs located in various States across the country. The Committee, therefore, recommend that the Government should impress upon the State Governments to arrange to provide training to students of ITIs in these and other power sector related tasks and, if necessary also increase the number of seats in these training institutes; and give more funding to National Power Training Institute (NPTI) in Faridabad to increase its training facilities.
8.	2.3.18	The Committee note that hydro power is a benign source of energy and the sector needs to be accorded high priority from the point of view of energy security as fuels like coal and gas are likely to be exhausted in the near future. The Committee find that the bulk of the hydro potential which is in the Himalayan region in the States of Jammu and Kashmir, Himachal Pradesh, Uttarakhand and the North-Eastern Region is yet to be tapped. Although India is endowed with an estimated hydro power potential of more than 1,50,000 MW, the installed capacity is only 35,379 MW, i.e., 25% of the total power generating capacity in the country. The Committee regret to note that 45 hydro projects with an aggregate capacity of 15,000 MW only are under construction at present

		and preparation of feasibility reports of 162 schemes so far with an aggregate capacity of 49,930 MW only has been completed by CEA. The Committee are further constrained to observe that even during the 11th Plan, while the major capacity addition from the thermal power stations is pegged at 58,571 MW, from Hydro power plants, it is to be only 16,227 MW. The Committee note that a task force has been constituted under the Chairmanship of Minister of Power to look into various aspects of hydro power. The Committee would like to be informed of the steps so far taken by the Task Force to overcome the bottlenecks in implementation of hydro electric projects.
9.	2.3.19	The Committee are surprised to note that a scheme of preparation of DPRs for new hydro electric projects amounting to Rs.60.75 crore was dropped due to lack of response of hydro rich States for taking up the schemes for survey and investigation under 50,000 MW hydro initiative. The Committee feel that this would not have been the case if the necessary and proactive action had been taken by the CEA in persuading the hydro rich States to agree for survey and investigation. While noting that preparation of DPRs is only a first step for development of hydro power, the Committee recommend that the matter regarding preparation of DPRs for hydro projects should be taken up with the State Governments on top priority and an action plan clearly indicating the physical and financial targets should be drawn up for execution in the 11th Plan period and the Committee be apprised of the same.
10.	2.3.20	The Committee observe that the 10th Plan capacity addition target for NHPC which was 4357 MW (11 number of projects), was revised to 3252 MW (8 number of projects) during the mid term appraisal in the year 2004. The Committee also note that the total 10th Plan allocation for NHPC was Rs.32,226 crore including Rs.14,200 crore as Budgetary Support. The Plan outlay was revised (during Mid-Term Appraisal) to Rs.20,107 crore, with a budgetary support of Rs.10,645 crore. The actual utilization out of this, however, during the 10th plan has only been Rs.10,888 crore including budgetary support of Rs.4,982 crore. The Committee are unhappy to note that only about 33 per cent of the total outlays could be used by NHPC in the 10th Plan period. The Committee were informed that the main reason for the slippage was that the projects included in the 10th Plan were at the initial stages of preparation of DPRs and the approvals could not be obtained in time. The Committee are constrained to observe that the actual capacity addition of

		1970 MW (4 number of projects) achieved by NHPC during the 10th Plan was quite small as against the target of 4357 MW set for the Plan period. The Committee, therefore, cannot but deplore the way the unrealistic targets (both physical and financial) were set for NHPC during the 10th Plan period. The Committee further observe that NHPC plans to add 4713 MW from nine hydro electric projects during the 11th Plan period. The Committee hope that the achievement of targets by NHPC for the 11th Plan would not follow the same path as that of the 10th Plan. The Committee, therefore, recommend that execution of hydro projects by NHPC should be taken up not only in a more realistic manner but also on a fast track mode. The Committee expects the NHPC to achieve both the physical and financial targets during the 11th Plan period.
11.	2.3.21	Regarding Subhansiri Hydro Electric Project being executed by NHPC, the Committee observe that although the project got the CCEA approval on September 3, 2003, for execution within a period of 7 years and the civil construction work packages for Dam works and Power Home Works were awarded on 19th December, 2003, the project was delayed pending final forest clearance and on account of imposition and subsequent payment of net present value – which further delayed physical possession of encumbrance free land. After achieving the milestones of diversion of the river in December, 2007, and completion of Power House excavation in August, 2007, the commissioning of the 1st unit of the project is now scheduled for 30th October, 2011. Expressing confidence that now with the constitution of a 'Steering Committee' to address the problems encountered in the execution of work, the Committee desire that the project be positively completed in the 11th Plan period as per revised schedule. The Committee would, however, like to be apprised of the developments taking place in implementation of this important project from time to time.
12.	2.3.22	The Committee are further constrained to note that in the case of NEEPCO also, as against Budget Estimates of 1258.70 crore in 2007-08, the Revised Estimates during the year were only Rs.260.90 crore. The main reason for low Revised Estimates was the slippage of Kameng hydro electric project which was initially envisaged to be completed by November 2009. The Committee note that work on Kameng hydro electric project suffered initially due to various factors like unprecedented geology, poor approach road as well as delay in mobilization of equipment and manpower by the package

		contractor. The Committee further note that the Government has appointed a panel of experts comprising personnel of national repute to assist and render advice on design and construction aspects of Kameng hydro electric project so that the project is expedited as rescheduled. The Committee hope that the project would now be completed as per revised commissioning schedule of March, 2011.
13.	2.4.8	The Committee are constrained to note that NTPC, a Central PSU engaged in power generation for the last three decades, was unable to target realistic outlays during 2007-08. Against the Estimated plan outlays of Rs.12792.00 crore for NTPC during 2007-08, Revised outlays were Rs.11618.00 crore, showing a substantial decrease. The Committee note that the Budget Estimates of Rs.1175.20 crore for the proposed thermal power station of NTPC at Darliplli, were drastically reduced at Revised Estimates stage to Rs.55 crore, showing a shortfall of Rs.1120.20 crore as there were various problems regarding supply of water to the project. Also another important project, i.e., Badarpur Expansion Project could not be taken up due to soil conditions and non-availability of relaxation of chimney height from Ministry of Environment and Forests. The Committee expect realistic Plan outlays to be formulated by NTPC in future and at the same time they desire that the Plan outlays for 2008-09 be fully utilised by NTPC. The Committee would like to be apprised of the action plan formulated by the NTPC for the year 2008-09 in this regard.
14.	2.4.9	The Committee note that NTPC had taken up R&D works in the 10^{th} Plan period. However, the efforts made were developmental in nature and did not exactly qualify as R&D since research component in fundamental science was minimum. The Committee further observe that NTPC envisages to upgrade and strengthen the R&D centre facilities established by it at a cost of Rs.28 crore. The Committee are also happy to note the commitment on the part of NTPC to invest 0.5% of its net profit every year on R&D activities, over and above the capital expenditure for Energy Technology Research Centre and that NTPC has also entered into research collaborations with 10 leading research institutes for 14 research projects in various areas of efficiency and environment, with reference to power generation, to be completed over a time period of 18 to 48 months at a cost of around Rs.9.5 crore. The Committee, however, desire to know the details of the 14 R&D projects proposed to be taken at a cost of Rs.9.5 crore and recommend that the proposed outlays

		be fully and properly utilised by NTPC and the projects completed as targeted.
15.	2.5.9	The Committee observe that the Government is making all efforts to obtain long term coal linkages based on the capacity addition targets for the 11th Plan. The Committee also note that NTPC and CIL have initiated the model fuel supply agreement which will be signed with subsidiary companies of CIL for supply of coal to power stations. Further, NTPC has kept all options open for the import of coal. Taking note of the fact, that 26 thermal power plants monitored by CEA have been declared as critical due to short supply/stock of coal, the Committee recommend that the Government should take necessary steps to ensure adequate supply of coal to existing thermal power stations. At the same time, the Committee urge the Government to identify well in advance the dedicated coal blocks/linkages for thermal power plants targeted to be completed in the 11th Plan.
16.	2.5.10	The Committee further observe that due to shortage of gas in the country, the actual supplies to NTPC's gas based power station by GAIL has fallen short of the contracted quantity. Taking note of the fact that the Government is in process of finalisation of Gas Utilisation Policy, the Committee observe that it is high time that a debate is initiated at the highest level in the country over according relative precedence to various competing sectors, the main being fertiliser and power sectors, in the proposed Gas Utilisation Policy. At the same time, the Committee see a merit in the argument put forward to the Committee by the Secretary, Ministry of Power that while fertilisers can be imported, power cannot be. The Committee, therefore, recommend that the power sector be accorded priority over all other competing sectors including the fertiliser sector in the matter of allocation of gas and coal because it is the power sector which drives the economy.
17.	2.6.5	The Committee note that the Ultra Mega Power Projects (UMPPs) are ambitious projects of the Ministry as they would immensely help in the capacity addition programme of the Government. The Committee further observe that bidding process for UMPPs located in Sasan (MP), Mundra (Gujarat) and Krishnapatnam (Andhra Pradesh) has been completed and Special Purpose Vehicle has been transferred to the executing companies. The Committee note with satisfaction that because of the efforts made by the Ministry of Power four of the UMPPs are reported to be at the stage of take off and

		construction work for three of them would be started soon. The Committee, however, find that the Central Electricity Authority (CEA) has identified an alternate site for a UMPP in Orissa and the State Government was communicated the recommendations of CEA on 20th September, 2007, approval for identified site and water allocation has yet to be consented to by the Government of Orissa. The Committee further observe that the selection of site and initiation of bidding process for setting up UMPPs in the States of Chhattisgarh, Maharashtra and Karnataka are contingent upon the necessary inputs/clearances by the respective State Governments. While observing that involvement of State Governments in the whole process of identification of sites, allotment of land and water for the setting up of UMPPs as well as relocation of affected families in the respective State are very important for the timely development of these projects, the Committee once again reiterate their recommendation made in their 22nd report on Ultra Mega Power Projects, that the success of UMPPs depends on the support of and co-ordination among various players involved, i.e., the Central Government, the State Government, project developers, consultants, etc. The Committee are of the opinion that lack of co-ordination among these agencies can derail the capacity addition programme during the 11th and 12th Plan periods. The Committee, therefore, recommend that the Government should ensure that all agencies work in tandem for the completion of UMPPs. The Committee also desire that Central/State Government should take necessary steps in advance to settle the local issues, if any, before the State Government offers a site to set up an UMPP. The Committee hope that the UMPPs would be set up in the specified timeframe to facilitate the capacity addition as targeted.
18.	2.7.6	The Committee observe that the present installed captive power generation capacity in the country is 22335 MW. The Committee note that the captive power generation is a means of decentralized generation with low T&D losses; and to also reduces the cost as there is no need to set up a transmission system. Further, the Government is taking substantive measures to facilitate captive power generation plants to provide the spare generating capacity to the grid and it has also been striving to do away with restrictive levies, duties and regulations in a time bound manner. The Committee further note that the Government is considering a proposal for amending the existing mega power policy, which, *inter-alia*

		provides for extending the Mega Power Project status benefits to captive and merchant power plants, subject to qualifying conditions. The Committee strongly recommend that the Government should finalise the mega power policy at the earliest and benefits from the same should not be confined only to the captive power generators but the projects in the State sector should also be extended mega policy benefits in order to increase and encourage participation of the States in the power generation. The Committee also desire that the Government should also help captive power generators in getting coal linkages, water supply etc. and thereby encourage more and more private entrepreneurs to set up such power projects.
19.	2.8.9	2.8.9 The Committee note that the use of supercritical technologies helps in faster and cleaner capacity addition due to large unit size, fuel efficiencies and reduced emission. The supercritical technologies also give better load cycling. The Committee, however, express concern at the high levels of carbon dioxide emissions by power projects in the environment. The Committee also note that supercritical technology in the power plants has a higher thermal efficiency of about 40% as compared to 38.6% for sub-critical units of 500 MW. Apart from this, Circulating Fluidised Bed Combustion (CFBC) Technology is also being adopted as a cleaner technology in the power plants. Moreover, the Ministry has stated that the Integrated Gasification Combined Cycle (IGCC) has been adopted in the world for low ash coal, which is not suitable for Indian high ash coal. In this connection, the Committee recommend that multiprong efforts for development of indigenous technology should be made and a special R&D project be prioritized for developing suitable technology for use of high ash coal with reduced emissions. Besides adopting other cleaner technologies available in the world for reducing the carbon emissions by power plants, the Committee also recommend that the Government should examine the feasibility of using carbon dioxide for useful purposes like enhanced oil recovery or for making ethanol, etc.
20.	2.8.10	The Committee note with satisfaction that the supercritical technologies are under installation at Sipat and Barh Thermal Power Stations (TPS) of NTPC Ltd. A number of other 600/800 MW power stations based on supercritical technology are going to be set up by NTPC and the State utilities. The Ultra Mega Power Projects (UMPPs) are also envisaged to be

		set up with supercritical parameters. Taking note of the fact that the supercritical technology has been adopted by various developed countries like USA, Japan, Germany, Korea, Russia, etc., and that its use will result in the saving of about four per cent of fuel and correspondingly less emission, the Committee desire that the Government should accord high priority to the development and use of supercritical technology in the power plants to every possible extent.
21.	2.8.11	Taking note of the fact that preservation of the top soil and proper management of fly ash from power stations is an area which requires urgent attention, the Committee recommend that the Ministry should accord top priority to issues relating to fly ash management and also explore the possibility of having suitable tie-ups for the use of fly ash with other sectors such as cement industry etc., to make maximum use of this significant byproduct of the thermal power plants.
22.	2.9.8	The Committee note that demand for electric power continues to grow at a rapid rate out-stripping the availability of the same. In the prevailing scenario of shortage of resources to build up new capacity on the one hand, and stringent environmental conditions on the other, Renovation and Modernisation (R&M) and Life Extension (LE) of power plants have been recognised as a well-proven, cost effective technique the world over for improving the performance of older power plants and thereby obtaining additional generation of power at a much lesser cost. The Committee are of the opinion that by infusion of small amount of funds, in these processes, the performance of power plants can be greatly increased. The Committee are constrained to note that against a total estimated cost of 570.68 crore for R&M of thermal power plants during the 10^{th} Plan to undertake 282 activities, only 198 activities with a total expenditure of Rs.257.80 crore could be completed till January, 2008. Taking note of the fact that the 10^{th} Plan targets of R&M activities of thermal power station slipped to the 11^{th} Plan on account of some delay in finalization of schemes, delay in supplies by equipment suppliers, non-availability of unit shut down for carrying out the works, poor response of bidders for execution of R&M works and non-constitution of dedicated teams by SEBs/PSUs for R&M work etc., the Committee expect the Government to take necessary steps to complete the R&M activities during 2008-09 as targeted. The Committee would also like to know, the action plan of the Government to achieve the targets during the year.

23.	2.9.9	The Committee are dismayed to note that during the 10th Plan, out of a total of 72 hydro schemes programmed for completion, only 32 schemes could be completed and 38 schemes slipped to the 11th Plan. Further, two of the projects are reported to have been shifted to the 12th Plan. The Committee feel that in view of the R&M works slipping in previous plan periods also, the Government should have taken advance action for carrying out Residual Life Assessment studies, finalising Detailed Project Reports and constituting dedicated teams for carrying out R&M etc., to overcome the likely delays in execution of R&M works during the 10th Plan period.
24.	2.9.10	The Committee also note that the Government have been making some efforts for increasing the Plant Load Factor in the State Sector power plants by R&M and Life Extension work. The Committee further note that a total number of 60 hydro R&M schemes have been planned for implementation during the 11th Plan, having an installed capacity of 11069 MW for renovation & modernization, uprating, life extension and restoration at an estimated cost of Rs.3987 crore. After implementation of these schemes, there will be a benefit of about 4392 MW – towards uprating (257MW), life extension (4105MW) and restoration (30MW). The Committee are dismayed that out of 60 schemes identified for the 11th Plan, till date only one scheme of the State Sector with an installed capacity of 40 MW at a cost of about Rs.24 crore has been completed and has brought a benefit of 50 MW – through life extension (40MW) & uprating (10MW) and 41 schemes are on-going. On balance 18 schemes, the works have yet to take off. The Committee cannot but deplore the lackadaisical approach of the Central and State Government/Utilities responsible for implementing the R&M activities in the power sector. To carry out the R&M work in a time bound manner, the Committee urge the Government to take all necessary steps so that the R&M work of all pending projects be completed as per the revised schedule. The Committee also recommend that the involvement of the private sector in the R&M works may also be encouraged for speedy achievement of the targets.
25.	2.10.15	The Committee note that the Rajeev Gandhi Grameen Vidyutikaran Yojana (RGVVY), a scheme for Rural Electrification Infrastructure and household electrification was introduced in April 2005, for achieving the National Common

		Minimum Programme objective of providing access to electricity to all rural households over a period of four years. Rural Electrification Corporation (REC) is the nodal agency for the programme. Under this scheme 90% capital subsidy is to be provided for rural-electrification infrastructure and 10% as the loan assistance on soft terms by REC. The Committee note that against a target of electrification of 40,000 villages during 2006-07, only 28,706 villages were actually electrified. Further, during 2007-08, the target for village electrification was kept very low, i.e., 9,000 and only 7,077 villages could be electrified as on 15th February, 2008. The reasons stated by the Ministry for the low target was that continuation of the scheme in the 11th Plan was approved only in January 2008, as a result of which the work was not in full momentum during April 2007 to December 2007. The Committee further note that the budget requirement for the year 2008-09 for RGGVY was projected at Rs.24,000 crore for achieving the target of electrification of 67,475 villages and providing electric connections to 2.12 crore BPL households. Against this projected requirement, a budget allocation to the tune of Rs.5500 crore has been made. For achieving the target of electrifying 25,000 unelectrified villages and providing connections to 60 lakh BPL households, which has been projected in the outcome budget for the year 2008-09, the total requirement of funds is placed at Rs.13,000 crore. However, additional amount would be required to be released for the scheme at RE stage. The Committee are very unhappy with the pace and progress of the Rajeev Gandhi Grameen Vidyutikaran Yojana, an ambitious programme of the Government which was taken up with the aim of electrifying villages and hamlets for supplying power to the rural areas to unleash full economic growth potential of rural India. Not convinced by the reasons cited by the Ministry for non-achievement of targets under the programme, i.e., insufficient availability of funds and also the fact that continuation of the programme in the 11th Plan was only approved on 3rd January, 2008, leaving only 3 months in the financial year 2007-08 for sanctioning new projects, the Committee strongly recommend the Ministry to take up the programme progressively on top priority basis in the financial year 2008-09 so that the targets envisaged are achieved. The Committee further note that the Ministry is making an attempt to compress the implementation cycle from 18 months to 12 months in some of the projects and electrify additional villages in the financial year 2008-09. The Committee, therefore, recommend that the funds required for the scheme be made available in time for implementation

		of the scheme in the year 2008-09. The Committee note that 'cost of electrification of an unelectrified village' and the cost of 'intensive electrification of already electrified village' varies from Rs.13 lakh to Rs.18 lakh and Rs.4 lakh to 6 lakh respectively – in normal terrain and in hilly, tribal and desert areas. From the case made out before the Committee during its study visit to Rajasthan and also by going through the figures of cost of village electrification and basis thereof, the Committee note that the cost of Rs.18 lakh for a village electrification in hilly, tribal and particularly in the desert areas is not sufficient as compared to the cost of electrifying a village in normal terrain. The Committee is also of the view that the present practice of presuming the cost of village electrification as the same for similar areas/terrain throughout the country without factoring in the State specific conditions, disregards the ground realities. The Committee, therefore, recommend that the present cost norms for village electrification should be revisited by the Government and suitably modified taking into account the local conditions in the terrain and areas in different States where electrification has to be carried out.
26.	2.11.8	The Committee note the main objective of the APDRP programme was reduction of Aggregate Technical and Commercial (AT&C) losses to around 15% in five years to begin with in the urban areas and high density/ consumption areas. Further, the scheme was also targeted to reduce commercial and cash loss of the utilities. The Committee note that nine States have achieved cash loss reduction of Rs.5753.22 crore and had become eligible for incentive of Rs.2876.61 crore. But the Committee are constrained to note that out of this amount incentive of Rs.1959.70 crore only could be released. The balance could not be released due to low availability of budget. The Committee further note that it is proposed to continue APDRP during the 11th Plan with revised terms and conditions as a Centrally sponsored scheme. The focus of the programme is stated to be on the actual, demosratable performance in terms of loss reduction. Establishment of reliable and automated systems for sustained collection of accurate baseline data and the adoption of Information Technology in the areas of energy accounting will be necessary pre-conditions before sanctioning any projects for strengthening and upgradation of sub-transmission and distribution networks. The scheme will involve two parts – Part A shall include the projects for establishment of baseline data and IT applications for energy accounting/auditing and IT based consumer service centres

		and Part-B shall include regular distribution strengthening projects. The Committee find that the automatic systems for collection of accurate baseline data are not available in all the States. The Committee also note that in the restructured APDRP, emphasis is laid on first establishing reliable and automated systems for sustained collection of accurate baseline data, and adoption of Information Technology (IT) in the areas of energy accounting and auditing. According to the Ministry, the establishment of baseline data will result in fixing accountability at the lowest level in the electricity distribution utility, which is expected to bring down AT&C losses of the utilities. Moreover, IT will also allow real time monitoring of quality of power and service level to consumers. Further, the Committee note that the Expenditure Finance Committee (EFC) Memorandum for restructuring of APDRP has been circulated to all concerned and the meeting is expected to be held very soon. The proposal is to be placed before the Cabinet Committee on Economic Affairs (CCEA) for approval and finalisation of the allocations for restructured APDRP. The Committee have been informed that the scheme shall be operationalised as and when CCEA's approval is obtained. The Committee strongly recommend that the proposal for restructuring APDRP should be submitted to CCEA for their approval at the earliest so that the revised APDRP scheme can be implemented at the earliest in the 11th Plan as one precious year of the plan period has already been lost. The Committee recommend that the APDRP scheme needs to be continued in its new form in the rural areas as well and the programmes such as Feeder Renovation Programme (FRP) as undertaken in the States like Gujarat and Rajasthan specifically needs to be included under the scheme The Committee further recommend that the fund constraints should not be a hurdle for implementation of the scheme and funds for the same should also be made available without any reservations.
27.	2.12.9	2.12.9 The Committee note that the Bureau of Energy Efficiency (BEE) under the aegis of Ministry of Power had formulated an Action Plan in consultation with all stakeholders identifying the major thrust areas of its activities during the early stages of the 10th Plan. The Action Plan released by the Hon'ble Prime Minister on 23rd August, 2002, serves as a road-map for BEE. The Committee note that against the energy conservation and efficiency potential assessed in the country at about 20,000 MW, the potential harnessed during the 10th Plan was only 877 MW. The target for harnessing

		energy conservation during the 11th Plan is stated to be 10,000 MW. To achieve the 11th Plan targets of energy conservation, BEE has also launched schemes such as the Bachat Lamp Yojana and standard and labelling programme. The Committee are disappointed to note that the Ministry of Finance has not accepted the proposal of progressive reduction in excise duty for energy efficient products, particularly the labelled products. The Committee are of the considered opinion that concessions such as differential excise duty on energy efficient labelled products which have the potential to provide a great deal of encouragement towards energy conservation efforts should have been offered to the customers. The Committee would, therefore, recommend to the Ministry of Power to again take up the matter with the Ministry of Finance and the Committee be apprised of the outcome in this regard.
28.	2.12.10	The Committee also note that as against the proposed allocation of Rs.161.65 crore for the BEE during 2008-09, an amount of only Rs.90 crore was approved. The Committee are of the considered opinion that this would definitely affect some of the ongoing important schemes of BEE like (i) Designated Consumers and SMEs, (ii) Institutional Strengthening of BEE (iii) Agriculture DSM and Municipal DSM, and (iv) Contribution to State Energy Conservation Fund etc. To encourage energy saving, the Committee note that the funds proposed for energy efficiency schemes should not be curtailed. The Committee, therefore, recommend that the funds asked for to undertake the proposed energy conservation schemes during 2008-09 should be made available to the Bureau of Energy Efficiency (BEE).
29.	2.13.4	The Committee note that the Central Power Research Institute (CPRI) had sought a Gross Budgetary Support of Rs.202 crore during 2008-09 to carry out critical R&D activity. Against this, an allocation of only Rs.50 crore has been made. The Committee further note that due to this huge cut in budgetary support, the major schemes of CPRI, namely, National and International accredition for CPRI laboratories and augmentation and modernization of CPRI laboratories would be left with only token amount and augmentation of some of the laboratories to the international standards will get delayed. Moreover, many of the new schemes approved under 11th Plan would also be delayed in terms of implementation. The Committee note that CPRI is a world class R&D Institute with expertise and advanced know-how in the field of technologies

		in the power sector. The Committee, therefore, recommend that the funds required by CPRI should be sanctioned to the Institute to enable it to carry out R&D projects and also to establish itself as a renowned research Institute of excellence not only in India but also the world over.

Annexure - I

MINUTES OF THE SIXTH SITTING OF THE STANDING COMMITTEE ON ENERGY (2007-2008) HELD ON 18.03.2008 IN COMMITTEE ROOM NO. 'C' PHA, NEW DELHI

The Committee met from 1500 hours to 1800 hrs.

PRESENT

1. Shri Chander Kumar - In the Chair

MEMBERS

LOK SABHA

2. Shri Kailash Baitha
3. Shri Mohan Jena
4. Sardar Sukhdev Singh Libra
5. Shri Sanat Kumar Mandal
6. Shri Dharmendra Pradhan
7. Dr. Ravindra Kumar Rana
8. Shri Kiren Rijiju
9. Shri Nand Kumar Sai
10. Shri Vijayendra Pal Singh
11. Shri M.K. Subba
12. Shri E.G. Sugavanam
13. Shri Chandra Pal Singh Yadav

RAJYA SABHA

14. Shri Bimal Jalan
15. Dr. K. Kasturirangan
16. Shri Syed Azeez Pasha
17. Shri V. Hanumantha Rao
18. Shri Jesudasu Seelam
19. Shri Motilal Vora

SECRETARIAT

1. Shri R.C. Ahuja - Joint Secretary
2. Shri Shiv Kumar - Deputy Secretary
3. Shri Arvind Sharma - Under Secretary

WITNESSES

Ministry of Power

1. Shri Anil Razdan, Secretary
2. Shri G.B. Pradhan, Additional Secretary
3. Shri Anil Kumar, Additional Secretary
4. Shri Rajesh Verma, JS & FA
5. Shri Jayant S. Kawale, Joint Secretary
6. Shri V.P. Joy, Joint Secretary
7. Shri Devender Singh, Joint Secretary

CENTRAL ELECTRICITY AUTHORITY

8. Shri Rakesh Nath, Chairperson

PUBLIC SECTOR UNDERTAKINGS/AUTONOMOUS BODIES/STATUTORY BODIES

9. Shri T. Sankaralingam, CMD, NTPC
10. Shri S. K. Garg, CMD, NHPC
11. Shri R.P. Singh, CMD, PGCIL
12. Shri R.S.T. Sai, CMD, THDC
13. Shri P. Umashankar, CMD, REC
14. Shri H.K. Sharma, CMD, SJVN
15. Shri Asim Kumar Barman, Chairperson, DVC
16. Shri J. Barkakati, CMD, NEEPCO
17. Shri V.K. Garg, CMD, PFC
18. Dr. N.S. Saxena, Director General, NPTI

19. Shri A.K.Tripathy, Director General, CPRI

20. Shri U.C. Mishra, Chairman, BBMB

21 Dr. Ajay Mathur, Director General, BEE

In the absence of the Chairman, the Committee chose another Member, Shri Chander Kumar, MP under Rule 258 to act as the Chairman for the sitting of the Committee. The Chairman welcomed the Secretary of the Ministry of Power and other officials accompanying him to the sitting of the Committee and invited their attention to the provisions contained in Direction 58 of the Directions by the Speaker, Lok Sabha.

2. The officials of the Ministry of Power made a power point presentation on the Demands for Grants of the Ministry which *inter-alia* covered the following points:

(i) Generating capacity in the country with percentage share of thermal, hydro, nuclear and renewable power,
(ii) Capacity Addition programme of the Ministry of Power and the 11th Plan targets,
(iii) The present constraints faced in the capacity addition programme and the action taken to mitigate those constraints,
(iv) Distribution reforms and the reorganisation of SEBs,
(v) Status of important schemes of the Ministry – RGGVY, APDRP, etc.,
(vi) Development of Ultra Mega Power Projects (UMPPs) and selection of new sites for proposed UMPPs,
(vii) New Hydro Policy and its salient features,
(viii) Energy Conservation and efficiency,
(ix) Funds for CPRI and NPTI.

3. Thereafter, the Committee *inter-alia* discussed the following important points with the representatives of Ministry of Power:

(i) Reasons for failure in capacity addition programme of the Ministry during the 10th Plan period and steps taken to achieve the targets set for capacity addition during the 11th Plan period,

(ii) Need to increase the State and the private sector shares in the capacity addition programme and to have proper thermal hydel mix in the energy basket of the country,

(iii) Pursuit of cleaner technologies by the Ministry for power generation in the country,

(iv) Release of incentives to States under APDRP and steps taken to finalise the restructured Scheme at the earliest,

(v) Exploitation of hydro power in Jammu and Kashmir, Himachal Pradesh and the North-Eastern sector,

(vi) The steps taken to overcome shortage of power generation equipment,

(vii) Need for timely completion of 'balance of plant works' for the setting up to new power plants,

(viii) Acquisition of Super Critical Technology for Power Plant in the country,

(ix) Steps taken to ensure proper coal linkages for thermal power stations and adequate supply of gas for the gas – based power stations,

(x) Reasons for non-achievement of physical and financial targets by PSUs like NTPC, NHPC and NEEPCO during 2007-08,

(xi) Incentives/Tax benefits sought by and provided to power sector in the Budget proposals of Ministry of Finance

4. A copy of the verbatim proceedings of the sitting has been kept on record.

The Committee then adjourned

Annexure - II

MINUTES OF THE EIGHTH SITTING OF THE STANDING COMMITTEE ON ENERGY (2007-08)

The Committee sat on Wednesday, the 16th April, 2008 from 1500 hrs to 1610 hrs. in Committee Room 'D', Parliament House Annexe, New Delhi.

PRESENT

Shri Gurudas Kamat - Chairman

MEMBERS

Lok Sabha

2. Shri Gaurishanker Chaturbhuj Bisen
3. Sardar Sukhdev Singh Libra
4. Dr. Ravindra Kumar Rana
5. Shri Vijayendra Pal Singh
6. Shri Mohan Jena
7. Prof. Chander Kumar
8. Shri Kiren Rijiju

Rajya Sabha

9. Dr. (Smt.) Najma A. Heptulla
10. Shri Veer Pal Singh Yadav

SECRETARIAT

1. Shri R.C. Ahuja, Joint Secretary
2. Shri Shiv Kumar, Deputy Secretary
3. Shri J.M. Baisakh, Deputy Secretary-II
4. Shri Arvind Sharma, Under Secretary

2. At the outset, the Chairman, Standing Committee on Energy welcomed the Members to the sitting of the Committee.

3. The Committee then took up for consideration the following draft Reports:

(i) Draft Report on the Demands for Grants (2008-09) of the Ministry of Power.
(ii) Draft Report on the Demands for Grants (2008-09) of the Ministry of New and Renewable Energy.

4. The Committee adopted draft Report at Sl. No. (i) with minor modifications as suggested by the Members of the Committee under some topics. The Report at Sl. No. (ii) was adopted with the insertion of a new Para relating to District Advisory Committees under the heading Remote Village Electrification Programme (RVEP).

5. The Committee also authorized the Chairman to finalise the above-mentioned Reports after incorporating the changes suggested by the Members of the Committee and also making consequential changes arising out of factual verification, if any, by the concerned Ministries and also to present the same to both the Houses of Parliament.

The Committee then adjourned.