

Economic Editors' Conference

on

November 3 - 4, 2009

at

New Delhi

Session on Power

10.00–11.15 AM
4th November 2009

Background Note

**Ministry of Power
Government of India
New Delhi**

INDEX

S. No.	Subject(s)	Page No(s).
1.	Capacity Addition	2-3
2.	UMPP	4-5
3.	RGGVY	6
4.	Re-structured APDRP	7-8
5.	Hydro Policy	9-10
6.	Mega Power Policy	11
7.	North Eastern Status	12
8.	Energy Conservation & Energy Efficiency	13-15
9.	Monitoring Mechanism	16 -17

Capacity Addition programme for 11th Five Year Plan

1. With the objective of meeting the rising demand of our growing economy and to provide electricity to all by 2012, an ambitious target of 78,700 MW has been set for the 11th Five Year Plan. Its sector-wise and source-wise break up is as follows.

(in MW)

Source/ Sector	Hydro	Thermal	Nuclear	Total	%age
Central	8654	24840	3380	36874	47.00
State	3482	23301	-	26783	34.00
Private	3491	11552	-	15043	19.00
Total	15627	59693	3380	78700	100.00
%age	20.00	76.00	4.00	100.00	

2. Present status of projects under construction

Against a planned capacity addition target of 78,700 MW, projects with capacity of 18235 MW have already been commissioned till 21.10.2009 and 62375 MW are under various stages of construction. The present status of the projects is given in the Table below:

(in MW)

	Commissioned	Under construction	Total
Central	4740	28790	33530 (42 %)
State	8603	16760	25363 (31 %)

3. Achievements during 11th Plan

As per latest assessment made by the Central Electricity Authority (CEA), against planned capacity addition of 78,700 MW, a capacity of 18235 MW has been commissioned till 21.10.2009 and a capacity aggregating to 44139 MW is likely to be commissioned with a high level of certainty during the remaining period of 11th Plan. Thus a total capacity of 62,374 MW is likely with a high level of certainty. In addition a capacity of 12590 MW may materialize on best effort basis during the 11th Plan. Remaining capacity may be slipping to 12th Plan. Summary of the capacity likely with high degree of certainty is given below.

(in MW)

	Hydro	Thermal	Nuclear	Total
Central	2922	14920	3380	21,222 (34%)
State	2854	18,501	-	21,355 (34%)
Private	2461	17,336	-	19,797 (32%)
Total	8237	50757	3380	62,374

Sectoral break up of the capacity commissioned till 8 October, 2009 and that likely in the balance period of the 11th* Plan is as below:

(in MW)

	Commissioned till 8.10.2009	Likely with high degree of certainty in remaining period of 11th plan	Total likely with high degree of certainty	With Best efforts *
Central	4740	16,482	21,222	4530
State	8603	12752	21,355	1130
Private	4892	15040	19,797	6930
Total	18235	44,139	62,374	12,590

4. Achievements during 2009-10

The capacity addition target for 2009-10 is 14507 MW. Against this, upto 21.10.2009, a capacity of 5517 MW has already been commissioned. Under '120 days Programme' (1st September to 31st December, 2009), the Ministry of Power has targeted for a capacity addition of 2607 MW (all thermal). Against this, a capacity of 1094 MW has already been commissioned upto 21.10.2009.

Ultra Mega Power Project (UMPP)

The Central Government has taken the initiative for facilitating the development of a few ultra mega power projects of about 4,000 MW capacity each under tariff based competitive bidding route using! super critical technology on build, own and operate basis.

Project Locations

In the first phase, four projects at pithead sites and five projects at coastal locations have been proposed for development of Ultra Mega Projects. The projects at pithead locations will be based on domestic coal whereas those at coastal sites would use imported coal as fuel.

The identified locations are :

- (i) Sasan in Madhya Pradesh
- (ii) Mundra in Gujarat
- (iii) Krishnapatnam in Andhra Pradesh
- (iv) Akaltara in Chhattisgarh
- (v) Tadri in Karnataka
- (vi) Girye in Maharashtra
- (vii) Cheyyur in Tamil Nadu
- (viii) Sundergarh District in Orissa; and
- (ix) Tilaiya in Jharkhand.

The Concept of Shell Companies (SPVs) and its Operationalisation

In order to enhance investor confidence, reduce risk perception and get good responses to competitive bidding, it was deemed necessary to create a project specific SPV and get it to tie up necessary inputs and clearances such as provision of site, fuel through captive mining blocks, water and in principle environment and forest clearances. Some of the main activities undertaken by the SPVs are:-

- Appointment of Consultants to undertake preparation of Project Report, preparation of Rapid Environment Impact Assessment Report etc.
- Appointment of Consultants for International Competitive Bidding (ICB), document preparation & evaluation
- To finalise RfQ/ RfP documents in consultation with States / bidders
- To carry out RfQ/ RfP process and award of project
- Acquisition of land for the project
- Obtaining Coal blocks for pit-head projects
- Getting clearance regarding allocation of water by the State Govt, for pit-head locations
- Approval for use of sea water-from Maritime Board/other Govt. Agencies for coastal locations
- Obtain clearance from the State Pollution Control Board, initiate forest clearance etc. as are required for the project and for the coal mines,

followed by environment and forest clearances from the Central Government.

- Obtaining geological reports/ other related data from CMPDI for the coal blocks.
- Tie up the off-take/ sale of power

For each of the 9 UMPPs envisaged under the Central Government initiative, an SPV has been incorporated. So far the following SPVs have been established :-

- (i) Sasan Power Limited for the project at Sasan, Madhya Pradesh.
- (ii) Akaltara Power Limited for the project in district Surguja in Chhattisgarh.
- (iii) Coastal Gujarat Power Limited for the project at Mundra in Gujarat:
- (iv) Coastal Karnataka Power Limited for the project in Karnataka.
- (v) Coastal Maharashtra Mega Power Project Limited for the project in Maharashtra.
- (vi) Coastal Andhra Power Ltd. for the project at Krishnapatnam, Andhra Pradesh.
- (vii) Coastal Tamil Nadu Power Limited for the project at Cheyyur in Tamil Nadu.
- (viii) Orissa Integrated Power Limited for the project at Sundergarh District in Orissa.
- (ix) Jharkhand Integrated Power Limited for the project near Tilaiya dam in Jharkhand.

RAJIV GANDHI GRAMEEN VIDYUTIKARAN YOJANA (RGGVY)

- Government of India launched Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) in March 2005 to provide access to electricity to all.
- The Government provides 90% capital subsidy for the RGGVY projects.
- Rs. 5000 Crore outlay was provided for the last two years of X Plan.
- 235 projects costing to Rs. 9733 Crore were sanctioned for implementation during X Plan.
- The continuation of RGGVY in XI Plan was sanctioned on 3rd January 2009 with an outlay of Rs. 28,000 Crore.
- Additional 332 projects costing Rs. 16,506 Crore have been sanctioned during XI Plan.
- Cumulatively 567 projects have been sanctioned under the scheme for Rs. 26239 Crore for electrification of 1.18 lakh villages and to provide free connections to 2.46 Crore BPL households
- 65,434 villages have been electrified and electricity connections released to 75.9 lakh BPL households.
- For effective and quality implementation of the projects, the Ministry has adopted turnkey mode of implementation, three-tier quality monitoring mechanism and mile stone based project monitoring.
- States have been asked to provide minimum 6 to 8 hours of electricity to the villages.
- Establishment of franchisees has been made mandatory for effective distribution management. So far franchisees have been established in about 1 lakh villages.

Re-structured APDRP in XIth Plan

"Re-structured APDRP" for XI Plan was approved on 31.07.2008 as a Central Sector Scheme. The focus of the programme is on actual, demonstrable performance in terms of AT&C loss reduction.

Projects under the scheme are to be taken up in two parts. Part-A is the projects for establishment of baseline data and IT applications for energy accounting / auditing & IT based consumer service centers and Part-B is regular distribution strengthening projects.

The programme size is Rs. 51,577 Crore. Expected investment in Part-A (Baseline System) would be Rs. 10,000 crore and that in Part-B would be Rs. 40,000 crore. PFC is the nodal agency for operationalising the programme. Initially funds for projects under both the parts would be provided through loan. The entire amount of loan for Part-A projects would be converted into grant on the completion the project and up-to 50% (90% for special category States) loan of Part-B projects would be converted into grant on achieving the 15% AT&C loss in the project area on a sustainable basis.

1130 projects at the cost of Rs 4183.93 crore have been approved to eighteen states (Andhra Pradesh, Bihar, Chhattisgarh, Goa, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Sikkim, Tamil Nadu, Uttrakhand, Uttar Pradesh and West Bengal) under Part-A of the scheme. State wise details are as under : -

Sr No	State	No of Projects Sanctioned	Sanctioned Project Cost
1	Andhra Pradesh	113	388.02
2	Bihar	10	81.18
3	Chhattisgarh	20	122.45
4	Goa	4	104.89
5	Gujarat	84	225.36
6	Haryana	36	165.63
7	Himachal Pradesh	14	81.07
8	Jharkhand	30	160.61
9	Karnataka	100	391.14
10	Madhya Pr.	82	228.08
11	Maharashtra	130	252.11
12	Punjab	47	272.85
13	Rajasthan	87	315.94
14	Sikkim	2	26.30
15	Tamil Nadu	110	417.00
16	Uttrakhand	31	125.82
17	Uttar Pradesh	168	665.50
18	West Bengal	62	159.98
	TOTAL	1130	4183.93

So far Rs 1093.57 Crore has been released under the R-APDRP, out of which Rs 1068.57 Crore is the loan to PFC to disburse the same to utilities and Rs 25.00 Crore is grant to PFC as rolling advance against fee to the nodal agency.

Details of year wise progress achieved :

(Rs. In Crore)

Year	Projects Sanctioned	BE	RE	Actual Release		
				Loan	Grant	Total
2008-09	1,947.70	---	350.00	325.00	25.00	350.00
2009-10	2,236.23	1730.00		743.57		743.57
TOTAL	4,183.93			1068.57	25.00	1093.57

Hydro Policy

POLICY INITIATIVES TAKEN FOR INCREASING THE HYDRO CAPACITY

Policy Liberalization

To bring in additionality to resources for the capacity addition in the Power Sector, a policy to encourage greater participation by private entrepreneurs in India and abroad in electric power generation has been announced in 1991. Govt, has issued tariff notification for hydro projects incorporating several incentives to private developers which broadly cover incentives for better availability of machines, for generation of extra energy above design energy, compensation for hydrological risks, etc.

Policy on hydro power development

Hydro Power Policy, 2008 has been notified by Govt, of India on 31.3.2008. The main points of the policy are as below:

- Provides level playing field to private developers -tariff to be determined by the regulator under section 62 of Electricity Act, 2003, - as is being done for PSUs upto Jan.-2011
- Transparent selection criteria for awarding sites to private developers - regulator to decide
- Enables developer to recover his additional costs through merchant sale of upto a maximum of 40% of the saleable energy. 5% reduction for a delay of every six months. - Balance long term PPAs
- For 10 years from the COD, developer to provide 100 units of electricity per month to each PAF - in cash or kind or a combination of both.
- Project developer assists in implementing rural electrification in the vicinity of the project area and contributes the 10% share of the State Govt, under the RGGW scheme.
- Additional 1% free power from the project for a Local Area Development Fund, - regular revenue "stream for welfare schemes, creation of additional infrastructure and common facilities.
- The State Governments arc also expected to contribute a matching 1% from their share of 12% free power.

Mega Power Projects Policy (Revised)

Keeping in view the requirements of power projects located in certain special category States of J&K, Sikkim and the seven states of North East, the minimum qualifying capacity of thermal power plants to avail mega project benefits, has been reduced from 1000 MW to 700 MW in these states. The corresponding qualifying threshold capacity for hydro power plants located in the states of J&K, Sikkim and the seven states of North East, for availing mega benefits has been reduced from 500 MW to 350 MW.

ADVANCE ACTION FOR HYDRO DEVELOPMENT DURING 12th PLAN

To meet the requirement of additional capacity during the 12th Plan (2012-17). The sector-wise breakup of these hydro projects is given below:-

Sector	Nos.	Capacity (MW)
Central	28	11622
State	35	7291
Private	46	12007
Total	109	30920

To realize the planned benefits during 12th Plan, action has been initiated to take up / complete their survey and investigation/DPR preparation and other pre-construction activities well in advance so as to achieve the ambitious programme of capacity addition in the coming plans. On detailed examination, commissioning of a hydro capacity of 25,316 MW from 96 no. schemes seemed feasible. Remaining 13 no. schemes having aggregate capacity of 5604 MW needed to be pursued for early completion of their DPRs and obtaining other statutory clearances. Considering the uncertainties relating to geological surprises, natural calamities like floods, R&R and environmental issues expected to be experienced during the execution of the hydro projects, it has been proposed to consider a hydro capacity addition of 20,000 MW during 12th Plan Period.

Mega Power Policy

To encourage technology transfer, indigenous manufacturing in the field of super critical power equipment, following modifications in the policy have been approved on 01.10.2009 :-

- (i) The existing condition of privatization of distribution by power purchasing states would be replaced by the condition that power purchasing states shall undertake to carry out distribution reforms as laid down by the Ministry of Power.
- (ii) The conditions requiring inter-state sale of power for getting mega power status would be removed.
- (iii) The present dispensation of 15% price preference available to the domestic bidders in case of cost plus projects of PSUs would continue. However, the price preference will not apply to tariff based competitively bid projects of PSUs. A Committee would be set up under the Planning Commission, with DHI, MoP and DoR as members which would suggest options and modalities to take care of the disadvantages suffered by the domestic industry related to power sector keeping all factors in view.
- (iv) The benefits of Mega Power Policy will also be extended to supercritical projects to be awarded through ICB with the mandatory condition of setting up indigenous manufacturing facility provided they meet the eligibility criteria.
- (v) The requirement of undertaking international competitive bidding (ICB) by the developers for procurement of equipment for mega power projects would not be mandatory, if the requisite quantum of power has been tied up through tariff based competitive bidding or the project has been awarded through tariff based competitive bidding.
- (vi) A basic custom duty of 2.5% only would be applicable on brown field expansion of existing mega projects. All other benefits under mega power policy available to Greenfield projects would also be available to expansion unit(s) (brownfield projects) even if the total capacity of expansion unit(s) is less than the threshold qualifying capacity, provided the size of the unit(s) is not less than that provided in the earlier phase of the project granted mega power project certificate. All other conditions for grant of the mega power status shall remain the same.
- (vii) Mega Power Projects would be required to tie up power supply to the distribution companies/utilities through long term PPA(s) and may also sell power outside long term PPA(s) in accordance with the National Electricity Policy 2005 and Tariff Policy 2006, as amended from time to time, of Government of India.

North-Eastern States

North-Eastern States

An Inter-Ministerial Group (IMG) has been constituted (vide Ministry of Water Resources' O.M. dated 7th August, 2009) to evolve a suitable framework to guide and accelerate the development of Hydropower in the North-East.

The composition of the group is as under:

- | | | | |
|----|---|---|----------|
| 1. | Secretary, Ministry of Water Resources | - | Chairman |
| 2. | Secretary, Ministry of Power | - | Member |
| 3. | Secretary, Ministry of Environment & Forest | - | Member |
| 4. | Secretary, DoNER | - | Member |
| 5. | Principal Advisor (Power), Planning Comm. | - | Member |

The Group will have the following **Terms of Reference** :

The Group shall identify the issues related to development of Hydropower in the North East, particularly in Arunachal Pradesh.

This Group shall go into the details of identified issues and evolve a suitable / framework to guide and accelerate the development of hydropower in the north east. In this exercise, it will consider practical solutions and provide necessary guidance and direction to concerned Ministries / Departments and the State Governments. It will suggest a specific timeline for actions for concerned Ministries/Departments and the State Governments and the project developers.

In respect of the issues involving policy intervention the Group will submit its recommendation for appropriate modification in the policy in the Cabinet Secretariat/PMO.

Energy Conservation & Energy Efficiency

Overview

The Government of India has enacted Energy Conservation Act, 2001 to meet the growing needs of the economy. While capacity addition has been given a major focus, energy efficiency along with renewable energy, nuclear energy is the thrust areas to ensure sustainable development. The enactment of the Energy Conservation Act, 2001, setting up of Bureau of Energy Efficiency (BEE) and the National Mission for Enhanced Energy Efficiency, is steps in this direction.

Schemes for Promoting Energy Efficiency in India during 2007-2012

In order to enhance the efforts to promote energy efficiency during the XI plan period and to achieve the target of reducing consumption by 5% (equivalent to 10,000 MW of avoided capacity) by 2012, BEE has initiated several programmes/schemes targeting the following areas:

- House hold lighting
- Commercial Buildings
- Standards & Labeling of appliances
- Demand Side Management in Agriculture /Municipalities
- SMEs and Large Industries
- Capacity Building of SDAs

The summary of these initiatives are:

- **Bachat Lamp Yojana:** The Bachat Lamp Yojana PoA is a scheme developed by BEE to promote energy efficient lighting in India. CFLs consume only 1 /4th to 1 /5th of the energy used by ICLs to provide the same level of light. Under the BLY scheme, long-life, quality CFLs would be distributed by investor to grid-connected residential households in exchange of an incandescent lamp (ICL) and INR 15.

The BLY scheme upon implementation would result in reducing an estimated

1. 6000 MW of electricity generation capacity translating into a potential saving of INR 24000 crores per annum
 2. Combined GHG emission savings on replacing an estimated 400 million ICLs with CFLs would result in reducing 20 million tonnes of (CO₂) from grid-connected power plants.
- **Standards & Labeling Scheme:** This is one of the major thrust areas of BEE. A key objective of this scheme is to provide the consumer an informed choice about the energy saving and thereby cost saving potential of the relevant marketed product. The S & L scheme was launched on a voluntary basis for Air conditioners, Refrigerators, TFLs and Distribution Transformers. To widen the scope for energy savings, several other widely used equipments & appliances

have been included in the scheme, e.g. Motors, Color TVs, Ceiling Fans, Geysers, LPG stoves and Agricultural pumps, etc.

- **Energy Conservation Building Coder (ECBC)& Energy Efficiency in existing buildings**

The ECBC sets minimum energy standards for new commercial buildings having a connected load of 500kW or contract demand of 600 KVA. These codes define norms of energy requirement per square meter of area and takes into consideration, the climatic regions of the country where the building is located. State governments have the flexibility to modify the ECBC based on local and regional requirements. Under section 14 (p) of the Energy Conservation Act, 2001, Central Government has powers to prescribe ECBC for commercial buildings (having a connected load of 500 KW) or building complex for efficient use of energy and its conservation.

- **Strengthening Institutional Capacity of State Designated Agencies (SDAs)**

The scheme seeks to build institutional capacity of the newly created SDAs to perform their regulatory, enforcement and facilitative functions in the respective states. The main emphasis of the scheme is to build capacity necessary to enable them to discharge regulatory, facilitative and enforcement functions under the Act, given that the institutional capacity is limited - both in terms of human and infrastructure resources. The scheme seeks to develop and implement Energy Conservation Action Plan (ECAP) based on a uniform template evolved for taking measures necessary to build institutional and human capacity, enabling the SDAs to implement energy efficiency programmes and undertake evaluation and monitoring of the Energy conservation activities implemented in the state.

- **Agricultural and Municipal DSMs:** The scheme targets replacement of inefficient pump sets, street lighting, etc. The replacement of inefficient equipments will result in energy and cost savings. These cost savings will be used for servicing the investments by ESCOs.

Energy Efficiency in Small and Medium Enterprises (SMEs) and Designated Consumers

To stimulate energy efficiency measures in 25 high-energy consuming small and medium enterprise clusters. BEE in consultation with Designated State Agencies, has initiated diagnostic studies in 25 SME clusters in the country, and developed cluster specific energy efficiency manuals/booklets, and other documents to enhance energy conservation in SMEs.

The National Mission for Enhanced Energy Efficiency (NMEE)

The National Mission for Enhanced Energy Efficiency (NMEE) is one of the missions of the National Action Plan on Climate Change which was released by the Hon'ble Prime Minister, on 30 June 2008.

The Ministry of Power (MOP) and Bureau of Energy Efficiency (BEE) were tasked to prepare the implementation plan for the National Mission on Enhanced Energy

Efficiency (NMEEE). A Steering Committee of Ministry of Power under the chairmanship of Secretary (Power), spelt out the following new initiatives to enhance energy efficiency, in addition to the programmes on energy efficiency being pursued by MOP and BEE. These are:

A market based mechanism to enhance cost effectiveness of improvements in energy efficiency in energy-intensive large industries and facilities, through certification of energy savings that could be traded. **(Perform Achieve and Trade)**

- a) Accelerating the shift to energy efficient appliances in designated sectors through innovative measures to make the products more affordable. **(Market Transformation for Energy Efficiency (MTEE))**
- b) Creation of mechanisms that would help finance demand side management programmes in all sectors by capturing future energy savings. **(Energy Efficiency Financing Platform (EEFP))**
- c) Developing fiscal instruments to promote energy efficiency namely **Framework for Energy Efficient Economic Development (FEEED)**.

As a result of the above initiatives the total avoided capacity addition is expected to be **19,598 MW** and the investment requirement is **74,000 crores**. Given that these savings will happen at the demand side, the avoided investment in generation, transmission and distribution sector will be to the tune of **Rs.1,95,980 crores**. The total CO2 emissions that will be reduced is estimated to be **98.55 m** tones as a result of these initiatives. ✍
