

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 146/MP/2021

Coram:

**Shri P. K. Pujari, Chairperson
Shri I. S. Jha, Member
Shri Arun Goyal, Member
Shri P. K. Singh, Member**

Date of Order: 17th of October, 2021

IN THE MATTER OF:

Petition under Section 66 of The Electricity Act, 2003 read with the Regulation 7 of the Central Electricity Regulatory Commission (Power Market) Regulations, 2010 for approval of introduction of the Green Day Ahead Contract in Day Ahead Market segment at Indian Energy Exchange Limited.

And in the matter of

**Indian Energy Exchange Limited,
Plot No. C-001/A/1,
9th Floor, Max Towers,
Sector 16 B, Noida, Gautam Buddha Nagar,
Uttar Pradesh – 201301**

....Petitioner

Versus

**National Load Despatch Centre (NLDC),
Power System Operation Corporation Limited,
B-9 (1st Floor), Qutab Institutional Area, Katwaria Sarai,
New Delhi 110016**

...Respondent

Parties Present:

Shri Jogendra Behera, IEX
Shri Gaurav Maheshwari, IEX
Shri Subhendu Mukherjee, POSOCO
Shri Alok Kumar Mishra, POSOCO

ORDER

The Petitioner, Indian Energy Exchange Ltd. (IEX) has sought approval of the Commission to introduce Green Day Ahead Contract (GDAC) in Day Ahead Market (DAM) on its platform to provide avenues to existing and prospective Renewable Energy (RE) generators for sale of RE through the Power Exchange and to provide more options to the Obligated Entities to fulfill their Renewable Purchase Obligations (RPO).

2. The Petitioner has made the following prayers:

“1) Accord approval for introduction of proposed Green Day Ahead Contract (GDAC) on IEX platform.

2) Accord approval for proposed amendments in the Business Rules of IEX for introduction of Green Day Ahead Contract (GDAC).

3) Pass such further order or orders as may be considered necessary in the facts and circumstances of the case.”

Submissions of the Petitioner

3. The Petitioner has sought approval of the Commission to introduce Green Day Ahead Contract in Day Ahead Market on its platform for providing exclusive trading in

renewable energy (RE). The proposal is based on the Ministry of Power (MoP) letter dated 24.03.2021 on “Development of Integrated Day Ahead Market (DAM) in Power Exchange with separate price formation for RE Power and Conventional Power –Reg.”, which inter alia suggested a framework for integrating the trading of RE power with conventional power in day ahead market with separate price formation for RE and conventional power. The salient features of the MoP proposal in the said letter dated 24.03.2021 are as under:

- (i) Power Exchange to have Integrated Market in Day Ahead Market (DAM) with separate price formation for RE and Conventional Power.
- (ii) Integrated DAM to have a single RE market for all types of Renewable Energy i.e., solar, non-solar, hydro.
- (iii) Participants can submit their bids in two parts, i.e. the quantity they would be willing to buy or sell, as renewable power or conventional power.
- (iv) Participants of RE segment would have the option to transfer their unselected bids to the conventional segment of the Day Ahead Market (DAM).
- (v) The entire set of bids can be cleared one after another. First renewable bids could be matched with renewable offers, taking into consideration the availability of transmission for the quantities selected. After the cleared renewable bids are scheduled, the conventional segment would be cleared

considering the availability of transmission, net of what has been allocated under the RE segment.

(vi) Buyers of RE market will get solar and non-solar RPO credit on the basis of proportion of the solar and non-solar bids of the sellers cleared in the total volume of the RE market.

(vii) RE sellers to get RECs against their quantum selected in the Integrated DAM.

(viii) The price determination process could be a two-step process and other processes like bidding, settlement, scheduling may remain combined for both. However, clear identification of type of transaction (renewable/ conventional) should not be lost sight of.

(ix) For balancing purpose, RE generators to be allowed to buy from the Real Time Market and waive Inter-State Transmission Charge for Green Day Ahead transactions as per GOI policy as enablers.

4. The Petitioner has proposed the following framework of Green Day Ahead Contract (GDAC) at its power exchange:

(i) In addition to the existing Day Ahead Contract (DAC) in Day Ahead Market (DAM), an additional contract viz., Green Day Ahead Contract (GDAC) shall be available for allowing exclusive trade in Renewable Energy.

- (ii) The participants will submit their bids in two parts, i.e., quantity and price at which they would be willing to buy or sell in GDAC (RE segment) and DAC (Conventional Power segment) based on their eligibility criteria.
- (iii) Participants will have the option to choose if they would like to transfer the uncleared quantity in GDAC to DAC and can also price it differently.
- (iv) Market Clearing or Price Discovery to take place in a sequential manner i.e., first GDAC will be cleared followed by DAC and also sequential requisition will be made to NLDC for allocation of transmission corridor for the two contracts.
- (v) For the purpose of RPO credit to buyers, detailed statement will be issued to buyers specifying the total quantity and proportion (solar/ non-solar/ hydro) in which RE has been purchased by the buyer in GDAC.
- (vi) Similarly, for the purpose of REC issuance to RE sellers cleared in DAC, detailed statement will be issued to sellers specifying the total quantity and type of RE (solar/ non-solar/ hydro) sold by the seller in DAC.
- (vii) Price determination will be a separate process whereas other processes like bidding, settlement, scheduling will remain combined for both the contracts with clear identification of renewable/ conventional transactions.
- (viii) Eligibility for participation in GDAC:

- 1) Sellers: Renewable Energy generators having NOC issued by Load Despatch Center specifying maximum quantity and type of RE i.e., solar/ non-solar/ hydro shall be eligible to trade in 'Green Day Ahead Contract'.
- 2) Buyers: All the entities which are eligible to procure power through Open Access shall be eligible to participate in GDAC as buyers.
- 3) Entities will be eligible to participate in GDAC based on the same NOC issued for DAM/ Intra-Day market by Load Despatch Centre.
- 4) Eligibility of RE sellers shall be ascertained at the time of registration with the Power Exchange based on NOC/ Standing clearance issued by RLDC/ SLDC, as applicable.

(ix) Other Contract details of GDAC:

All other contract specifications are similar to the ones existing for DAC in DAM as briefly provided below:

- 1) Risk Management: As per existing practice of Day Ahead Market.
- 2) Matching mechanism: Double-sided closed bid auction.
- 3) Price Discovery methodology: Uniform market clearing price for all buyers and sellers who are cleared.
- 4) Auction Timing: 10:00 AM to 12:00 PM of previous day (D-1)
- 5) Scheduling: As per procedure of scheduling of collective transactions.

No revision of schedule will be permissible.

- 6) Delivery: Next day (T+1) from 0000 hrs to 2400 hrs in 96 separate 15 minute time blocks.
- 7) Delivery Point: At Regional Periphery.
- 8) Transmission Congestion management: As per the existing practice of market splitting in Day Ahead Market.
- 9) Deviation Settlement Mechanism: As per applicable Regulations notified by the Appropriate Commission.

(x) Proposed timelines: Since GDAC is a new contract and considering basic framework of the proposed GDAC mentioned above, the following indicative timelines for GDAC and DAC is proposed:

| Sr. No. | ACTIVITIES | TIMELINE |
|----------------|---|--------------------|
| 1. | Bid - Call session Green Day Ahead Contract (GDAC) & Day Ahead Contract (DAC) | 10.00 AM -12.00 PM |
| 2. | Determination of Market Clearing Price (MCP) / Market Clearing Volume (MCV) of GDAC and the Unconstrained | By 12.30 PM |
| 3 | Publishing of Provisional Obligation GDAC | By 12.45 PM |
| 4. | Request of Available Transmission Capacity (ATC) to NLDC for GDAC, Request for confirmation from bank on availability of funds for GDAC | By 12.45 PM |
| 5. | NLDC Exception for scheduling for GDAC, Receipt of confirmation from | By 01.15 PM |

| | | |
|-----|---|-------------|
| | bank on availability of funds for GDAC | |
| 6. | Determination of Area Clearing Price (ACP)/Area Clearing Volume(ACV) of GDAC | By 01.45 PM |
| 7. | Publishing of obligation GDAC | By 02.00 PM |
| 8. | Submission of Application for scheduling of GDAC to NLDC | By 02.30 PM |
| 9. | Carry forward of unselected Bids of GDAC to DAC & Determination of MCP/MCV of DAC | By 02.30 PM |
| 10. | Publishing of Provisional Obligation DAC | By 03.00 PM |
| 11. | Request of ATC to NLDC for DAC, Request for confirmation from bank on availability of funds for GDAC | By 03.00 PM |
| 12. | NLDC Exception for scheduling for DAC, Receipt of confirmation from bank on availability of funds for DAC | By 03.30 PM |
| 13. | Determination of ACP/ACV of DAC | By 04.00 PM |
| 14. | Publishing of final obligation GDAC+DAC | By 04.15 PM |
| 15. | Submission of Application for scheduling to NLDC for DAC | By 04.15 PM |
| 16. | NLDC conveys acceptance of scheduling of GDAC and DAC | By 05.15 PM |

The proposed timelines and steps are indicative and flexible to revision based on the feedback of NLDC and directions of the Commission.

5. The Petitioner submitted the following benefits of the proposed Green Day Ahead Contract (GDAC):

(i) RE sellers and buyers will get additional avenues to sell/ buy renewable power.

(ii) Multiple buyers and sellers participating in GDAC based on the principle of collective transactions will lead to efficient price discovery. This will also provide appropriate pricing signals to RE.

(iii) GDAC will enable the obligated entities to procure renewable power at competitive prices on a day ahead basis and help meet their RPO.

(iv) RE buyers/ sellers can fall back upon DAC to fulfill their requirements in case the bids are not selected in GDAC.

(v) Promote the trade of RE through the market having inherent benefits viz. enhanced competition, efficient price discovery, flexibility to participate, payment security mechanism, mitigate the risk of buyers and sellers in entering long term PPAs etc.

(vi) All of the above will lead to overall promotion of the RE sector and help in achieving RE capacity addition targets set by the Government of India.

6. The Petitioner further submitted that since revisions are not allowed for participants in the Day Ahead Market to enable RE sellers to manage their variations, the RE sellers may be allowed to buy from the Real Time Market (RTM). This has also been proposed in the MoP letter as enabler for the Green Market in the Exchange.

7. During the hearing, the representative of Petitioner submitted that certain changes may be required in the Central Electricity Regulatory Commission (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010 (in short, “the REC Regulations”) and the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020 (in short, “the Sharing Regulations”). He, however, added that the amendments to the above Regulations are not a necessary pre-condition for introducing GDAC and that the same can be introduced within the existing regulatory framework in a restricted manner as being followed in the case of Green Term Ahead Market (GTAM). It was also submitted that apart from separate price formation, all other aspects such as bidding, scheduling and settlements, etc. can take place in a combined manner, which would not require any change in the existing procedures/ regulatory framework.

8. In the light of the above-mentioned submissions by the Petitioner, the Commission admitted the petition and directed the Petitioner to give wide publicity to its proposal by uploading the same on its website for inviting comments from the

stakeholders and general public and file an affidavit incorporating the comments received from the stakeholders and the response of the Petitioner thereon.

Stakeholders' Comments and Petitioner's Response

9. In pursuance of the Commission's directions, the Petitioner hosted the proposal of GDAC on its website vide public notice dated 29.07.2021. In response, the Petitioner received comments from 4 stakeholders as mentioned below:

- 1) Prayas (Energy Group)
- 2) CLP Wind Farms India Private Limited
- 3) NTPC Limited
- 4) MSEDCL

10. The Petitioner submitted that the stakeholders have given positive feedback on the concept and proposal of GDAC and supported the proposal for introduction of GDAC at the power exchange platform. Most of the stakeholders have affirmed that introduction of such a contract would provide an alternate avenue for the buyers and the sellers to transact in renewable energy which will eventually promote renewable energy in the country. The important issues raised by the stakeholders, along with Petitioner's response thereon, are summarised below:

- 1) **Need for certification process for sellers participating in GDAC:** It has been suggested by one of the stakeholders that as the MoP paper has envisaged certification for participation of sellers in GDAC, the process of certification

should also be provided in the CERC (Power Market) Regulations, 2021 (in short, “the Power Market Regulations”) and Business Rules of both the Power Exchanges.

Response of the Petitioner: In the present petition, it has been proposed that a seller, whether an RE generator or a Discom, can sell power in GDAC after obtaining NOC/Standing Clearance from the concerned RLDC/SLDC. The NOC/Standing Clearance should *inter alia* specify the source of RE generation viz. solar, wind, hydro etc. required for recognition of the type of RPO compliance of the Obligated Entities. This practice is already being followed in GTAM based on the directions of the Commission vide Order dated 25/MP/2019. In view of the above, there is no requirement of certification process or any amendment in the Power Market Regulations or Business Rules of IEX.

2) **Re-opening of trading window for DAC after clearance of GDAC:** It has been suggested by some of the stakeholders that the sellers should be given an opportunity to revise their bids for DAC based on their clearance in GDAC. For this purpose, an additional window for revising bids in DAC should be provided post-clearance of GDAC.

Response of the Petitioner: The current proposal of having combined bidding for DAC and GDAC is based on the MoP proposal for integrated DAM. MoP proposal has envisaged that while the price determination could be a two-step process, other processes like bidding, settlement, scheduling may remain

combined. In accordance with the MoP detailed note, it has been proposed in the present petition that the market participants will submit their bids in two parts i.e., for DAC and GDAC segment with the participants having the option to transfer their unselected quantity in GDAC to DAC with a different price quote. This will provide flexibility to the participants to manage their bids across DAC and GDAC segments.

Further, given that both GDAC and DAC being collective transactions with uniform auction price mechanism, the participants are expected to submit their best buy or sell offers which may not change with the outcome of GDAC clearance. Besides, allowing revisions after GDAC will make the process cumbersome and operationally challenging and prone to market manipulation. The stakeholders' suggestion for revision in the bids after GDAC clearance may not be considered.

3) **RPO fulfillment through GDAC:** It has been suggested by some of the stakeholders that the MoP proposal to consider proportionate RPO compliance based on the proportion of the solar and non-solar bids of the seller's cleared volume in each time block will be non-conducive for buyers and hence the Discoms and other Obligated Entities should be allowed to adjust purchase using GDAC to meet their solar or non-solar obligations as they deem fit.

Response of the Petitioner: The Petitioner concurs with the views of the stakeholders that flexibility should be provided to the Obligated Entities to utilize the RE purchase from GDAC against their solar or non-solar RPO depending on their requirement. Fungibility of RPOs will provide flexibility to the Obligated Entities to meet their RPO. This will also enhance liquidity in the market and promote newer RE technologies.

4) **Consideration of hydropower participation in GDAC:** It has been suggested by one of the stakeholders that as MoP vide OM dated 08.03.2019 has introduced an additional obligation in terms of Hydro Purchase Obligation (HPO); the same may also be incorporated in the proposed GDAC.

Response of the Petitioner: As suggested by stakeholder, the Commission may consider allowing participation of eligible hydro power plants (COD after 08.03.2019) in GDAC for meeting Hydro Purchase Obligation (HPO) of buyers in alignment with the MoP OM dated 29.01.2021. HPO may be considered in a proportionate manner similar to the way it has been considered for solar and non-solar RPO in the MoP proposal.

5) **Waiver of ISTS Charges for GDAC Transactions:** It has been suggested by some of the stakeholders that ISTS waiver may be provided to GDAC transactions in accordance with MoP's Order which would promote RE development and broaden and deepen the market operations.

Response of the Petitioner: As suggested by the stakeholders, the Commission is requested for amendment in the Sharing Regulations to enable waiver of ISTS charges in GDAC as the same has now been allowed by Ministry of Power vide Order dated 21.06.2021. However, at the same time, such waiver is not a pre-requisite for launch of the proposed GDAC.

6) **RE Sellers be allowed to buy from RTM to manage variations:** It has been suggested by some of the stakeholders that while RE sellers be allowed to buy power from RTM to manage their variations, their purchase from RTM should not be used to meet RPO compliance of the Obligated Entities.

Response of the Petitioner: As suggested by stakeholders, the energy procured from RTM being conventional in nature should not be considered as green power and counted towards RPO compliance of the Obligated Entities. The procurement of energy by the RE generator from RTM will reduce the deviations of the generator. However, the balancing of the deemed RPO compliance may be carried out as per the existing 'RE DSM pool-based mechanism' provided under provisions of the Central Electricity Regulatory Commission (Deviation Settlement Regulations and Related Matters) Regulations, 2014 (in short, "the DSM Regulations") for Regional Entities and respective SERCs F&S Regulations for intra-State entities. As per this mechanism, any shortfall in the RE generation on a pool basis will be balanced through purchase of equivalent RECs.

Alternately, RE generators procuring power from RTM may be asked to buy equivalent number of RECs to balance the deemed RPO compliances.

7) **Issuance of RECs for RE power sold under DAC:** It has been highlighted by some of the stakeholders that since in the existing framework RE generator do not have the option to sell power under both REC and non-REC mode, current procedures may be amended to allow flexibility to RE generators to sell under both GDAC and DAC during same day/term.

Response of the Petitioner: The Petitioner concurs with the views of the stakeholders that the present REC framework needs to be amended to enable RE Generators to sell power in both REC and non-REC mode. However, it is not a pre-requisite for the launch of the proposed GDAC. Till the time such amendments are carried out by the Commission, the participation in GDAC shall be restricted to non-REC RE generators and sale of power by such RE Generator in DAC (unselected bids) would not be eligible for issuance of RECs. A similar approach is already being followed in the case of GTAM.

8) **Revision in Schedule:** It has been suggested by some of the stakeholders that revisions in the schedule should be allowed keeping in view the infirm nature of RE.

Response of the Petitioner: The proposed GDAC will be based on collective transactions and as per the Central Electricity Regulatory Commission (Open Access in inter-State Transmission) Regulations, 2008 (in short, “the Open Access Regulations”), such transactions cannot be revised. In collective transactions, as there is no one to one matching of seller and buyer, revisions of such transactions are neither feasible nor desirable. The market participants should rather consider other alternatives viz. Real Time Market, Intra-day Market etc. available in the Exchange platform to manage their intermittency.

9) **Sequential operation of GDAC and DAC:** It has been suggested by some of the stakeholders that there should be sequential operation of contracts i.e. first GDAC should be finalized and then DAC should be operated.

Response of the Petitioner: The current petition proposed two different segments i.e., GDAC for trading of RE and DAC for conventional energy. However, as envisaged in the MoP paper, it has been proposed that the market will function in an integrated manner with combined bidding for both the segments. As regards the suggestion to run the market in a sequential manner, this may not be required as both GDAC and DAC being collective transactions with uniform auction price mechanism, the Discoms are expected to submit their best buy or sell offers regardless of the outcome of GDAC clearance.

10) **Variations by RE generators:** To manage the variations, RE sellers should be allowed to buy from RTM. However, there may be possibility that RE generators forecast their generation on higher side and to meet the variation, power is purchased in RTM which is conventional one. Hence, it is suggested that, to manage the variations, RE seller should manage their variation by purchasing power from GTAM or introduce new product as RE RTM in line with RTM. Further, any burden due to variations with respect to power schedule in Day ahead market and actual injection should be on account of seller.

Response of the Petitioner: The RE sellers may also be allowed to purchase from GTAM for managing their variations. However, regarding the suggestion of having a separate green RTM for managing deviations of GDAC, the same may be considered by the Commission in future. As regards the financial burden of variations, the entity causing deviations should bear the related cost.

11) **Market Coupling:** The concept of market coupling ensures the same price throughout the nation. However, with market coupling, competition within the exchanges for competitive price discovery and development of different products for buyers will come to an end. Further, the exchanges offering lower trading margin will have the cheaper landed cost of energy (as the clearing price is same). Hence, in case the Commission considers introduction of the market coupling mechanism, it is necessary to fix the minimum and maximum transaction fee to be claimed by power exchanges.

Response of the Petitioner: The Petitioner agrees with the views of the stakeholder that competition within the power exchanges for getting cheaper competitive rates and development of different products for the buyers will come to an end with market coupling. As regards the suggestion for fixing the minimum and maximum transaction fee of the power exchanges, the Commission has already capped it in the Power Market Regulations.

NLDC/POSOCO's Comments and the Petitioner's Response

11. In pursuance of the Commission's directions, POSOCO submitted its comments on the proposal to the Petitioner. The important observations made by POSOCO along with Petitioner's response thereon are summarised below:

1) **Clearing and Curtailment Priority:** Suitable directions may be issued for clearing of integrated DAM comprising of GDAM and DAM. POSOCO has proposed that while clearing and also during congestion, GDAM should be given priority over DAM transactions. POSOCO has also requested for suitable amendment in the Open Access Regulations to provide inter-se curtailment priority within the collective transactions during real time curtailment. Till such amendment is notified, DAM transaction may be curtailed followed by GDAC and Integrated DAM may be curtailed followed by RTM.

Response of the Petitioner: The Petitioner agrees with the proposal of POSOCO.

2) **Waiver of ISTS Charges:** POSOCO has requested to amend the Sharing Regulations to provide waiver of ISTS Charges in GDAC. Further, it has been proposed that till such amendment takes place, ISTS charges shall be applicable on GDAC.

Response of the Petitioner: The Commission may consider amending the Sharing Regulations to enable waiver of ISTS charges in GDAC as the same has now been allowed by MoP vide OM dated 21.06.2021. In case the waiver of ISTS charges is implemented after introduction of GDAC, the issue of retrospective settlement of waiver may arise. Therefore, the Commission may consider invoking the 'Power to Remove Difficulty' under Regulation 28 of the Sharing Regulations to enable waiver of ISTS charges for GDAC. However, waiver of ISTS charges is not a pre-requisite for introduction of the proposed GDAC in DAM.

3) **REC Issuance:** POSOCO has submitted that when an RE generator will be selling through different modes with some of these modes being not eligible for RECs, it would be difficult to consider the energy injection for issuance of RECs.

Response of the Petitioner: The Petitioner concurs with the views of the POSOCO that in the existing regulatory framework, there are operational

challenges associated with allowing RE sellers to sell their power both through REC and non-REC mode. The Commission may consider bringing necessary amendments in the REC Regulations and Procedure for implementation of issuance of RECs to RE generators participating both in GDAC and DAC transactions. RECs may be considered to be issued based on 'schedule' rather than on metered injection with the mechanism in place to account for any differences arising due to actual injection. However, amendment in the REC Regulations is not a prerequisite for the introduction of the proposed GDAC. However, till such amendment is carried out, in GDAC, only non-REC generators be allowed to participate as is being followed in the case of GTAM.

4) **Portfolio RE sale by Discom in GDAC:** POSOCO has proposed not to allow portfolio RE sale by Discom in GDAC as this may lead to mixing of green and conventional/ brown power.

Response of the Petitioner: If the Discoms were to be restricted to sell RE power, one of the key objectives of enabling the RE-rich States to sell their surplus power to RE deficit states through the market mechanism will go unfulfilled. The benefit of the green market to the RE-rich States can be gauged from the fact that in GTAM, majority of the sell volume (more than 90%) are from the Discoms of States like Karnataka, Telangana etc. In the present petition, it has been proposed that the Discoms will be able to participate in GDAC after submitting NOC/ Standing Clearance which would provide the source of RE i.e., solar or

non-solar. Beyond this, SLDC is required to ascertain the availability of RE generation and undertake the deviation settlement as per respective SERC Regulations and Orders. A similar approach is being followed for GTAM and no issues have arisen during the last 1 year. In view of the above, the Discom portfolio sale should not be restricted in the interest of the market. Rather if deemed necessary, endeavour may be made towards strengthening the accounting/ deviation settlement mechanism at the State level.

5) **Rectification with respect to the Sharing Regulations:** POSOCO has indicated that the references made to the Sharing Regulations 2010 in the petition be rectified as the Sharing Regulations 2020.

Response of the Petitioner: The Petitioner will rectify the same at the time of finalization of the proposed contract.

6) **Timelines for GDAC:** POSOCO has suggested that the timelines with respect to GDAC should be decided mutually between the Exchange and the NLDC.

Response of the Petitioner: The Petitioner agrees with the proposal of POSOCO.

7) **Rectification in Contract Specifications:** POSOCO has indicated inconsistency between paragraph 9.4 which provides for scheduling of less than

10 MW and the minimum trade volume as 0.1 MW specified in Contract Specifications.

Response of the Petitioner: Though there is no inconsistency as 0.1 MW is less than 10 MW, for the sake clarity, the same will be rectified.

8) **Clearing of GDAC & DAC in single iteration:** POSOCO has proposed that NLDC will clear both GDAC and DAC transactions in a single iteration. However, Power Exchange can run the market clearing engine separately for GDAC and subsequently for DAC.

Response of the Petitioner: The Petitioner agrees with the proposal of POSOCO.

9) **Procedure for integrated DAM:** POSOCO has requested for suitable directions for specifying the procedure for integrated DAM.

Response of the Petitioner: The Petitioner concurs with the POSOCO's suggestion that a procedure should be in place for operation of GDAC. The Petitioner suggested that the same may be incorporated by amending the existing Procedure for scheduling of collective transactions.

Analysis and Decision

12. The Petitioner has proposed to introduce the Green Day Ahead Contract (GDAC) in Day Ahead Market (DAM) on its platform for providing exclusive trading in renewable energy (RE). The Petitioner has proposed this contract based on the Ministry of Power (MoP) letter dated 24.03.2021 on “Development of Integrated Day Ahead Market (DAM) in Power Exchange with separate price formation for RE Power and Conventional Power –Reg.”, which inter alia suggested a framework for integrating the trading of RE power with conventional power in day ahead market with separate price formation for RE and conventional power.

13. In accordance with the directions of the Commission, the Petitioner has conducted stakeholder consultation and submitted its point-wise reply to the comments/suggestions given by the stakeholders. The Petitioner has also submitted its response on POSOCO’s suggestions. It is observed that majority of the stakeholders including POSOCO have welcomed the proposal for introduction of GDAC in the exchange platform though some of them have made specific suggestions regarding RPO fungibility, inclusion of hydro power, inter-se priority for clearing and curtailment between market products, issuance of RECs etc.

14. We have considered the submissions of the Petitioner, and the comments/suggestions given by different stakeholders along with the responses thereupon by the Petitioner. Prima facie, we are of the view that the introduction of GDAC in the power exchange will provide an additional avenue for short-term trading of RE. Sellers of RE

can use this for sale of renewable energy whereas the obligated entities can procure green power to meet their RPO requirement. Initially, there may be issues related to liquidity in the market. However, with the availability of the trading platform, it may attract participation from the buyers and the sellers.

15. Considering the above, we are of the view that the proposal of the Petitioner to introduce GDAC on its power exchange platform merits consideration. The Commission notes that the Petitioner has agreed to introduce GDAC within the existing regulatory framework without insisting on amendments to regulations. The different aspects of the proposed contract have been dealt with and the decisions of the Commission are given in the succeeding paragraphs keeping in view the submissions made by the Petitioner and comments/ suggestions given by the stakeholders.

Bidding, Market clearing and Scheduling

16. The Petitioner has proposed that there shall be a single window for bidding of the existing Day Ahead Contract (DAC) and Green Day Ahead Contract (GDAC) in Day Ahead Market (DAM) with the option to transfer unselected quantity in GDAC to DAC and to also price it differently for DAC. The Petitioner has also submitted that the Market Clearing and Price Discovery will take place in a sequential manner. In other words, first GDAC will be cleared followed by DAC and sequential requisition will be made to NLDC for allocation of transmission corridor for the two contracts. However, while dealing with stakeholders' suggestions, the Petitioner has concurred with the combined requisition to NLDC for allocation of transmission corridor for the two contracts.

17. We observe that the Petitioner has proposed to first clear GDAC and then clear DAC. This sequence has also been agreed by POSOCO and the stakeholders. Further, some of the stakeholders have suggested separate window for bidding GDAC and DAC or reopening of the window of bidding for DAC after clearing of GDAC. We agree with the submission of the Petitioner that in double-sided closed bid auction, the participants are supposed to place their best bids and offers and with the flexibility to specify different prices for DAC for the uncleared quantity of GDAC, there is no requirement to have separate window for the two contracts. Therefore, there shall be a single window for bidding as per the existing timeline of 10 am to 12 noon. Market Clearing shall take place in a sequential manner i.e., first GDAC will be cleared followed by DAC considering the uncleared bids of GDAC, if any. Further, as suggested by POSOCO, there shall be combined requisition for GDAC and DAC by the Power Exchanges to NLDC for allocation of transmission corridor. NLDC shall allocate transmission corridor based on the prevailing practice for collective transactions. The scheduling of the transactions of GDAC and DAC shall be done separately based on the procedure of collective transactions. NLDC/RLDC/SLDC shall ensure that GDAC and DAC transactions are reflected as separate schedules.

Procedure for scheduling of collective transactions

18. The Petitioner has submitted an indicative timeline for the activities related to GDAC and DAC within the Power Exchange and for communication between NLDC and

Power Exchange. POSOCO has submitted that the timelines may be mutually decided between the Power Exchanges and NLDC.

19. We observe that timelines for collective transactions have been specified in the procedure for scheduling of collective transactions. The timeline for auction window for GDAC and DAC is the same and also combined requisition is required to be made from Power Exchanges to NLDC. Subject to the above, POSOCO and the Petitioner may mutually formalise the communication protocol between them.

20. Further, it is observed that comments have been received suggesting relevant modifications in procedure and formats for GDAC with respect to Scheduling, Real Time Congestion Management etc. POSOCO has suggested that in case of real time transmission constraint, DAC transaction may be curtailed followed by GDAC and Integrated DAM may be curtailed followed by RTM. We note that the process of curtailment has been specified in the Indian Electricity Grid Code (IEGC). If the suggestion of POSOCO were to be accepted, this would involve amendment to IEGC, which cannot be done through the present petition. As such, in the event of real time transmission constraint, curtailment of transmission shall be done in accordance with the provisions of IEGC, as amended from time to time.

RPO/HPO fulfillment through GDAC

21. The Petitioner has submitted that for the purpose of RPO credit to buyer, detailed statement will be issued to buyers specifying the total quantity and proportion (solar/

non-solar/ hydro) in which RE has been purchased by the buyer in GDAC. We observed that the Petitioner has proposed to ascertain type of RE source at the time of registration and through NOC issued by SLDC/RLDC. Some of the stakeholders have raised the issue that due to proportionate method for claiming RPO, the buyers may end up buying power from an RE source for which it has no requirement and, therefore, buyers may be given flexibility to choose the type of RPO they wish to fulfill from the power procured from GDAC. In other words, RPO fungibility may be provided with respect to power procured through GDAC.

22. We are of the view that RPO fungibility is an issue that needs wider consultation and cannot be addressed through the present petition. We agree with the proposal of the Petitioner that the buyers may claim respective RPO based on the statement issued by the Power Exchanges, in pursuance of the source of generation as indicated in NOC/ Standing Clearance issued by SLDC/RLDC. Further, as stipulated in the MoP proposal, the buyers of RE market will get solar and non-solar RPO credit on the basis of the proportion of the solar and non-solar bids of the sellers cleared in the total volume.

Eligibility for Participation in GDAC

23. The Petitioner has submitted that the Renewable Energy generators having NOC/ Standing Clearance issued by Load Despatch Center specifying maximum quantity and type of RE i.e., solar/ non-solar/ hydro shall be eligible to trade in 'Green Day Ahead Contract' and all the entities which are eligible to procure power through Open Access shall be eligible to participate in GDAC as buyers. Eligibility of RE sellers

shall be ascertained at the time of registration with the Exchange based on NOC/Standing clearance issued by RLDC/SLDC, as applicable.

24. We agree with the proposal of the Petitioner and direct RLDC/SLDC that while issuing NOC/Standing Clearance for collective transactions to RE generator, the type of RE i.e. solar/ non-solar/ hydro should be mentioned.

Portfolio RE sale by Discom in GDAC

25. POSOCO has suggested not to allow portfolio RE sale by Discom in GDAC as this may lead to mixing of green and conventional/ brown power. Per contra, the Petitioner submitted that the sellers participating in the GDAC will have to produce NOC from RLDC/SLDC indicating the source of generation which would establish that the power to be sold is RE and that it will go towards the fulfillment of RPO compliance of the buyer.

26. We observe that this issue has already been dealt by the Commission in order dated 17.05.2020 in Petition No. 25/MP/2019 while approving the proposal of the Petitioner to introduce GTAM. Relevant extract of the order is reproduced hereunder:

“Portfolio Sale by RE Rich State:

36. POSOCO has expressed concern that in case of portfolio sale by a RE-rich State, the power sold is from a mix of generators and it is not possible to identify and tag this power as green power. Hence, such sale of power cannot be used for fulfillment of RPO by the buyer. The Petitioner, in its reply, has submitted that the sellers participating in the G-TAM Contracts will have to produce NOC from RLDC/SLDC indicating the source of generation which would establish that the

power to be sold is truly RE and that it will go towards the fulfillment of RPO compliance of the buyer.

37. We observe that POSOCO in its reply has submitted that the details of source, quantum etc. are already being mentioned in the NOCs issued to RE generators by the SLDCs/RLDCs. Accordingly, any seller transacting through a portfolio shall ensure that the source of generation (solar or non-solar) is indicated in the NOC clearly for being able to participate in solar or non-Solar segment of GTAM.”

27. In line with the above-quoted order, any Discom transacting through a portfolio under GDAC shall ensure that the source of generation (solar or non-solar) is indicated in the NOC/ Standing Clearance.

Issuance of RECs for RE power sold under DAC

28. The Petitioner has submitted that the present REC framework needs to be amended to enable all RE generators i.e. those which are registered under REC mechanism as well as those which are not, to sell power under GDAC. However, the Petitioner has further submitted that it is not a pre-requisite for the launch of the proposed GDAC and stated that till the time such amendments are carried out, participation in GDAC shall be restricted to RE generators that are not registered under REC mechanism and sale of power by such RE Generator in DAC (unselected bids) would not be eligible for issuance of RECs. A similar approach is already being followed in the case of GTAM. POSOCO and some stakeholders have also raised the same issue.

29. In line with GTAM, participation in GDAC shall be restricted to only those RE generators that are not registered under REC mechanism and sale of power by such RE generator in DAC (unselected bids) would not be eligible for issuance of RECs.

Waiver of ISTS Charges in GDAC

30. POSOCO and other stakeholders have requested to amend the Sharing Regulations to provide for waiver of ISTS charges in GDAC in pursuance with the Ministry of Power order dated 21.06.2021. Further, it has been proposed that till such amendment takes place, ISTS charges shall be applicable in GDAC. We note the submission of the Petitioner that amendment to any of the regulations including the Sharing Regulations is not a pre-condition to the introduction of GDAC. As such, the waiver of ISTS charges and losses shall be governed as per the provision of the Sharing Regulations.

Management of variations by RE Generators

31. Some of the stakeholders have suggested that the RE sellers should be allowed to buy from RTM to manage variations. However, their purchase from RTM should not be used to meet RPO compliance of the Obligated Entities. The Petitioner has submitted that the energy procured from RTM being conventional in nature, should not be considered as green power and counted towards the RPO compliance of the Obligated Entities. However, the balancing of the deemed RPO compliance may be done as per the existing 'RE DSM pool-based mechanism' provided under the DSM

Regulations for Regional Entities and the F&S Regulations of the respective SERCs for intra-State entities. As per this mechanism, any shortfall in the RE generation on a pool basis will be balanced through purchase of equivalent RECs. Alternately, RE generators procuring power from RTM may be asked to buy equivalent number of RECs to balance the deemed RPO compliances. Some of the stakeholders have submitted that RE generators, in order to meet the shortfall, may buy from GTAM.

32. The Commission is of the view that the existing framework for collective transactions does not allow revision in schedule except in case of forced outages. Regulation 6(3) of the Power Market Regulations provides that the Commission may notify any other event in which a generator may buy from the market to fulfill its contractual obligations. Regulation 6(3) of CERC Power Market Regulations is extracted below:

*“(3) In the event of a forced outage of a generating station or unit thereof, **or any other event as may be notified by the Commission**, wherein the obligation of the generating station to supply electricity continues under an existing contract, such generating station may fulfil its obligation under the said contract by entering into a contract(s) covered under clause (1) or (2) or (3) of Regulation 5 of these regulations.”*

33. According to the above-mentioned regulation, separate notification may be issued by the Commission to deal with the situation wherein the obligation of the generating station to supply electricity continues under an existing contract. Accordingly, the proposal seeking flexibility to RE generators to buy from RTM to meet supply obligation under GDAC is beyond the scope of the present petition.

34. In the light of the analysis and decision on the various issues arising out of the proposal for introduction of GDAC Contracts at IEX in the Integrated Day Ahead Market (DAM), the Commission approves the proposal of the Petitioner to introduce GDAC in restricted manner subject to compliance of the directions given in this Order.

35. The Petitioner is further directed to incorporate appropriate provisions in its Bye laws, Rules and Business Rules with respect to introduction of GDAC and submit to the Commission for records within 2 (two) weeks from the date of this order.

36. Petition No. 146/MP/2021 is disposed of in terms of the above.

**Sd/-
(P.K. Singh)
Member**

**Sd/-
(Arun Goyal)
Member**

**Sd/-
(I.S. Jha)
Member**

**Sd/-
(P. K. Pujari)
Chairperson**