

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 147/MP/2012

**Coram: Dr. Pramod Deo, Chairperson
Shri S. Jayaraman, Member
Shri V.S. Verma, Member
Shri M. Deena Dayalan, Member**

Date of Hearing: 28.6.2012

Date of Order : 6.7.2012

In the matter of:

Modification in price discovery methodology and matching rules in Term Ahead Market and Renewable Energy Certificate Market

And in the matter of:

Indian Energy Exchange Ltd.

....**Petitioner**

Parties Present:

Shri Akhilesh Awasthy, IEX

ORDER

The petitioner, Indian Energy Exchange has filed this petition seeking approval for modification in the price discovery methodology in Term Ahead Market and Renewable Energy Certificate Market operating at the petitioner's trading platform under Regulation 7 of the Central Electricity Regulatory Commission (Power Market) Regulations, 2010 (hereinafter "Power Market Regulations").

2. The petitioner has submitted that the Commission in its order dated 31.8.2009 in Petition No.120/2008 has accorded permission to the petitioner to operate Term Ahead Market and approved the price discovery methodology and matching rules for term ahead market.

Subsequently, the Commission in its order dated 17.9.2010 in Petition No.210/2010 has accorded permission to the petitioner to operate Renewable Energy Certificate Market and also approved price discovery methodology and matching rules for Renewable Energy Certificate Market. The petitioner has submitted that the methodology for price discovery and matching rules are similar in Term Ahead Market and Renewable Energy Certificate Market.

3. The petitioner has further submitted that the methodology of discovery of equilibrium price in Term Ahead Market auction is broadly classified into following three steps:

Step 1: Equilibrium price shall be the price point at which traded volume is maximum.

Step 2: In case, there is more than one price point for maximum volume then the price at which the balance surplus volume is minimum is taken as equilibrium price.

Step 3: In case, there is more than one price point at which maximum tradable volume is same and the balance surplus quantity is also same, the process randomizes solution between the two prices.

4. The petitioner has submitted that in the above algorithm for determining equilibrium price, it is very rare to resort to Step 3 for selecting the equilibrium price since in most of the cases , solution is derived as per Step 1 or in rare cases as per Step 2. Moreover, the number of options run in the market are not too many and therefore, randomization between the two prices does not necessarily give best solution. In the petitioner's experience in operation of Term Ahead Market for 33 months and Renewable Energy Certificate for 16 months, there has been no occasion for resorting to the above randomization rule. The petitioner has proposed to modify the Step 3 from randomization between two prices to deriving average of the two prices in question. The petitioner has submitted that the advantage of the proposed change would be that the price so determined would be equitable to both buyers and sellers in each run of auction where such

situation exists. The petitioner has also submitted revised clause 5(A) of Schedule B of its Business Rules for consideration and approval of the Commission.

5. During the hearing of the petition on 28.6.2013, the representative of the petitioner submitted that the petitioner is in the process of indigenization of software solution for Day Ahead Market, Term Ahead Market and Renewable Energy Certificate Market. The petitioner is planning to migrate software solution for the Term Ahead Market from Nasdaq OMX supplied Condicto software solution to Financial Technologies supplied software solution and the software migration is an opportunity to move from the randomization rule for determination of equilibrium price to a more equitable average of the two prices. The representative of the petitioner submitted that the proposed change in the methodology of discovery of equilibrium price in Term Ahead Market and Renewable Energy Certificate Market be approved. In response to our query as to whether the other power exchange is following the average price methodology, the representative of the petitioner replied in the affirmative.

6. We have considered the submission of the petitioner. We had allowed the petitioner in our order dated 31.8.2009 in Petition No. 120/2008 to apply either or both of the price discovery mechanism, namely, closed auction with uniform price solution; and continuous electronic trading with trade for trade settlement, with the rider that for region-wise weekly contracts, only closed auction with uniform price solution shall be used. In our order dated 2.12.2009 in Petition no.199/2009, the petitioner was allowed to use Open Uniform Price auction in Regional weekly contracts in addition to already approved closed auction with uniform price solution. Subsequently, in our order dated 17.9.2010 in Petition No.210/2010, the petitioner was allowed to adopt a double sided closed bid auction with uniform price solution as price discovery mechanism for REC contracts. The petitioner has suitably incorporated the above mechanisms in

its Business Rules with the approval of the Commission. The petitioner has approached the Commission by way of the present petition for modification of Step 3 of the methodology of discovery of equilibrium price from randomization between two prices to deriving average of the two prices. The Commission is of the view that the proposed new methodology of using the simple arithmetic average between two points of buyer's price or seller's price in case of overlap of the demand and supply curves is more equitable to the buyers and sellers as compared to the randomized solution. The results are fair and equitable to both sellers and buyers in every run of the auction vis a vis a randomized solution which becomes equitable only when the auction is run over a long period of time with the same set of buyers and sellers.

7. Clause (2) of Regulation 7 of Central Electricity Regulatory Commission (Power Market) Regulations, 2010 empowers the Commission to approve "Price Discovery methodology and matching rules" proposed by the power exchange. Further, Regulation 24 of Power Market Regulations allows Power Exchanges to amend their Byelaws and Business Rules after obtaining prior approval of the Commission.

8. In view of our discussion in para 6 above, we approve price discovery methodology in Term Ahead Market and Renewable Energy Certificate Market as proposed by the petitioner. We further direct the petitioner to submit the modified Business Rules to the Commission within the 15 days of the issuance of this order.

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| (M.Deena Dayalan) Member | (V.S.Verma) Member | (S.Jayaraman) Member | (Dr. Pramod Deo) Chairperson |