Shani Prasad -comments on RE Tariff Regulations- S P Joshi Comments

To,

The Secretary,
Central Electricity regulatory Commission,
3rd & 4th Floor, Chander lok Building,
36, Janpath, New Delhi- 110001

Date 24-02-2024

Sub: comments on draft CERC (T& C for Tariff determination from RE sources) Regulations, 2024. for control period 2024-29

Sir,

The CERC ('Commission') has placed on its web site the Central Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2024. for control period 2024-29 for comments by 14/03/24. I am submitting comments thereon for the reference of the Commission. Suggested changes are highlighted in bold. I shall not take part in hearing.

2. Reg.2(1)(ff): Only solid state or flow batteries are covered by the defintion. Presently most prevalent battery storage is by lithium-ion batteries. Sodium ion storage batteries are under offings. These are liquid electrolyte type storage batteries and are not solid state or flow batteries. **It is suggested that definition should cover these and before words 'solid state batteries' words 'liquid electrolyte based batteries" may kindly be added.**

3. Reg. 2(1)(hh): Useful life vide this definition, does not specify useful life of batteries. Useful life of batteries is not also specified in the CERC (Terms and Conditions of Tariff) Regulations, 2019 (or its amendment). Battery price and inverter price will be predominant component of battery storage system and their useful life is much less than 25 years of wind /solar power plant. These are to be replaced during the project life of solar power plant. Depreciation @5.34% will not be financially adequate. **It would be appropriate to specify useful life of components of battery storage projects ,namely, Lithium ion / sodium ion / solid state batteries and inverters and to consider depreciation charges for them separately or to considered it based on data available while considering project specific petition but useful life to be not less than 5 years for batteries and 10 years for inverters. Alternatively their replacement to be considered towards additional capitalisation.**

4. Reg. 2(1)(hh)(x): At sr.no. x of Reg 2(1)(hh) useful life of 'renewable with storage project' is specified as "Same as the Useful Life of the project, assuming that there is no storage". It is submitted that this assumes that there will be a composite project having of RE power plant and storage facility (near or away from power plant). It does not conceive standalone storage facility which may operate on power supply from RE power plants of different technology and supplying back the stored power to them under contract agreements between storage facility developer and beneficiary generating companies. **To cover both types of storage system, it would be appropriate to specify useful life of storage project as 25 years.**

5. Reg 3 and 4- scope and extent of application and eligibility.: Section 62 of the electricity Act 2003 read with sec 61 provides for the Commission to determine tariff as per its regulations and Section 63 provides for adoption of the tariff if such tariff has been determined through transparent process of bidding in accordance with the guidelines issued by the Central Government. The Govt. of India has issued competitive bidding guidelines for solar and wind power projects.Under section 3 of the Electricity Act 2003, Govt. of India has notified Tariff Policy on 28.1.2016. Clauses 5.3, 6.1 and 6.4(2) of the tariff policy 2016 provides for determination of the tariff of all new generation projects of the Central Government companies on the basis of competitive bidding unless otherwise specified by the Central Government on case to case basis and also power procurement for future requirements through a transparent competitive bidding mechanism using such guidelines and it also specify that the States shall endeavor to procure power from renewable energy sources through competitive bidding and the procurement of power by distribution licensees from renewable energy sources projects above the notified capacity through competitive bidding process. The proposed regulations accordingly specify vide reg 7 for determination of the project specific tariff only for solar and wind power projects. **As per provisions of the electricity Act read with Tariff policy, determination of the project specific tariff can be undertaken only where Central govt has not specifically provided for competitive bidding or its guidelines or has relaxed the provisions of competitive bidding for each specific case**. **This is thus the prerequisite of determination of project specific tariff by the commission and it needs to be incorporated in reg 3, 4 and 7.**

6. Reg 6 and 7- option for project specific tariff: Reg 6 provides for generic tariff determination for (a) Small hydro project,(b) Biomass power project with Rankine cycle technology,(c) Non-fossil fuel based co-generation project,(d) Biomass gasifier based power project, (e) Biogas based power project and (f) Municipal Solid Waste based power projects and Refuse Derived Fuel based power projects; Reg 7 ,interalia, provides for project specific tariff determination for (i) Biomass gasifier based power projects ,(ii) biogas based power projects and (iii)Municipal solid waste based power projects and (iv)refuse derived fuel based power projects, if a project developer opts for project specific tariff; Thus in respect of four categories of the projects (underlined above) developer will have option to accept generic tariff or petition for project specific tariff. In practice, developer or group of developers will seek project specific tariff to have higher than generic tariff and not for lower tariff. However, economy of scale, results in lower tariff for large capacity power plants and only small capacity power plant may find generic tariff to be non remunerative., In view of this, **it would be appropriate that instead of proposed provision, generic tariff should apply to projects up to specified capacity (say 20 - 25MW) and beyond this capacity, project specific tariff determination should be undertaken and only for smaller capacity (say below 1 MW), developer should have option to seek project specific tariff determination**.

7. Reg 11: This regulation provides that generation, in a given year, in excess of the capacity utilization factor or plant load factor, as specified, may be sold by the renewable energy generator to any entity, subject to first right of refusal vesting with the concerned beneficiary at the tariff applicable for that year. It is submitted that renewable energy generation by wind and solar is nature dependent and for them, CUF specified by the regulations is a long term average. **In consideration to vagaries of nature, provision of this regulation should have sum permitted variation from CUF /PLF that is, its provision should apply only for generation in excess of normative CUF (in %) +**

allowable % variation (say 5%). For example, if normative CUF is 20% then this provision will come into operation beyond 20%+5%=25%.

8. Reg 23: This regulation provides that the renewable energy project developer shall recover from the beneficiaries, the statutory charges imposed by the State and Central Government, such as water cess, and electricity duty on auxiliary consumption, subject to the maximum of normative auxiliary consumption. It is submitted that in the determination of generic / project specific tariff, some levies would be considered or covered in specified parameters as part of capital cost or O&M expenses or income tax and as such for them recovery will be covered as and when change in law takes place. As such, **in this regulation it is to be clarified that changes in statutory levies vis-à-vis not specifically covered in the specified parameter or commission's order shall only be recoverable.**

9. Reg. 32: Reg 13 specifies debt-equity ratio of 70:30 to be considered for determination of generic tariff and project specific tariff. Reg 32(3) provides that repayment for each of the years of the tariff period 2024-29 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. Thus, this regulation provides reduction of normative loan by the depreciation but depreciation in excess of 70% of the capital cost is allowed to be retained by the company. This is undue enrichment for the developer as for new project to be set up on expiry of useful life, there will be the separate financial structure of debt and equity. **The regulation 32 should provide that after normative loan is so repaid fully, depreciation provided thereafter shall be utilised for capital additions (for refurbishing, renovation and modernisation) and balance will notionally reduce the equity to be considered for return on equity.**

10. Reg. 72(1): This regulation specify the minimum efficiencies for storage based on the technology of solid state batteries shall be 80% and the minimum efficiency for storage based on the technology of pumped storage shall be 75%: **Thus this regulation does not cover all storage technologies , namely, liquid electrolyte batteries (I,e, lithium ion, sodium ion batteries), flow batteries, fuels cell etc. Minimum efficiencies for these should be specified.**

10. Reg 74: This regulation specifies that the tariff for renewable energy with storage project shall be a composite tariff or differential tariff based on the time of day, determined for energy supplied from the Project, including the energy supplied from the storage facility on round the clock basis or for time periods as agreed by the Project Developer and Beneficiary. It is submitted that pumped storage hydro plant can be of following categories:

(1) Exclusive pumped storage hydro plant ,that is, hydro plant having turbine – pump units which are utilised only for pumped storage and retrieval of energy stored and there is no / negligible generation from water stored from river / streams flow.

(2) Pumped storage cum hydro generation power plant having substantial reservoir storage fully filled by river /stream flows. That is, such power plant utilising full generate capacity during rainy season and in other seasons may have energy generation through pumped storage as well as rainy water pondage.

(3) Pumped storage hydro plant operating as service provider for pumped storage and retrieval of stored energy, for one or more beneficiaries/ traders.

(4) Pumped storage hydro plant purchasing RE power and supplying to RE purchasers as trader.
Regulation covers only sr no (1) and no regulations are required for sr.no.(4). **Regulations do not cover sr.no. (2) and (3) and these may also be kindly covered.**

11. General: RPO: With the competitive bidding, tariff for Solar and Wind power plants have fallen and is presently Rs. 2.30 per kwh and Rs. 2.95 per kwh respectively, With such low tariff, distribution companies are reluctant to purchase high cost renewable power from bio-mass, Biomass gasifier and biogas based power projects and municipal waste based power projects. Purchase from these RE projects were earlier enforced with Renewable Power Purchase Obligation (RPO) separately specified for them. The Govt of India has notified by gazette dated 20th October, 2023, the renewable power purchase obligation for FY24-25 to FY29-30 under the categories (i) (new) Wind renewable energy, (ii) (New)Hydro renewable energy, (iii) Distributed renewable energy and (iv)Other renewable Energy. Accordingly, solar, bio mass. Bio-gas, bio-gasifier and municipal waste energy purchase obligation has been clubbed under one head 'other RE'. This RPO trajectory has been specified by the State Commissions (including RERC). With this RPO trajectory, not specifying separate RPO for bio mass, Bio-gas, bio-gasifieer and municipal waste based power projects, in all probability, power purchases will be effected from solar power projects and determination of generic tariff for these projects will not yield desired objective of promoting these projects. **It is therefore utmost necessary that separate RPO to be specified by SERC for these projects for promoting bio mass. Bio-gas.bio-gasifieer and municipal waste energy projects. Central Commission may consider appropriate action (e.g. advising central govt, discussion in forum of regulators etc) for separate RPO.**

(Shanti Prasad)
41-A, RSEB Officers Colony,
D-Block, Vaishali Nagar, Jaipur-302021
E-mail id: spjoshi1812@gmail.com