

## Chapter 4

### LEGISLATIVE & POLICY ISSUES- FORULATION, IMPLEMENTATION & FEEDBACK

#### 4.0 INTRODUCTION

Government of India's Policy of "Power for All" is in pursuance of the objective of the Electricity Act 2003 to protect the interest of consumers and supply of electricity to all areas. Several programmes have been initiated to achieve this objective. This objective has also been stated in the National Tariff Policy and National Electricity Policy and after many years of the implementation of these schemes and programmes, a need has been felt to review these policies in order to make Government's stated objectives achievable, within the boundaries of institutional and financial viability and to bring the benefits of electrification to the entire population. The suggested policy changes seek to accomplish the objective of achieving inclusive growth by providing affordable, adequate and quality power for all consumers.

#### 4.1 LEGISLATIVE ISSUES

The Electricity Act 2003 has put in place a liberal and progressive framework for the development of electricity sector in the country. Its main objectives are Promoting competition, protecting interest of consumers, Supply of electricity to all areas, Rationalization of electricity tariff and Ensuring transparent policies regarding subsidies.

The following issues were deliberated and recommendations have been made entailing legislative change:

##### 4.1.1 Procurement of Power by Distribution Licensees

The Appellate Tribunal for Electricity in its judgment dated 31st March 2010 held that the State Commissions have discretionary powers to give approval for the PPA or to direct the distribution licensee to resort to the competitive bidding process in accordance with the Tariff Policy. The Tribunal has held that the State Commission should direct the distribution licensee to carry out power procurement through competitive bidding process in cases where the rates under negotiated agreements are high and CERC/FOR should evolve benchmark tariff for guidance of the SERCs for this purpose.

Given the trend of prices discovered through competitive bidding process, which are more efficient than cost plus tariff, it may be desirable for the SERCs to encourage the distribution licensees to go for competitive bidding process. APTEL in its judgment has interpreted Section 62 and 63 of the Act providing for optional routes for the procurement of power which is against the provision of Tariff Policy. Though the Government of India has filed appeal petition in the Supreme Court against this

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judgment, it will be desirable that *more clarity is brought in respect of purchase of power by DISCOMS through suitable legislative changes.*

#### **4.1.2 Separation of “Carriage and Content” and further operationalization of open access in Transmission and Distribution**

An important issue in connection with inter-state open access is the issue of directions by some State Governments to generating companies under section 11 of the Electricity Act 2003 from time to time. There have been several instances when the State Governments have used Section 11 or Section 108 of the Act for prohibiting the sale of surplus power from a generating unit to the entities outside the State. The provision under section 11 or 108 of electricity Act, 2003 should not be misused to deal with shortage of power in the State as this section was meant to be invoked in extra ordinary circumstances like security of the State, public order or a natural calamity. This is patently against the letter and spirit of the Act and the policy.

In certain cases it has placed the SLDCs /RLDCs in a piquant situation. For instance, SLDCs have withheld standing clearance to many such generating companies on the plea of section 11; however this has led to action by CERC against such SLDCs involved. SLDCs are construing a direction issued to Generating Companies under Section 11 as a de-facto directive under Section 37.

At the same time this will also have adverse impact on investment in capacity addition. Provision of open access or third party sale is one of the important drivers of reforms as it is seen not only as an instrument of market development but also as a mechanism that gives comfort to investors in terms of payment security. Restrictions on sale of surplus electricity would therefore frustrate all efforts at fostering competition in the sector.

Therefore, it was recommended that the Act might provide further clarification on the meaning of ‘extraordinary circumstances’ mentioned in Section 11, in case required. Considering that the DISCOMs have access to the entire country’s wholesale market rather than depending solely on the generating companies within the state, there can be no ‘extraordinary circumstances’ forcing generating companies to sell power only within the state. Further, the Appropriate Commissions might in line with the provisions of the Act clearly specify the compensation to be provided to Generating Companies whenever section 11 directive is issued to generating companies i.e. ex-ante formula for compensating the generating company in case it is forced through section 11 directive to sell power only to the host state.

The other issue pertains to Section 14 of the Electricity Act, 2003 which provides for grant of multiple licensees in the same area of supply. The 6th proviso to Section 14 of the Act states that the Appropriate Commission may grant license to two or more persons for distribution of electricity, if the applicant complies with the additional requirement as prescribed by the Central Government. Rule 3 of the Central Government Rules, 2005 stipulates the requirement of capital adequacy and credit worthiness for grant of license for distribution of electricity.

Defining minimum area for second/subsequent licensee restricts the flexibility even in genuine cases like granting license co-terminus with the area of the existing licensee etc. The other view was that the fixation of minimum areas was done in the rules after due consultation with all concerned so that there is no “cherry picking” by the second licensee.

In most of the developed Countries, there is a single entity which takes care of wires and multiple suppliers of power which use the common network. This can be achieved in India by issuing separate licenses, one for Wires and the other for Supply business as Distribution Licenses. A legal opinion has been sought by the Forum of Regulators (FOR) from Solicitor General of India (SG) on following issue:

*Can distribution and retail supply business be separated under the existing provisions of the Electricity Act, 2003?*

On above raised query, Solicitor General of India has opined that the Electricity Act 2003 assigned the dual role of network operator and of supplier to the distribution licensee, hence, the two cannot be separated.

Therefore in order to have two different types of distribution licensees, the power granted to Appropriate Commission, under Section 14 to grant a distribution license, will have to be amended to the effect that it can grant two different types of distribution licensees.

Further, it would appear that the twin objectives of ushering in competition by grant of multiple distribution licenses and enabling choice to consumers while at the same time avoiding additional costs on the consumers to pay for the operation and maintenance of stranded assets, legislative changes may be required, as it is felt that the present requirement of laying parallel network by the second Licensee may not result in minimum engineering cost.

Meanwhile, the definition of minimum area of supply may be modified and it may be left to the discretion of the SERCs to decide the area, however, with due consideration to the fact that the grant of second/subsequent license does not lead to “cherry picking”.

### **4.1.3 Development Of Power Markets And Exchanges:**

Section 66 of the Electricity Act 2003 states that *‘The Appropriate Commission shall endeavour to promote the development of a market (including trading) in power in such manner as may be specified and shall be guided by the National Electricity Policy referred to in section 3 in this regard.’* Section 60 has suitable provisions allowing the Commissions to intervene in case of market domination.

The Central Electricity Regulatory Commission (CERC) came out with the first set of regulations on 30<sup>th</sup> January 2004 regarding grant of trading license. Subsequently, regulations for fixing of trading margin was issued on 23<sup>rd</sup> January 2006. Based on these regulations, a total of forty one (41) inter state trading licenses have been issued by the Commission till 30<sup>th</sup> June 2011.

However, with regard to further development of electricity markets, there is a need for clarity in the Act so that jurisdiction issues regarding forward and future market products may be sorted out at the earliest so as to facilitate Power Market development in India further.

### **4.1.4 Cogeneration From Renewable Energy Sources**

Section 86 (1) (e) of the Act deals with the promotion of Renewable Energy sources and mandates SERCs to promote co-generation and generation from renewable sources of energy. Renewable Energy is understood and defined to be energy generated from non-fossil fuel or from energy sources which are inexhaustible like wind, solar, water etc.

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However, the Appellate Tribunal for Electricity in its judgement dated 26th April 2010, has interpreted this provision and held that co-generation based on fossil fuel also should be treated at par with Renewable Energy sources for the purpose of promotion of such energy sources and RPO should not be made applicable on consumers of electricity generated from co-generation plant irrespective of fuel source.

It is therefore opined that the present definition of cogeneration plants as interpreted by APTEL does not prescribe the source of fuel (fossil or non-fossil). It is therefore recommended to bring clarity in this regard through legislative changes, if required, in consultation with MNRE. Further, RPO as envisaged under Section 86(1)(e) is in relation to the 'consumption' in the licence area of a distribution licensee. So, consumption by all such entities i.e. distribution companies, CPPs and open access consumers taken up together constitutes total consumption in the area of such licensee, exclusion of CPPs & open access consumers would amount to putting additional burden on other consumers 'consuming' electricity in the area of supply of the distribution licensee.

#### **4.1.5 Empowering Regulatory Commissions for suo moto revision of tariff of consumers.**

Section 64 of Electricity Act 2003 may be amended by incorporating an additional provision for empowering the Regulatory Commissions for suo moto revision of tariff of consumers. The additional provision may be on the lines mentioned below.

"Provided if the Appropriate Commission is satisfied that the expected revenue of a distribution licensee (s) at the current tariff differs significantly from the revenue it is permitted to recover, it may order the licensee(s) to file an application within the time specified by the Commission to amend its tariffs appropriately failing which the Commission shall suo moto start the proceedings for determination of tariff."

## **4.2 POLICY ISSUES**

The National Electricity Policy and the Tariff Policy have been notified under the provisions of the Electricity Act, 2003. The National Electricity Policy, inter-alia, aims at Providing access to electricity to all, Overcoming energy and peaking shortages and having adequate spinning reserves for fully meeting the demand, Supply of reliable and quality power of specific standards in an efficient manner and at reasonable rates.

The Tariff Policy aims at ensuring financial viability of the sector and promoting transparency, consistency and predictability in regulatory approaches. It also aims at promoting competition and efficiency in operation and meeting quality of supply.

The National Electricity Policy and Tariff Policy endeavor to fundamentally change the Power Sector to function in an open, competitive regime under regulatory oversight. The provisions of these Policies must be implemented within the stipulated time in order to make power available at affordable cost to all.

The following issues were deliberated and recommendations have been made entailing policy change accordingly:

## 4.2.1 NATIONAL ELECTRICITY POLICY(NEP)

Section 3 (1) of the Electricity Act 2003 requires the Central Government to formulate, inter alia, the National Electricity Policy in consultation with Central Electricity Authority (CEA) and State Governments. The provision is quoted below:

*"The Central Government shall, from time to time, prepare the National Electricity Policy and tariff policy, in consultation with the State Governments and the Authority for development of the power system based on optimal utilization of resources such as coal, natural gas, nuclear substances or materials, hydro and renewable sources of energy".*

Accordingly, Central Government notified the National Electricity Policy on 12<sup>th</sup>, February, 2005. The National Electricity Policy aims at achieving the following objectives:

- (a) Access to Electricity - Available for all households in next five years
- (b) Availability of Power - Demand to be fully met by 2012. Energy and peaking shortages to be overcome and adequate spinning reserve to be available.
- (c) Supply of Reliable and Quality Power of specified standards in an efficient manner and at reasonable rates.
- (d) Per capita availability of electricity to be increased to over 1000 units by 2012.
- (e) Minimum lifeline consumption of 1 unit/household/day as a merit good by year 2012.
- (f) Financial Turnaround and Commercial Viability of Electricity Sector.
- (g) Protection of consumer's interests

The details are given at **Appendix-4.1**

Some specific issues which may require a review of some specific clauses from National Electricity Policy are listed below:

### 4.2.1.1 Institution Building:

Ministry of Power, Govt. of India constituted a committee chaired by Sh.G.B. Pradhan, to examine issues relating to manpower, certification and incentive for the personnel employed in System Operation at various levels and also for the ring fencing of the LDCs to ensure their functional autonomy and give recommendations.

The G. B. Pradhan Committee has recommended that the Load Despatch Centers should be ring fenced and should have functional and financial autonomy. The Recommendations of the Pradhan Committee have been agreed upon at all levels in the Government including at the Chief Ministers and Power Ministers Meetings. All efforts need to be made to create an environment where the Load Despatch Centres have functional autonomy, independent and sustainable revenue streams and are adequately staffed with people having the right skill, equipment and incentive to deliver.

Central Government has notified POSOCO, a wholly owned subsidiary of POWERGRID, to operate all the RLDCs / NLDC w.e.f 1<sup>st</sup> October, 2010. For transparent system operation, the independence of

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POSOCO is critical. SLDCs also have a critical role in operationalisation of open access. Therefore, in view of above, the following recommendations may be made:

- i) Strengthening of institutions at the National/ Regional/State level such as NLDC/RLDCs/SLDCs is vital to the implementation of open access.
- ii) The recommendations made by the Pradhan Committee needs to be implemented for ensuring empowerment of SLDCs.
- iii) The management of POSOCO should be separated from the PGCIL
- iv) For ensuring their independence, there is a need for functional & financial separation in operation of SLDCs.

In view of the fact that their concurrence is a pre-requisite for permitting open access. Independence of SLDCs will only ensure non discriminatory open access in line with the spirit of the Act.

#### **4.2.1.2 DISCONTINUATION OF SINGLE BUYER MODEL & RE-ORGANIZATION OF SEBs:**

With the enactment of the Electricity Act 2003 and implementation of open access, the market structure in the power sector changed from the old single buyer structure to a multi-buyer model. Currently many states, which have unbundled the SEBs, have reported improvements in their operational efficiency and are able to ensure reliable power supply to consumers.

However, there are some States where SEBs have been unbundled but the single buyer model has been perpetuated by transferring the function of bulk purchase and sale from the TRANSCOs to intermediary bulk supply companies/trading companies/agencies.

Power purchase agreements have not been reallocated to the distribution companies to enable them to enter into a direct contract with the generating companies as envisaged in the Act and the Policy. This model camouflages inefficiencies of one DISCOM against another which is against the spirit of the Act.

Therefore, it is recommended that the NEP may be amended to give a clear timeline for States to expedite reassignment of the PPAs to DISCOMs and for winding up the single buyer model as early as possible.

#### **4.2.1.3 TRAJECTORY OF RENEWABLE PURCHASE OBLIGATION (RPO) & ENFORCEMENT**

Stable RPO regime is a pre-requisite for promotion of renewable energy sources. The long term trajectory for Renewable Purchase Obligation would give greater visibility for the market players to plan their investment in the Renewable Energy Sector.

A suitable forum (FOR) may conduct studies to suggest the possible RPO trajectories for different states and at the same time ensure homogeneity in the RPO regulations of respective states and UT's.

It is also equally important to ensure compliance of RPO by all the obligated entities including open access users as per the CERC (Terms and Conditions for Recognition and Issuance of Renewable

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Energy Certificate for Renewable Energy Generation) Regulations, 2010. Renewable Energy Certificate (REC) mechanism provides an option for compliance of RPO.

- i) **SERCs should provide long term trajectory for Renewable Purchase Obligation.** FOR should conduct studies in this regard and suggest possible trajectories for different States keeping in view availability of RE sources in the country and impact of increasing level of RPO on the power purchase cost of the respective distribution licensee. FOR should develop homogeneity in the RPO regulations of respective states and UT's.
- ii) The Principles & guidelines evolved through consensus by the Forum of Regulators for the RPO of Obligated entities and REC mechanism should be followed up for timely adoption by corresponding Regulations of SERCs in keeping with Government Policies. A time limit of 3 to 6 months may be prescribed under the policy for respective SERCs to issue the relevant Regulation once it is adopted by the FOR with or without modification.

#### 4.2.1.4 Cogeneration from Renewable Energy Sources

Section 86 (1) (e) of the Act deals with the promotion of Renewable Energy sources and mandates SERCs to promote co-generation and generation from renewable sources of energy. Renewable Energy is understood and defined to be energy generated from non-fossil fuel or from energy sources which are inexhaustible like wind, solar, water etc. The spirit of Section 86(1)(e) of the Act and the relevant provisions made in the National Electricity Policy and the Tariff Policy is to promote generation of electricity in the area of distribution licensees from Renewable Energy sources and cogeneration.

Further, RPO as envisaged under Section 86(1)(e) is in relation to the 'consumption' in the licence area of a distribution licensee. As such RPO has to be imposed on distribution companies, CPPs and open access consumers. As consumption by all such entities taken up together constitutes total consumption in the area of such licensee, exclusion of CPPs & open access consumers would amount to putting additional burden on other consumers 'consuming' electricity in the area of supply of the distribution licensee.

However, the Appellate Tribunal for Electricity in its judgement dated 26th April 2010, has interpreted this provision and held that co-generation based on fossil fuel also should be treated at par with Renewable Energy sources for the purpose of promotion of such energy sources and RPO should not be made applicable on consumers of electricity generated from co-generation plant irrespective of fuel source.

As the present definition of cogeneration plants as provided in the Act and as interpreted by APTEL does not prescribe the source of fuel (fossil or non-fossil), it is recommended to bring clarity in this regard through legislative changes, if required, in consultation with MNRE.

#### 4.2.1.5 Consumer Grievance Redressal Forum (CGRF)

Clause 5.13.3 of the National Electricity Policy also advises State Electricity Regulatory Commissions to notify guidelines/ regulations for the establishment of the Forum and the Ombudsman for consumer protection. The Government of India (GoI) has also framed rules detailing the provisions of the CGRF and the Ombudsman.

Though some states have established Consumer Advocacy Cells, it is important that such cells may be instituted by all the Commissions to provide the required legal advice, support, and assistance to Complainants for representing their case before the Ombudsman. Such a Cell could be funded by the Commission.

Presently all expenses related to the Ombudsman's office including that of the Secretariat are usually borne by the distribution licensee and are recovered from consumers through ARR. However, it might raise a question on the independence of the Ombudsman. There is a provision for the appointment of an Ombudsman in the Act under Section 42 (6), this implies that there appears to be no need for creation of a separate post for Ombudsman and consequently there is no need for seeking approval of the Government under Section 91 (2) on the lines of Delhi example.

Therefore, the CGRF should be multi member setup with members from all stakeholders and FOR should play an important role in ensuring consonance of guidelines/regulations pertaining to CGRF & Ombudsman in respective States and UT's.

Also, the expenses of the office of the Ombudsman should not be met by the distribution licensee. The office of the Ombudsman should be funded by SERCs and a separate budgetary allocation could be made in the budget of SERC for this purpose.

Consumer Advocacy Cells may be instituted by all the Commissions to provide the required legal advice, support, and assistance to Complainants for representing their case before the Ombudsman. Such a Cell could be funded by the respective Commission.

#### 4.2.1.6 Energy Policies By States Regarding Free Power/Power at Concessional rates From The Generation Projects

Several State Governments have announced policies requiring the investors to supply a specified quantum of power from their generating stations to the State Governments/State utilities free of cost or at concessional rates. These conditionalities are pre-requisites for investment in these states

To the extent these policies of State Governments mandate sale of certain quantum of generated power, be it surplus or otherwise, to the host State Governments, they curtail, restrict and contravene the provisions of sub-section (2) of Section 10 of the Act. Further, any restriction placed on IPPs / Generating companies to deal with the generated power in any manner by making them sell any quantum to State Government as a return for facilities / benefits given to them while they set up their plants, contravenes the aforesaid legal provisions.

Therefore, it is recommended that Power procurement and allocation of power is to be done in line with the tariff policy and the guidelines/ Standard Bid documents (SBD) issued by Govt. of India under the Electricity Act, by the State Governments. Any restriction placed on IPPs/Generating companies to deal with the generated power in any manner by making them sell any quantum to State Government as a return for facilities / benefits given to them while they set up their plants, contravenes the provisions of the Electricity Act, 2003 and Policies made there under. It is recommended that enabling provisions may be made in the NEP in this regard.

#### **4.2.1.7 Dedicated Transmission Lines**

As there is no license required for Generation of power under the Electricity Act, the generators who construct *dedicated transmission lines* defined separately in the Electricity Act are not being governed by the Work of Licensee Rules applicable to Transmission & Distribution Licensees. As a result, there are disputes between generating companies and owner/occupier of the land over which such lines are laid, which are essentially on the issue that dedicated transmission lines were laid without taking prior consent from the owner or occupier.

Therefore it is recommended that while giving prior approval of Govt. under Section 68 of the Electricity Act 2003, following condition is inter-alia imposed, for setting of dedicated transmission line:

‘the project developer shall abide by the provisions of Works of Licensee Rules 2006 notified by the Government of India, Ministry of Power in the Gazette of India, extra Part-II Section 3(i) dated 18.4.2006 (vide GSR 217(E) dated 18.4.2006).’

It was also observed that under the Works of Licensee Rules, any dispute is to be adjudicated and compensation decide by District Magistrate etc. Adjudication on such matters is a function of normal judiciary and does not falls in the domain of CERC.

Therefore, it is recommended that a new Para in the Policy may be added so that similar condition/ provision as above may be made on the lines of Works of Licensee Rules for conditions of construction of dedicated transmission lines and also any dispute is to be adjudicated and compensation decided by District Magistrate etc...

#### **4.2.1.8 Independent Monitoring Group**

Effective implementation of various programs such as RGGVY, NEF, R-APDRP etc. is crucial to improve health of the sector as well as to improve service quality to poor. Hence there is a need to strengthen program review and monitoring mechanism. One of the suggestions was constitution of separate ‘Independent Monitoring Group’ for oversight on important programs / schemes such as RGGVY, NEF and R-APDRP. These groups should consist of independent experts and representatives of Ministry and concerned implementation agencies. Mandate of these groups should be to undertake review of particular program every six month and suggest measures to improve effectiveness of the program. These groups should submit formal report to the Secretary (MoP)

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every six months and the same should be made public. These groups should be empowered to seek required data or to undertake studies / assessments.

In line with the above suggestion, it is recommended that to give effect to this mechanism provision on following lines could be made in the plan document / National Electricity Policy.

“To improve policy & program implementation, transparency and accountability, Independent Monitoring Groups (IMGs) will be created for major programs / schemes of the Ministry. These groups will consist of official as well as independent experts and will review progress of policies/ programs / schemes every six months. IMGs will submit reports to Secretary (MoP) and these reports will be widely circulated.”

#### **4.2.2 Tariff Policy:**

Section 3 (1) of the Electricity Act 2003 empowers the Central Government to formulate the Tariff Policy. Section 3 (3) of the Act enables the Central Government to review or revise the Tariff Policy from time to time.

Accordingly, Central Government notified the Tariff policy in continuation of the National Electricity Policy (NEP) on 6<sup>th</sup> January, 2006. The objectives of this tariff policy are to:

- (a) Ensure availability of electricity to consumers at reasonable and competitive rates;
- (b) Ensure financial viability of the sector and attract investments;
- (c) Promote transparency, consistency and predictability in regulatory approaches across jurisdictions and minimize perceptions of regulatory risks;
- (d) Promote competition, efficiency in operations and improvement in quality of supply.

Some specific issues which may require a review of some specific clauses from Tariff Policy are listed below:

##### **4.2.2.1 Cross Subsidy Surcharge**

An opinion was impressed for review of the formula given in the Tariff Policy uses the weighted average cost of power purchase of top 5 % as a factor which leads to a negative cross subsidy surcharge in certain cases. Allowing consumers to migrate to open access under these conditions increases the burden of the DISCOM and this was not in line with the spirit of the cross – subsidy surcharge as per the Tariff Policy. There is thus a need to re-determine the formula for calculating cross subsidy surcharge. The options suggested were based on the average cost or bottom 5% costs.

Section 61 (g) of the Electricity Act, 2003 provides that appropriate Commission shall determine tariff keeping in view the factor that the tariff progressively reflects the cost of supply of electricity and also, reduces cross-subsidies in the manner specified by the Appropriate Commission. However, very few SERCs have specified the roadmap of reduction of cross subsidies. Therefore, roadmap of reduction of cross subsidies should be specified by SERCs in line with the spirit of the Act.

Keeping in view of the above, it is recommended that:

- i) Alternative methods of calculating cross subsidy surcharge could be worked out to ensure that neither open access is throttled nor does the host DISCOM unduly suffer.
- ii) SERCs may calculate Cross-Subsidy Surcharge based on the assumptions that the power available as a result of exit of open access consumer will be sold at the average revenue realization rate. The wheeling charge (grossed up by the system loss at appropriate level) to be recovered from the open access consumers should also be factored into computation of surcharge.
- iii) For a situation where there is no power cut, SERCs may calculate Cross-Subsidy Surcharge based on the estimation that the DISCOM will avoid purchase of the quantum of power for which open access has been sought. This principle of avoided cost method should be adopted in areas where there are no power shortages. Other assumptions relating to quantum of power avoided and the wheeling charges could be on the same lines as above.
- iv) As envisaged under Sec. 61(g) of the Act, all SERCs/JERCs should specify through a regulation the roadmap for reduction of cross-subsidy between different consumer categories. SERCs should compute cost of supply for each consumer category based on principles as may be evolved by the Forum of Regulators. Tariffs should be so fixed as to ensure that latest by the end of year 2015-2016 tariffs are within  $\pm 20\%$  of the cost of supply. The road map should also have intermediate milestones, based on the approach of a gradual reduction in cross subsidy.
- v) At the same time it should also be ensured that the formula incentivizes the distribution licensees to reduce their distribution losses.

#### 4.2.2.2 Trading Margin

SERCs should impose reasonable trading margin for the intra-state sale irrespective of the final destination of the electricity and also incentivize the intra-state trading in line with Act and Policy.

#### 4.2.2.3 Impact of rise in cost of fuel on tariff

The concerned SERC should ensure automatic pass through for any increase in power purchase cost arising out of rise in cost of fuel

#### 4.2.2.4 Provisions of National Electricity Policy & Tariff Policy due for revision

The review of the clause 5.5.2 in National Electricity Policy was considered and it was observed that no modification of the clause 5.5.2 is required and hence, the same provision can be continued further and "This provision will be further re-examined after five years." may be deleted from the clause.

The review of the clause 8.3(1) in Tariff Policy was considered and it was observed that no modification of the clause 8.3(1) is required and hence, the same provision can be continued further and "This provision will be re-examined after five years." may be deleted from the clause.

#### 4.2.2.5 Intra-State ABT

The National Electricity Policy had recommended implementation of Availability Based Tariff (ABT) at the intra state level within one year. However, despite five years after elapse of the deadline only

Delhi, Gujarat and West Bengal have implemented intra state ABT in the same manner as done at inter-state level. Madhya Pradesh has also implemented it with the proviso that accounting is done on monthly basis instead of weekly. Implementation of intra state ABT would give a further boost to markets as it would lead to more of intra state trading as DISCOMs would enter the fray more aggressively. The present practice of a single procurement agency for each state makes it a single buyer model. The relevant clause of Tariff Policy are Given in **Appendix 4.2**.

It is opined that once intra state ABT is implemented and the multiple buyer model is brought in, there would be a further fillip to trading and market development.

### 4.3.1 Development of Ancillary Power Markets And Exchanges

National Electricity Policy mentioned about enabling regulations for 'Power Exchange' to be notified by the Appropriate Commission. The CERC came out with a staff paper in July 2006 on Power Exchange platform. After public hearings on the subject, approval was accorded by CERC vide order dated 9<sup>th</sup> June 2008 to Indian Energy Exchange (IEX) to commence operations. IEX commenced operation wef 27<sup>th</sup> June 2008. On 22<sup>nd</sup> October 2008, the second Power Exchange viz. Power Exchange India Limited (PXIL) commenced operations. On 20<sup>th</sup> January 2010, CERC notified the Power Market Regulations 2010. Starting from a modest quantum of 2.77 BUs traded through both the exchanges in 2008-09, it increased to a record 15.52 BUs in 2010-11.

One of the most fundamental requirements of the electricity market is that its design should be such that it complements the reliability and security of the system. The balancing market keeps supply and demand in balance until the system operator is forced to intervene. In a market oriented electricity industry, commercial mechanisms need to be in place for procurement of various services and to have prompt response from the entities.

Ancillary services are those functions performed to support the basic services of generation, transmission, energy supply and power delivery. These are necessary to support the transmission of electric power from seller to purchaser given the obligations of control areas and transmitting utilities within those control areas to maintain reliable operations of the interconnected transmission system.

Ancillary services are concerned with the despatch, trade and delivery of power. They are usually defined by the benefits they provide to the market participants and not by their method of provision. Broadly all these services can be grouped under one of the three following major categories:

- (a) Frequency Control Services - FGMO, AGC, spinning reserves etc
- (b) Network Control Services (Voltage Control)- AVR, SVC, Capacitors, Reactors etc
- (c) System Restart Services - Black Start Units

Presently, the real time active power imbalance is handled through the UI mechanism which is a part of the Availability Based Tariff. UI mechanism works on the principle of a pre-defined frequency and price relationship and is a regulatory fiat.

**Accordingly, following recommendations are made:**

- i) Two Power Exchanges (PX) are in operation leading to two spot prices today. Two PX, while facilitating competition, also leads to fragmentation of transmission service. It is suggested that while

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there could be multiple PX, a central price clearing algorithm could be adopted. A single spot price would lead to more certainty as far as investors are concerned.

ii) An alternative suggestion received was that as the Power Exchanges were still at a nascent stage, they should be allowed to mature before having a concept of a central price clearing algorithm. In the interim, there could be arbitrage opportunities between the two PX.

iii) It is suggested that the ancillary active power market be developed. This would be a move in the direction of developing a market based mechanism for ancillary active power from the present regulated tariff based system (UI). CERC should come out with a framework for implementation of ancillary market.

### **4.3.2 Guidelines for short term procurement:**

Section 63 of the Electricity Act 2003 provides for ERCs to adopt the tariff arrived at through a transparent process of bidding in line with the guidelines issued by the Central Government. Section 86 (b) mandates that the State Commission shall regulate the electricity purchases by DISCOMs (including the price of purchase).

Section 5.7.1 of the National Electricity Policy specifies that in order to promote market development a part of new generating capacity, say 15% may be sold outside long term Power Purchase Agreements (PPAs). Section 5.12.2 of the NEP recommends procurement from renewable generators also on the basis of competitive bidding in the long run. Till such time, a preferential tariff by ERCs has been recommended.

Section 8.2.1 (1) of the Tariff Policy recommends that all power purchase costs needed to be considered legitimate unless it is proved that the principle of merit order has been violated. Revenues on account of power purchase should not be denied unjustly and consumers willing to pay at a tariff which indicates efficient costs have the right to get 24 hour uninterrupted power supply.

Thus the main thrust of the EA 2003 and the policy pronouncements has been with reference to long term PPAs. Going by the spirit of the Act and policies, accordingly, it is felt that a substantial part, say about 80-85% of the power purchased by utilities should be through long term/ medium term PPAs.

Looking at the CERC report on short term trading for 2010-11, it is seen that the bilateral trades have not increased significantly over 2009-10. In contrast, transactions through Power Exchange have increased significantly. The Power Exchange provides mainly the Day Ahead Market. (DAM). If supplies are eased on account of the increment in the generating capacity being sold outside long term PPA due to capacity addition, it could lead to a situation where most of the markets might shift to DAM in PX.

i) The need for long term adequacy statement by DISCOMs was emphasized in order to reduce uncertainty to the end consumer. It is felt that a substantial part, say about 80-85% of the

requirement needed to be sourced by DISCOMs through long/ medium term contracts so that the infrastructure is developed accordingly.

- ii) While model PPAs for long term procurement (7 years and above) and medium term (1 year to 7 years) are available, the progress on this front by DISCOMs has been very slow. Failure to strike medium term and long term contracts has a strong bearing on the day-ahead markets and the attendant problems of system security besides uncertainty to the consumer. In view of the slow progress made by the distribution licensees for arranging long-term power purchase agreements through competitive bidding, it is recommended that a separate group may be set up to examine the impediments in this regard and suggest remedial measures required.
- iii) Short term procurements can be done three months in advance by the DISCOMs. Other products available in short term are First Come First Served (FCFS), day ahead and same day. A suggested model could be to source up to 98-102% of the requirements two days in advance and leaving only the last 2-3% for the day-ahead market. The day-ahead market might be taken recourse to only to account for load forecast errors and/or forced outage of some generating units.

### **4.3.3 SEPARATION OF CARRIAGE AND CONTENT AND FURTHER PERATIONALIZATION OF OPEN ACCESS IN TRANSMISSION AND DISTRIBUTION**

The statutory provisions with respect to open access in the Electricity Act 2003, National Electricity Policy and Tariff Policy are enclosed at **Appendix 4.3**. It would be seen that elaborate provisions exist in the statute to facilitate open access with the ultimate objective of introducing competition.

Implementation of these provisions in the Act has given mixed results. The sections below outline the progress at both the inter state and intra state are given as under:

#### **4.3.3.1 Inter State Level**

At the inter-state level, separation of carriage and content was already fairly well in place before the Electricity Act 2003. The Central Transmission Utility (CTU) was already barred from engaging in generation or trading or electricity and was involved solely in the transmission and system operation business. Inter state bilateral transactions were already in existence well before the Electricity Act 2003. It got a further fillip after EA 2003. In Aug 2003, the Central Electricity Regulatory Commission (CERC) came out with an approach paper for implementing open access at the inter-state level. After a series of public hearings, inter state open access was implemented at the inter-state level wef 6<sup>th</sup> May 2004 and the Regional Load Despatch Centres (RLDCs) were designated the nodal agencies for the purpose. Thus inter state open access took off well before notification of the National Electricity Policy and Tariff Policy.

Starting from 17 BUs of energy transacted through Short Term Open Access (STOA) at the inter state level in 2004-05, the volume has grown to 55 BUs in 2010-11 (a Compound Annual Growth Rate or CAGR of 21.6%).

A significant number of captive power plants (CPPs) and Independent Power Producers (IPPs) are participating in the market. The Central Electricity Regulatory Commission (CERC) is exercising regulatory oversight in this market. The Market Monitoring Cell (MMC) in CERC brings out extensive reports every month since August 2008 indicating the market volumes, prices, participation by different players etc.

One of the major concern of stakeholders in connection with inter state open access has been the issue of pan-caking of transmission charges and losses in case of inter-regional transactions. The issue has been resolved satisfactorily with the new method of sharing of transmission charges and losses approved by CERC and implemented wef 1<sup>st</sup> July 2011. The new method is based on Point Of Connection (POC) of a regional entity in the grid.

While carriage and content separation at inter state level has been largely addressed by design, a point of concern has been the adequacy of 'carriage'. Adequacy issues with respect to carriage needed to be specified. Each state needed to test the adequacy of transmission with respect to various uncertainties such as fuel shortage, contingencies, high load growth without commensurate increase in internal generation etc. Such instances would be frequent and have to be factored for such uncertainties. Investment in a robust transmission system would also allow greater economy interchange. Each state might evaluate its maximum import capability from the grid. For surplus states, it would be the maximum export capability. The issue assumes importance as it is observed that many states are importing as much as 30-35% of their consumption through short term transactions.

#### **4.3.3.2 Intra State Level**

Open Access granted by the distribution licensee is the only mode of introducing competition within the present statute. The issue of open access at the intra state level has been covered extensively in the following reports:

1. Forum of Regulators-Open Access, Theory and Practice issued in November 2008.
2. 'Report of the Task Force for operationalising open access in the power sector', Planning Commission, Government of India, January 2009 (headed by Shri B. K. Chaturvedi, Member, Planning Commission).

Recently, the Forum of Regulators has issued Model regulations for intra state open access in September 2010. Adoption of these model regulations by SERCs would go a long way in successful implementation of intra state open access.

Further, the Second Task Force on measures for operationalizing open access in power sector has been constituted to review the progress made by the previous Task force and suggest further course of action on the issues upon which there was no consensus in the First Task Force.

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Therefore, in order to make open access happen, it is also important to evolve a uniform approach to operational level issues like metering, billing and settlement etc. and various charges for open access. FOR should evolve uniform principles on all such issues through the consensus evolved and follow up for timely implementation.

Also, Adequacy issues with respect to 'carriage' must be clearly understood and documented both at the inter state and intra state transmission. Stakeholders must clearly understand the limitations of the network and the maximum possible power that can be transacted either way into and out of the network.

Considering the huge amount of uncertainties involved such as weather conditions, fuel security, natural disasters etc., the network should be capable of withstanding such large contingencies (High Impact Low Frequency or HILF incidents) either through the planning process or adoption of System Protection Schemes (SPS) in large numbers.

#### 4.3.3.3 Standby Charges

As per the latest FOR guidelines, demand charges for standby supply can be charged for 42 days in a year. However, some of the States have suggested that standby charges should be payable for the entire 365 days. For open access availed over express feeders, procurement of standby supply on a day-ahead basis through the market can be explored.

In order to facilitate standby supply, the concerned utility may also enter into PPAs for say 10% of the requirement and the demand charge can be recovered from the open access consumers. However, it is noted that the issue of Standby charges is under deliberations in the *Second Task force on measures for operationalizing open access in power sector*.

It was opined that for all 1 MW and above consumers seeking open access, Stand by charges should apply only if the distribution licensees continue to have the universal service obligation for energy supply. In case the distribution companies do not have the universal service obligation, stand by charges may be decided by mutual agreement between the open access consumers and the distribution companies.

#### 4.3.3.4 Minimum Licensee Area

Defining minimum area for second/subsequent licensee restricts the flexibility even in genuine cases like granting license co-terminus with the area of the existing licensee etc. Also Special Economic Zones (SEZs) which are deemed distribution licensees, do not necessarily meet the requirement of minimum area as defined in the rules. The other view was that the fixation of minimum areas was done in the rules after due consultation with all concerned so that there is no "cherry picking" by the second licensee.

It is opined that in order to have two different types of distribution licensees, the power granted to Appropriate Commission, under Section 14 to grant a distribution licence, will have to be amended to the effect that it can grant two different types of distribution licences. Further, it would appear that

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the twin objectives of ushering in competition by grant of multiple distribution licenses and enabling choice to consumers while at the same time avoiding additional costs on the consumers to pay for the operation and maintenance of stranded assets, legislative changes may be required, as it is felt that the present requirement of laying parallel network by the second Licensee may not result in minimum engineering cost.

#### **4.3.3.5 Separation Of Wires And Retail Business Of Distribution Licensee**

Traditionally, distribution business in the country is bundled i.e. Wire Business (Installation and maintenance of electricity Infrastructure) and Retail Business (Procurement and Supply of Power to retail consumers) is carried out by single licensee. In most of the developed Countries, there is a single entity which takes care of wires and multiple suppliers of power which use the common network. This can be achieved in India by issuing separate licenses, one for Wires and the other for Supply business as Distribution Licenses.

Solicitor General of India has opined that the Electricity Act 2003 assigned the dual role of network operator and of supplier to the distribution licensee, hence, the two cannot be separated.

It is opined that Single entity which takes care of wires and multiple suppliers of power which use the common network may be a vital step for operationalization of Open Access in Distribution Sector. A detailed study should be conducted by FOR in this regard based on international experience and implications should be assessed.

#### **4.3.3.6 Creation Of Distribution Control Centres**

Institutions are the soft side of the reform process and are a vital step for success. Open access implementation is possible only if nodal agencies are identified at the National, Regional and State level. The success of open access in transmission at the inter-state level has been mainly on account of designating NLDC/RLDCs as nodal agencies and empowering them. Likewise open access has been a success in many states mainly on account of the nodal agency identification and empowerment viz. State Load Despatch Centres (SLDCs). For open access at the distribution level, it is important that DISCOMs also create their Distribution Control Centres (DCCs) and empower the same. As all these nodal agencies act as single window clearing agencies and also collect and distribute the charges on behalf of all the players, all taxation related issues need to be resolved at the earliest.

#### **4.3.3.7 Competitive Bidding**

The Appellate Tribunal for Electricity in its judgement dated 31st March 2010 held that the State Commissions have discretionary powers to give approval for the PPA or to direct the distribution licensee to resort to the competitive bidding process in accordance with the Tariff Policy. The Tribunal has held that the State Commission should direct the distribution licensee to carry out power procurement through competitive bidding process in cases where the rates under negotiated

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agreements are high. CERC/FOR should evolve benchmark tariff for guidance of the SERCs for this purpose.

#### **4.3.3.8 Other issues**

In order to improve efficiency, Right of Way (ROW) issues, forest clearance and land clearance for transmission projects needed to be accorded high priority and addressed by all concerned. A robust transmission system is sine-qua-non if the electricity markets have to flourish.

### **4.4 FINANCIAL VIABILITY OF DISTRIBUTION SECTOR AND GENERATION MIX**

#### **4.4.1 Dedicated courts to finalize THEFT OF ENERGY / MALPRACTICE cases**

As per information available, 23 special courts have already been setup under the section 153 of the Electricity Act to facilitate early disposal of such cases. However, as of now there is no dedicated court for the purpose of finalizing cases involving theft of energy and associated malpractices as the Courts lack domain expertise in proper and quick disposition of cases and as such revenue realization gets delayed.

It is recommended that States may also consider setting up dedicated mobile courts and police stations for dealing with offences mentioned in Electricity Act. This will facilitate expeditious disposal of cases and provide an effective deterrent to errant consumers.

#### **4.4.2 Strengthening of Chief Electrical Inspector to the Government**

Govt. of Punjab has pointed out difficulties in inspection and testing of electrical installations keeping in view the manifold increase in electrical installations which have gone upto to 1.5 lakh. It has become virtually impossible for the EIs/CEIs to inspect the said installations, which may jeopardize the public safety. As the installations are to be inspected in every 5 year, the dearth of EIs/ CEIs vis-à-vis exceptional growth of the electrical installation has led to increase in corruption. Govt. of Punjab has proposed a scheme of Testing & Inspection of Electrical Installations by qualified Chartered Engineers. Under the scheme the periodic inspection of electric installations would be done by the Chartered Engineers or EIs/CEIs as per the option of the owner. The charges shall be borne by the owner of installation.

It is opined that States should ensure that the institution of Chief Electrical Inspectorate to Govt. of India (CEIG)/State Government is strengthened so that quick and timely approvals are given. Taking into account the practical difficulties in view of the growing number of connections and the shortage of the staff, CEA should work out a scheme of delegation of authority of mandatory inspections, including self-certifications, which would be in consonance with liberalization of bureaucratic control without compromising system safety and suggest possible steps for strengthening of Chief Electrical Inspector institutions which may be adopted by the State Governments.

#### **4.4.3 Curbing increase in power purchase costs & improving commercial efficiencies**

Key Demand side Management Initiatives such as dynamic reactive power compensation in Ahmedabad Electricity Company (AEC), TOD and KVAH based tariff in Gujarat, Maharashtra and Andhra Pradesh have significantly contributed in overall improvement in Grid conditions. In view of the above, it is strongly felt that the other utilities should also come up with such initiatives based on the principles and guidelines that are to be evolved by FOR through consensus based on the utilities experiences and further progress to be reviewed by FOR.

#### **4.4.4 Concessional / Preferential Procurement by Host state under MOU route**

A number of State Governments have issued policies which are not in accordance with the provisions of Electricity Act and the Policies notified under the Act. The ERCs are mandated to be guided by the policies issued under the Act for Determination of Tariff. Therefore, the statutory status of such Energy policies shall come in way of Determination of tariff for the power procured under these policies. Various provisions of these energy policies require sale of power to host State at concessional rates. Such purchase of power at concessional rates by host state will result in increased cost of electricity in other States

Acquisition of large quantities of power at concessional rates by the host State Governments will impact competition if these governments enter in trading of power. Power available with ERCs to prevent and act against market domination is applicable only in respect of licensees and generating companies. Considering these State Governments as trading licensees, trading of surplus power by State Governments would be subjected to regulatory jurisdiction.

It is opined that there is an urgent need to align power/energy policies by the States with the Tariff Policy notified under the Electricity Act. Trading by state entities should be undertaken only after meeting the power demands of its own consumers. ERCs could consider initiating investigation under Section 128 to investigate on any action with respect to procurement and/ or disposal of power by State Government in its capacity as a deemed licensee u/s 14 and give appropriate direction. ERCs could also take action if they feel that their tariff fixation powers are being encroached upon or being vitiated on account of the State Government policies.

#### **4.4.5 Issues related with development of renewable purchase obligation (RPO)**

Renewable Purchase Obligation (RPO) is fundamental to the growth of renewable energy as without this commitment, given higher cost of renewable energy, the States may not be willing to purchase such power. In order to meet the targets set up under the National Action Plan on Climate Change (NAPCC) the States should strive to make mandatory RPO equivalent to the minimum as per the NAPCC targets.

Given that the country has very high wind and solar power potential and that solar specific power purchase obligation has been introduced through amendment in the tariff policy, similar obligation be taken for wind power also. As the wind power tariff cost has come down significantly and it is likely that the cost of generating power will get reduced the State can have higher percentage of wind power in the RPO. But similar clarity needed in case of wind power as in the case of National Solar Mission which specifies clearly the capacity addition plan, targets over the years etc, to have a specific wind power obligation.

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Within the overall RPO, the State regulators can determine the percentage of each of the resources, namely, solar, wind, biomass and small hydro projects taking into consideration the emerging tariff of each.

The procurement of solar and wind power should be necessarily through open competition bidding process. In case of solar, this is the practice in vogue and the same practice will need to be introduced for wind as well.

It is opined that RPOs should be distributed among the states in line with the targets set under the NAPCC through suitable legislative changes in consultation with MNRE, if required. Further, the subject of mandating Renewable Purchase Obligation for sources of energy other than solar was deliberated and it was felt that the renewable purchase obligation for these sources have to be fixed in line with the expected generating capacities and for which the corresponding action plan/mission of on the lines of National Solar Mission which will look into all related steps like corresponding transmission evacuation capacity, the technical and commercial issues associated with it are considered in consultation with all stakeholders.

#### **4.4.6 Trajectory Of RPO & Enforcement**

Stable RPO regime is a pre-requisite for promotion of renewable energy sources. The long term trajectory for Renewable Purchase Obligation would give greater visibility for the market players to plan their investment in the Renewable Energy Sector.

A suitable forum (FOR) may conduct studies to suggest the possible RPO trajectories for different states and at the same time ensure homogeneity in the RPO regulations of respective states and UT's. It is also equally important to ensure compliance of RPO by all the obligated entities including open access users.

It is observed that SERCs should provide long term trajectory for Renewable Purchase Obligation. FOR should conduct studies in this regard and suggest possible trajectories for different States keeping in view availability of RE sources in the country and impact of increasing level of RPO on the power purchase cost of the respective distribution licensee. FOR should strive to develop homogeneity in the RPO regulations of respective states and UT's.

The Principles & guidelines evolved through consensus by the Forum of Regulators for the RPO of Obligated entities and REC mechanism should be followed up for timely adoption by corresponding Regulations of SERCs in keeping with Government Policies.

#### **4.4.7 Renewable Power Procurement Options**

In order to bring more competition to the Renewable Energy sector with consequent reduction in prices of power production through the renewable sources of energy, the following options were deliberated :

- a) Long term procurement of power by the distribution licensee to be done only through competitive bidding process (CBP) and Power Purchase Agreements (PPA).
- b) REC Mechanism has already been launched by CERC which along with the preferential tariffs takes care of the short term procurement by the distribution licensees.

It is recommended that Long term procurement of power by the distribution licensee is to be done through competitive bidding process (CBP) and Power Purchase Agreements (PPA). To start with, the provisions in the Tariff Policy may be amended suitably for phase-wise introduction of competition for the different sources of renewable energy. Renewable Power procuring state will have the following procurement options:

1. Long term procurement through competitive bidding.
2. Short term procurement through Purchase of REC or at preferential tariffs.

Also, for the procurement of renewable power individual demands of more than one distribution licensees/ States may be pooled at the regional level and procured through competitive bidding route under Section 63 (A) of EA 2003/ National Tariff Policy.

#### **4.4.8 Creation and Management of Spinning reserves**

The generation of Variable Renewable Energy (VRE) is intermittent and infirm in nature which limits their absorption into the grid which has built-in flexibility to a particular range. There is need to set up balancing power stations in the form of pumped storage hydro stations and/or gas-based open cycle power stations. Pump storage hydro stations being limited and not necessarily available in the State where the solar and wind power are available, accordingly the Ministry of Petroleum & Natural Gas, may be approached to provide natural gas on priority to the plants coming up in areas where wind energy potential exists so that gas based peaking stations could be set up and to provide the balancing mechanism.

#### **4.4.9 Evacuation of Renewable power**

The potential of wind, solar and small hydro power is confined to a few States and that too in certain pockets. Most of the generating units are small in size and dispersed. These locations are in the remote places. Evacuation of power generation from these units presents technical and commercial challenges. Further, the possibility of consumption of such VRE is limited within the State, considering the resultant grid disturbance.

It is opined that Suitable incentive for low cost transmission system linking the renewable energy generation sources, development of Smart Grid for evacuation and transmission of renewable power, creation of Spinning Reserves managed by the Regional Load Dispatch Centre needs to be developed may be done through the National Clean Energy Fund .

#### **4.4.10 Biomass power tariff & other issues related to renewable energy sources**

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Considering that the prices of biomass fluctuate wildly and there is no mechanism to control the same and that most of the plants are facing closure as they are not able to profitably honour the power supply commitment under the long-term power purchase agreements (PPAs).

As the issues require technical and commercial solutions which are still emerging in the country and there is no ready data available in this regard, It is recommended to constitute a Committee consisting of representatives from MOP, MNRE, CERC/CEA to examine and report upon these issues in consultation with other experts.

#### **4.4.11 Issues related to Competitive Bidding framework**

A separate committee has been formed to review the guidelines for Standard Bidding Documents (SBD) for both Case-I & Case-II.

#### **4.4.12 Legislative changes for creation of a multi-disciplinary body to review performance of Regulatory Commissions**

Through suitable legislative changes it is recommended that a Multi-disciplinary body shall be constituted comprising of representatives from Centre and States to review the performance of the Regulatory Commissions periodically on the basis of a performance evaluation matrix and report to the appropriate Government for necessary corrective action.

#### **4.4.13 CERC to regulate coal prices**

Through suitable legislative changes, to entrust CERC with the additional function of regulating coal prices and its transportation charges

### **4.5 SUMMARY OF RECOMMENDATIONS**

A Summary of Recommendations on 'Legislative and Policy Issues – Formulation, Implementation and feedback' is as follows:

1. Strengthening of institutions at the National/ Regional/State level such as NLDC/RLDCs/SLDCs is vital to the implementation of open access. The management of POSOCO should be separated from the PGCIL. There is a need for functional & financial separation in operation of SLDCs for ensuring their independence. The recommendations made by the Pradhan Committee need to be implemented for ensuring empowerment of SLDCs.
2. To give a clear timeline for States to expedite reassignment of the PPAs to DISCOMs and for winding up the single buyer model as early as possible enabling provision may be made in this regard in the NEP.

3. SERCs should provide long term trajectory for Renewable Purchase Obligation. FOR should conduct studies in this regard and suggest possible trajectories for different States keeping in view availability of RE sources in the country and impact of increasing level of RPO on the power purchase cost of the respective distribution licensee. FOR should strive to develop homogeneity in the RPO regulations of respective states and UT's.
4. The Principles & guidelines evolved through consensus by the Forum of Regulators for the RPO of Obligated entities and REC mechanism should be followed up for timely adoption by corresponding Regulations of SERCs in keeping with Government Policies. A time limit of 3 to 6 months may be prescribed under the policy for respective SERCs to issue the relevant Regulation once it is adopted by the FOR with or without modification.
5. As the present definition of cogeneration plants as provided in the Act and as interpreted by APTEL does not prescribe the source of fuel (fossil or non-fossil), it is recommended to bring clarity in this regard through legislative changes, if required, in consultation with MNRE.
6. Empowering Regulatory Commissions for suo moto revision of tariff of consumers.

Section 64 of Electricity Act 2003 may be amended by incorporating an additional provision for empowering the Regulatory Commissions for suo moto revision of tariff of consumers. The additional provision may be on the lines mentioned below.

"Provided if the Appropriate Commission is satisfied that the expected revenue of a distribution licensee (s) at the current tariff differs significantly from the revenue it is permitted to recover, it may order the licensee(s) to file an application within the time specified by the Commission to amend its tariffs appropriately failing which the Commission shall suo moto start the proceedings for determination of tariff."

7. The CGRF should be a multi-member setup with members from all stakeholders. FOR to play an important role in ensuring consonance of guidelines/regulations pertaining to CGRF & Ombudsman in respective States and UT's.
8. The office of the Ombudsman should be funded by SERCs and a separate budgetary allocation could be made in the budget of SERCs for this purpose and should be recovered from distribution licensees.
9. Consumer Advocacy Cells may be instituted by all the Commissions to provide the required legal advice, support, and assistance to Complainants for representing their case before the Ombudsman. Such a Cell could be funded by the Commission.
10. Power procurement and allocation of power to be done in line with the tariff policy and the guidelines/ Standard Bid documents (SBD) issued by Govt. of India under the Electricity Act, by the State Government. The right of any State Government nominated agency to purchase power from these IPPs would also amount to allocating certain quantum from the IPPs by virtue of exercise of such right of State Government nominated agency. Any restriction placed on

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IPPs/Generating companies to deal with the generated power in any manner by making them sell any quantum to State Government as a return for facilities / benefits given to them while they set up their plants, contravenes the provisions of the Electricity Act, 2003 and Policies made there under. The Sub-Group recommends that enabling provisions may be made in the NEP in this regard.

11. A new Para in the policy may be added so that similar condition/ provision may be made on the lines of Works of Licensee Rules for conditions of construction of dedicated transmission lines and also any dispute is to be adjudicated and compensation decided by District Magistrate etc...
12. 'Independent Monitoring Group' for oversight on important programs / schemes such as RGGVY, NEF and R-APDRP may be constituted separately. To give effect to this mechanism provision on following lines could be made in the plan document / National Electricity Policy.  
"To improve policy & program implementation, transparency and accountability, Independent Monitoring Groups (IMGs) will be created for major programs / schemes of the Ministry. These groups will consist of officials as well as independent experts and will review progress of policies/ programs / schemes periodically, say, every six months. IMGs will submit reports to Secretary (MoP) and these reports will be in the public domain."
13. Alternative methods of calculating cross subsidy surcharge could be worked out to ensure that neither open access is throttled nor does the host DISCOM unduly suffer.
14. SERCs may calculate Cross-Subsidy Surcharge based on the assumptions that the power available as a result of exit of open access consumer will be sold at the average revenue realization rate. This is the most practical scenario in a situation of shortage of power supply. The SERCs may assume certain percentage (say, 10%) of the total consumption by eligible open access consumers for the purpose of estimation of power available for sale at average realization rate. The wheeling charge (grossed up by the system loss at appropriate level) to be recovered from the open access consumers should also be factored into computation of surcharge. At the same time it should also be ensured that the formula incentivizes the distribution licensees to reduce their distribution losses.
15. For a situation where there is no power cut, SERCs may calculate Cross-Subsidy Surcharge based on the estimation that the DISCOM will avoid purchase of the quantum of power for which open access has been sought. This principle of avoided cost method should be adopted in areas where there are no power shortages. Other assumptions relating to quantum of power avoided and the wheeling charges could be on the same lines as above.
16. As envisaged under Sec. 61(g) of the Act, all SERCs/JERCs should specify through a regulation the roadmap for reduction of cross-subsidy between different consumer categories. SERCs should compute cost of supply for each consumer category based on principles as may be evolved by the Forum of Regulators. Tariffs should be so fixed as to ensure that latest by the end of year 2015-2016 tariffs are within  $\pm 20$  % of the cost of supply. The road map should also have intermediate milestones, based on the approach of a gradual reduction in cross subsidy.

17. SERCs should impose reasonable trading margin for the intra-state sale irrespective of the final destination of the electricity. SERC's should incentivize the intra-state trading in line with Act and Policy.
18. The concerned SERC should ensure automatic pass through for any increase in power purchase cost arising out of rise in cost of fuel
19. Provision in National Electricity Policy which needs review is reproduced below :

*"5.5.2 A minimum level of support may be required to make the electricity affordable for consumers of very poor category. Consumers below poverty line who consume below a specified level, say 30 units per month, may receive special support in terms of tariff which are cross-subsidized. Tariffs for such designated group of consumers will be at least 50 % of the average (overall) cost of supply. This provision will be further re-examined after five years."*

The review of the clause quoted was taken by this Group and observed no modification of the clause is required and hence, the same provision can be continued further and "*This provision will be further re-examined after five years.*" may be deleted from the clause.

20. Provision in National Tariff Policy which needs review is reproduced below:

*"8.3 Tariff design : Linkage of tariffs to cost of service.....  
.....1. In accordance with the National Electricity Policy, consumers below poverty line who consume below a specified level, say 30 units per month, may receive a special support through cross subsidy. Tariffs for such designated group of consumers will be at least 50% of the average cost of supply. This provision will be re-examined after five years."*

The review of the clause quoted was taken by this Group and observed no modification of the clause is required and hence, the same provision can be continued further and "*This provision will be re-examined after five years.*" may be deleted from the clause.

21. Two Power Exchanges (PX) are in operation leading to two spot prices today. Two PX, while facilitating competition, also leads to fragmentation of transmission service. It is suggested that while there could be multiple PX, a central price clearing algorithm could be adopted. A single spot price would lead to more certainty as far as investors are concerned.
22. An alternative suggestion received was that as the Power Exchanges were still at a nascent stage, they should be allowed to mature before having a concept of a central price clearing algorithm. In the interim, there could be arbitrage opportunities between the two PX.
23. It is suggested that the ancillary active power market be developed. This would be a move in the direction of developing a market based mechanism for ancillary active power from the present

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regulated tariff based system (UI). CERC should come out with a framework for implementation of ancillary market.

24. There is a need for clarity in the Policy/ Act so that Jurisdiction issues regarding forward and future market products may be sorted out at the earliest so as to facilitate Power Market development further.
25. The need for long term adequacy statement by DISCOMs was emphasized in order to reduce uncertainty to the end consumer. It is felt that a substantial part, say about 80-85% of the requirement needed to be sourced by DISCOMs through long/ medium term contracts so that the infrastructure is developed accordingly.
26. While model PPAs for long term procurement (7 years and above) and medium term (1 year to 7 years) are available, the progress on this front by DISCOMs has been very slow. Failure to strike medium term and long term contracts has a strong bearing on the day-ahead markets and the attendant problems of system security besides uncertainty to the consumer. In view of the slow progress made by the distribution licensees for arranging long-term power purchase agreements through competitive bidding, it is recommended that a separate group may be set up to examine the impediments in this regard and suggest remedial measures required.
27. Short term procurements can be done three months in advance by the DISCOMs. Other products available in short term are First Come First Served (FCFS), day ahead and same day. A suggested model could be to source up to 98-102% of the requirements two days in advance and leaving only the last 2-3% for the day-ahead market. The day-ahead market might be taken recourse to only to account for load forecast errors and/or forced outage of some generating units.
28. The Act might provide further clarification on the meaning of 'extraordinary circumstances' mentioned in Section 11, in case required. Considering that the DISCOMs have access to the entire country's wholesale market rather than depending solely on the generating companies within the state, there can be no 'extraordinary circumstances' forcing generating companies to sell power only within the state. Further, the Appropriate Commissions might in line with the provisions of the Act clearly specify the compensation to be provided to Generating Companies whenever section 11 directive is issued to generating companies.
29. The provision under section 11 or 108 of electricity Act, 2003 should not be misused to deal with shortage of power in the State as this section was meant to be invoked in extra ordinary circumstances like security of the State, public order or a natural calamity. This position may be clarified in the National Electrical Policy
30. To make open access happen, it is also important to evolve a uniform approach to operational level issues like metering, billing and settlement etc. and various charges for open access. FOR should evolve uniform principles on all such issues through the consensus evolved and follow up for timely implementation.

31. For all 1 MW and above consumers seeking open access, Stand by charges should apply only if the distribution licensees continue to have the universal service obligation for energy supply. In case the distribution companies do not have the universal service obligation, stand by charges may be decided by mutual agreement between the open access consumers and the distribution companies.
32. In line with the opinion of the Sub Group that in order to have two different types of distribution licensees, the power granted to Appropriate Commission, under Section 14 to grant a distribution licence, will have to be amended to the effect that it can grant two different types of distribution licences. Further, it would appear that the twin objectives of ushering in competition by grant of multiple distribution licenses and enabling choice to consumers while at the same time avoiding additional costs on the consumers to pay for the operation and maintenance of stranded assets, legislative changes may be required, as it is felt that the present requirement of laying parallel network by the second Licensee may not result in minimum engineering cost.
33. Meanwhile, the definition of minimum area of supply may be modified and it may be left to the discretion of the SERCs to decide the area, however, with due consideration to the fact that the grant of second/subsequent license does not lead to “cherry picking”.
34. At the state level, DISCOMs also need to create Distribution Control Centres (DCCs) and empower them so that open access at the distribution level becomes a reality. The nodal agencies identified also need to be protected against taxation related issues with respect to single window clearance operation.
35. Single entity which takes care of wires and multiple suppliers of power which use the common network may be a vital step for operationalization of Open Access in Distribution Sector. A detailed study should be conducted by FOR in this regard based on international experience and implications should be assessed.
36. Given the trend of prices discovered through competitive bidding process, which are more efficient than cost plus tariff, it may be desirable for the SERCs to encourage the distribution licensees to go for competitive bidding process. APTEL in its judgment has interpreted Section 62 and 63 of the Act providing for optional routes for the procurement of power which is against the provision of Tariff Policy. Though the Government of India has filed appeal petition in the Supreme Court against this judgment, it will be desirable that more clarity is brought in this regard through suitable legislative changes.
37. Adequacy issues with respect to ‘carriage’ must be clearly understood and documented both at the inter-state and intra state transmission. Stakeholders must clearly understand the limitations of the network and the maximum possible power that can be transacted either way into and out of the network.

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38. States may also consider setting up dedicated mobile courts and police stations for dealing with offences mentioned in Electricity Act. This will facilitate expeditious disposal of cases and provide an effective deterrent to errant consumers.
  39. States should ensure that the institution of Chief Electrical Inspectorate to Govt. of India (CEIG)/State Government is strengthened so that quick and timely approvals are given.
  40. Taking into account the practical difficulties in view of the growing number of connections and the shortage of the staff, CEA should work out a scheme of delegation of authority of mandatory inspections, including self-certifications, which would be in consonance with liberalization of bureaucratic control without compromising system safety and suggest possible steps for strengthening of Chief Electrical Inspector institutions which may be adopted by the State Governments.
  41. Suitable incentives to those states who have adopted such measures viz., TOD tariff should be given.
  42. TOD for LT industries and Domestic consumers should be operationalized in phases
  43. Pre – paid meters shall be promoted to High value consumers and to those categories of consumers who are chronic defaulters to avoid piling up of arrears.
  44. 100% Spot billing, Spot collection, Semi / fully automated meter reading and Standardization of metering protocols shall be done for extensive usage of AMR.
  45. Dedicated feeders may be extended to energy intensive consumer groups at their cost.
  46. The State Governments should not only clear all the outstanding dues to the Utilities, but ensure payment of subsidies as per section 65 of EA 2003 in future. FOR to evolve principles & methodologies in this regard through consensus and further follow up the progress.
  47. There is an urgent need to align power/energy policies by the States with the Tariff Policy notified under the Electricity Act. Though the Act provides for transmission, distribution and trading activities by the State Governments under section 14 of the Act, in the interest of promoting competition and fair play; Trading by state entities should be undertaken only after meeting the power demands of its own consumers.
  48. ERCs could consider initiating investigation under Section 128 to investigate on any action with respect to procurement and/ or disposal of power by Sate Government in its capacity as a deemed licensee u/s 14 and give appropriate direction. ERCs could issue directions u/s 60 to State Govt (in its capacity as a deemed licensee u/s 14) to not force generating company to export surplus power only through SEB and thereby examine whether unfair conditions are being imposed on account of violation of Section 10(2) and / or whether unlawful actions are being taken by contravention of the Tariff Policy. ERCs could also take action if they feel that their tariff

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- fixation powers are being encroached upon or being vitiated on account of the State Government policies
49. Renewable purchase obligation for these sources have to be fixed in line with the expected generating capacities and for which the corresponding action plan/mission of on the lines of National Solar Mission which will look into all related steps like corresponding transmission evacuation capacity, the technical and commercial issues associated with it are considered in consultation with all stakeholders. Thereafter, RPOs should be distributed among the states in line with the targets set under the National Action Plan on Climate Change to be done through amendment in Electricity Act 2003 and/ or Tariff Policy
  50. Each state to have 5-10 years RPO for different renewable resources
  51. All states should take Renewable Purchase Obligation (RPO) in all renewable power resources. % share of each resource may depend upon availability of resource in the state, e.g. Bihar with higher biomass resources may take higher PO for biomass and remaining from others-this will create market for each renewable resource
  52. All Generators who set up Power plants may be encouraged to set up corresponding renewable source power generation through suitable incentives by MNRE
  53. Long term procurement of power by the distribution licensee to be done through competitive bidding process (CBP) and Power Purchase Agreements (PPA). To start with, the provisions in the Tariff Policy may be amended suitably for phase-wise introduction of competition for the different sources of renewable energy. Renewable Power procuring state will have the following procurement options:-
    1. Long term procurement through competitive bidding.
    2. Short term procurement through Purchase of REC or at preferential tariffs.
  54. For the procurement of renewable power individual demands of more than one distribution licensees/ States may be pooled at the regional level and procured through competitive bidding route under Section 63 (A) of EA 2003/ National Tariff Policy
  55. Spinning reserves need to be facilitated for grid stability at the regional level to accommodate the infirm renewable energy injection into the grid.
  56. Suitable incentive for low cost transmission system linking the renewable energy generation sources, development of Smart Grid for evacuation and transmission of renewable power, creation of Spinning Reserves managed by the Regional Load Dispatch Centre needs to be developed may be done through the National Clean Energy Fund.
  57. Through suitable legislative changes it is recommended that a Multi-disciplinary body shall be constituted comprising of representatives from Centre and States to review the performance of the Regulatory Commissions periodically on the basis of a performance evaluation matrix and report to the appropriate Government for necessary corrective action.
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58. Through suitable legislative changes, to entrust CERC with the additional function of regulating coal prices and its transportation charges

**Relevant National Electricity Policy clauses**

- *Clause 5.3.7: The spirit of the provisions of the Act is to ensure independent system operation through NLDC, RLDCs and SLDCs. These dispatch centers, as per the provisions of the Act, are to be operated by a Government company or authority as notified by the appropriate Government. However, till such time these agencies/authorities are established the Act mandates that the CTU or STU, as the case may be, shall operate the RLDCs or SLDC. The arrangement of CTU operating the RLDCs would be reviewed by the Central Government based on experience of working with the existing arrangement. A view on this aspect would be taken by the Central Government by December 2005.*
- *Clause 5.4.3: For achieving efficiency gains proper restructuring of distribution utilities is essential. Adequate transition financing support would also be necessary for these utilities. Such support should be arranged linked to attainment of predetermined efficiency improvements and reduction in cash losses and putting in place appropriate governance structure for insulating the service providers from extraneous interference while at the same time ensuring transparency and accountability. For ensuring financial viability and sustainability, State Governments would need to restructure the liabilities of the State Electricity Boards to ensure that the successor companies are not burdened with past liabilities. The Central Government would also assist the States, which develop a clear roadmap for turnaround, in arranging transition financing from various sources which shall be linked to predetermined improvements and efficiency gains aimed at attaining financial viability and also putting in place appropriate governance structures.*
- *Clause 5.4.5: The Electricity Act 2003 enables competing generating companies and trading licensees, besides the area distribution licensees, to sell electricity to consumers when open access in distribution is introduced by the State Electricity Regulatory Commissions. As required by the Act, the SERCs shall notify regulations by June 2005 that would enable open access to distribution networks in terms of sub-section 2 of section 42 which stipulates that such open access would be allowed, not later than five years from 27th January 2004 to consumers who require a supply of electricity where the maximum power to be made available at any time exceeds one mega watt. Section 49 of the Act provides that such consumers who have been allowed open access under section 42 may enter into agreement with any person for supply of electricity on such terms and conditions, including tariff, as may be agreed upon by them. While making regulations for open access in distribution, the SERCs will also determine wheeling charges and cross-subsidy surcharge as required under section 42 of the Act.*
- *Clause 5.4.7: One of the key provisions of the Act on competition in distribution is the concept of multiple licensees in the same area of supply through their independent distribution systems. State Governments have full flexibility in carving out distribution zones while restructuring the Government utilities. For grant of second and subsequent distribution licence within the area of an incumbent distribution licensee, a revenue district, a Municipal Council for a smaller urban area or a Municipal Corporation for a larger urban area as*

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defined in the Article 243(Q) of Constitution of India (74th Amendment) may be considered as the minimum area. The Government of India would notify within three months, the requirements for compliance by applicant for second and subsequent distribution licence as envisaged in Section 14 of the Act. With a view to provide benefits of competition to all section of consumers, the second and subsequent licensee for distribution in the same area shall have obligation to supply to all consumers in accordance with provisions of section 43 of the Electricity Act 2003. The SERCs are required to regulate the tariff including connection charges to be recovered by a distribution licensee under the provisions of the Act. This will ensure that second distribution licensee does not resort to cherry picking by demanding unreasonable connection charges from consumers.

- Clause 5.12.2: The Electricity Act 2003 provides that co-generation and generation of electricity from non-conventional sources would be promoted by the SERCs by providing suitable measures for connectivity with grid and sale of electricity to any person and also by specifying, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee. Such percentage for purchase of power from non-conventional sources should be made applicable for the tariffs to be determined by the SERCs at the earliest. Progressively the share of electricity from non-conventional sources would need to be increased as prescribed by State Electricity Regulatory Commissions. Such purchase by distribution companies shall be through competitive bidding process. Considering the fact that it will take some time before non-conventional technologies compete, in terms of cost, with conventional sources, the Commission may determine an appropriate differential in prices to promote these technologies.
- Clause 5.12.3: Industries in which both process heat and electricity are needed are well suited for cogeneration of electricity. A significant potential for cogeneration exists in the country, particularly in the sugar industry. SERCs may promote arrangements between the co-generator and the concerned distribution licensee for purchase of surplus power from such plants. Cogeneration system also needs to be encouraged in the overall interest of energy efficiency and also grid stability.
- Clause 5.13.3: It is advised that all State Commissions should formulate the guidelines regarding setting up of grievance redressal forum by the licensees as also the regulations regarding the Ombudsman and also appoint/designate the Ombudsman within six months.

**Relevant Tariff Policy clauses**

- **Clause 8.5:** *Cross-subsidy surcharge and additional surcharge for open access*

8.5.1 *National Electricity Policy lays down that the amount of cross-subsidy surcharge and the additional surcharge to be levied from consumers who are permitted open access should not be so onerous that it eliminates competition which is intended to be fostered in generation and supply of power directly to the consumers through open access.*

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Surcharge formula:

$$S = T - [ C (1 + L / 100) + D ]$$

Where

*S is the surcharge*

*T is the Tariff payable by the relevant category of consumers;*

*C is the Weighted average cost of power purchase of top 5% at the margin excluding liquid fuel based generation and renewable power*

*D is the Wheeling charge*

*L is the system Losses for the applicable voltage level, expressed as a percentage.*

*The cross-subsidy surcharge should be brought down progressively and, as far as possible, at a linear rate to a maximum of 20% of its opening level by the year 2010-11.*

- **Clause 9.0: Trading Margin:** *The Act provides that the Appropriate Commission may fix the trading margin, if considered necessary. Though there is a need to promote trading in electricity for making the markets competitive, the Appropriate Commission should monitor the trading transactions continuously and ensure that the electricity traders do not indulge in profiteering in situation of power shortages. Fixing of trading margin should be resorted to for achieving this objective.*

**Statutory provisions with respect to open access**

The Electricity Act 2003 in force from 10<sup>th</sup> June 2003 has the following provisions with respect to open access.

i. Section 2 (47) defines open access as *'the non-discriminatory provision for the use of transmission lines or distribution system or associated facilities with such lines or system by any licensee or consumer or a person engaged in generation in accordance with the regulations specified by the Appropriate Commission'*.

ii. Section 9 (2) states that *'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'.*

iii. Section 38 (2) (d) lists the functions of the Central Transmission Utility (CTU) *'to provide non-discriminatory open access to its transmission system for use by-*

*any licensee or generating company on payment of the transmission charges; or*

*any consumer as and when such open access is provided by the State Commission under sub-section (2) of section 42, on payment of the transmission charges and a surcharge thereon, as may be specified by the Central Commission:*

*Provided that such surcharge shall be utilised for the purpose of meeting the requirement of current level cross-subsidy:*

*Provided further that such surcharge and cross subsidies shall be progressively reduced in the manner as may be specified by the Central Commission:*

*Provided also that the manner of payment and utilisation of the surcharge shall be specified by the Central Commission:*

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*Provided also that such surcharge shall not be leviable in case open access is provided to a person who has established a captive generating plant for carrying the electricity to the destination of his own use.'*

- iv. Similar provision as above exists in section 39 (2) (d) and 40 ( c ) respectively for State Transmission Utilities (STUs) and transmission licensees with Central Commission replaced by State Commission/Appropriate Commission.
- v. Section 42 (2) with respect to distribution licensees states that *'The State Commission shall introduce open access in such phases and subject to such conditions, (including the cross subsidies, and other operational constraints) as may be specified within one year of the appointed date by it and in specifying the extent of open access in successive phases and in determining the charges for wheeling, it shall have due regard to all relevant factors including such cross subsidies, and other operational constraints:*

*Provided that 1[such open access shall be allowed on payment of a surcharge] in addition to the charges for wheeling as may be determined by the State Commission:*

*Provided further that such surcharge shall be utilised to meet the requirements of current level of cross subsidy within the area of supply of the distribution licensee :*

*Provided also that such surcharge and cross subsidies shall be progressively reduced in the manner as may be specified by the State Commission:*

*Provided also that such surcharge shall not be leviable in case open access is provided to a person who has established a captive generating plant for carrying the electricity to the destination of his own use:*

*[Provided also that the State Commission shall, not later than five years from the date of commencement of the Electricity (Amendment) Act, 2003, by regulations, provide such open access to all consumers who require a supply of electricity where the maximum power to be made available at any time exceeds one megawatt.]'*

- vi. Section 42 (3) states that *'Where any person, whose premises are situated within the area of supply of a distribution licensee, (not being a local authority engaged in the business of distribution of electricity before the appointed date) requires a supply of electricity from a generating company or any licensee other than such distribution licensee, such person may, by notice, require the distribution licensee for wheeling such electricity in accordance with regulations made by the State Commission and the duties of the distribution licensee with respect to such supply shall be of a common carrier providing non-discriminatory open access.'*
- vii. Section 42 (4) states that *'Where the State Commission permits a consumer or class of consumers to receive supply of electricity from a person other than the distribution licensee of*

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*his area of supply, such consumer shall be liable to pay an additional surcharge on the charges of wheeling, as may be specified by the State Commission, to meet the fixed cost of such distribution licensee arising out of his obligation to supply.'*

- viii. Section 49 states that *'Where the Appropriate Commission has allowed open access to certain consumers under section 42, such consumers, notwithstanding the provisions contained in clause (d) of sub-section (1) of section 62, may enter into an agreement with any person for supply or purchase of electricity on such terms and conditions (including tariff) as may be agreed upon by them.'*
- ix. Section 86 describing the functions of the State Commission states that the State Commission shall *' a) determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case maybe, within the State:*

*Provided that where open access has been permitted to a category of consumers under section 42, the State Commission shall determine only the wheeling charges and surcharge thereon, if any, for the said category of consumers;'*

The National Electricity Policy (NEP) issued on 12<sup>th</sup> February 2005 has the following provisions with respect to open access.

- i. Section 5.2.26 states as under:

*A large number of captive and standby generating stations in India have surplus capacity that could be supplied to the grid continuously or during certain time periods. These plants offer a sizeable and potentially competitive capacity that could be harnessed for meeting demand for power. Under the Act, captive generators have access to licensees and would get access to consumers who are allowed open access. Grid inter-connections for captive generators shall be facilitated as per section 30 of the Act. This should be done on priority basis to enable captive generation to become available as distributed generation along the grid. Towards this end, non-conventional energy sources including co-generation could also play a role. Appropriate commercial arrangements would need to be instituted between licensees and the captive generators for harnessing of spare capacity energy from captive power plants. The appropriate Regulatory Commission shall exercise regulatory oversight on such commercial arrangements between captive generators and licensees and determine tariffs when a licensee is the off-taker of power from captive plant.*

- ii. Section 5.3.2 states that *'Network expansion should be planned and implemented keeping in view the anticipated transmission needs that would be incident on the system in the open access regime. Prior agreement with the beneficiaries would not be a pre-condition for network expansion. CTU/STU should undertake network expansion after identifying the requirements in consultation with stakeholders and taking up the execution after due regulatory approvals.'*

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- iii. Section 5.3.3 states that '*Open access in transmission has been introduced to promote competition amongst the generating companies who can now sell to different distribution licensees across the country. This should lead to availability of cheaper power. The Act mandates non-discriminatory open access in transmission from the very beginning. When open access to distribution networks is introduced by the respective State Commissions for enabling bulk consumers to buy directly from competing generators, competition in the market would increase the availability of cheaper and reliable power supply. The Regulatory Commissions need to provide facilitative framework for non-discriminatory open access. This requires load dispatch facilities with state-of-the art communication and data acquisition capability on a real time basis. While this is the case currently at the regional load dispatch centers, appropriate State Commissions must ensure that matching facilities with technology upgrades are provided at the State level, where necessary and realized not later than June 2006.*'
  - iv. Section 5.3.4 states that '*The Act prohibits the State transmission utilities/transmission licensees from engaging in trading in electricity. Power purchase agreements (PPAs) with the generating companies would need to be suitably assigned to the Distribution Companies, subject to mutual agreement. To the extent necessary, such assignments can be done in a manner to take care of different load profiles of the Distribution Companies. Non-discriminatory open access shall be provided to competing generators supplying power to licensees upon payment of transmission charge to be determined by the appropriate Commission. The appropriate Commissions shall establish such transmission charges no later than June 2005.*'
  - v. Section 5.3.6 states that '*The necessary regulatory framework for providing non-discriminatory open access in transmission as mandated in the Electricity Act 2003 is essential for signalling efficient choice in locating generation capacity and for encouraging trading in electricity for optimum utilization of generation resources and consequently for reducing the cost of supply.*'
  - vi. Section 5.4.2 states that '*The Act provides for a robust regulatory framework for distribution licensees to safeguard consumer interests. It also creates a competitive framework for the distribution business, offering options to consumers, through the concepts of open access and multiple licensees in the same area of supply.*'
  - vii. Section 5.4.5 states that '*The Electricity Act 2003 enables competing generating companies and trading licensees, besides the area distribution licensees, to sell electricity to consumers when open access in distribution is introduced by the State Electricity Regulatory Commissions. As required by the Act, the SERCs shall notify regulations by June 2005 that would enable open access to distribution networks in terms of sub-section 2 of section 42 which stipulates that such open access would be allowed, not later than five years from 27th January 2004 to consumers who require a supply of electricity where the maximum power to be made available at any time exceeds one mega watt. Section 49 of the Act provides that such consumers who have been allowed open access under section 42 may enter into*
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*agreement with any person for supply of electricity on such terms and conditions, including tariff, as may be agreed upon by them. While making regulations for open access in distribution, the SERCs will also determine wheeling charges and cross-subsidy surcharge as required under section 42 of the Act.'*

- viii. Section 5.7.1 (c) states that *'Captive generating plants should be permitted to sell electricity to licensees and consumers when they are allowed open access by SERCs under section 42 of the Act.'*
- ix. Section 5.8.3 states *'Under sub-section (2) of Section 42 of the Act, a surcharge is to be levied by the respective State Commissions on consumers switching to alternate supplies under open access. This is to compensate the host distribution licensee serving such consumers who are permitted open access under section 42(2), for loss of the cross-subsidy element built into the tariff of such consumers. An additional surcharge may also be levied under sub-section (4) of Section 42 for meeting the fixed cost of the distribution licensee arising out of his obligation to supply in cases where consumers are allowed open access. The amount of surcharge and additional surcharge levied from consumers who are permitted open access should not become so onerous that it eliminates competition that is intended to be fostered in generation and supply of power directly to consumers through the provision of Open Access under Section 42(2) of the Act. Further it is essential that the Surcharge be reduced progressively in step with the reduction of cross-subsidies as foreseen in Section 42(2) of the Electricity Act 2003.'*

The Tariff Policy in force from 6<sup>th</sup> January 2006 has the following provisions with respect to open access.

- i. Section 5.5 states that *'Though, as per the provisions of the Act, the outer limit to introduce open access in distribution is 27.1.2009, it would be desirable that, in whichever states the situation so permits, the Regulatory Commissions introduce such open access earlier than this deadline.'*
- ii. Section 6.3 states that *'Grid connected captive plants could also supply power to non-captive users connected to the grid through available transmission facilities based on negotiated tariffs. Such sale of electricity would be subject to relevant regulations for open access.'*
- iii. Section 8.5 deals with the provisions of cross subsidy surcharge and additional surcharge for open access as under:

*'8.5 Cross-subsidy surcharge and additional surcharge for open access*

*8.5.1 National Electricity Policy lays down that the amount of cross-subsidy surcharge and the additional surcharge to be levied from consumers who are permitted open access should not be so onerous that it eliminates competition which is intended to be fostered in generation and supply of power directly to the consumers through open access.*

*A consumer who is permitted open access will have to make payment to the generator, the transmission licensee whose transmission systems are used, distribution utility for the wheeling charges and, in addition, the cross subsidy surcharge. The computation of cross subsidy surcharge, therefore, needs to be done in a manner that while it compensates the distribution licensee, it does not constrain introduction of competition through open access. A consumer would avail of open access only if the payment of all the charges leads to a benefit to him. While the interest of distribution licensee needs to be protected it would be essential that this provision of the Act, which requires the open access to be introduced in a time-bound manner, is used to bring about competition in the larger interest of consumers.*

*Accordingly, when open access is allowed the surcharge for the purpose of sections 38,39,40 and sub-section 2 of section 42 would be computed as the difference between (i) the tariff applicable to the relevant category of consumers and (ii) the cost of the distribution licensee to supply electricity to the consumers of the applicable class. In case of a consumer opting for open access, the distribution licensee could be in a position to discontinue purchase of power at the margin in the merit order. Accordingly, the cost of supply to the consumer for this purpose may be computed as the aggregate of (a) the weighted average of power purchase costs (inclusive of fixed and variable charges) of top 5% power at the margin, excluding liquid fuel based generation, in the merit order approved by the SERC adjusted for average loss compensation of the relevant voltage level and (b) the distribution charges determined on the principles as laid down for intra-state transmission charges.*

*Surcharge formula:*

$$S = T - [ C (1 + L / 100) + D ]$$

*Where*

*S is the surcharge*

*T is the Tariff payable by the relevant category of consumers;*

*C is the Weighted average cost of power purchase of top 5% at the margin excluding liquid fuel based generation and renewable power*

*D is the Wheeling charge*

*L is the system Losses for the applicable voltage level, expressed as a percentage*

*The cross-subsidy surcharge should be brought down progressively and, as far as possible, at a linear rate to a maximum of 20% of its opening level by the year 2010-11.*

*8.5.2 No surcharge would be required to be paid in terms of sub-section (2) of Section 42 of the Act on the electricity being sold by the generating companies with consent of the competent government under Section 43(A)(1)(c) of the Electricity Act, 1948 (now repealed) and on the electricity being supplied by the distribution licensee on the authorisation by the State Government under Section 27 of the Indian Electricity Act, 1910 (now repealed), till the current validity of such consent or authorisations.*

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8.5.3 *The surcharge may be collected either by the distribution licensee, the transmission licensee, the STU or the CTU, depending on whose facilities are used by the consumer for availing electricity supplies. In all cases the amounts collected from a particular consumer should be given to the distribution licensee in whose area the consumer is located. In case of two licensees supplying in the same area the licensee from whom the consumer was availing supply shall be paid the amounts collected.*

8.5.4 *The additional surcharge for obligation to supply as per section 42(4) of the Act should become applicable only if it is conclusively demonstrated that the obligation of a licensee, in terms of existing power purchase commitments, has been and continues to be stranded, or there is an unavoidable obligation and incidence to bear fixed costs consequent to such a contract. The fixed costs related to network assets would be recovered through wheeling charges.*

8.5.5 *Wheeling charges should be determined on the basis of same principles as laid down for intra-state transmission charges and in addition would include average loss compensation of the relevant voltage level.*

8.5.6 *In case of outages of generator supplying to a consumer on open access, standby arrangements should be provided by the licensee on the payment of tariff for temporary connection to that consumer category as specified by the Appropriate Commission.'*

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