

KARNATAKA ELECTRICITY REGULATORY COMMISSION
No. 16 C-1, Miller Tank Bed Area, Vasanth Nagar, Bengaluru- 560 052

Dated:11.06.2024

Present:

Shri P. Ravi Kumar	..	Chairman
Shri H.K. Jagadeesh	..	Member (Legal)
Shri. Jawaid Akhtar	..	Member

In the matter of:

Determination of Tariff and norms in respect of Solar Power Projects (including Solar Rooftop Photovoltaic Projects) for FY25.

ORDER

a) Preamble:

1. Section 86(1)(e) of the Electricity Act, 2003 mandates State Electricity Regulatory Commissions to promote electricity generation from renewable sources. This aligns with the broader national goal of fostering renewable energy. KERC, determines feed-in tariffs periodically for different control periods, based on normative operational and financial parameters.
2. Section 61(h) empower the Commission to specify terms and conditions for tariff determination and section 62(1)(a) provides for determination of tariff for supply of electricity by a generating company to a distribution licensee.
3. Section 64 provides the procedure for determining tariff for generating companies or licensees.

4. The Commission, in its Tariff Order dated 01.06.2023, had determined specific tariff rates for solar power projects, including solar rooftop photovoltaic projects, for FY24. These rates were applicable for the entire life of the projects (25 years) and were effective from April 1, 2023 to March 31, 2024. The Commission set levelized tariff rates, such as Rs.3.66 per unit for megawatt-scale solar projects and Rs. 3.74 per unit and Rs.4.50 per unit for specific scales of solar rooftop photovoltaic projects. These rates were applicable to projects commissioned on or after April 1, 2023 as per the PPA terms.
5. In order to encourage installation of SRTPV units in the State, earlier the Commission has allowed installation of SRTPV on Government Buildings, Multiple SRTPV units on consumer premises, and various other models through third party investments by prescribing timelines to implement various activities.
6. As per Section 61(a) of the Electricity Act, 2003, the Commission is guided by the Regulations issued by the CERC in the matter of transmission and generation tariffs. In so far as tariff for solar PV or SRTPV is concerned, the CERC Regulations indicate the parameters only in respect of project specific cases. Hence, for the purpose of determining the generic tariff of solar PV/SRTPV, the Regulations issued by the CERC are not being considered and wherever necessary they are being taken as guiding factor.
7. The Commission has noted that as on 31.03.2024, the State has an installed Solar Power Generation capacity of 6145.8 MW under PPA mode both Grid Connected ground mounted solar photovoltaic and rooftop solar photovoltaic plants. That, the investments in solar rooftop installations has not been encouraging as could be seen from the fact that, out of this SRTPV plants/units of only 555.80 MW capacity have been installed and commissioned. Further, bulk

of these projects pertain to MW scale rooftop projects indicating that smaller consumers have not shown much interest in installing SRTPV units, even though the potential for installation of small capacity SRTPV units especially by domestic consumers is substantial and their installation benefits both the consumers and the distribution licensees.

8. The distribution licensees have been procuring energy from MW Solar Power Projects through a transparent process of Competitive Bidding, using the Commission determined tariff as a bench mark. The Commission is required to determine the generic tariff for solar power projects (including Solar Roof top Projects). Since, the control period of the Order dated 01.06.2023 of Generic Tariff of Solar Projects was valid upto 31.03.2024, the Commission was required to determine the Generic Tariff in respect of Solar Projects to be given effect from 1st April, 2024. Hence, the Commission issued a Discussion paper on 12.03.2024 inviting suggestions/views/objections from the stakeholders.
9. In response to the said Discussion paper issued by the Commission, various stakeholders including some of the ESCOMs have submitted their written comments/views/suggestions. The Commission has considered some of the suggestions relating to Operational and Financial Parameters, for determining the tariff and has also noted other views/suggestions submitted by the stakeholders.
10. A public hearing was also held on 30.04.2024 to enable the stakeholders to express their views/opinion in the matter. The stakeholders who participated in the hearing, made their oral submissions before the Commission. The list of stakeholders who filed their comments/suggestions and those who made oral submissions in the public hearing is given in the Annexure, to this Order. The

decisions of the Commission on the suggestions relevant to the issue, are discussed in the relevant paras of this Order.

11. After duly considering the written and oral submissions made, the Commission, in exercise of powers conferred under section 62(1)(a), read with section 64 and 86(1)(e) and other enabling provisions of the Electricity Act, 2003, hereby passes this Order.

12. Scope of the present Tariff Determination:

The tariff determined in this Order is applicable to all grid connected Solar Rooftop Photovoltaic generators (SRTPV) registered consumers who can install the rooftop upto the sanctioned load including 1kW to 10 kW SRTPV units, entering into power purchase agreements (PPA) with Distribution Licensees, on or after 01.04.2024 and would remain in force until 31.03.2025. This Order is also applicable for the procurement of energy from MW scale Solar Power Projects and also MW scale solar projects with BESS done through transparent process of competitive bidding, using the Commission determined tariff, as a bench mark. The discussion and decisions on the operational and financial parameters, for determination of tariff for the above plants are brought out in the following paragraphs.

Determination of Tariff for Solar Rooftop Photovoltaic (SRTPV) for kW scale and bench mark tariff for ground mounted MW scale projects.

i) Life of the Plant:

The Commission had proposed in the discussion paper, the useful life of Solar Power Plant as 25 years, for the purpose of determination of tariff.

Commission's Decision:

The Commission notes that as of now there are no grid connected solar Plants of MW/kW scale in India which have completed their assumed useful life of 25 years. However, considering the life assured by the manufacturers /developers and the life considered by other Commissions in the country, the Commission decides to retain that the useful life of the plant shall be 25 years.

ii) Term and Tariff design:

In order to provide certainty of cash flows to the investors, the Commission proposed in the discussion paper, the terms and levelized tariff for 25 years, to execute the PPA.

Commission's Decision:

No stakeholders have suggested the term of the PPA to be less or more than 25 years. Hence, the Commission decides to adopt levelized tariff for 25 years, to execute the PPA.

iii) Degradation Factor:

In the Discussion paper, the Commission has proposed the degradation factor as 0.5% of net generation as annual degradation factor commencing from fifth year onwards, for MW scale projects and has not considered the same for SRTPV.

BESCOM has proposed not to consider the degradation factor as 0.5% since, other ERCs/CERC have not considered the degradation factor during the determination of tariff for Solar PV Plants.

KREA has proposed to allow degradation of 1% per year subject to a maximum of 20% in 20 years.

Power Gate Energy, Mysore, has proposed the degradation factor for Rooftop and MW Scale plants as 0.5% from 1st year onwards.

Commission's Decision:

The Commission, in its earlier Orders has considered reduction of 0.5% of net generation as annual degradation factor commencing from fifth year onwards, for MW scale projects. The same has not been considered for the SRTPV projects.

The stakeholders have not furnished any document to establish the degradation factor.

The Commission notes the significance of the degradation factor affecting the various aspects of PPAs for large-scale solar projects. The Commission also notes that in the MW scale projects, the energy provider has to make the accurate estimation of energy and provide guarantee for the energy output and hence, the Commission, to ensure the said agreement remains fair and sustainable for both the parties involved, decides not to consider the degradation factor in MW scale projects.

iv) Capacity Utilisation Factor: (CUF)

In the Discussion Paper, the Commission has proposed a CUF of 19% for all the Solar Power Plants.

The PCKL has proposed to consider CUF of 21% instead of 19% for solar ground mounted projects.

The BESCOM has proposed the capacity utilization factor as 21% for solar PV plants, 23%, for solar thermal plants and 19% for solar floating plants.

Ravishankar S, Ampocit proposed to reduce the CUF below 19% for floating solar plants.