KERALA STATE ELECTRICITY REGULATORY COMMISSION
THIRUVANANTHAPURAM

No. 230/Con.Engg/ 2023/ KSERC Dated 7th August, 2024

NOTIFICATION

In exercise of the powers conferred under sub section (1) of Section 181, read with clause (e) of sub section (1) of Section 86 of the Electricity Act, 2003 (Central Act 36 of 2003), and all other powers enabling it in this behalf and after previous publication; the Kerala State Electricity Regulatory Commission hereby makes the following Regulations to amend the Kerala State Electricity Regulatory Commission (Renewable Energy and Net Metering) Regulations, 2020, namely: -

KERALA STATE ELECTRICITY REGULATORY COMMISSION (RENEWABLE ENERGY AND NET METERING) (SECOND AMENDMENT) REGULATIONS, 2024

1. Short title and commencement.-

(1) These Regulations shall be called the "Kerala State Electricity Regulatory Commission (Renewable Energy and Net Metering) (Second Amendment) Regulations, 2024".

(2) It shall come into force from 01.04.2024.

2. Amendment in the Principal Regulations.- In the Kerala State Electricity Regulatory Commission (Renewable Energy and Net Metering) Regulations, 2020, the following Amendments are made:-

(1) Amendment to Regulation 2.–In sub regulation (1) of Regulation 2,–

(i) after clause (w), the following clauses shall be inserted, namely:-

"(wa) **'Energy Storage Systems'** or **'ESS'** means the technology that store energy generated from various sources and can be drawn upon at a later time to perform useful operation when needed, contributing to a more reliable and efficient power supply;

(wb) **'Energy Storage Obligation'** or **'ESO'** means the obligation of the entity to store the energy from RE sources, which shall be calculated in terms as a percentage of total consumption of electricity and shall

be treated as fulfilled only when at least 85% of the total energy stored in ESS is procured from renewable energy sources, on annual basis;";

(ii) for clause (aea), the following clause shall be substituted, namely:-

"(aea) **"Hydro Power Obligation"** or **"HPO"** means the obligation of an entity to purchase electricity generated from Hydro Power Projects (HPPs) including Pumped Storage Projects and Small Hydro Projects which has come into commercial operation after 08.03.2019;";

(iii) after clause (am), the following clause shall be inserted, namely:-

"(ama) "**Net-Billing or Net feed-in**" means a single bidirectional energy meter used for net-billing or net feed-in at the point of supply wherein the energy imported from the Grid and energy exported from Grid Interactive rooftop Solar photovoltaic system of a Prosumer are valued at two different tariffs, where;

(i) the monetary value of the imported energy is based on the applicable retail tariff;

(ii) the monetary value of the exported solar energy is based on feed-in tariff determined by the Commission;

(iii) the difference between monetary value of the exported energy and the monetary value of the imported energy shall be used to arrive at the net amount to be billed (or credited / carried-over).";

(iv) after clause (aw), the following clause shall be inserted, namely:-

"(awa) '**Other RPO'** means the obligation of the entity to purchase electricity generated from RE power projects other than; Wind Power Projects accounted for WPO and Hydro Power Projects (including PSPs and Small Hydro Projects (SHPs)) accounted for HPO;";

(v) after clause (bc), the following clause shall be inserted, namely:-

"(bca) **'Pumped Storage Projects' or 'PSP'** means a hydro power project which generates power through water stored as potential energy, pumped from a lower elevation reservoir to a higher elevation reservoir, either during lean seasons when storage/ inflow into the upstream reservoir is inadequate or on a round the year basis in cases where catchment area is small or nil, by having a reservoir at the downstream with adequate capacity to

store water for pumping;";

(vi) for clause (bg), the following clause shall be substituted, namely:-

"(bg) **'Renewable Energy System'** means the power plant and connected systems, generating grid quality electricity from renewable energy sources;";

(vii) for clause (bi), the following clause shall be substituted, namely:-

"(bi) '**Renewable Source of Energy'** means the energy source for the generation of electricity from renewable energy sources such as small hydro, large hydro with capacity above 25 MW, wind, solar including its integration with combined cycle, biomass, bio fuel cogeneration, urban or municipal solid waste and such other energy sources approved by the MNRE as renewable energy source;";

(viii) after clause (bu), the following clause shall be inserted, namely:-

"(bv) 'Wind Power Obligations' or **'WPO'** means the obligation of the entity to purchase electricity generated from Wind Power Projects (WPPs) commissioned after 31st March, 2022;".

(2) Amendment to Regulation 3.–In Regulation 3, after Table 1, the following Table shall be inserted, namely: -

Table: 1(a)

Financial Year	Quantum of generation and/or purchase from Renewable Energy Sources and the quantum of energy to be stored in ESS, as a (%) of the total consumption (in terms of energy in kWh)				
	HPO	WPO	Other RPO	**Total RPO**	**ESO**
2024-25	2.20	1.20	33.60	37.0	0
2025-26	2.40	1.75	37.85	42.0	0.15
2026-27	2.80	1.80	41.40	46.0	0.50
2027-28	3.50	1.90	42.60	48.0	0.75
2028-29	3.90	2.00	43.10	49.0	1.00
2029-30	4.20	2.20	43.60	50.0	2.00

(3) Amendment to Regulation 4.–In Regulation 4, for sub regulation (i) the following sub regulation shall be substituted, namely: -

"(i) Every distribution licensee shall meet the renewable energy obligation at the percentage specified in Table 1 and Table 1(a) above:

Provided that the energy, if any, generated by the distribution licensee from the renewable sources of energy and supplied to its consumers shall be accounted towards its renewable purchase obligation:

Provided further that the hydro power generated or purchased in excess of the Hydro Power purchase obligation may be accounted towards meeting any deficit in achieving the WPO or Other RPO for that year:

Provided also that Hydro Power Projects other than those commissioned after 8th March, 2019 will be considered as part of RPO under the category of 'Other RPO':

Provided also that any shortfall in the achievement of Wind RPO in a particular year can be met with, either from the excess energy consumed beyond the HPO or from the Other RPO or partly from both;".

(4) Amendment to Regulation 5.– In Regulation 5,-

(i) for the words "Table 1 above" the words "Table 1 and Table 1(a) above" shall be substituted;

(ii) for the second proviso, the following proviso shall be substituted, namely:-

"Provided further that the solar energy, if any, generated and consumed by the captive consumer in excess of their Other RPO may be accounted towards its HPO or WPO:".

(5) Amendment to Regulation 6.– In sub regulation (1) of Regulation 6,-

(i) for the words "Table 1 above" the words "Table 1 and Table 1(a) above" shall be substituted;

(ii) for the second proviso, the following proviso shall be substituted, namely: -

"Provided further that the solar energy, if any, generated and consumed by the open access consumer in excess of their Other RPO may be accounted towards its HPO or WPO:".

(6) Amendment to Regulation 8.– In Regulation 8, the sub regulations (2) and (3) shall be omitted and the sub regulations (4) and (5) shall be renumbered as sub regulations (2) and (3).

(7) Amendment to Regulation 10.– In Regulation 10, under sub regulation (1) the following proviso shall be inserted as second proviso, namely: -

"Provided further that;

(i) the Renewable Purchase Obligation specified in Table-1, upto the financial year 2021-22 will be governed by the Kerala State Electricity Regulatory Commission (Renewable Energy and Net Metering) Regulations, 2020, as it stood prior to these amendments;

(ii) for the financial years 2022-23 and 2023-24, Renewable Purchase Obligation will be governed by the Kerala State Electricity Regulatory Commission (Renewable Energy and Net Metering) (First Amendment) Regulations, 2022, as it stood prior to these amendments; and

(iii) the Renewable Purchase Obligations for the financial years from 2024-25 to 2029-30 will be governed by these Regulations, as amended under Kerala State Electricity Regulatory Commission (Renewable Energy and Net Metering) (Second Amendment) Regulations, 2024.".

(8) Amendment to Regulation 13.– In Regulation 13, after clause (a) of sub regulation (2), the following explanation shall be inserted, namely:-

"Explanation:

The AC output capacity rating of the solar inverter or 85% of the total Solar PV panel capacity, whichever is high, shall be taken as the capacity of solar plant for the purpose of connectivity. The Solar inverters installed by the prosumers shall comply with IEC 62109-2:2011 or BIS-certified solar inverters complying with the relevant safety standards.".

(9) Amendment to Regulation 14.– In Regulation 14, for sub regulation (2) the following sub regulation shall be substituted, namely: -

"(2) The cumulative capacity of distributed energy systems allowed to be interconnected with the distribution network shall not exceed 90 % of the distribution transformer capacity as the case be:

Provided that the distribution licensee shall publish the individual transformer capacities and the Renewable Energy Systems connected to their respective transformers, section wise, not later than 5th of every

month in the distribution licensees respective section offices and also in the licensee's website. The Commission may review these provisions after completion of two years from the date of notification of these Regulations. ".

(10) Amendment of Regulation 33.– In Regulation 33, for sub regulation (1) the following sub regulation shall be substituted, namely: -

"(1) The Control Period or Review Period under these Regulations shall be up to the financial year 2024-25, starting from the financial year 2019-20:

Provided that the tariff determined as per these Regulations for the Renewable Energy Projects commissioned during the Control Period, shall continue to be applicable for the entire duration of the Tariff Period as specified in Regulation 34 below. ".

By Order of the Commission

Sd/-

C R Satheeshchandran

Secretary

Explanatory Memorandum

(This does not form part of the notification, but is intended to achieve its general purport)

1. Section 86(1) (e) of the Electricity Act, 2003 authorizes the State Electricity Regulatory Commission to promote co-generation and generation of electricity from Renewable Source of Energy by providing suitable measures for connectivity with the grid and sales of electricity to any person and specify for the purchase of electricity from such sources a percentage of the total consumption of electricity within the area of the distribution licensee. Accordingly, the Commission has notified the KSERC (Renewable Energy and Net Metering) Regulations, 2020 on 07th February, 2020. Further, it was amended on 15th July, 2022.

2. Ministry of New and Renewable Energy, Government of India, intimated that our country has set an ambitious target of 500GW of non- fossil fuel-based energy capacity by 2030. For achieving the ambitious target of 500GW of non-fossil fuel-based energy, Ministry of Power (MoP) vide Order dated 22nd July, 2022 has issued the RPO trajectory for the FY 2022-23 to FY 2029-30. In the said order, MoP has introduced Wind RPO and also specified that the Wind RPO shall be met only by energy produced from wind Power Projects commissioned after 31st March, 2022. The Solar RPO has been merged with Other RPO in the aforesaid order of MoP. Further, Energy Storage Obligation (ESO) has been specified by MoP in the Order dated 22nd July, 2022. Further, as per the State Climate Change Action Plan 2.0, the objective is to achieve 100% reliance on RE sources by the year 2040, and to attain net zero emissions by the year 2050.

3. Government of India, Ministry of Power (MoP), has notified the Electricity (Rights of Consumers) Rules, 2020. Further, the consumer rules were amended in 28th June, 2021, which is regarding renewable energy related matters. The definition for ‘net billing or net feed-in’ from the Rights of Consumers, Rules has been incorporated in this proposed draft regulation.

4. Many stakeholders have raised the issue that the licensee is not considering diversity factor for the conversion of connected load to contract demand. Further, it is also seen that the licensee is taking sanctioned connected load or contract demand of the consumer instead of considering the AC output of the solar inverter in kW, for the purpose of RE connectivity.

5. A reference has been received from the Government of Kerala, based on a request raised by ANERT to revise the limitation set by the Commission for the loading of distribution transformer from 75% to 100%, for the purpose of RE connectivity.

6. Further, the Control Period or Review Period for determination of tariff for the electricity generated from renewable Energy Sources under Chapter –IV of the KSERC (Renewable Energy and Net Metering) Regulations, 2020, is valid upto the financial year 2023-24 only.

7. To address the matters indicated above, the Commission has published the Draft Kerala State Electricity Regulatory Commission (Renewable Energy and Net Metering) (Second Amendment) Regulations, 2024 on 29th January, 2024, for inviting stakeholder comments and objections. To enhance transparency and to improve the informed stakeholder participation, the Commission has also published detailed explanatory memorandum along with the draft Amendment Regulations, which details the facts and circumstances led to the publication of the draft. Further, the Commission conducted public hearings on the draft on 20.03.2024 and 15.05.2024. After considering all the suggestions and objections received from the stakeholders, the Commission approved the Kerala State Electricity Regulatory Commission (Renewable Energy and Net Metering) (Second Amendment) Regulations, 2024 and decided to publish the approved amendment in the Official Gazette. The Statement of Reasons for finalizing these amendments is published separately.