

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 10/SM/2020 (Suo-Motu)

Coram:

Shri P.K. Pujari, Chairperson

Shri I.S. Jha, Member

Shri Arun Goyal, Member

Date of Order: 28th May, 2020

In the matter of:

Implementation of Realtime Market (RTM) for Electricity in India – Transmission
Corridor Allocation

ORDER

The Commission, in order to implement Realtime Market (RTM) for electricity in India, has made provisions through amendments in relevant Regulations on 12th December, 2019 (notified in official gazette on 27th December 2019), namely Central Electricity Regulatory Commission (Indian Electricity Grid Code) (Sixth Amendment) Regulations, 2019; Central Electricity Regulatory Commission (Open Access in inter-State Transmission) (Sixth Amendment) Regulations, 2019; and Central Electricity Regulatory Commission (Power Market) (Second Amendment) Regulations, 2019.



2. RTM for electricity has been designed for “half an hour delivery period with two 15 minute time blocks” at regular intervals throughout the day. Price discovery method has been specified as double sided closed auction. In order to bring in firmness in the schedule and transactions in real time, the concept of “Gate Closure” has also been provided in the framework for RTM. RTM shall have 48 sessions in a day starting from 00:00hrs up to 24:00hrs. Buyers and sellers shall have the option of placing buy and sell bids for each fifteen-minute time block in the half hourly Real Time Market.

3. The amendments in the Regulations for implementation of RTM were to come into effect from 1st April, 2020. However, in the backdrop of COVID-19 pandemic outbreak, the Commission deferred the implementation of RTM by two months, vide notifications dated 20th March, 2020. Accordingly RTM is to commence w.e.f. 1st June, 2020.

4. As per the requirement under the provisions of Indian Electricity Grid Code (IEGC) and Open Access Regulations, as amended from time to time, the National Load Despatch Centre (NLDC)/Power System Operation Corporation Limited (POSOCO) issued detailed procedures for scheduling of collective transactions through Real Time Market (RTM) on 15th May, 2020, after due consultation with stakeholders. The procedure shall apply to the applications made for Scheduling of Collective Transactions in RTM by availing of Short Term Open Access.



5. After due consultation with stakeholders, the Power exchanges have also proposed modifications in their Rules and byelaws to introduce Real time contracts and for approval of such modifications, they have filed petitions before the Commission. The Commission has completed hearings of the Petitions and is in the process of approving the modifications.

6. The Commission has reviewed the issues involved in implementation of RTM framework with effect from 1st June, 2020. One of the issues, namely, the method of allocation of transmission corridor between the power exchanges for Real time transactions, was brought to the notice of the Commission. The Commission notes that the Central Electricity Regulatory Commission (Indian Electricity Grid Code) (Sixth Amendment) Regulations, 2019, which incorporates sub clause (aa) to clause (5) of Regulation 6.5 provides that the limit for scheduling of collective transaction in terms of transmission corridor, in RTM for respective power exchanges shall be worked out in accordance with the directives of the Commission. The relevant extract of the provision is as follows:

*“(aa) Scheduling of Real-time collective transaction: NLDC shall indicate to Power Exchange(s), margin available in each of the transmission corridors before the gate closure, i.e. before the window for trade closes for a specified duration. Power Exchange(s) shall clear the buy and sell bids for the said duration under consideration on various interfaces or control areas or regional transmission systems as intimated by NLDC. **The limit for scheduling of collective transaction during real time for respective Power Exchanges shall be worked out in accordance with the directives of the Commission. NLDC***



shall furnish the available transmission corridors to the Power Exchange(s) before the trading for real time market for a specified duration closes. Based on the information furnished by NLDC, Power Exchange shall clear the RTM bids and announce the Market Clearing price and volume. Based on the volume cleared by the Power Exchanges, NLDC shall communicate the schedules to the respective RLDCs. After getting confirmation from RLDCs, NLDC shall convey the acceptance of scheduling of collective transaction to Power Exchange(s). RLDCs shall schedule the Collective Transactions at the respective periphery of the Regional Entities.”

(emphasis added)

7. In this regard, the Commission has examined the operational feasibility of various options for allocation of transmission corridor between the Power Exchanges, as discussed below.

8. **Option-1: Ex-ante allocation of transmission corridor based on cleared volume in Day Ahead Market in the respective Power Exchanges:** This option envisages that the allocation of transmission corridor between the power exchanges would be in the ratio of their shares in the cleared volumes in the Day Ahead Market (DAM), subject to a minimum of 10% of the available capacity to the power exchange having smaller share. In this context, it emerged that Real time contract being a new product, it is not desirable to link it with the performance of the Power Exchange(s) in any of the existing products (viz. the day ahead market in this context).



9. **Option-2: Ex-ante allocation of transmission corridor based on cleared volume in Real Time Market in the respective Power Exchanges:** This option envisages allocation of transmission corridor based on the respective share of both the Power Exchanges in RTM, which will provide fair chance of competition to the exchanges. However, given that RTM has not yet commenced, and as such no reference data is available, it is not feasible at this stage to allocate transmission corridor under this option.

10. **Option-3: Allocation of transmission corridor in case of congestion based on the ratio of initial market clearing volume of RTM in the respective Power Exchanges:** This option envisages that at the Gate Closure, the NLDC shall announce the available transfer capability (ATC) for Real time transactions. Both the Power Exchanges shall run the process of bid matching considering all the buy and sell bids on their platform, factoring ATC for Real time transactions, announced by the NLDC. The initial market clearing volume derived in this process shall be submitted to the nodal agency, NLDC. NLDC shall verify the combined volume cleared in both the Power Exchanges against the ATC for RTM. If the combined cleared volume of the two Power Exchanges is within the ATC for Real time transaction, the initial results shall be confirmed by NLDC to the Power Exchanges. In the event of the combined volume exceeding the ATC for RTM, the allocation of available corridor margin between the Power Exchanges shall be in the ratio of the initial market clearing volume of RTM in the respective



Power Exchanges, and accordingly, this shall be communicated to the Power Exchanges. The Power Exchanges shall thereafter submit the final trades in conformity with the available corridor margin as provided by the NLDC. In the extreme event of failure of communication between the NLDC and the Power Exchange(s) or for reasons such as data transfer failure, if the final cleared trades are not received by NLDC for scheduling through the RLDCs, or if the information regarding available corridor margin is not received by Power Exchanges(s), the schedules for such RTM session(s) shall be made zero by NLDC.

Decision of the Commission

11. The Commission considered the various options discussed above carefully and is of the view that Option-3 is the most optimal. This option envisages that after the gate closure, within the next fifteen minute time block, the entire process of file transfer and verification of combined volume cleared for both exchanges against the ATC for RTM, has to be completed. The Commission recognises the operational challenges of this option in the context of short time available for processing in RTM. Based on the review, the Commission is of the view that this option is feasible, but that greater confidence, especially in terms of robustness of software and communication link, would come with implementation experience over time.

12. In the light of the above discussion, the Commission decides as under:
- a. The Real Time Market shall be implemented w.e.f. 1st June, 2020 as already notified by the Commission on 20th March, 2020.
 - b. The limit for scheduling of collective transaction during real time for respective Power Exchanges (*reference Regulation 6.5 (5) (aa) of Part 6 of the IEGC, added vide the Central Electricity Regulatory Commission (Indian Electricity Grid Code) (Sixth Amendment) Regulations, 2019*) shall be worked out in accordance with the following directives:-
 - (i) At Gate Closure, the NLDC shall announce the available transfer capability (ATC) for Real time transactions;
 - (ii) Both the Power Exchanges shall run the process of bid matching considering all the buy and sell bids on their platform, factoring ATC for Real time transactions, announced by the NLDC.
 - (iii) The initial market clearing volume derived in this process shall be submitted to the nodal agency, NLDC. NLDC shall verify the combined volume cleared in both exchanges against the ATC for RTM.
 - (iv) If the combined cleared volume of the two Power Exchanges is within the ATC for Real time transaction, the initial results shall be confirmed by NLDC to the Power Exchanges. In the event of the combined volume exceeding the ATC for RTM, the allocation of available corridor margin between the Power Exchanges shall be in the ratio of the initial market clearing volume of RTM in the respective Power Exchanges, and accordingly, this shall be communicated to the



Power Exchanges. The Power Exchanges shall thereafter submit the final trades in conformity with the available corridor margin as provided by the NLDC.

(v) In the extreme event of failure of communication between the NLDC and the Power Exchange(s) or for reasons such as data transfer failure, if the final cleared trades are not received by NLDC for scheduling through the RLDCs, or if the information regarding available corridor margin is not received by Power Exchange(s), the schedules for such RTM session(s) shall be made zero by NLDC.

c. The entire process as above needs to be completed within 15 minutes. Therefore, the necessary software and communication between NLDC and the Power Exchanges are required to be adequate and the process be made fully automated to ensure smooth run of the market sessions throughout the day. Additionally, Power Exchanges need to ensure robust and redundant communication system for uninterrupted and reliable interfacing with NLDC.

d. The arrangement as described at 12(b) above shall, to start with, be applicable for the period from 1st June, 2020 to 14th June, 2020. The complete record of transactions during the said period, including time block wise - available transmission corridor, initial market clearing volumes of the Power Exchanges, events of transmission congestion, cleared volumes in the Power Exchanges, performance of software and communication link shall be compiled and examined by NLDC and



reported to the Commission for the period 1st June, 2020 to 7th June, 2020 and 8th June, 2020 to 12th June, 2020 on 9th June, 2020 and 13th June, 2020, respectively. Based on the report and analysis of NLDC, the Commission shall review and decide the principles for allocation of transmission corridor for the period beyond 14th June, 2020.

13. The Commission directs NLDC to incorporate the above directions suitably in the detailed procedure for scheduling of collective transactions in RTM. Power Exchanges are also directed to act as per the above directions to ensure smooth implementation of RTM with effect from 1st June, 2020.

14. Suo Motu Petition No. 10/SM/2020 is disposed of in terms of the above.

Sd/-
(Arun Goyal)
MEMBER

Sd/-
(I.S. Jha)
MEMBER

Sd/-
(P.K. Pujari)
CHAIRPERSON

