



Circular No.: IEX/MO/395/2021

Date: 12 April 2021

**Implementation of Mixed-integer linear programming (MILP)
based Matching Algorithm in Day Ahead Market (DAM)**

Dear Members,

In pursuance of Rules, Byelaws and Business Rules of the Exchange, the Members are hereby notified that: -

IEX is pleased to implement new MILP based Matching Algorithm for “Day Ahead Market (DAM)” segment from trade date 14th April 2021. MILP based Matching Algorithm is a latest, improved, and efficient matching engine which will provide flexibility to introduce complex bid types looking at the changing market scenario.

There is one key enhancement in the existing Mother-Child Linked Block Bid feature for better usability of market participants, and other than that all the features in Day Ahead Market (DAM) are unchanged.

Enhancement in existing Linked Bid feature:

Mother bid will be included if child bid is covering the losses incurred to the mother bid with respect to difference in quoted price and discovered price.

Example: Consider two buy bids, Mother Bid = 100MW@500Rs/MWh for Time Period 00:00 to 00:01 hrs., child Bid = 100MW@1500Rs/MWh for Time Period 00:01 to 00:02 hrs.

Assuming discovered price at exchange is Rs 1000 per MWh for all the time blocks. Ideally, mother bid should be rejected because there is a loss of Rs 50000 {i.e., $1000 - 500 = 500$ (price diff per MWh * 100 (qty in MWh) = 50000} due to difference in discovered price of exchange and quoted price

in bid. But child bid if selected will generate a profit of Rs 50000 {i.e., $1500-1000=500$ (price diff per MWh*100 (qty in MWh) =50000} which in turn can compensate loss incurred to mother bid. Thus, in the above Linked Block Bid example, both the mother bid and child bid will get selected.

MILP base Matching Algorithm is being implemented for only Day Ahead Market (DAM) segment as of now.

Members may kindly note that no separate versions of MAT and TWS will be released by the exchange as the implementation of MILP matching algorithm does not require any changes to be made to MAT and TWS. Members may continue to use the existing versions of MAT and TWS for participating in Day Ahead Market (DAM) at IEX.

**For and on behalf of
Indian Energy Exchange Limited**

**(Sd\ -)
Amit Kumar
Senior Vice President
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..... Corporate office.....
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