

**JOINT ELECTRICITY REGULATORY COMMISSION
FOR THE STATE OF GOA AND UNION TERRITORIES
GURGAON**

Quorum
Smt. Neerja Mathur, Member
Petition No. 208/2016
Date of Order: 26.08.2016

In the matter of:

Petition for approval of tariff of 1 MW Grid connected Roof-top Solar PV Project in Andaman & Nicobar Islands under section 62 and 83(4) of the Electricity Act, 2003 and under Regulation 21, 57, 58, 59 & 60 of the JERC (Solar Power – Grid Connected Ground Mounted and Solar Roof-top and Metering) Regulations, 2015.

And in the matter of:

Solar Energy Corporation of India Limited, 1st Floor, D-3, 'A' Wing, Religare Building, District Centre, Saket, New Delhi – 110 017
.... Petitioner

And in the matter of:

The Electricity Department, Andaman & Nicobar Administration, Vidhut Bhawan, Port Blair – 744101
....Respondent

Present

For the Petitioner

1. Shri Atulya Kumar Naik, Addl. General Manager (PS), SECI
2. Ms. Nidhi Jain, Sr. Accounts Officer, SECI
3. Shri Tarun Mukhija, Sr. Engineer, SECI
4. Shri Ishwar Kumar, Dy. General Manager (Finance), SECI
5. Ms. Anita Agrawal, Manager, SECI
6. Shri Avnish Parasha, Manager, SECI
7. Shri Shibasish Das, Manager (PS), SECI

For the Respondent

Shri B. Ajit Kumar, Executive Engineer

ORDER

The Petitioner, Solar Energy Corporation of India Limited (hereinafter referred to as "SECI") through this Petition sought approval of Tariff of 1 MW Grid Connected Roof-top Solar PV Project in Andaman & Nicobar Islands under the JERC (Solar Power – Grid Connected Ground Mounted and Solar Roof-top and Metering) Regulations, 2015.

2. The Petitioner submitted that they have signed the Memorandum of Understanding (MOU) with the Administration of Andaman & Nicobar Islands for setting up Solar PV based Roof-top/ Ground Mounted Special Purpose Vehicle (SPV) Power Plants in Andaman & Nicobar Islands.

3. The Petitioner further submitted that in consultation with the Electricity Department, Andaman & Nicobar Islands some buildings were identified for setting up of an aggregate capacity of 1 MW power Grid Connected Roof-top Solar PV System. The Project size would vary depending upon the roof-top area, its orientation and the energy demand of the building. The Roof-top Solar System would be in the range of 1 kW power to 500 kW power. The power generated from the Roof-top Solar PV Systems would be synchronized with the network of the Distribution Licensee as per the JERC (Solar Power Grid Connected Ground Mounted and Solar Roof-top Net Metering) Regulations, 2015 and National Standards specified by the Ministry of New and Renewable Energy (MNRE) and the Central Electricity Authority (CEA).

4. The Petitioner further submitted that this Project would be owned by them. They had invited competitive bids and selected M/s Ujaas Energy Limited for implementation of the said Project at a total Project cost of Rs 8.349 crore/MW power which was lower than the Project Cost approved by the Commission vide its Tariff Order dated 15.05.2015. The MNRE granted Central Financial Assistance (CFA) of Rs 584.43 lac i.e. 70% of the total Project Cost.

5. The Petitioner further submitted that this Project was duly approved by the Board of Directors of the Company. The Company had issued a Letter of Award to M/s Ujaas Energy Limited on 24.05.2016 for implementing an aggregate of 1 MW power Grid Connected Roof-top Solar PV Systems on the roofs of the various Government buildings in Andaman & Nicobar Islands at a cost of Rs 8.349 crore. The said Project would be completed within a period of nine months from the date of Letter of Award. The Operation and Maintenance would be carried out by the Petitioner who is the owner of the said Project. As per the provisions of the tender the Operation & Maintenance for the first five years of the Project would be carried out by M/s Ujaas Energy Limited.

6. The Petitioner requested the Commission to consider a Capacity Utilization Factor (CUF) of 12-13% in place of 15% fixed by the Commission because the roofs of the buildings have different orientation which is not conducive for proper solar insolation. Further, total capacity of 1MW comprises of various Project sites (12 in nos.) having varying CUF for each site. Andaman & Nicobar Islands also have heavy rainfall during 5-6 months in a year.

7. The Petitioner further requested that Capital Financial Assistance granted by the MNRE which is 70% of the Project Cost should be considered as debt as per the Accounting Standard (AS-12) in respect of Accounting for Government Grants issued by the Institute of Chartered Accountants of India. Under this, Grants related to depreciable assets are treated as deferred income which is recognized in the Profit & Loss Statement on a systematic and rational basis over the useful life of the asset. The Petitioner has opted for the above methodology instead of deduction of grant from the cost of the Project for determination of tariff.

8. The Commission has considered the contentions raised by the Petitioner. It has also examined the records placed before it alongwith relevant provisions of the Electricity Act, 2003 and the JERC (Solar Power – Grid Connected Ground Mounted and Solar Roof-top and Metering) Regulations, 2015.

9. The Commission observed that NTPC had achieved CUF of 16.31% in FY 2014-15 for its Solar Project at Port Blair. The Commission is not convinced with the contentions raised by the Petitioner in favour of lower CUF of 12-13% for this Project. In view of the type, angle and orientation of the roofs which determines the angle of the solar panels, the Commission feels that a CUF of 15% is reasonable and justified.

10. The Commission takes note of the debt equity ratio for the Capital Cost of the Project in the Tariff Policy No. 23/2/2005-R&R (Vol. IX) dated 28.01.2016 which reads as under:-

“5.0 GENERAL APPROACH TO TARIFF

5.11 Tariff policy lays down the following framework for performance based cost of service regulation in respect of aspects common to generation, transmission as well as distribution.

b) Equity Norms

For financing of future capital cost of projects, a Debt: Equity ratio of 70:30 should be adopted. Promoters would be free to have higher quantum of equity investments. The equity in excess of this norm should be treated as loans advanced at the weighted average rate of interest and for a weighted average tenor of the long term debt component of the Project after ascertaining the reasonableness of the interest rates and taking into account the effect of debt restructuring done, if any. In case of equity below the normative level, the actual equity would be used for determination of Return on Equity in tariff computations.”

11. The Commission is not willing to accept the submissions of the Petitioner regarding Capital Cost. The Commission has considered the Capital Cost of the Project for the purpose of determination of tariff after deducting the Central Financial Assistance granted by the MNRE from the total Capital Cost of the Project. Accordingly the Capital Cost, equity & debt are as under:-

Capital Cost before subsidy	: Rs 834.90 lacs
Capital Cost after 70% subsidy	: Rs 250.47 lacs
Equity	: Rs 75.14 lacs
Debt	: Rs 175.33 lacs

12. Based on the CUF of 15% for solar PV the annual energy output corresponding to 1 MW works out to 1.314 MU/Year ($1\text{MW} \times 8760 \text{ hrs/year} \times 15\%$)/ $10^6 = 1.314 \text{ MU}$.

13. The Commission has considered the following parameters in accordance with the generic solar tariff for FY 2016-17:

1. O&M expenses	: Rs 13 lakhs/MW
2. Interest on debt	: 12.76%
3. Interest on Working Capital	: 13.21%

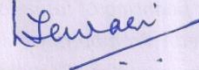
14. The levellised Solar Tariff for 25 years works out as under:

- I. Rs/kWh=4.64 if Accelerated Depreciation (AD) benefit is not availed
 - II. Rs / kWh = 4.45 if accelerated Depreciation benefit is availed by the Petitioner
- Tariff calculation sheet for the period is attached as Annexure

15. Ordered accordingly.

Sd/-
(NEERJA MATHUR)
MEMBER

CERTIFIED COPY



(KEERTI TEWARI)
SECRETARY

कीर्ति तिवारी/Keerti Tewari
सचिव/Secretary
संयुक्त विद्युत विनियमक आयोग
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