

Before the
MAHARASHTRA ELECTRICITY REGULATORY COMMISSION
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IN THE MATTER OF

**Tariff for Solar based Power Generation Projects within Maharashtra
under MNRE Scheme**

Shri A. Velayutham, Member
Shri S. B. Kulkarni, Member

Date of Order:

DRAFT ORDER (SUO-MOTU)

A] BACKGROUND

1. The Ministry of New and Renewable Energy (MNRE), Government of India, vide its Circular No.32/61/2007-08/PVSE dated January--- 2008 has issued the Guidelines for Generation Based Incentive (GBI) for grid interactive solar power generation projects.
2. The Guidelines envisage that the State Electricity Regulatory Commissions (SERCs) shall determine applicable tariff for procurement of power by distribution licensees within State from such solar power projects in order to avail such incentive. The relevant extract of the said Guidelines have been reproduced below:

“4.1 Wherever the state electricity regulatory commissions have fixed a separate tariff for solar power or they fix the tariff for solar power during the period for which the Ministry is providing incentive, the utilities will offer a minimum of that tariff to the solar PV grid interactive power projects in their respective states. In absence of such tariff orders, the utilities will offer the highest tariff for purchase of power to the PV power project developers, that is being offered by the utilities for purchasing power in their respective states on medium term or the highest tariff being provided for purchase of power from any other energy source for which orders/guidelines are already issued for that State. The PPA would draw reference to the orders of the State Electricity Regulatory Commission’s order in this regard and

enclose copies of the same. The Ministry will not consider proposals, which do not follow these guidelines on power purchase agreements.”

3. The current incentives for Solar Power generation under Generation Based Incentive (GBI) scheme offered by MNRE are available only upto 10 MW per State and maximum upto 5 MW for each Project, for a period of 10 years, provided the projects are commissioned preferably upto December 31, 2009 or latest by March 31, 2010. Thus, the projects that can avail such incentives are limited in number, whereas number of solar power projects and capacities proposed to be installed are already significant and are likely to increase further.
4. The Commission has also received several applications and enquiries from various developers interested to develop solar power projects within State as to applicable tariff for such grid connected solar power projects. Hence, the Commission considered it appropriate to initiate regulatory process on Suo-Motu basis for determination of Tariff for Solar power projects within State.

B] Regulatory Framework for Tariff determination:

5. The Section 61(h) of the Electricity Act (EA), 2003 stipulates that while determining tariff, the Commission shall be guided by the aspect of promotion of co-generation and generation from renewable sources of energy.
6. The Tariff Policy notified by the Ministry of Power, Government of India, stipulates that the Appropriate Commission has to determine Preferential Tariff for procurement of Renewable Energy (RE) power by Distribution Licensees under RPS regime as envisaged under Section 86(1)(e) of EA 2003, as reproduced below:

“.....It will take some time before non-conventional technologies can compete with conventional sources in terms of cost of electricity. Therefore, procurement by distribution companies shall be done at preferential tariffs determined by the Appropriate Commission.

(2) Such procurement by Distribution Licensees for future requirements shall be done, as far as possible, through competitive bidding process under Section 63 of the Act within suppliers offering energy from same type of non-conventional sources. In the long-term, these technologies would need to compete with other sources in terms of full costs.”

7. In addition, the Regulation 26.1 of the MERC (Terms and Conditions of Tariff) Regulations, 2005, enables the Commission to specify terms and conditions for determination tariff in case of renewable energy projects through separate Order(s); as may be necessary. The relevant extract of the MERC Tariff Regulations is reproduced below:

“26.1 Provided that determination of tariff for supply of electricity to a Distribution Licensee from non-conventional sources of generation shall be in

accordance with such terms and conditions as stipulated in relevant Orders of the Commission.”

8. As per Section 61 and 62 of the EA, 2003, the Commission is required to determine generation tariff for generation projects. The Commission has adopted approach of Generic Tariff determination on account of following reasons:
 - (a) Submissions made by various solar project developers before the Commission indicates that multiple technological options such as solar photo-voltaic, concentrated solar photo-voltaic, concentrated solar thermal (dish, parabolic, tower) as well as multiple types of materials (thin film, poly crystalline, amorphous silica etc.) can be used. Thus, performance parameters and cost structure could differ significantly from one solar power project to another.
 - (b) Further, typical project size is expected to be small (around 1 to 5 MW) and number of projects are expected to be plenty with diverse technological options. Determination of tariff for each solar generation project separately, shall entail significant regulatory cost and time; whereas promotional aspect necessitate that capacity is brought into the system expeditiously.
 - (c) In view of above, Project Specific tariff determination is not only cumbersome and time-consuming, it will also require significant expert inputs and consultation process to understand the technical nuances of the proposed project scheme/technology proposed to be deployed by each project developer.
9. The grid connected solar power project development is still at nascent stage within India, and regulatory approach for tariff determination can benefit from operational experience gathered from initial projects put into operation at the earliest. Hence, it is essential that projects are able to avail incentives announced by MNRE in a time-bound manner and regulatory approach for tariff determination facilitates the process without causing delay and at the same time addresses the concerns of utilities and protects consumer interests.

C] Tariff for Solar power projects within Maharashtra under MNRE GBI scheme:

10. In view of above, the Commission has decided to adopt the following approach for determining Applicable Tariff for solar power projects within Maharashtra:
 - a) GBI scheme envisages uniform application of the incentive across States and across range of solar technologies and independent of project size. Broad distinction has been made only for the purpose of availing maximum incentive, in terms of PV technology applications or solar thermal applications. GBI scheme has also envisaged notional cost of generation of Rs 15/kWh, independent of solar technology. Accordingly, differentiation in terms of technology for the purpose of tariff determination may not be preferable, particularly, since selection of appropriate technology is left to the discretion of solar project developer and regulatory scrutiny of the same is not envisaged for projects availing incentives under GBI scheme. Thus, tariff so determined under GBI scheme should be technology neutral encouraging developers to select appropriate technology at their discretion.

- b) While ensuring that generation from solar power is encouraged, at the same time, impact on power purchase cost of the distribution licensee has to be minimised. The Commission has to address the aspect of regulating power purchase cost of licensee as per Section 86(1)(b) and also encourage renewable energy generation as per Section 61(h). While promotional aspect is well addressed through maximum incentive under GBI scheme, the former aspect has been addressed by the Commission while setting the tariff.
- c) Accordingly, the tariff for solar power projects eligible for GBI scheme is determined as Rs 3.00/kWh, so that maximum possible incentive (i.e., Rs 12.00/kWh in case of solar PV and Rs 10.00/kWh in case of solar thermal) is available to the Project developers, while at the same time, distribution licensees and in turn, consumers are required to bear minimum cost of Rs 3.00/kWh for promoting solar energy while gaining operational experience from such projects.
- d) While the current GBI scheme is applicable for only the first 10 MW capacity addition within the State, in future, whenever GBI scheme is extended to cover additional capacity, such project capacity shall also be covered under the same mechanism.

11. In view of above, applicable tariff for solar power projects eligible **under GBI scheme** as per MNRE Guidelines shall be as under:

Sl.	Particulars	Solar (PV technology) Plant of capacity 1 MW and above	Solar Thermal Power Plant of capacity 1 MW and above
1	For solar power plants commissioned within Maharashtra upto 31 st March 2010 under GBI scheme.	Rs 3.00 / kWh	Rs 3.00 / kWh

12. As generation based incentive (GBI) under MNRE scheme is available for period of 10 years, above tariff shall be applicable for period of 10 years from date of commissioning of the project or for such other period as may be applicable under MNRE scheme. Thereafter, the tariff shall be determined by the Commission as per the Regulations in force and considering other relevant aspects.

D] Philosophy adopted for Tariff determination of Non-GBI based Solar Power Projects:

13. In view of significant developer interest in solar power projects, the Commission wishes to encourage such capacity addition in the State for non-GBI projects as well. As regards applicable tariff for non-GBI solar power projects, the Commission intends to adopt the competitive bidding route for discovering the tariff for purchase of power generated through such non-GBI solar power projects. The Commission notes that as per Section 63 of EA 2003, the Commission shall adopt tariff if such tariff has been determined through transparent process of bidding in accordance with the guidelines issued by the Central Government.

14. In the absence of notification of Standard Bidding documents for RE sources, the licensee will have to develop entire bidding documentation such as RFQ/RFP and PPA and other related terms such as minimum/maximum quantum and period etc. for competitive procurement to the Commission for its approval before initiation of competitive procurement process.
15. The Commission hereby directs Maharashtra State Electricity Distribution Co. Ltd. (MSEDCL), Reliance Energy Ltd. (REL), Tata Power Co. Ltd. (TPC-Distribution) and BEST Undertaking to submit Bidding Documents along with appropriate modifications for power procurement from Non-GBI based Solar power projects. Such documents shall be submitted within three months from issuance of this Order, separately or jointly at their discretion. The Commission shall initiate regulatory process for approval of proposed bidding documents thereafter.
16. Upon completing the regulatory process including public hearing on the Bidding Documents, the Commission shall direct the concerned distribution licensee to undertake Competitive Bidding Process for discovering the tariff for sale of power generated from non-GBI Solar power plants.
17. This suo-motu Draft Order is issued to invite comments and suggestions from stakeholders including RE developers, Distribution Licensees, Maharashtra Energy Development Agency (MEDA), etc. All stakeholders may submit their views, comments and suggestions on the suo-motu Draft Order within three weeks from issuance of this Draft Order. The Commission shall finalize the Order after taking a view on the submissions received from the stakeholders on the draft Order.

(S.B.Kulkarni)
Member

(A. Velayutham)
Member

(P.B.Patil)
Secretary, MERC