CENTRAL ELCTRICITY REGULATORY COMMISSION

NEW DELHI

Coram:

1. **Dr. Pramod Deo, Chairperson**
2. **Shri Rakesh Nath, Member, E.O.**
3. **Shri R. Krishnamoorthy, Member**
4. **Shri V.S. Verma, Member**

Petition No 178/2009
(Suo-motu)

In the matter of

Ceiling of tariff for sale and purchase of electricity through bi-lateral agreements and on power exchanges pursuant to the proviso to Section 62 (1) (a) read with Section 66 of the Electricity Act of 2003.

Following were present:

1. Shri Madhu Sudan Pal, WBSEDCL
2. Shri S. Balaguru, TNEB
3. Shri R. Krishnaswami, TNEB
4. Shri Padmjit Singh, Individual (Rtd. CE)
5. Shri D. Khandelwal, MPPTCL
6. Shri Ram Prakash, HPSEB
7. Shri Sakya Singh A.Chaudhuri, Advocate, WBSEDCL
8. Shri S.K. Soonee,NLDC
9. Shri S.C. Saxena,NLDC
10. Shri P. Bhaskara Rao,SRLDC
11. Shri Aveek Banerjee, PXIL
12. Ms. Indranil Chatterjee, CESC
13. Shri Amit, Jindal Power Ltd.
14. Shri S.R. Narasimhan, NRLDC
15. Ms. Jyoti Prasad, NRLDC
16. Shri P.S. Sharda, Consumer, Mumbai
17. Shri Sanjay Kumar
18. Shri Vikram Singh
19. Shri Sunil Joshi, TPTCL
20. Shri R.K. Mediratta, IEX

21. Shri Jayant Deo, IEX
22. Shri Rakesh Kumar, PTC
23. Shri Sunil Agrawal, GMR
24. Shri Harvinder Manocha, GMR Energy
25. Shri Rajib Misra, GMR Energy
26. Shri P.B. Venkatesh, NTPC
27. Shri V.K. Padha, NTPC
28. Shri Himanshu Agarwal,TERI
29. Ms. Nidhi Maurya, TERI
30. Shri Manoj Kumar Jha, NHPC
31. Shri Amit, Manikaran Power Ltd.
32. Shri Mukesh Dadhich, BSES
33. Shri Sunil Kumar, BSES
34. Shri Manish Sharma, BGR Energy
35. Shri Rakesh Rathore, Adani Enterprises Ltd.
36. Shri Naresh
37. Shri Kumar, Kalpana Hydro

ORDER
(Date of Hearing: 8.9.2009)

The Commission had put up on its website a draft order in this matter for the information of general public and for inviting comments, suggestions and objections. The notice of public hearing was published in the newspapers, viz., Times of India, Hindustan Times dated 29th August, 2009. Thereafter the matter was heard by us on 8th September, 2009 by way of a public hearing. The comments, suggestions and objections received from the stakeholders essentially are on the following issues:

(a) The powers that are available to the Commission under the proviso to section 62(1)(a) of the Electricity Act, 2003 (“the Act”) extends only to sale to distribution licensees.

(b) The prevalence of shortages has not been established which is a pre-requisite for exercising powers under the proviso to section 62(1)(a) of the Act.

(c) No instance of market abuse or market domination has come to light to warrant intervention by the Commission.

(d) Imposing price cap would send contradictory signal to the investors which might affect fresh investments in the sector.

(e) Proposed price cap of Rs.11/- is too high and it should be lower keeping in view the cost of generation from most of the generating stations.

2. We have given serious consideration to all the issues raised by the stakeholders during public hearing. Accordingly, we are proceeding to pass this order with reasons.

3. The Commission has been constantly monitoring the prices of electricity traded in the bi-lateral markets and in the day ahead transactions in power exchanges. The following facts have come to light consequent to the above monitoring exercise by the Commission: -

(a) The Short term power prices have witnessed a steep increase as may be seen from the following:-

(i) Between 9:00 AM to 10:00 AM, the prices of electricity traded in the Indian Energy Exchange Ltd (IEX) have increased from Rs. 6.11 per kWh as on 3.8. 2009 to Rs 14.50 per kWh as on 13.8.2009. Thus there is a 2.37 times increase in prices in IEX. Similarly the prices have increased by 3.22 times from Rs. 4.50 per kWh to Rs 14.50 per kWh during the said period in the Power Exchange India Ltd (PXIL).

(ii) Between 6:00 PM to 7:00 PM, the prices have increased by 2.89 times from Rs. 5.00 per kWh to Rs. 14.50 per kWh during the above span in IEX. Corresponding data in respect of PXIL is 2.91 times from Rs. 4.05 per kWh to Rs 11.80 per kWh.

(b) The volume of electricity cleared at the high prices were in the range of 650 MWh to 850 MWh during the week 10.8.2009 to 16.8 2009.

(c) Abnormally high prices were prevailing for all the 24 hours.

(d) The weekly price volatility calculated by IEX based on the formula and the graph given in the Annexure to this order had increased from 13.15% during the week starting from the 3.8.2009 to 40.67 % during the week starting form the 10.8.2009.

4. The situation has been further aggravated as a result of near drought-like conditions in the Northern India coupled with the prevailing high temperature in Northern and Western parts of India, all resulting in the increased use of the weather beating load in urban areas and pumping loads in agricultural areas. Although, the fuel prices of coal, diesel, Naptha, RLNG, etc., have remained moderately stable during the above period, the power price behaviour has become disjoint from the fuel price and the overall real costs. Considering that the short term power market structure is still imperfect with supply deficit, low level of competition in the market may not necessarily serve its designated purpose.

5. It is also noticed that the distribution companies are refraining from load shedding as much as possible and are endeavouring to buy power at high cost so as to maintain standards of performance. Such buying decisions, apart from affecting the financial health of the distribution companies, are also passed on in the retail tariff payable by consumers.

6. It is noticed that on account of unforeseen bad monsoons and drought-like conditions, the prices and volatility have risen significantly. Needless to add that such abnormally high prices, even for a short period, is not only harmful to the consumers but also erode the buyer's confidence in the market's credibility.

7. The Commission cannot ignore these stark realities which are apparently contrary to the stated objectives of the Act which includes protecting interest of consumers. Under conditions of shortage of supply of electricity such as the prevailing one, the Commission has been empowered under the proviso to clause (a) of sub-section (1) of section 62 of the Act, to fix minimum and maximum ceiling of tariff for sale and purchase of electricity in pursuance of agreements entered between the generating companies and the licensees or between licensees for a period not exceeding one year to ensure reasonable prices of electricity. The Commission has been further mandated under section 66 of the Act to promote the development of market in power. The matter regarding the scope of powers of the Commission under proviso to section 62(1) (a) of the Act had come before us in the matter of "Measures for restricting the prices of electricity in short- term market". In our order dated 17.12.2008 in that matter we had ruled that the proviso carves out an exception from the substantive provision contained in clause (a), and empowers the Commission to fix the minimum and maximum ceiling of

tariff for each transaction of sale of electricity in case of shortages which is currently the position. Given that the tariff for supply of electricity by a generating company to a distribution licensee is regulated under Section 62 of the Act making the express provision, it is only logical to conclude that the Commission is empowered to fix ceilings or price caps for sale of electricity to an electricity trader and by one licensee to another licensee; whether distribution licensee or an electricity trader. This would also cover the transactions being done through the power exchange, since the power exchange provides a platform for sale by generating companies or licensees and for trading. Further, section 66 of the Act gives the mandate to the Commission regarding development of power market. The regulation of power exchanges squarely falls within the purview of this provision of the law.

8. The statutory mandate to develop and regulate market (including trading) in power is not constrained by the pre-requisite of establishing abusive behaviour by a market player. We are of the considered view that the Commission has the statutory mandate to take appropriate actions for addressing the imperfections of the market.

9. In the light of the above mentioned statutory responsibilities, powers and functions, the Commission is of the view that there is an urgent need to intervene and prescribe a cap on the maximum and minimum prices in the day ahead market so as to protect the interests of consumers.

10. During the arguments made before us, while the generators and suppliers argued that imposition of price cap would send adverse signals to the investors, some other stakeholders particularly the distribution licensees suggested that the

maximum ceiling price should be lower than the proposed level of Rs.11 per unit. The Commission is equally conscious of its statutory obligation to ensure reasonable return for the investors in the sector and assures that their long term interests, future investment plans and reasonable rate of return are among the other considerations kept in mind while arriving at the above mentioned caps. Further, we would like to make it clear that the price caps are being imposed only for day-ahead transactions and that too for a short period of 45 days. We are of the view that price ceiling as deduced from the computation in the succeeding paras is at sufficiently high levels so as not to adversely affect the return to the investors and at the same time to control the volatility in the price of electricity in day-ahead markets being caused due to market imperfections.

11. Reasonable rate of return being the moot criteria, the maximum price could be worked out based on the representative prices of power based on Naptha and High Speed Diesel (HSD) fuel for the month of July, 2009 prices as under:

Variable Charge (Rs/Kwh)	**Fixed Charge (Rs/ Kwh)**	**Total (Rs/Kwh)**
6.70	1.30	8.00

12. This shall ensure that high cost liquid fuel generation capacity still remains fully operational and the price cap does not deprive the consumers of any generation capacity. Though, the draft order published for public hearing had another

computation for arriving at price cap which was based on prevailing rates of UI charges. After reconsideration of the matter, we have decided to delink UI from market prices in view of the fact that the additional UI charge is an instrument for grid discipline and should not be the basis for market discovered prices.

13. Minimum price has been taken on the basis of the Hydro power generation for which the variable cost is negligible.

14. The proviso to section 62(1)(a) of the Act provides that the Commission can intervene in case of shortages of supply of electricity. The shortages of electricity in India is well known. In our decision to introduce price caps, we are also fortified by the Load generation balance report of CEA. As per the said report relating to the deficient scenario forecast for 2009-10, the estimated energy shortage in the country will be about 8.8% and peak shortage will be about 18.1%. The peak shortage in Northern region is expected to be 19.4%, for Western region 27.4% and for Southern region (18.8%).

15. The above circumstances during shortage of supply of electricity in the country further justify the fixation of caps for the minimum and maximum prices for sale or purchase of electricity in the bilateral markets and the power exchanges.

16. Therefore, to ensure reasonable prices of electricity in the period of present shortages, we direct that, with immediate effect, for inter-state day ahead transactions, the minimum tariff or bidding price, as the case may be, shall

be **Rs. 0.10/ Kwh** and the maximum ceiling of tariff or bidding price, as the case may be, shall be capped at **Rs. 8/ Kwh**. This shall be applicable for both power exchanges and bilateral markets. The minimum and maximum ceiling of tariff as aforesaid shall apply for a period of 45 days from the date of this order.

Sd/-	sd/-	sd/-	sd/-
(V.S. VERMA)	**(R.KRISHNAMOORTHY)**	**(RAKESH NATH)**	**(Dr. PRAMOD DEO)**
MEMBER	**MEMBER**	**MEMBER (EO)**	**CHAIRPERSON**

New Delhi, dated the 11th September 2009

Annexure

Historic Volatility Calculation

Volatility = Standard deviation of daily prices returns.

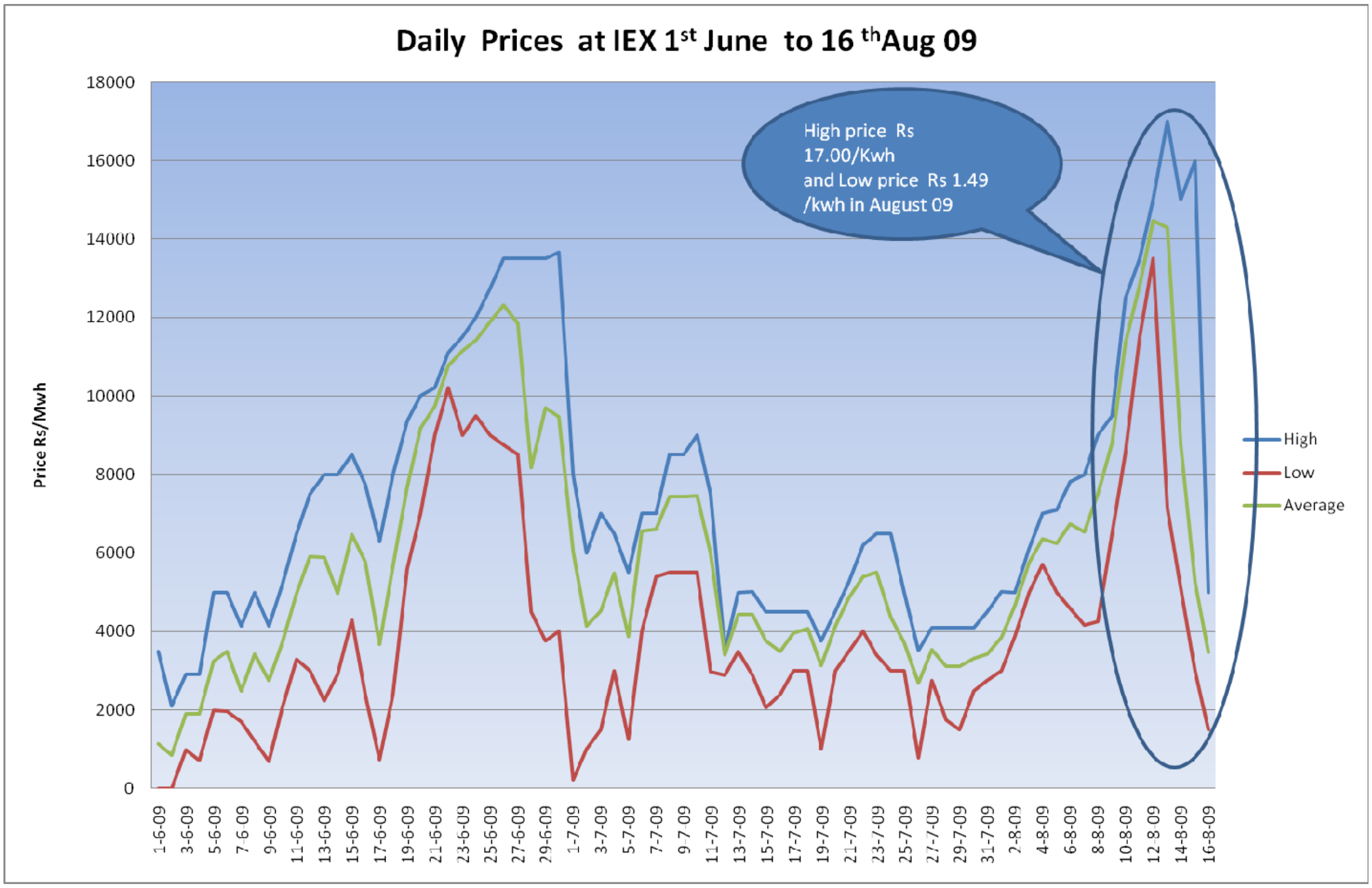
Historical Volatility Formula:

$$\sigma = \sqrt{\frac{1}{(n-1)}\sum_{y=1}^{n}(\ln\frac{y_i}{y_{i-1}} - \mu)^2}$$

where

$$\mu = \frac{1}{n}\sum_{y=1}^{n}(\ln\frac{y_i}{y_{i-1}})$$

1. Daily prices returns = ln (y_i / y_{i-1}).
2. y_i is price today; y_{i-1} is price on previous day.
3. ln is natural logarithm
4. n is the number of observations
5. μ is the average daily returns



Daily Prices at IEX 1st June to 16 thAug 09
Price Rs/Mwh
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
High price Rs
17.00/Kwh
and Low price Rs 1.49
/kwh in August 09
High
Low
Average
1-6-09
3-6-09
5-6-09
7-6-09
9-6-09
11-6-09
13-6-09
15-6-09
17-6-09
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