

Reforms in Power Sector: Introspection

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A decade has already passed since enactment of Electricity Act 2003. Now the different clauses of the said Act is being amended but it is time to look back and analyze how much the objectives as framed under the said EA 2003 has been achieved and what are amendments needed. At the outset let us look into the process of amendment of EA 2003. EA03 came into effect after prolonged discussions at various levels of stakeholders followed by addition and deletion at draft stage and finally acceptance in parliament. The entire process took almost 10 years before declaration of EA03. Its true that all sort of act , rules and regulations need to be reviewed and re-addressed in subsequent time and necessary amendment are to be made based on policy implementation and objective of successful and effective impact on socio-economic condition. But such process of review and amendment shall be a continuous one particularly when EA03 was totally a new concept and approach with an objective for development of power system based on optimal utilization of all resources having far reaching impact on socio-economic development.

Now, after a decade the process of review and consequent amendment has started. Discussion at various levels including all stakeholders and regulators took place and detailing of amendments with notes drafted in final form but uncertainty prevails in placement of draft at appropriate level for amendment.

For amendment for EA03 it is necessary to formulate the purpose and objective of amendment after detail study of Indian power scenario vis –a-vis power market , analyzing future projection with consumption pattern as per EPS, socio-economic condition and all relevant issues . Our Mission is to –“Extend Electricity to all and every citizen at affordable tariff”

India with its huge population is still far far below its target of providing electricity to all. Therefore proper policy to be adopted after finding out the reasons of such condition where per capita energy consumption in India is still less than 1000 units which is very very low in comparison to world standard. Even with massive rural electrification, the target cannot be achieved unless the life style and socio economic condition of rural areas are developed. Unless the energy consumption density in rural area increases, the cost of supply to rural belt will be very high and the rural population will not be capable to afford the price of electricity unless the tariff is subsidized.

In that context, proper policy and perspective planning for improving health of power sector need to be adopted first. But it is unfortunate that in many cases we observe in our country, policy makers and planners at the helm of affairs do have very little knowledge of ground reality. As a result the objective is lost and the act and rules becomes utopian and void of practical approach. We observed in the past that to resolve the socio-economic problems of the country we do depend or rely upon the solutions or approach of foreign countries without in depth study of our own problems. We must learn from outside but that does not mean to blindly follow others.

In a lead developing country with a potential market like that of India, Tariff of electricity and Performance of power utilities plays an important role for achieving the goal of "Power for all at affordable price". Now the question that comes in our mind, whether all the electricity users in our country who will use electricity for their essential purpose are capable of paying the actual price of supply. The answer is 'NO' without any ambiguity. Then to supply power to all and everyone to the extent of domestic purpose a huge amount of subsidy has to be made. In the regulatory regime, either Power intensive Industrial and commercial consumers and to some extent urban domestic consumers with higher level consumption have to subsidize rural consumers with lower consumption level or the state to subsidize from development fund.

Obviously the gap between the cost of supply and payable tariff is the amount of subsidy. The cost of supply at remote end at lower voltage and less consumer or lower consumption density is more, as such subsidy will be more. Unless the socio-economic condition improves and consumption density in these areas increases there is very little chance of reduction in subsidy. In this condition the high end subsidizing consumers will try to reduce their energy consumption so as to contribute less subsidy as a subsidizing consumer. Thus it will be a vicious circle so far as subsidy is concerned, where the health of supply utilities will be affected. Moreover such system leads towards more and more commercial loss.

For reduction in loss, National Tariff policy prescribes Smart Metering and Smart Grid, HVDS and such other things to reduce Technical and Commercial loss. But for implementation of such advanced system sizable amount of investment is required. Most of the utilities in India are not in a position to invest. Yes grants are available from Central Govt. under APDRP projects but the applicability is limited to certain level of loss and size of area and population.

It therefore emerge that remote rural areas with lesser consumer density where loss reduction is more essential grant is not available for those areas. Moreover Capital expenditure can be met from grant but additional maintenance cost will go up may be with reduction of loss.

Now it may be matter of debate whether state can finance for reduction of such loss with application of high technology in Distribution system of utilities instead of subsidizing the tariff. After formation of Regulatory Commissions (both at central and state level) the Tariff is determined by the respective commissions based on norms of performance and regulations set forth by the commissions. The norms of performance and regulations are not completely identical for different states and the cost of uncontrollable part are not same, therefore it may not be very prudent to flatly compare tariff of different states/ utilities. But the reasoning and logic behind formulating norms and standards along with regulations has to be clearly understood by the stake holders including consumers. It will help the consumers to scrutinize and critically analyse in detail the tariff orders issued by their respective commissions after understanding the methodology of tariff determination. Understanding of this entire mechanism and gamut of affairs is not at all easy one. It needs detail study of norms, regulations and tariff orders by a group of professionals from technical and financial field. At the same time, consumers' skill development is necessary to protect the interest of all. This is a difficult and continuous process under the guidance of expert group as above. NGOs and other organizations without bias and interest may come forward to render such service.

In initial stage, regulators were holding public hearing before finalizing regulations and tariff orders. In the process stake holders have the opportunity of better understanding and skill development. But presently public hearing in West Bengal is not being held.

Now Central cabinet have approved new National Tariff Policy. This is the first important step towards amendment of EA. Tariff policy of different states will be based on National Policy without much departure. Policy should be such that cross subsidy to be minimized to the maximum extent possible at earliest. All consumers should be given a fair deal and large number of marginal consumers be able to get the benefit of electricity.

In a larger perspective and in the context of open market where industries have to compete globally, the tariff of electricity in industries should be according to cost of supply and Open Access regulation must have to be more realistic and rational. But in present policy the landed cost in open access are prohibitive in many cases because of high Interstate and state transmission charges. Parallel Power Exchanges are operative in India and transmission cost in case of exchange is less than transmission cost in bi-lateral contract. But the availability of power is uncertain in case of supply from exchange.

All these ambiguities are there in Indian power market scenario due to absence of clarity in understanding and knowledge. We often try to introduce policy and systems operative other countries, but mix up various systems may the best ones of different countries all at a time simultaneously without studying the implication and fitment in our existing framework. As for example we started with unbundling of SEBs even before introduction of EA03 and regulatory framework and the result in Orissa is well known to all of us. Still today all the SEBs are not unbundled and most of the private power utilities are integrated. In case of unbundled utilities tariff is determined by notionally segregating the cost of generation and distribution with associated transmission. Moreover some of the generators supply power to a certain voltage level that to in localized urban area. Presence of multiple players in different form cannot provide level playing field essential for competitive market and growth of this sector

Now it is being contemplated to further segregate supply and distribution business. With this segregation if introduced, an electricity supplier will purchase power directly from generating companies and transmit and distribute electricity to its consumers in an area utilizing the transmission and distribution network of respective utilities. That means the supplier has to bear the cost of generation, transmission and distribution to arrive at cost of supply and tariff of retail consumer will thus be determined. This type of business is prevailing in many countries but at the same time the supplier has the option to buy power from different utilities at different hours of the day as per scheduled contract. In many cases supplier of electricity utilizes network of multiple player in same area according to suitability and cost. Most of these systems are viable in surplus condition and non-regulated market where consumption rate is high with higher consumer density. By introducing this pattern without detail study there will be further stress on supply sector. Supply cost of different areas will vary widely and as a result there will be cherry picking with sudo competition and ultimately marginal consumers at remote areas will be worst affected. Incidentally the transmission and distribution network cost are pass thro' items for tariff determination where are present tariff policy is cost plus basis. Therefore, with disintegration of

distribution from supply business there is possibility of increase in retail tariff because of separate overhead cost and allowable profit component in both parts (Distribution and Supply).

Another important area of concern is encouraging Non-conventional and Renewable source of energy including Solar power. This has to be looked into from environmental point and preservation of fossil fuel. Co-generation thro' waste heat recovery even where fossil fuel is used has to be promoted. Because of the fact generation from waste heat recovery reduces cost of primary product and excess generation if available after captive use can be exported with lesser cost for equivalent amount of energy from conventional plant. It will be prudent to consider such excess co-generation as distributed generation with local domestic and commercial net work or connected with nearest sub -transmission network. This arrangement will depend on excess generation capacity. A uniform policy all over India should be taken. Critical analysis of DPR of such project should be made on balance of heat required and recovery between primary production and power generation in both cases of Top up or Bottom end heat recovery system.

It is learnt that, to achieve the target of Solar power various methods are being formulated so as to enhance solar power generation in states where solar radiation is very high and transmit solar power in other states without transmission charge at least for CTU portion so that solar power landed cost is comparable with thermal power cost in areas where generation of solar power is not viable. In recently floated tenders it is found that solar power cost as per bids submitted by private entrepreneurs are very close to thermal power cost. In that case target of solar power generation can be achieved to reduce pollution and conserve fossil fuel.

State Governments have the responsibility of economic development of their states and electricity tariff has a direct impact on state economic growth and rural development vis –a vis GDP, therefore State govt. without directly intervening in tariff determination must have a say as regards subsidy and also rebate for conservation and efficient use of electricity.

In fine it can be concluded that the objective of EA and National tariff policy should be such that it helps in fast development in power sector with better performance of utilities to render effective service at desired level but at affordable tariff to all sections of society. It may be so simple to think of this ideal condition but it is very complex to formulate a model to achieve the objective. Because of the fact that each unit of electricity has a cost to keep its cost down without hampering health of licensee is a difficult task under regulatory regime. It is a very complex mathematics to reduce cost of power purchase cost, reduce ATC loss with minimum capex. But this has to be done after in depth study by experienced persons in the field and wide discussion at all levels. Socio-economic and Techno commercial viability for expansion of electricity network encompassing High technology application, distributed generation, hybrid local network with reasonable subsidy and rebate with scientific tariff structure for all. Therefore, amendment of EA03 to be affected after taking into consideration every aspects discussed above and critical examination of the various clauses draft amendment by the stake holders including regulators.