

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 169/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: 24th February 2022

IN THE MATTER OF:

Petition under Section 66 of The Electricity Act, 2003 read with the Regulation 25 of the Central Electricity Regulatory Commission (Power Market) Regulations, 2021 for approval of introduction of the Hydropower Contracts in Green Term-Ahead Market (GTAM) at Indian Energy Exchange Ltd. to facilitate Hydropower Purchase Obligation (HPO) compliance of obligated entities.

And in the matter of

Indian Energy Exchange Limited (IEX),
Plot No. C-001/A/1,
9th Floor, Max Towers, Sector 16 B,
Noida

...Petitioner

Vs

Power System Operation Corporation,
B-9, Qutab Institutional Area, Katwaria Sarai,
New Delhi

...Respondent

Parties Present

Mr. Jogendra Behera, Petitioner

Mr. Gaurav Maheshwari, Petitioner

Mr. Subhendu Mukherjee, Respondent

Mr. Alok Mishra, Respondent

ORDER

The Petitioner has filed the present Petition seeking approval of the Commission to introduce Hydropower Contracts in Green Term-Ahead Market (GTAM) on its platform to facilitate the compliance of Hydropower Purchase Obligation (HPO) of the obligated entities.

2. The Petitioner has made the following prayers:
 - a. Accord approval for introduction of proposed Hydropower Contract in GTAM market on IEX platform.
 - b. Accord approval for proposed amendments in Business Rules of IEX for the introduction of Hydropower Contract in GTAM Market.
 - c. Pass such further order or orders as may be considered necessary in the facts and circumstances of the case.
3. The case was called out for a virtual hearing on 27.08.2021 and 30.11.2021.

Submissions by the Petitioner

4. To accelerate the growth of hydropower in the country, the Ministry of Power (MoP) has set a target of 30000 MW hydro capacity addition by 2030. On 8.03.2019, MoP has declared Large Hydro Power Plants (LHPs) with the installed capacity > 25 MW as a renewable energy source. The MoP has also notified Hydro Purchase Obligation (HPO) as a separate category to Non-Solar RPO.

5. As per the guidelines notified by the MoP, HPO may be met from the power procured from eligible LHPs commissioned on and after 08.03.2019 and up to 31.03.2030 in respect of 70% of the total generated capacity for a period of 12 years from the date of commissioning. HPO may also be met out from the free power being provided to the State from such LHPs. In case of any gap, States have to buy the corresponding amount of Hydro Energy Certificates to meet their HPO.

6. State Commissions of Uttar Pradesh, Himachal Pradesh, Haryana and Kerala have already notified HPO for their respective states, while SERCs of Punjab, Chhattisgarh and Odisha have issued draft HPOs. The other States may also come up with similar notifications.

Moreover, approximately 444 MW of hydro generation capacity eligible to fulfill HPO is untied till date. Therefore, it is envisaged that sufficient capacity and demand would be available for the proposed Hydro Contracts at Power Exchange.

7. In continuance of the efforts towards the growth of hydel power sector in the country, the Petitioner proposes Hydropower Contracts in GTAM in addition to existing Solar & Non-Solar Contracts. The Petitioner enlists the following benefits of Hydro Contracts at Power Exchange:

- a) The capacity addition in the hydropower sector has slowed down in the recent past due to various reasons, including the financial constraints and DISCOMs' reluctance to sign long-term PPAs to purchase hydropower.
- b) It is required to give appropriate signals to the market to create an enabling environment to achieve the target of commissioning 30000 MW hydro capacity by the year 2030.
- c) Hydropower is critical for the integration of large capacities of solar and wind power as it supplies balancing power to maintain grid stability.
- d) Gradually, all obligated entities will be mandated to purchase a certain percentage of their energy consumption from hydropower plants commissioned after 08.03.2019.
- e) In pursuance of the above and to further facilitate promotion of hydropower capacity addition and off-take through the market mechanism, Hydropower Contracts in the GTAM will support.
- f) Hydro GTAM Contracts will provide avenues to the existing and prospective Hydro Generators for sale through the exchange platform. The Contracts will provide more options to the Obligated Entities to fulfill their HPO.
- g) It will lessen the burden on hydro rich States to absorb all hydropower generated within the State. Small participants (OA/CPP) can buy hydropower at competitive rates to meet their HPO as well as energy requirement.

8. In the proposed Hydro GTAM Contracts, participants will be able to transact across all time periods, i.e., Intra-day, Day-ahead contingency, Daily and Weekly currently allowed for existing GTAM with the following Contract specifications:

- Minimum volume quotation is proposed as 1 MW, keeping in view the large size of hydro generating stations.
- The exchange may launch National or Regional Contracts based on the market feedback.
- Bidding is proposed based on the quantum (MW) and Price (Rs.) similar to conventional TAM.
- Revision of Schedule, Application for Scheduling, Risk Management, Pay-In & Pay-Out and Bid Matching Mechanism shall be as per the existing procedure of the existing GTAM Contracts.

9. In Hydro GTAM Contracts, large hydropower projects (>25 MW) commissioned after 08.03.2019 will be eligible to participate. To ascertain the eligibility of participation, respective RLDC/SLDCs may issue a Non-Objection Certificate (NoC)/Standing clearance. On the other hand, all the entities which are eligible to procure power through Open Access shall be eligible to participate as a buyer in Hydro GTAM Contracts. A certificate will be issued by the exchange, detailing various trades undertaken by the buyers, which shall be used for meeting their HPO compliance.

Hearing dated 27.08.2021

10. During the hearing of the Petition on 27.08.2021, in response to the specific query of the Commission as to the need for introducing separate Hydro Power Contracts despite already existing Non-Solar Contracts in GTAM, the Petitioner submitted that the proposal to introduce separate hydropower contracts in GTAM to match hydropower sellers and buyers has been made in the wake of MoP's notification on HPO trajectory. In case the Hydro Power Contracts are not introduced as separate contracts and kept in the existing Non-solar Contracts, there is a likelihood that the buyers of non-solar other than hydro segment would end up buying hydropower and vice-versa in the continuous matching mechanism. Thus, a separate purchase obligation in the form of HPO will be difficult to establish in the absence of separate Hydro Power Contracts.

11. After hearing the Petitioner, the Commission admitted the Petition and directed the Petitioner to implead POSOCO as a party to the Petition. The Petitioner was also directed to give wide publicity to the proposed hydro contracts by uploading the same on its website for inviting comments from stakeholders, on which the Petitioner may file its rejoinder.

12. To comply with the directions of the Commission, the Petitioner impleaded POSOCO as a party to the Petition, and also hosted the Petition on its website for inviting Stakeholders Comments. The Petitioner received comments from POSOCO and some stakeholders, namely, (i) Renew Power Private Ltd., (ii) Teesta Urja Ltd., and (iii) Tata Power Delhi Distribution Ltd..

13. The Petitioner has filed a rejoinder responding to the comments received.

Comments of POSOCO & Response of the Petitioner

14. POSOCO has commented that portfolio sales by the Discoms in the proposed Hydro Contracts should not be allowed in accordance with paragraph four (4) of the MoP's O.M. dated 8.3.2019 regarding the eligibility of HPO.

15. The Petitioner has responded that MoP in its O.M. dated 8.3.2019 has not put any specific restrictive condition for sale of surplus hydropower by Discoms. It is settled that obligated entities can meet their RPO through buying renewable power either directly from RE Generators or by purchasing surplus RE Power from the Discoms. A similar approach has been proposed in hydro GTAM to enable the hydro rich Discoms to sell their surplus hydropower to hydro deficit States for fulfilling their HPO.

16. POSOCO has commented that while it is good to have a hydro product in the short-term market, HPO Contracts in TAM alone may not be enough to drive adequate returns on the investments made on the hydro projects.

17. The Petitioner has responded that the proposed hydro GTAM Contracts will provide an additional avenue to eligible hydro generators to sell their power, and to the beneficiaries

purchasing hydropower to meet their small HPO requirements. It will be useful for both buyers and sellers who are not able to enter into long-term agreements.

Comments of Stakeholders & Response of the Petitioner

18. Stakeholders have commented that waiver of ISTS Charges may be provided to the hydro GTAM transactions following the MoP's O.M. which would promote RE development and broaden the market operations.

19. The Petitioner has responded that the Commission is requested to consider waiver of ISTS charges to the hydro GTAM Contracts. However, such waiver is not a pre-requisite for the launch of the proposed Contract.

20. Stakeholders have commented that RE sellers in hydro GTAM contracts may be allowed to buy power from RTM to manage their variations.

21. The Petitioner has responded that the Commission is requested to consider the suggestion of allowing the hydro generators to buy power from the RTM to manage their variations. However, such provision is not a prerequisite for the introduction of the proposed Contract.

22. Stakeholders have commented that Hydro Energy Certificates (HECs) may be issued for the hydropower sold in DAM/RTM.

23. The Petitioner has responded that the Commission is requested to consider the suggestion. However, such provision is not a prerequisite for the introduction of the proposed contract.

24. Stakeholders have sought clarity on the sequence of curtailment based on the source of generation i.e., the inter-se priority of curtailment between Solar, Non-Solar and Hydro transactions and also inter-se priority between Renewable and Conventional bilateral transactions.

25. The Petitioner has responded that the proposed hydro GTAM Contracts will result in bilateral transactions and in that case, it is the RLDC who decides the real-time curtailment as per the Grid Code. However, the Commission may further examine the curtailment based on the source of RE generation.

26. Stakeholders have sought clarity on the definition of the untied power of the LHPs. The stakeholders have requested to include such untied power within the ambit of GTAM Hydro Contracts for the balance period during which their capacity is untied.

27. The Petitioner has responded that the eligibility of the seller to participate in the proposed contract will be ascertained by the RLDC/SLDC while giving NOC to the sellers based on the MoP's directions. The MoP's O.M. dated 8.03.2019 has specified that HPO shall cover all LHPs commissioned after 8.03.2019 as well as the untied capacity of the commissioned projects. However, there is no mention about the untied capacity in the latest O.M. issued on 29.01.2021. Therefore, the Commission is requested to give directions to RLDCs/SLDCs to ascertain the eligibility of Hydro generators while issuing the NOC for sale of power through the GTAM hydro segment.

Hearing dated 30.11.2021

28. During the hearing of the Petition on 30.11.2021, the representative of the Petitioner submitted that under the directions of the Commission vide ROP for the hearing dated 27.8.2021, the Petitioner impleaded POSOCO as the Respondent to the Petition and had also hosted its proposal for introduction of Hydropower Contracts in GTAM on its website vide public notice dated 3.9.2021 seeking comments/ suggestions from the stakeholders by 20.9.2021. In response, the Petitioner has received the comments/ suggestions from three stakeholders, all of whom have given positive feedback and have raised certain additional issues such as waiver of ISTS charges for Hydro GTAM transactions, permitting buying of power from Real-Time Market and eligibility, etc. The Petitioner has already filed an affidavit with a detailed study incorporating the comments/ suggestions of these stakeholders and the response of IEX thereon. He further added that the Respondent, POSOCO in its reply has mainly raised the issue of not allowing

portfolio sale by the Discoms. However, the said issue has already been considered by the Commission while allowing the portfolio sale by Discoms under GTAM and GDAM.

29. The representative of the Respondent, POSOCO, submitted that the respondent has already filed its reply, which may be taken into the consideration. He further submitted that the limited concern of the Respondent is that in case of portfolio sale by hydro-rich States, the power sold is from a mix of generators and it becomes difficult to identify and tag such power as hydropower. The representative of POSOCO further submitted that it is difficult for them to ascertain the actual despatch of such power from the point of injection from where the Discoms are selling the power. Accordingly, SLDCs may be directed to provide the point of injection in the NOCs themselves so that the source of power can be traced, and non-transparency can be avoided.

30. In response to the specific query of the Commission regarding the Petitioner having any means to ascertain the eligibility of Hydro Power Projects as per the MoP's letter dated 29.1.2021, the representative of the Petitioner replied in the negative and submitted that for the above purpose, the exchange has to rely upon the NoCs to be issued by the concerned SLDCs. In response to the further observation of the Commission regarding any mandate under which the SLDCs may provide such certification verifying the various eligibility criteria, the representative of the Petitioner submitted that in the case of GTAM, based on the direction of the Commission, source of renewable energy is being mentioned by RLDCs/SLDCs in the NoCs being granted.

31. Considering the submissions made by the representative of the Petitioner and the Respondent, the Commission reserved the matter for order.

Analysis and Decision

32. The Petitioner has proposed to introduce Hydropower Contracts in the existing Green Term Ahead Market (GTAM) on its platform for exclusive trading of hydro energy. The Petitioner has submitted that the proposed contract will provide an additional avenue to the eligible hydro generators for sale of hydro energy and obligated entities to fulfill their Hydro Purchase Obligations (HPOs). The Petitioner has highlighted that the proposed contract will

provide a market-based mechanism where hydro surplus and hydro deficit States can trade hydro power and balance their HPO targets. The Petitioner has also submitted that this proposal would lessen the burden on hydro-rich States and incentivize them to develop hydro capacity beyond their own HPO. The proposed contract will enable obligated entities to procure hydro power at competitive prices at the power exchanges. The Petitioner has also highlighted that the proposed contract will promote hydro merchant capacity addition which will eventually help in achieving hydro capacity addition targets of the country.

33. In pursuance of the directions of the Commission, the Petitioner has carried out stakeholder's consultation and submitted its point-wise reply to the comments/suggestions given by the stakeholders. Further, the Petitioner has also impleaded POSOCO and submitted its point-wise reply to the observations made by POSOCO.

34. We have considered the submissions of the Petitioner, and the comments/suggestions of the stakeholders along with the reply of the Petitioner. We observe that there are no objections by stakeholders to introduction of Hydro GTAM Contracts at the exchange platform, though the stakeholders have sought clarity on some points. We agree with the submissions of the Petitioner that the introduction of Hydropower Contracts in existing GTAM at the power exchange will provide an additional avenue to the existing and prospective Hydro Generators to sell the hydro power at the exchange platform. Through the Hydro GTAM Contracts, the obligated entities would be able to procure hydro green power and thus be able to meet their HPO requirements. In the long-term, it may promote hydropower capacity.

35. Considering the above, we are of the view that, grant of approval to the Petitioner to introduce Hydropower Contracts in existing GTAM on its platform can be considered. However, before according the approval, it is necessary to examine the comments/suggestions received from the stakeholders including POSOCO during the stakeholders' consultation. The different aspects of the proposed contract have been dealt with in the succeeding paragraphs keeping in view the submissions made by the Petitioner and comments/suggestions given by the stakeholders.

(i) HPO fulfillment through Hydropower contracts in GTAM

36. The Petitioner has submitted the proposal for introducing Hydropower Contracts in existing GTAM on its platform for trading of hydro energy on short-term basis. The Petitioner has proposed separate window for Hydro Contracts (other than Solar and Non-Solar) in GTAM so that the procurement of hydro power by the obligated entities through the exchange platform can be differentiated and the buyer of such hydropower can be considered for meeting HPO.

37. We agree with the proposal of the Petitioner to introduce separate window for Hydropower Contracts in existing GTAM along with the already existing windows for Solar and other Non-Solar Contracts. A dedicated window for Hydro Contracts in GTAM will facilitate the matching of hydro buy bids with hydro sell bids. Also, the obligated entities procuring RE through Hydropower Contracts through the proposed separate window in the GTAM shall be eligible for meeting their HPO in view of the fact that only Hydropower with green attributes shall be available for sale through such window. Further, as the transactions through GTAM are bilateral in nature with clear identification of corresponding buyers and sellers, there will not be any difficulty in accounting for HPO.

(ii) Type of Contracts

38. The Petitioner has proposed for Intraday Hydro Contract, Day Ahead Contingency Hydro Contract, Daily Hydro Contract and Weekly Hydro Contract. The intraday contract will allow trading for delivery of electricity on the same day, Day Ahead Contingency for delivery in the next day, Daily Contract for delivery on a daily basis during T+2 to T+10 days, and Weekly Contract for delivery during the forthcoming week from Monday to Sunday. The Petitioner has proposed these contracts to be of 15-minutes duration or multiples thereof.

39. As regards the duration of contracts, as the proposed hydro contracts are on the same lines as the existing contracts under GTAM, we allow the Petitioner to introduce Intraday Hydro Contract, Day Ahead Contingency Hydro Contract, Daily Hydro Contract and Weekly Hydro Contract in GTAM. We also agree to the proposal of 15-minute contracts or combination thereof likewise they are currently being offered in the Solar and Non-Solar windows of GTAM.

(iii) Price Discovery Methodology and Matching Rules

40. The Petitioner has proposed that for Hydro GTAM contracts, the bidding will take place based on 15-minute quotation of quantity (MW) and price (Rs/MWh). The price discovery and matching of the bids will take place on the basis of 'Continuous Trade' for Intraday, Day Ahead Contingency and Daily Contracts. The Petitioner proposed matching of the bids on the basis of 'Continuous Trade' or 'Uniform Price Step Open Auction' for Weekly contracts.

41. We agree with the Petitioner's proposal for price discovery methodology and matching rules for the hydro GTAM contracts. The methodology proposed by the Petitioner is the same as that of the methodology followed in the existing Term Ahead Market.

(iv) Portfolio Sale by Discoms

42. POSOCO has expressed concern that in case of portfolio sale by a Discom, the power sold is from a mix of generators and it is not possible for them to identify and tag this power as hydro power. Hence, such sale of power cannot be used for fulfillment of HPO by the buyer. The Petitioner, in its reply, has submitted that the sellers participating in the Hydro GTAM 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 hydro power and that it will go towards the fulfillment of HPO compliance of the buyer.

43. We note that for existing GTAM contracts, details of source and quantum etc. are being mentioned in the NOCs issued to RE generators by the respective SLDCs/RLDCs. We further note that to meet their HPO, buyers have to procure hydro power from the LHPs >25 MW commissioned on and after 08.03.2019 and up to 31.03.2030. Therefore, initially, such hydro power plants which are commissioned on and after 08.03.2019 and upto 31.03.2030 and having installed capacity greater than 25 MW, would be able to participate in Hydro Contracts of GTAM. In this regard, the eligibility of hydro power project to participate in hydro segment of GTAM shall be ascertained by the respective RLDC/SLDCs, while issuing the NOC/eligibility certificate. Moreover, respective RLDCs/SLDCs are directed to provide the point of injection in the NOC itself so that the source of power and actual dispatch from that source can be traced in a transparent manner, as being done in case of existing GTAM.

(v) Waiver of ISTS charges and losses

44. Some stakeholders have suggested for waiver of transmission charges and losses for the transactions under Hydro GTAM Contracts.

45. We note that waiver of inter-State transmission charges and losses for RE generation are available in accordance with provisions of the CERC (Sharing of Inter-State Transmission Charges and Losses Sharing) Regulations, 2020. Any such waiver shall be admissible to the entities which fulfill the conditions specified under the Sharing Regulations.

(vi) Buying power at RTM to manage variations

46. Some stakeholders have suggested that RE sellers in Hydro GTAM Contracts may be allowed to buy power from RTM to manage their variations.

47. We note that Regulation 6(3) of PMR 2021 provides as under:

“(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.”

48. Thus, the suggestions of the stakeholders have to be dealt in accordance with Regulation 6(3) of PMR 2021 as cited above. As per the said regulation, a separate notification may be issued by the Commission to deal with a situation (other than the event of forced outage of a generating station or unit thereof) wherein the obligation of the generating station to supply electricity continues under an existing contract. The proposal of the Petitioner requires detailed examination as it will have implications on the existing scheduling and accounting practice as have been pointed out by some of the stakeholders in their comments. Accordingly, we hold that the proposal of the Petitioner seeking flexibility to RE generators to manage their variation by buying from RTM is beyond the scope of the present petition.

(vii) Hydro Energy Certificates

49. Some stakeholders have suggested that Hydro Energy Certificates (HECs) may be issued for the hydropower sold in DAM/RTM.

50. We hold that the same is beyond the scope of the present Petition.

(viii) Sequence of Curtailment

51. Some stakeholders have sought clarity on the sequence of curtailment based on the source of generation i.e., the inter-se priority of curtailment between Solar, Non-Solar and Hydro transactions and also inter-se priority between Renewable and Conventional bilateral transactions.

52. We direct that the inter-se priority of curtailment between Solar, Non-Solar and Hydro transactions and also inter-se priority between Renewable and Conventional bilateral transactions shall be governed by the CERC (Open Access in inter-State Transmission) Regulations, 2008 or the CERC (Indian Electricity Grid Code) Regulations, 2010, as amended from time to time, or any other applicable regulations in force as notified by the Commission and the Procedure for Scheduling of Bilateral Transactions therein, as the case may be.

53. In the light of the analysis and decision on the various issues arising out of the proposal for introduction of Hydropower Contracts in GTAM, the Commission approves the proposal of the Petitioner to introduce Hydropower Contracts in GTAM subject to compliance of the directions given in this Order.

54. The Petitioner is directed to incorporate appropriate provisions in its Bye-laws, Rules, and Business Rules concerning the introduction of Hydropower Contracts in GTAM and submit to the Commission for records within 2 (two) weeks from the date of this order.

55. Petition No. 169/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**

