Discussion paper on Solar Tariff for FY 2015-16 to FY 2017-18 – under UPERC Captive and Renewable Energy Regulations, 2014



***Introduction***

The Commission in exercise of power vested under the Section 181 read with Section 9, 61 and 86 issued Uttar Pradesh Electricity Regulatory Commission (Captive and Renewable Energy Generating Plants) Tariff Regulations, 2014 (herein after referred as CRE Regulations, 2014) on 20.01.2015, which is applicable for the period from 1st April 2014 to 31st March 2019. The CRE Regulations, 2014 is applicable for captive generation and renewable sources for generation and co-generation.

The Commission through the said Regulations approved tariff for following category of Generating stations:

1. Captive Generation Plants
2. Baggase based Generation Plants
3. Cogeneration Plants
4. Biomass (Rice Husk based) Generation plants
5. Municipal Solid Waste (MSW) Based Generation Plants
6. Small Hydro Generation Plants
7. Solar power Generation plants; and
8. Other RE sources based Generation Plants

The tariff for all aforesaid Generating stations were determined for the control period from FY 2014-15 to FY 2019-20, whereas for Solar power Generation plants the tariff was approved only for FY 2014-15. At the time of approving the tariff for Solar power Generation Plants, the Commission took a view that since the solar technology is still at its nascent stage, the capital cost will change dramatically and hence it will be prudent to determine capital cost on annual basis. The commission approved the levelized tariff of Rs. 7.06 per kWh for FY 2014-15. The relevant extract of the Statement of Reason of CRE Regulations, 2014, is as follows:

*“…..*

*However the Commission also believes that the capital cost for solar technologies is changing very dynamically and cannot be predicted for the entire duration of the control period. The Commission thus proposes to determine the capital cost on annual basis depending upon existing cost trends.”*

***Legal and regulatory framework***

The Uttar Pradesh Electricity Regulatory Commission (the Commission) has been vested with the functions under the Section 86 of the Electricity Act, 2003 (the Act) to determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case maybe, within the State. Section 61 of the Act requires the Commission to be guided by the multi-year tariff principles while specifying the terms and conditions for determination of tariff.

“The Appropriate Commission shall, subject to the provisions of this Act, specify the terms and conditions for the determination of tariff, and in doing so, shall be guided by the following, namely:-

1. The principles and methodologies specified by the Central Commission for determination of the tariff applicable to generating companies and transmission licensees;
2. The generation, transmission, distribution and supply of electricity are conducted on commercial principles;
3. The factors which would encourage competition, efficiency, economical use of the resources, good performance and optimum investments;
4. Safeguarding of consumers' interest and at the same time, recovery of the cost of electricity in a reasonable manner;
5. The principles rewarding efficiency in performance;
6. Multi-year tariff principles;
7. That the tariff progressively reflects the cost of supply of electricity and also reduces cross-subsidies in the manner specified by the Appropriate Commission;
8. The promotion of co-generation and generation of electricity from renewable sources of energy;
9. The National Electricity Policy and tariff policy"

Further, Section 181(2) (zd) of the Act empowers the State Commission to make regulations on the Terms and Conditions for the determination of tariff under section 61. Section 61(i) of the Act provides that while specifying the terms and conditions of tariff, the Commission shall be guided by the National Electricity Policy and Tariff Policy.

Further, Section 86(1) (e) of the Act specifically provides for promotion of cogeneration and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of distribution licensee.

***UPERC Captive and Non-conventional Energy Generating Plants Regulations***

The Commission after enactment of Electricity Act, 2003, issued the “Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions for Supply of Power and Fixation of Tariff for sale of power from Captive Generating Plants, Co-generation Plants, Renewable Sources of Energy and Other Non-Conventional Sources of Energy based Plants to a Distribution Licensee) Regulations, 2005” which came with effect from 28-07-2005. The Commission then issued an order dated 9th September 2009 in the matter of "Draft “Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions of supply of power from Captive and Non-conventional Energy Generating Plants) Regulations, 2009” which highlighted the Commission's decision on various representations made before it by different stakeholders. The Commission then subsequently issued “UPERC (Terms and Conditions of Supply of power from Captive and Non-conventional Energy Generating Plants) Regulations, 2009.” which was notified on 22-03-2010.

***Tariff for Solar Power Generating Plants for FY 2015-16, FY 2016-17 and FY 2017-18***

***Capital Cost***

Solar Photo Voltaic (PV) power projects which is recognized as Renewable technology by the State Government and the Ministry of New and Renewable Energy (MNRE) and are connected to the grid, qualify for the purpose of tariff determination under CRE Regulations, 2014.

The Commission under CRE Regulations, 2014 approved the Capital Cost for Solar PV Generating Plants for FY 2014-15 as Rs. 691 Lakhs per MW. Further, the Commission while approving the Capital cost for FY 2014-15 observed that the solar technology was still at the nascent stage and the capital cost will change dramatically in the coming years and considered prudent to approve the capital cost annually for each year of the control period. Now, the Commission after considering the prevailing market prices of the different elements associated with the Solar Generating Station in the open market and in line with the Central Electricity Regulatory Commission proposes to keep the capital cost for Solar PV Generation Plants for FY 2015-16 as Rs. 605.85 Lakhs per MW, Rs. 530.02 Lakhs per MW for FY 2016-17 and Rs. 465.0 Lakh per MW for FY 2017-18.

***Debt Equity Ratio***

In order to balance the interests of the beneficiaries as well as the generating companies it is important that generating companies earn sufficient returns as well as the consumers are benefited in the long run. The wide acceptability of current levels of 70:30 in terms of the debt equity ratio and given the fact that power sector projects form the major chunk of lending amongst the infrastructure projects in India the Commission is inclined to continue with the existing approach and continue with a debt: equity ratio of 70:30. It is also important to note that other SERCs have followed the same normative ratio for tariff determination in their respective States. The Commission had also specified the debt equity ratio of 70:30 for financing new capital expenditure on projects in the previous control period and for FY 2014-15 under CRE Regulations. In line with the same approach the Commission proposes to consider the Debt Equity ratio of 70:30.

***Cost of Debt***

The Commission while approving the tariff for FY 2014-15, considered the repayment of loan on normative basis and normative rate of interest i.e. SBI base rate as on 01.04.2014 plus 300 basis point. In line with the same approach, the Commission proposes to approve the rate of interest on loan as SBI Base rate as on 01.04.2015 plus 300 basis points for tariff for FY 2015-16 i.e. 13.0%, SBI Base rate as on 01.04.2016 plus 300 basis points for tariff for FY 2016-17 i.e. 12.30% and SBI Base rate as on 01.04.2017 plus 300 basis points for tariff for FY 2017-18 i.e. 12.10%.

***Depreciation***

The Commission for FY 2015-16, 2016-17 and 2017-18 proposes to approve the depreciation rate as per the repayment period of 12 years to be 5.83% and the remaining depreciation to be spread across the remaining useful life of the plant to the maximum of 90% of the capital cost of the project.

***Interest on Working capital***

For solar projects the commission proposes to extend working capital norms same as that provided by the Central Commission. As per the norms specified by the Central Commission the norms shall be: O&M cost for 1 month; Receivables for 2 months and Maintenance spares – 15% of O&M expenses. These norms are universally acceptable by all state commissions and are proposed to be adopted for the state of UP as well.

Further the Commission in line with the approach followed while approving the tariff for FY 2014-15, i.e. SBI Base Rate plus 350 basis points, proposes to approve the interest on Working Capital at 13.50% for FY 2015-16, 12.80% for FY 2016-17 and 12.60% for FY 2017-18.

***Return on Equity (RoE)***

The Commission proposes to allow the same RoE for solar projects as is being allowed to other RE generators of the state and in line with the approach followed by the Commission while approving tariff for FY 2014-15. Thus the Commission proposes to continue with the current rate of return on equity where it allows 16% RoE on pre-tax basis for FY 2015-16, FY 2016-17 and FY 2017-18.

***Operation and Maintenance Expense (O&M)***

The Commission while approving the tariff for FY 2014-15 considered approach followed by CERC in approving the O&M Expense and approved it at Rs. 12.30/MW with the escalation rate of 5.72% for subsequent years. Similarly in line with the same approach, the Commission proposes to approve the O&M Expense at Rs. 13.00 Lakh/MW for FY 2015-16. Further the Commission has observed that the Operation and Maintenance expense has come down drastically which has been noted by CERC also in its Central Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) (Fifth Amendment) Regulations, 2016. Hence, in line with the approach followed by CERC, UPERC also proposes to approve O&M Cost of Rs. 7 Lakh/MW for FY 2016-17 and Rs. 7.4 Lakh/MW for FY 2017-18, which is obtained after escalating the O&M expense for FY 2016-17 by 5.72%.

***Capacity Utilization Factor (CUF)***

The Commission proposes to approve the CUF of 19% in line with the approach followed while approving the tariff for FY 2014-15 and by CERC for FY 2015-16 and FY 2016-17.

***Tariff for Solar Power Generation Plants for FY 2015-16, FY 2016-17 & FY 2017-18***

Considering the above mentioned capital cost and the financial principles the proposed generic tariff for power generated through Solar Power Generation Plants for FY 2015-16 is Rs. 6.45/kWh and Rs. 5.10/kWh for FY 2016-17 which is applicable for the period of 25 years.

Further, for FY 2017-18, the Commission considers that there can be two options as follows:

1. Determination of Generic tariff:

In line with the previously followed approach of the Commission and in consideration to the financial principles discussed above, the Commission may approve the generic tariff of Rs. 4.54/kWh for FY 2017-18.

1. Determination of project specific tariff:

The Commission may not provide a generic tariff for FY 2017-18 and determine the project specific tariff only.

The comments, suggestions and objections from CEA, CERC, SERCs, UPPCL, Discoms, UPNEDA, Captive Producers and other stakeholders are invited in writing so as to reach to the Commission’s office at Kisan Mandi Bhawan, 2nd Floor, Gomti Nagar, Lucknow, personally or by post, so as to reach within 15 days from the date of publication of discussion paper.

Date: ….05.2017