



## ENERGY POLICY, 2009

### 1. BACKGROUND

Power is the engine of growth of any developing economy. Consumption of electrical energy is a universally accepted indicator of progress in the agricultural, industrial and commercial sectors, as also of the well being of the people of the State. No major economic activity can be sustained without adequate and reliable supply of power. It plays a critical role in employment generation, regional development and poverty eradication.

The economic development of Uttar Pradesh is hampered due to inadequate availability of power. The demand supply gap has been widening year after year and not much has been done to create additional capacities in all the segments of the sector. The gravity of the situation is proved by the fact that the State's annual per capita consumption is 340 units as against the national average of 672 units.

#### 1.1. STATE OF THE POWER SECTOR

To appreciate the magnitude of problem and decide a right course of action the Government has reviewed the current state of power sector in UP and it can be briefly summed up as follows.

- U.P. has a current peak deficit of power to the extent of 3000 MW. This is because no new plant came up after 1994.
- The power infrastructure including transmission and distribution has also become overloaded due to increase in demand and inadequate investment in the sector in the past 10 years.
- The State has a distribution network of 34081 circuit kilometers of line network with the transformation capacity of 20000 MVA. State has planned an investment of Rs.15341 Crore in the next 2-3 years in the distribution segment.
- The transmission network of the State consists of 12849 CKT of lines of different capacities and the transformation capacity of 18495 MVA. The State has plans to invest Rs. 19945 Crore during the next 2-3 years out of which Rs. 10000 Crore is proposed under the PPP model.
- Household electrification levels in UP are 32% as against the national average of 56%. The Govt. of U.P. has kept a target of 100% rural electrification to bring the per capita

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consumption to the level of national average by 2012 and to improve the house hold electrification level to 100% by 2014. The State has also planned for 24 hours supply to rural areas by 2014.

- To achieve the average of per capita consumption of the country, the State would require over 32000 MW of new capacity with an investment requirement of over Rs. 200000 cr.

## **2. NEW POWER POLICY**

The present Government has appreciated the problems being faced by the power sector. GoUP is aware of the fact that in the present era of globalization the sector cannot grow without participation of all the stakeholders. The Government also accepts the fact that its intent should be clearly defined so that long term planning could be done and investment opportunities could be clear to the business world. The Government of Uttar Pradesh had earlier issued the Power Policy 2003 and later in 2008 a policy regarding generation was also issued but now the Government feels the need of a comprehensive and composite Power Policy which could serve as a beacon for the growth of power sector and the overall development of the State.

The objectives of the power policy are to sub-serve the overall goals of the State in economic development. Basically, the goals that the State strives to achieve in economic sphere are the rapid development of productive activities in order to create sustainable employment opportunities and thereby reduce the level of poverty, particularly prevailing in rural areas and among the people belonging to Scheduled Castes and Scheduled Tribes and Other Backward Classes. It is well recognized now that economic growth is a must in order to share the fruits of development more equitably.

UP Power policy 2009 is structured with consumers as the focal point & aims at fulfillment of the overall need for universal access and for providing reliable, quality & affordable power. The following are the principle objectives in this direction:

- Access to electricity to all households in next five years
- Power Demand to be fully met by 2014. Energy and peaking shortages to be overcome and adequate spinning reserve to be available.
- Supply of Reliable and Quality Power of specified standards in an efficient manner and at reasonable rates.
- Per capita availability of electricity to be increased to over 1000 units by 2017
- Financial Turnaround and Commercial Viability of Electricity Sector thereby reducing the financing burden on the State over a period of time while recognizing the fact that during the initial transition period, state support would be a key determinant for the success of entire exercise
- Protection of consumers' interests
- To increase the availability of power by (a) encouraging augmentation of environment friendly generating capacity b) sourcing competitive and reliable bulk power from sources both within and outside the state c) Encouraging developers to enter into MOU for generation and supply of power to the State in cases where the developer has tied up

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or has taken steps to tie up coal, water and has arranged land on his own or with the help of the State Government.

- Optimization of generation of existing plants by putting up additional units, through renovation and modernization or by changing configuration of machines in case of plants under commissioning or by allowing alternative fuel for seasonal generating units particularly those based on bagasse or bio mass.
- To augment the transmission and distribution capacity and refurbish the existing capacity with a view to improving efficiencies, reliability & quality of supply and reducing losses.
- To encourage efficient usage of electricity & facilitate energy conservation measures including demand side management.
- To aim at building up a sophisticated and skilled trading entity with a view to utilizing the significant opportunities offered by the new Act.
- To facilitate consumers benefiting from competition & towards this end encourage private sector participation in all areas viz. generation, transmission, distribution, trading and R&M.
- To strive towards expeditious electrification and supply of electricity to all villages and households in the state.
- To support the UP Electricity Regulatory Commission with all policy and other administrative measures with a view to ushering in a rationalized tariff framework with efficient distribution of subsidies.

## **2.1. ISSUES ADDRESSED**

The policy seeks to address the following issues:

- Generation
- Renovation and Modernization & Management of Existing plants
- Cogeneration and Captive Power
- Transmission and Trading
- Distribution
- Rural Electrification
- Generation through Renewable energy sources
- Energy Conservation and Demand Side Management

## **3. GENERATION**

### **3.1. CONTEXT**

As already discussed the State is grappling with the serious power shortages. In order to reach the national level of per capita consumption approx. 32000 MW additional capacities is required. The State Government has approved the power procurement plan during the remaining period of 11<sup>th</sup> Plan and the ensuing 12<sup>th</sup> Plan.

### **3.2. NEW CAPACITY ADDITION**

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GOUP efforts have resulted into huge participation by private sector in U.P. Power Sector. Three important projects viz Anpara (1200 MW), Bara (1980 MW), Karchana (1320 MW) have already been awarded on competitive bidding basis. Others projects planned under Case II include Jawaharpur (1320 MW), Dopaha (1980 MW), Lalitpur (2000 MW) and NCR project (2000 MW).

5000 MW of energy is planned to be procured through Case I.

In the State Sector, three projects viz., Parichha Extn Stage 2 (500 MW), Harduaganj Extn (500 MW) and Anpara D (1000 MW) is planned for the 11<sup>th</sup> Plan. In the 12<sup>th</sup> Plan two projects viz., Anpara E (1320 MW) and Obra C (1320 MW) have been approved.

In the joint sector two plants viz., Meja NTPC (1320 MW) and Fatehpur Neyvile Lignite (2000 MW) have been approved.

Though the GOUP will endeavor to create additional capacity through state owned utilities but it is evident that substantial investment has to be brought in by the private sector as well. The State still needs substantial additional capacity to provide adequate power in all sectors. To meet this objective the GoUP envisages private participation in the generation sector by having a policy commensurate to attract investment by private power developers in the State.

The Govt. of India has formulated policy guidelines for procurement of power through competitive bidding route under case I and Case II methods. The State would continue to follow this route and power would also be procured through MOU route . Generating projects of minimum size of 250 MW and above through MoU route shall be eligible to get the benefits under the policy. Generation projects through MoU route shall be set up by IPP on its own or jointly with central or state-owned utilities or its successors anywhere in the State of Uttar Pradesh. The tariff for such projects would be determined by the UPERC.

### **3.3. POLICY DETAILS**

**3.3.1.** Govt. of India has formulated detailed guidelines for procurement of power through competitive bidding route. Under this mechanism two models , case I and case II , have been approved. Standard bidding documents have also been issued . GoUp will continue to procure power through competitive bidding route under case I and case II.. Under case I procurement , the seller will be responsible to arrange land, water, fuel and all the statutory clearances . But in case of procurement under second option the State Govt. will arrange land, provide water, arrange fuel linkage and obtain all the statutory clearances for the project.

**3.3.2.** In case of projects being set up under the MOU route the following policy would be applicable:

#### **3.3.2.1.FUEL**

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- When developer has arranged its own fuel without recommendation of GoUP, State Government through its nominated agency shall have right and not obligation to purchase power from the power project, **up to 50%** of the Installed Capacity at price to be decided by UPERC.
  - When developer has arranged its fuel, on recommendation of GoUP, either in the form of fuel allocation/linkage or in the form of mining block, the State government through its nominated agency shall have first right and not obligation to purchase power from the power project, **up to 90%** of the Installed capacity at price to be decided by UPERC.
  - The right of refusal will be exercised by the Government each time the Developer is in the process of finalizing its Power Purchase Agreement (PPA). However, the Government would provide its concurrence or otherwise to the PPA to the Developer within three months of the receipt of the same. The term of PPA shall be twenty-five years. The PPA shall be approved by the Uttar Pradesh Electricity Regulatory Commission.
  - The balance power or the total power, as the case may be, may be sold to third party consumers, other licensees, traders, etc. Such sale to third party shall be guided by the applicable regulations such as Open Access Regulations, surcharge or OA charges etc issued by Uttar Pradesh Electricity Regulatory Commission. The developers will also have to make their own arrangement for entering into a wheeling agreement with State distribution/State transmission utilities, as may be applicable, as may be mutually agreed upon between the Developer and Licensee(s).

#### **3.3.2.2. LAND**

The land requirements for the power plant under this policy may be identified by the developer or by the State Government. State Government shall facilitate land assembly as per the policy of the State Govt.. However, the land cost would be fully borne by the developer

#### **3.3.2.3. WATER AND OTHER CLEARANCES**

The Government of Uttar Pradesh shall facilitate needed water linkages expeditiously and will assist in obtaining clearances from Centre

#### **3.3.2.4. ADMINISTRATIVE SUPPORT**

- The Government of Uttar Pradesh will facilitate expeditious grant of permissions, approvals, no-objection certificates, recommendations, etc. under the purview of the State Government. The Developer shall be responsible to obtain all the statutory clearances/approvals including approvals relating to Foreign Direct Investment, if any, as per law

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- The primary responsibility of development of the Project shall be of the Developer. The Energy Department, Government of Uttar Pradesh will facilitate the Project development activities by extending all possible support to the Company.

#### **3.3.2.5. OTHER INCENTIVES**

All new projects will be treated as %Industry %in terms of Industrial Policy of the State and all the incentives available to new projects will be applicable as per Industrial Policy of the state.

#### **3.3.2.6. SELECTION OF DEVELOPER**

The selection of developer for projects under the MOU route will be made on the basis of guidelines framed by the Government and notified separately. However the broad guidelines would be based on the guidelines for bidders qualifications under case II bidding notified by the Govt. of India.

#### **3.3.3. OPTIMATISATION OF CAPACITY**

The State would also vigorously follow up with the existing plants to optimize their capacity for increased availability of power by providing the incentive to sell part of increased capacity to third party. In such cases of optimization of capacity of an existing plant or the plant under commissioning 50% of the additional power will be allowed for third party sale. The rate of additional power which will be supplied to the State nominated agency would be decided with the approval of UPERC.

### **4. RENOVATION, MODERNISATION AND MANAGEMENT OF EXISTING POWER PLANTS**

An important area which has not received sufficient attention is the upkeep of the existing plants. Some of the state power plants have outlived their useful life. In the absence of surplus generation capacities, due attention has not been paid to scheduled maintenance, renovation and modernization of the existing plants. This has resulted in unplanned outages and frequent breakdowns. As a result, availability factor and the Plant Load Factor of a number of plants are below satisfactory level. It is proposed to increase the operating efficiency of the existing plants through introduction of professional management and renovation and modernization & refurbishment programmes. The process of refurbishment, renovation and modernization involves substantial investment. The State proposes to throw open the refurbishment & renovation and modernization of the existing plants to private sector, joint sector participation which can help in bringing in more efficient management practices leading to greater availability of power

Private Sector and Government undertakings may be allowed to operate/manage the plants wherever necessary. Such participation by the private sector/ Joint sector may follow the following routes:

- a) Lease, Rehabilitate, Operate and Transfer (LROT)
- b) Joint Asset Management with state utilities;

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- c) Sale of existing plants to private sector or to any joint sector venture for new capacity installation at old site.

Detailed guidelines will be issued separately for R&M projects.

## **5. COGENERATION AND CAPTIVE POWER**

### **5.1. CONTEXT**

The Electricity Act 2003 mandates that GOI after consultation with the State Governments prepare and notify a national policy for stand-alone systems for rural areas based on renewable and non-conventional sources of energy.

UP's rural population is 79.9% of the total population. 20% of the cropped area is under sugarcane cultivation and UP with a sugar production of 120 million MT is the largest producer of sugar in the country. Bagasse based generation would improve the marketability of the "waste product" from sugarcane while supplying power to the local areas either in a stand-alone mode or with grid connectivity.

UP also has a captive power capacity of about 2000 MW, most of which is under-utilized and therefore lying idle leading to significant loss of opportunity cost for the captive plant owners. Cogeneration helps captive generation and also augments the state grid. They also create employment both direct and indirect to the rural people.

### **5.2. POLICY DETAILS**

- 5.2.1.** The State will encourage setting up of cogeneration plants based on baggasse / bio mass or any other non conventional fuel. The State's nominated agency will enter into PPA with the generator as per policy guidelines issued by UPERC.
- 5.2.2.** To improve availability of power in the State, the State will also encourage the cogen plants to use conventional fuel such as coal or gas to generate power during the off season. The State will allow as an incentive 50% of the additional generation in off season to sell anywhere under open access system. The power purchase price for power generated through conventional fuel will also be determined by the UPERC. In addition, as an incentive all existing or future co gen plants based on baggasse or bio mass will be allowed to sell 10% of their total generation under open access to third party for next 10 years.
- 5.2.3.** Underutilized captive capacity/ any additional captive capacity would be supported by way of purchase of power at appropriate tariff with the approval of the Commission. All captive power plants not covered by the above such as diesel generating plants will be allowed to sell 10% power to third party under open access system for next 10 years; State would also permit local third party sales by such units within a radius of 50 kms. GOUP would encourage a policy that allows the banking and absorption of surplus capacity.

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**5.2.4.** Captive Power Plant can be installed by any of the following:

- a) A consumer of electricity
- b) A group comprising more than one consumer as joint venture
- c) An actual user of power but not a consumer
- d) A group of actual users of power, but not consumer as joint venture
- e) A group comprising of both consumers and users of power as joint venture

**5.2.5. STATUTORY & OTHER PERMISSION**

The State will facilitate the cogeneration and Captive power plant owner / Consumer to obtain all statutory / non-statutory permission for installation of cogeneration and captive power plant

**6. EVACUATION FACILITY FOR ALL NEW GENERATION PROJECTS**

The cost of the dedicated transmission line, if required, from all the Generating Plant (case I, case II and MOU) to the designated grid sub-station of the State utility/or inter State grid substation and the cost of interfacing at both ends (the Generating Plant and grid substation) including work at the grid Sub-Station, cost of bay, tie- line, if any, and replacement/ up gradation of existing equipment, if any, shall be borne by the Developer. The developer will also be responsible for erection testing and commissioning of required transmission inter connection .The State Government through the State transmission utility or other assignees will facilitate the clearances and approvals for connecting the power plant to the grid sub-station. However, the responsibility of application, clearances and approvals for the same would lie with the developer.

**7. TRANSMISSION AND TRADING**

**7.1. CONTEXT**

The Electricity Act 2003 requires separation of the Transmission and Trading functions. Transmission is to provide open access. Transmission is a licensed business and a Transmission licensee is barred from Trading.

State/Central Transmission Utility shall be deemed to be Transmission Licensee. There is provision for private Transmission Licensee. STU/CTU or Transmission licensee is not to engage in the business of Trading.

A Government Company or any Authority or Corporation to be notified by State Government shall operate SLDC. SLDC may be operated by STU till the Government notifies a Government company or any authority or corporation. SLDC is not to engage in the business of trading in electricity.

In addition to the industry structure implications of the above regulations, there are network congestion issues. Additional generation investments due to the liberal policies of GOUP are expected to increase and that would require concomitant investments in transmission.



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In addition to the above, GOUP would examine all possible options to enhance the value addition of the existing transmission assets in the state.

### **7.1.1. POLICY DETAILS**

GOUP would encourage private participation in Transmission so as to attract the necessary investments for strengthening and expansion of the Transmission system.

Considering the constraints imposed by the Act and also the significant opportunities offered by Trading, GOUP would form a trading company for Intra State and inter State trading of power. Trading being a highly knowledge and skill intensive activity, the trading company would require considerable professional skills and for this purpose GOUP would encourage private sector participation in the trading company in view of specialized skill required for the trading business.

With the advent of Open Access, the investments and competence required in the SLDC for scheduling and imbalance settlement and the Transmission system to avoid congestion would be substantial.

Additional generation capacity due to the liberal policies would require commensurate expansion of the transmission network. GOUP would encourage transmission licensees in the private sector and grant right of way on conditions similar to being granted for state owned Transmission Company

## **8. DISTRIBUTION**

### **8.1. POLICY DETAILS**

The State Government recognizes that the operational efficiencies (T&D loss and collection efficiency, quality & reliability of supply) need to improve significantly to address the various issues that plague the sector at present. The state government also recognizes that the operational efficiencies are inextricably linked to the governance of the sector. Industry structure and competition, which ensure commercial pressure on the utility and private ownership sensitive to commercial pressures, are the most powerful tools to improve efficiencies on a sustainable basis and ensure sector viability. In addition to reduction in system losses and improvement in profitability of the distribution business, the objective of the quality & reliable supply and also expansion of supply network especially in the rural areas has also to be achieved in an expeditious manner.

GOUP recognizes that the case for competition and private sector participation is as strong and relevant in the urban areas as in the rural for improving customer satisfaction and efficiency. GOUP would accordingly involve Private Sector participation for as large a consumer base as possible in the rural and urban areas.

GOUP accordingly would pursue private sector participation in the distribution business on a priority basis. Private Sector Participation in the distribution business would be through a transparent and open process of competitive bidding. Private sector participation in distribution business may be through franchisee model or in any other form.

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While reduction of the burden on Government finances is one of the most important long-term objectives of the distribution privatization exercise, GoUP recognizes the need for continued support to the sector at least during the transition period till the distribution entities turn around and become financially viable & self sustaining. GOUP is prepared to commit the necessary transition period support to ensure a successful turnaround of the state power sector. GoUP would involve multilateral agencies, central sector financial institutions and Ministry Of Power , GoI in funding of transitional finance requirement.

The Electricity Act 2003 facilitates introduction of competition in the distribution sector through mechanisms such as open access and multiple licensees through creation of own distribution network. GOUP recognizes that such mechanisms would introduce competitive pressure on various players in the sector to improve quality of supply and service at competitive prices as well as enhance consumer choice. GOUP is committed to facilitating the grant of open access on the existing state owned transmission network and would grant rights of way for creation of new distribution network by additional licensees.

## **9. RURAL ELECTRIFICATION**

The key development objective of the power sector is supply of electricity to all areas including rural areas as mandated in Section 6 of the Electricity Act. The GoUP would endeavor to achieve this objective at the earliest. Determined efforts shall be made to ensure that the task of rural electrification for securing electricity access to all households and also ensuring that electricity reaches to poor and marginal sections of the society at reasonable rates.

## **10. RENEWABLE ENERGY / GREEN ENERGY OPTIONS**

**10.1.** The Renewable Energy options are as follows:

- Biomass projects by utilizing agriculture residues and animal waste.
- Mini, Micro and Small Hydropower projects (up to 25 MW).
- Solar energy based power projects.
- Energy power projects based on municipal sewage , solid waste and Industrial Waste

### **10.2. POLICY GUIDELINE**

The State will encourage above renewable energy projects wherever feasible. The power will be purchased at the tariff approved by UPERC.

### **10.3. INFRASTRUCTURE FACILITATION**

When the sale of power is only to the State utility, necessary transmission lines and substations would be created by the State utility or the generating company would be allowed to create the same & necessary administrative support for it would be extended by GOUP.

GOUP may set up the entire connected infrastructure like roads, bridges and water resources for the project at the cost of the developer. In case lining of canals is required for water availability for any project, cost of lining would be borne by the developer.

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GOUP would encourage and facilitate private sector investment in setting up new small hydro projects. GOUP would also purchase power generated from small hydro projects at an agreed and approved tariff.

In addition to building up new generation capacity, GOUP would also source power from competitive cost suppliers from both within and outside the state.

## **11. ENERGY CONSERVATION AND DEMAND SIDE MANAGEMENT**

Having addressed the supply side issues by way of installation of new generating capacity, R&M and improvement of delivery infrastructure, GOUP intends to complement these measures through appropriate initiatives in demand-side management also. GOUP realizes the importance of energy conservation as a major thrust of the power policy. There is need to have a system that encourages energy conservation and provides disincentives for inefficient use of energy. GOUP would promote measures for economy and efficiency in energy consumption.

GOUP would in consultation with the Regulatory Commission formulate a comprehensive Demand Side Management policy covering the tariff measures.

- a) Energy audit will be made compulsory for all major industrial and large commercial establishments.
- b) GOUP would initiate measures to improve efficiency of agricultural pump sets and all electrical installations.
- c) Through suitable directives and fiscal incentives/disincentives, GOUP will actively promote use of energy efficient equipments.
- d) A communication campaign would be launched for consumer guidance and education programme for spreading mass awareness about energy conservation measures.
- e) Energy efficient buildings would be encouraged.

## **12. EMPLOYEE INTERESTS**

GOUP recognizes that a financial crisis and un-viability of the power sector with its present operations is most detrimental to employee interests. GOUP is fully committed to protecting the interest of the employees and in this regard, GOUP has already assumed Pension & Gratuity and GPF liabilities of the employees. The State Government is also committed to ensuring that the terms and conditions of service of employees will in no way be made inferior to the existing terms and conditions. GOUP is also alive to the needs of the new competitive environment where state-of-the-art skill and knowledge would be a key factor in ensuring the survival and success of any organization. GOUP would ensure that all employees are imparted necessary training and skill-development opportunities on a regular basis.

## **13. PERIOD OF VALIDITY**

This power policy will supersede all previous power policies. This Power policy would come into immediate effect and would be valid till 31st March 2014.