

**Before the**  
**Bihar Electricity Regulatory Commission**  
Ground Floor, Vidyut Bhawan-II, Bailey Road, Patna-21

**Suo Motu Case No. – 1/2006**

**Bihar State Electricity Board (Through the Chairman)**

**In the matter of**

**Strategy to bridge the gap between demand and supply, etc.**

Dated : 29<sup>th</sup> May, 2006

**ORDER**

The matter was last heard on 15<sup>th</sup> May, 2006. The Law officer of the Bihar State Electricity Board placed on the record additional statement to the statement dt. 27<sup>th</sup> April 2006 of the B.S.E.B., Patna on affidavit. The Law officer of the Board and also the officers representing Bihar Industries Association were present. Though suggestions in response to public notice issued by the Commission were received from a number of persons including consumer associations, none of them were in appearance. Though few persons were present but they were not among those who have sent their suggestions.

The Law officer of the Board placed his statement before the Commission which inter-alia are in the nature of preliminary objections on initiation of proceeding Suo Motu by the Commission. The contentions raised are that since Bihar State Electricity Board happens to be only deemed licensee, it was beyond the domain of Commission to make the deemed licensee answerable to the Commission for any deficiency or lapses, if there be any, on part of the Board. In a pointed question by the Commission as to whether the Bihar State Electricity Board which by legal fiction is a deemed licensee would not be answerable to the Commission if called upon, notwithstanding there been statute of Electricity Act 2003, however the learned Law Officer of the Board preferred not to break the silence. Needless to say that in exercise of powers vested in it by provisions of Sections 23 and 94 and other provisions of the Electricity Act, 2003, the Commission may call upon the licensee to address, the issues which the Commission proposes to take up for betterment of production, transmission or distribution of the electricity in the State and whether the

Bihar State Electricity Board is a licensee or deemed licensee, that hardly matters to keep it immune from the provisions of the Act.

The other limb of submission was that the Commission has initiated the Suo Motu proceeding on strength of some paper clippings of which a xerox copy have been sent to the Board which did not appear to be sound. Again reference may be had to the provisions of Section 23 of the Electricity Act 2003 which are in the following terms :

" If the appropriate Commission is of the opinion it is necessary or expedient so to do for maintaining the efficient supply, securing equitable distribution of electricity and promoting competition, it may by order provide for regulating supply, distribution, consumption or use thereof."

The State of Bihar has been facing massive shortage of electricity since last few years which can be mainly attributed to insignificant generation of power in the State. The Bihar State Electricity Board is undertaking load shedding in urban, agricultural and industrial conglomeration which has added to the sufferings and miseries of the power consumers which become prominent in the summer season. Demand has outstripped available supply by margin of about 250-300MW during peak hours. If the estimated demand supply gap of around 250-300MW during peak hours in the summer season is not bridged, then load shedding shall become inevitable which is most inefficient way of rationing scarce resource. The alternate measure is to explore the possibility to avoid frequent load shedding and shutdown. Though the Commission had asked the Bihar State Electricity Board to apprise the Commission about the principles and protocols of the load shedding, the response made by the Board is not only perfunctory but also evasive. Like-wise no new statistics have been made available to the Commission about all zones which enjoy immunity to load shedding.

The significance of electricity has been well emphasized in the National Electricity Policy as it is an essential requirement for all facets of our life. It is a basic human need and also a critical infrastructure on which the socio-economic development of the nation would depend. Availability of quality supply of electricity is very crucial to sustained growth of this segment. There is no gainsaying that demand of power has been outstripping the growth in availability. Substantial peak and energy shortages prevail everywhere, which is largely due to inadequacy in generation,

transmission and distribution constraints as well as inefficient use of electricity in the States. Very high level of technical and commercial losses and lack of commercial approach in management of the utilities has led to unsustainable financial operation. Inadequacy in distribution network has been one of the major reasons for poor quality of supply. Inadequacy of generation has jeopardized power sector operation in the State and hence there is need to enhance the overall availability of installed capacity. Since generation of electricity has been most insignificant and there has been no capacity addition in the State of Bihar during last 20-25 years, to cater to the need, the State is to depend for procurement of power from external sources. It is a good sign that Bihar State Electricity Board has taken initiative for setting up three new thermal power plants in the State.

Apart from thermal electricity, there are other regions also which need to be identified and explored to augment the generation of electricity in the State. Feasible potential of non conventional energy resources mainly small hydro, wind and biomass need to be exploited fully to create additional power generation capacity. Hydro-electricity is a clean and renewable source of energy and emphasis is to be led on full development of the feasible hydro potential in the State which is under domain of State Hydel Power Corporation. Harnessing of hydro potential will facilitate dependence on thermal electricity and on this score also much is left to be desired in the State. Although the Bihar Renewable Energy Development Authority have been made Nodal Agency for development of non-conventional energy sources / renewable sources of energy.

Nuclear power is also an established source of energy to meet the base load demand and the State is yet to take a lead in this sector also in view of depleting reserve of fossil fuel. It is a high time that Bihar State Electricity Board under the patronize of the State Govt. must chalk out long-term and short-term programme to meet the challenging demand. Setting up the long-term programme would include setting up of new thermal nuclear and gas based power plants, harnessing of hydro potential, to encourage captive power plants which offer a sizeable and potential competitive capacity for meeting demand of power. The short-term programme would include renovation and modernization of existing generation capacity to bring it to minimum acceptable standard of operation.

Sharing feelings and anxieties of the consumers from prolonged power cuts throughout the State particularly during summer season, the Bihar Electricity

Regulatory Commission instituted a Suo Motu Case calling upon the Bihar State Electricity Board, the Licensee in the State, to apprise the Commission about the certain issues which find mention below:-

**(1) Transmission & Distribution Losses**

In the presentation made by the Bihar State Electricity Board before the Commission, Transmission and Distribution (T&D) losses have been indicated varying from 38.17% to 36.04% during the financial year 2001-02 to 2004-05. The aggregate technical and commercial losses (AT&C) were however not indicated. Such level of losses are unsustainable and imply to decline of power sector operations. Continuation of present level of losses not only poses a threat to the power sector operation but also jeopardize the growth prospect of the economy as a whole in the State. Further the power sector will remain unviable until T&D losses are brought down to reasonable level. The National Electricity Policy emphasizes the State to prepare a Five-Year Plan with annual milestones to bring down this loss expeditiously. In this regard the Commission sought following informations from the Board :-

- (i) Figures of AT&C loss during the years 2001-02 to 2004-05. Technical and commercial losses were also to be segregated.
- (ii) The Commission was to be apprised about steps taken so far by the Licensee to reduce the AT&C losses and result thereof.
- (iii) The Action plan for reduction of AT&C losses.

The information that have been made available to the Commission on affidavit are as follows :-

	2001-02	2002-03	2003-04	2004-05
T&D Losses	38.1%	40.85%	36.04%	37.69%
AT&C Losses	45.45%	49.76%	46.44%	46.38%

As for action taken by the Licensee for reduction of losses in the transmission system, it is stated on affidavit dated 27.04.2006 that the transmission system is being strengthened and in Phase-I, Board has undertaken construction of 17 grid sub-stations and out of which 7 have already been commissioned, 9 were to be commissioned within 2 months and remaining one

was proposed to be commissioned by Jan. '07. Besides that the Board has proposal to construct 7 more grid sub-stations in Phase-II.

As for reduction in the losses of distribution system, the Board has stated on affidavit that undersized and substandard conductors are being replaced in the identified urban areas and capacity of distribution transformers are being augmented besides installation of additional distribution sub-stations. The Board states further on affidavit that to reduce the commercial losses it has taken up metering of all consumers in PESU area by electronic meters. Further steps taken by the Board as stated in the affidavit to reduce AT&C losses are construction of power sub-stations (PSS) in every block under Rajiv Gandhi Gramin Vidyutikaran Yojana and inclusion of 38 numbers PSS under APDRP scheme.

Though the Commission had called upon the Board to make available to the Commission total statistics about losses in the system, to take stock of the situation, the Board in its affidavit itself acknowledges that these figures made available to the Commission about T&D and AT&C losses are estimated figures as metering at appropriate levels are not being done at present. The Board in its affidavit further says that since there is no metering, technical and commercial losses cannot be segregated and we are constrained to feel that the whole purpose for asking these information are lost, true picture being not before the Commission about extent of losses suffered by the Board in transmission and distribution system.

The transmission and distribution losses are exceedingly high and it requires efficient and co-coordinated action to develop an integrated power system in the State. High voltage distribution system is an efficient method for reduction of technical losses and prevention of theft. Since distribution is the most critical segment of the electricity, this requires efficient management of the distribution sector to secure efficient and equitable supply of electricity to all. Though steps are shown to have been taken by the Board for reduction of losses in the system, the question about impact of such action has remained unanswered. An action plan for reduction of losses with adequate investment and suitable component in governance is required to be drawn. When the next hearing is scheduled the Board will apprise the Commission about improvement in

reduction of losses in the system, if there has been any action plan launched by the Board.

## **(2) Pilferage of Electricity**

Since the pilferage of electricity by various category of consumers by illegal tapings from electric poles, tampering of meter is also causing enormous loss of revenue to the Bihar State Electricity Board, the Commission feels that there is urgent need to launch an extensive drive to remove illegal connection, meter tampering and also to keep constant vigil on them. The Commission with a view to take stock of the situation sought following information :-

- (i) Whether random periodical raids are being conducted in rural and urban areas and also what had been the result.
- (ii) Whether there is any plan chalked out by the B.S.E.B. to check pilferage of power in the rural and urban areas.

Though the Board in its affidavit states that regular raid operation is conducted for detection of power theft and also that there has been random load verification in the consumer premises, here too the query made by the Commission about its impact on the revenue of the Board remained unanswered.

It need not be emphasized that no reform can succeed in the midst of large pilferage on continuing basis. Success in revamping power distribution will be a key factor in determining the pace of growth in the power sector and specifically the pace of addition of new generation capacity. The aggregate technical and commercial losses have been identified as a major constraint in the improvement of state power scenario. The reforms are aimed at unbundling of utilities, metering of feeders and consumers, energy accounting and auditing, securitisation of outstanding dues of Central Public Sector Units and grid discipline. It is a matter of common knowledge that the pilferage of power is to the extent of about 1/3<sup>rd</sup> of total power either generated and / or procured from other sources. The need of the hour is to totally curb the pilferage of power within the premises of provisions of Indian Electricity Act 2003 and also the Indian Penal Code. A task force is to be constituted in different zones to which the entire licensee area is to be divided to carry out massive raid to arrest pilferage. In case of detection of such theft/pilferage, the concerned authority of the area and personnel attached to

them who have duties to supervise the work have to be made answerable for punitive action. Those found committing mischief of pilferage should be booked and penal action should visit him. The Board must apprise the Commission the follow up action so that the impact on revenue collection may be watched.

The statistics suggest that Board needs about 125 crores monthly to run it while monthly revenue collection of the Bihar State Electricity Board is about 65-70 crores per month. It goes without saying that unless the revenue collection increases, it is difficult for the Board to sustain for a longer time. If sincere efforts would have been made to check the pilferage of power, the Board's revenue collection must would have registered improvement. Hence the Board must initiate drive in commercial areas to check also the meter system, malfunctioning of which, due to reasons, which are not always transparent, also attributes to the pilferage of power. It must be within knowledge of the Board that many Govt. accommodation or bungalows lack proper metering system. Now it is a high time that the Board should consider to engage private agencies and NGOs to undertake checking of energy load in premises of domestic, non-domestic and industrial consumers. The Commission desires to put in place independent 3<sup>rd</sup> party meter testing arrangement which are likely to deliver good result. In rural areas franchise to private firms need to be appointed for revenue collection and to promote this object there is also need to give incentive to such private firms on the basis of percentage of their collection. Further, a foolproof mechanism should be developed to monitor the revenue collection and raising of bills of the consumers. The pilferage of power by a set of person makes bonafide consumer vicariously liable to compensate the loss suffered by the licensee as there liability is shifted to them.

### **(3) New Electricity Connection and Replacement of Transformer**

Assuming that Bihar State Electricity Board must have laid down a time schedule for providing electricity connection against application by new consumers as well as repair / replacement of defective transformers and there being need to have a foolproof mechanism in position to ensure adherence to such time schedule, certain informations were sought from the Bihar State Electricity Board. The statistics made available to the Commission are not encouraging. It is desirable that for breakdown and replacement of transformers, a

well equipped mobile van should be available at the various power sub-stations to attend the complaints and rectify the snag. If required inbuilt crane in the van to lift the transformer to the post and replace it with new one may be equipped. A separate telephone number should be available for lodging power fault complaints round the clock which should be duly publicized.

#### **(4) Metering**

As for reasons of high power deficit, one of its causes attributed is unmetered supply of power. Section 55 of the Electricity Act 2003 stipulates that no licensee shall supply electricity after expiry of 2 years from the date of its enactment (i.e. 10<sup>th</sup> June 2003) except through installation of a correct meter. One must also be aware that in the matter of meter reading and billing of consumers by the utility, there exists considerable consumer dissatisfaction. As such there is imperative need to raise the level of consumer satisfaction, at the same time one must help feeling the need for periodical and random checking of electricity meters installed at the premises of various category of consumers. In this backdrop, present status, action plan and also as to whether calibration of the meters are checked at specified regular intervals were sought from the Board but on this score too the response given by the Board on affidavit leaves much to be desired and it rather acknowledges that the calibration of meters are not checked at specified regular intervals be it due to shortage of manpower and infrastructure. We may profitably quote the extracts of National Electricity Policy where it addresses this issue –

" The act mandates supply of electricity through a correct meter within a stipulated period. The act requires all consumers to be metered within 2 years. The State Regulatory Commission may obtain from the distribution licensee metering plans, approve them and monitor the same. The State Electricity Regulatory Commission should also put in place independent 3<sup>rd</sup> party meter testing arrangement" so that scope for consumer complaints is minimized and the complaints that arise are settled expeditiously to the satisfaction of the consumers without the need for any recourse to consumer forum

- (i) Meters must be subject to mandatory ISI marking.
- (ii) Testing of the meters must be done at specified regular intervals.

- (iii) In case of complaints of over billing there should be provision of 3<sup>rd</sup> party inspection and verification with the benefit of doubt being given to the Consumers.
- (iv) Consumers groups must be actively involved in the entire process and their suggestions regarding systematic improvement and modification of policies and procedures must be given due consideration. Since test meters are not calibrated after purchase, it is safe to assume that the verification of meters in case of complaints which normally goes against the consumers, will be open to doubt. Taking these factors into account it is essential to lay down specific norms for maintaining adequate facilities backed by trained manpower link to the area of coverage and number of consumers for the utility company. The 3<sup>rd</sup> party arrangement for random checking of meters should comprise of three engineers representing the utility company, Chief Electrical Inspector and also an Engineer of consumer Association like Bihar Industries Association, Bihar Chamber of Commerce, etc. these initiatives would be relevant in finalizing a consumer friendly transparent policy in the power sector and would help minimize the grievance of the consumer in the sector.

Till proper metering system is arranged, it is neither possible to do an accurate energy accounting nor the area of theft and pilferage can be detected. Hence proper system of metering for all 132 KV, 33 KV, 11 KV feeders as well as all power transformers and distribution transformers is essential. Bihar State Electricity Board should accord priority to this and provide the meter under a time bound programme.

Faced with such power scenario in the State which characterizes prolonged power cuts and shutdown, new avenues are to be explored to ensure equitable distribution of power to all and to avoid the possibility of frequent load shedding which makes the life of consumers hellish in the summer season. The National Electricity Policy stipulates that there is a significant potential of energy saving through energy efficiency and Demand Side Management (DSM) measures. In order to minimize the overall requirement, energy conservation and Demand Side

Management has been accorded high priority. The Energy Conservation Act has been enacted and Bureau of Energy Efficiency has been set up. The potential number of installations where demand side management and energy conservation measures are to be carried out is apparently very large. A periodic energy audit have been made compulsory for power intensive industry under the Energy Conservation Act. Other industries may also be encouraged to adopt energy audit and energy conservation measures. Energy conservation measures which require to be adopted in all government buildings for which saving potential has been estimated to be about 30% energy.

The Commission accordingly in exercise of powers under section 23 of the Electricity Act 2003, to ensure regulation of supply, distribution, consumption or use of power stipulates following load regulation measures.

- (i) All residential and commercial consumers consuming more than 300 units per month and all industrial consumers (irrespective of their level of consumption) will have to reduce their monthly consumption to a level of 80% of their consumption in the preceding month of the current year.
- (ii) In case consumers do not reduce their consumption to the desired level punitive action may have to be considered by the Board.
- (iii) The Licensee shall ban neon signs, illumination of hoardings, illuminated advertisements on bus stands, illuminated kiosks on street light, illuminated lighting for outdoor functions and public meetings, temporary connection for such lighting purposes, flood light for sport stadiums and flood light of building, between 6 P.M. 10 P.M.
- (iv) As regards the essential services, it is essential that they should also try to reduce their monthly consumption.
  - (a) Railway's establishment other than Railway traction
  - (b) Water supply and sewerage system operated by Govt. or local authorities
  - (c) Telephone Exchange
  - (d) Meteorological Observations
  - (e) Hospitals
  - (f) News Agencies

- (g) TV and Radio Stations
- (h) Post and Telegraph
- (i) Airport

In case of the above essential services the restriction of reducing monthly consumption as to 80% of their consumption in the preceding month of the current year will however be applicable for the attached residential colonies.

Regard been had to the immense sufferings of the people to which they are subjected due to prolonged power cuts, it is desirable that dedicated feeders be made available to the hospitals and water supply works, if so far not provided so that these essential services are made free from load shedding.

If the load is reduced due to introduction of load regulation measures and / or additional supply becomes available, the matter will be reconsidered by the Commission. The Commission directs the Bihar State Electricity Board not only to explore all possible source of power but also to monitor the overall supply position closely and submit a report within one month from the date of issue of this order showing the impact in terms of savings in load and energy as a result of load regulation measures.

The Commission also directs the Licensee to prepare rational load shedding plan in the event that demand-supply gap is not bridged and load shedding becomes inevitable.

The Commission will review the desired progress in the matter of metering system, checking of pilferage of electricity, reduction in losses in the system, provision of new electricity connection, provision/replacement of transformers, billing and revenue realization, energy conservation and DSM measures taken in the last week of June 2006.

This order will come into immediate effect.

Sd/-  
(S.K. Jayaswal)  
(Member)

Sd/-  
(B.K. Halder)  
Member

Sd/-  
(Justice B.N.P. Singh)  
Chairman

Certified to be the true copy of the original