HIMACHAL PRADESH ELECTRICITY REGULATORY COMMISSION, SHIMLA

Suo-Motu Petition No.: 01 of 2025
Date of Order: 27.03.2025

CORAM: Sh. Devendra Kumar Sharma, Chairman
Sh. Yashwant Singh Chogal, Member (Law)
Sh. Shashi Kant Joshi, Member

IN THE MATTER OF:-
Determination of Generic Levellised Tariff for Solar PV Projects for FY 2025-26 under Himachal Pradesh Electricity Regulatory Commission (Promotion of Generation from the Renewable Energy Sources and Terms and Conditions for Tariff Determination) Regulations, 2017.

ORDER

The Commission has notified the Himachal Pradesh Electricity Regulatory Commission (Promotion of Generation from the Renewable Energy Sources and Terms and Conditions for Tariff Determination) Regulations, 2017, on 23rd November, 2017 in the Rajpatra, Himachal Pradesh. These Regulations were amended from time to time and the 7th amendment Regulations were notified on 22nd September, 2023 with applicability with effect from 01.10.2023. The Regulations including its amendments are jointly referred to as “RE Tariff Regulations, 2017”).

2. The Commission, in due discharge of the mandate under Regulation 18 of RE Tariff Regulations, 2017, issued the draft proposal on 27.09.2023 for categorization of Solar PV projects, fixing the technology specific parameters and determination of the Generic Levellised Tariff for Solar PV projects (not

exceeding 5.00 MW), alongwith associated terms and conditions, for FY 2025-26 which was published on 10.01.2025. The Commission also invited objections/suggestions from the public on the aforesaid proposal, by way of insertions in two News Papers i.e. “The Tribune” and “Dainik Bhaskar” on 10th January, 2025. The text of said proposal was also made available on the Commission’s website www.hperc.org.

3. The Commission also vide letter dated 16.01.2025 requested the major stakeholders, including the State Government, Directorate of Energy, HIMURJA, the Distribution Licensee i.e. HPSEBL, HPPCL, HPPTCL, SJVNL, the Consumer representative and the Industries Associations etc. to send their objections/suggestions as per the aforesaid public notice on or before 7th February, 2025.

4. In response, the written comments/suggestions were received from the following:

(i) The Himachal Pradesh State Electricity Board Limited (HPSEBL).
(ii) The Directorate of Energy, 2nd Floor, MC Parking Building, Near Tutikandi Crossing, Shimla-171005 (HP).
(iii) Sh. Roop Lal Sankhyan, VPO Dhar Tatoh, Tehsil Sadar, Distt. Bilaspur-174001, HP.
(iv) The HIMURJA, Urja Bhawan, next to Corporation Bank, SDA Complex, Kasumpti, Shimla-171009, HP.
(v) M/s Barot Valley Hydro Power (P) Ltd., Baragran Road, PO Patlikuhal, Teh. Manali, Distt. Kullu-175129 (HP).

(vi) MG Sonic Energy LLP, 0-1571, GHP Rosewood Estate-2, Gulabgarh, Derabassi, Mohali-140507, Punjab.

5. A public hearing in the matter was scheduled to be held on 19th February, 2025 from 11:30 A.M onwards in the Commission. The Public Notice in this regard was published in the Newspaper viz. “Divya Himachal” and “Indian Express” on 08th February, 2025. The Commission also, vide letter dated 11th February, 2025 informed the major stakeholders to furnish their comments and attend the hearing on the stipulated date.

6. As scheduled, the public hearing was held on 19th February, 2025.

7. The list of participants who attended the public hearing on 19th February, 2025 is annexed as **Annexure-“A”.**

8. The Commission has carefully examined and analysed the written suggestions/ objections and the viewpoints expressed by the stakeholders during the public hearing. The analysis and views of the Commission are as under:-

A. **Normative Capital Cost.-**

(i) M/s Barot Valley Hydro Power (P) Ltd. has submitted that the draft proposal has reduced cost of PV modules to Rs. 87.62 Lakh/MW from earlier cost of Rs. 132.56 Lakh/MW, which is not in accordance with prevailing prices in the market, which are on much higher side and hence earlier cost of Rs. 132.56 Lakh/MW should be retained.

(ii) MG Sonic Energy has submitted that for deciding the generic levellised tariff for solar PV projects for FY 2025-26 (for a period w.e.f. 01.04.2025 to 31.03.2026) under RE Tariff Regulations, 2017, the Commission has considered Solar PV modules base cost at Rs 62.587 Lakhs/MW, allowing additional escalation enhancement of 40% on account of various factors, whereas, the average normative cost of Solar PV modules works out to be Rs 87.62 Lakhs (Rs 8.762 per watt)/MW.

As per the draft proposal, it is submitted that the normative cost of components is taken as 243.13 Lakhs/MW, which is 5% more than the cost taken in FY 2024-2025. Based on this, the per MW normative cost of the Project works out to be Rs 330.75 Lakhs/MW (Rs 33.75 paise per watt). These assumptions are based on current US dollar value and solar market. But this does not present a true picture. The prices of Solar PV modules have increased due to various factors namely solar glass cost and current exchange rate of US dollar in present times. The stakeholder has also referred the quoted cost of Solar PV module manufacturing companies ranging from Rs. 13.50 per Watt to Rs. 15.50 per watt. The stakeholder has also referred to the increase in input cost of modules by the Chinese Companies.

Further, the solar inverters constitute a major part of any solar project and its cost is also on increasing trend during FY 2025-26.

(iii) Sh. Roop Lal Sankhyan has submitted that on 4th December, 2024, the Govt. of India has levied Solar Glass anti dumping duty which will raise the cost of Solar PV Modules. The prices of solar cells would also rise after the budget. Therefore, the proposed cost of Rs. 87.62 lakhs/MW for Solar PV Modules is low and the same should be kept as Rs. 150 Lakh/MW. Sh. Roop Lal Sankhyan has also submitted a copy of an Invoice raised in his favour by M/s APS Delhi (OPC) Pvt. Ltd., Solar Glass Antidumping Duty Impact and the notification of Department of MNRE of GoI, titled “Solar Systems, Devices and Components Goods Order, 2025 which shall be applicable from August, 2025.

(iv) Sh. Sanjeev Jindal, Manager Purvik Power Tech. Pvt. Ltd. during the hearing stated that, the proposed rate(s) of Solar PV modules need to be revisited keeping in view the prevailing market rate in the Indian market.

Commission's View:-

In the State of Himachal Pradesh under Regulated Tariff Mechanism (RTM), no restriction has been imposed on solar power developers by the Commission as well as by the State Government to install the Indian manufactured modules/cells. Also neither there is any restriction on Domestic Content Requirement (DCR) nor any approved list of models and manufacturers issued/ approved by the Commission or the Govt. of H.P. The Commission is also of the view that the Solar PV tariff of projects upto 5 MW to be installed in the State of Himachal Pradesh should be competitive to some extent with the higher capacity Solar PV Projects above 5.0 MW at National level as well as State level, where the tariff is discovered through competitive bidding. Even in must-buy purchase regime, the Power Procurement by the Licensee should be reasonable, competitive and cost effective so that the State Consumers are not unduly burdened. The Commission is aware that over the years due to technological advancements, the prices of the Solar PV Modules are reducing. However, taking into account the various suggestions given by the stakeholders in relation to the normative capital cost and balancing various concerns, the Commission, in order to promote the setting up of the Solar PV projects of smaller capacities in the State, decides to

enhance the proposed capital cost as mentioned in the succeeding paragraphs. For this purpose, the Commission has considered the average exchange rate of USD of 180 days for conversion of modules rates.

B. **Normative Net Saleable Energy /CUF:-**

(i) HIMURJA has submitted that the Commission has considered a Capacity Utilization Factor (CUF) of 21% in its Suo-motu petition, which appears to be overestimated. Further, that the empirical data from operational ground-mounted solar power projects, as recorded by the HPSEBL, indicates that a 1 MW solar project typically generates around 16 Lakh units per annum, translating to a CUF of approximately 18%. Furthermore, many projects generate only 14-15 Lakhs units per annum.

(ii) M/s Barot Valley Hydro Power (P) Ltd. has submitted that the CUF of 21% i.e. 18.40 MU/MW per annum is on higher side and as observed practically, it is around Rs. 16.50 MU/MW or so.

(iii) MG Sonic Energy has submitted that in the draft proposal, CUF has been considered as 21% and gross generation based on the same shall be reduced by 1.45% on account of auxiliary consumption transformation losses and project line losses up to interconnection

point on normative basis. It is submitted that State receives annual average Global Horizontal Irradiance (GHI) above 4.5 kWh per square meter. The regional availability of Global Horizontal Irradiance (GHI) in Himachal Pradesh is influenced by eclectic topography, seasons as well as micro-climate. Further, in the lower and middle elevation zone (< 3500 m) with tropical to wet temperature climate receives higher GHI (>5 kWh per sq m per day) for a major part of the year compared to higher elevation zone (>3500 m) with dry temperature to alpine climate (4 to 4.5 kWh per sq m per day). Therefore it is not possible to achieve the CUF 21% throughout HP. It is also submitted that the results show that HP receives an average Insolation of 5.86 (+-1.02) to 5.99-0.91 kWh/sq m/day in the warm summer months & 5.69+-0.65 to 5.89+-0.65 kWh/sq m/day in wet monsoon months & 3.73+-0.91 to 3.94 0.78 kWh/sq m/day in cold winter months. It is prayed that the Commission may like to reconsider 21 % CUF as given in proposal. The stakeholder has also shared the PV SYST- Simulation report for the reference of the Commission.

(iv) Sh. Roop Lal Sankhyan has submitted that keeping in view the actual production of energy, the CUF should be considered as 16%. It has

also been suggested that the average generation data may be called from the HPSEBL.

(v) Sh. Sanjeev Jindal, Manager Purvik Power Tech. Pvt. Ltd. during the public hearing requested that the CUF considered in the proposal is also on higher side, the same should be fixed at lower level i.e. 19%.

Commission's View:-

The Commission has carefully considered the suggestions. It is relevant to mention that the similar comments/ suggestions were also received from the stakeholders while finalizing the tariff for Solar PV plants for FY 2024-25. As per the CERC RE Regulations, 2020, the CUF is required to be kept at least at 21%. The auxiliary consumption has, however, been considered separately as 0.75% in the CERC RE Regulations, 2020. The CUF less than 21% may encourage installation of lower efficiency modules which would result in inefficient operation of the projects. Even the objectors are not on the same pace as some have stated that it should be 16.50% and 16.00% whereas one of the objectors has stated that it should be at 19% meaning thereby that higher CUF is achievable. The Commission also feels that with the technological advancement, the CUF should normally witness an increasing trend. The

efficiency parameters on higher side are already being indicated. The Commission, accordingly, decides to retain the CUF as 21%.

C. **Power Degradation**

MG Sonic Energy has submitted that while determining net generation for duration of 25 years of Operation of Solar PV Module, the degradation rate results in a reduction in power production which could be categorized in low, medium and high depending upon the make of solar PV panel and technology used. The degradation rate is from 0.25 to 0.75 per year over the span of 25 years of solar PV module generating electricity which results annual decrease in electricity Production. Accordingly, net generation of Solar Electricity units varies each year.

Commission's View:-

As far as the impact of de-gradation on the useful project life span is concerned, the same is envisaged to be met through 40% escalation in prices of Solar PV Modules and O&M expenses. The Commission also feels that with the advancement in technology in future, the requirement of such running maintenance spares will also get reduced considerably. The Commission, therefore, does not find any merit in the suggestions.

D. **Miscellaneous**:-

(I)Normative levellised tariff:-

(i) The HIMURJA has submitted that in order to sustain the momentum of solar energy expansion and to encourage further investment in the sector, the HPERC may consider to maintain the proposed tariff at the same level of FY 2024-25. A reduction in tariff may deter developers and investors thereby slowing down the adoption of renewable energy in the State. The HIMURJA has also submitted that the neighboring State of Uttarakhand having similar geographical conditions with Himachal Pradesh, has fixed solar power tariff of about ₹4.46 per unit for Ground Mounted Solar Power Projects.

(ii) Sh. Roop Lal Sankhyan has submitted that in order to encourage the people towards solar power generation, the tariff rate should be attractive. It may be done by considering actual market prices of module and other items. The rate taken by the HPERC from the online website is not at par with the market prices. If last four years' data is analyzed, the %age of the completed projects compared to the numbers of PPAs approved by the HPERC is very low. Many Solar Power generator who have completed their solar projects, are paying installments from their pocket. The tariff for FY 2024-25 is Rs. 3.50/Unit in the State of

Himachal Pradesh, whereas in the State of Uttarakhand, it is more than Rs.4.0/Unit. Therefore, the tariff rate must be calculated on as per actual basis and not to merely reduce the same every year.

Commission's View:-

The Commission believes that the Solar PV tariff of projects upto 5 MW to be installed in the State of Himachal Pradesh should be competitive to some extent with the tariff discovered through competitive bidding in case of higher capacity projects at National level as well as State level. Even in must-buy purchase regime, the Power Procurement by the Licensee should be reasonable competitive and cost effective, so that the Consumers of the State may not be unduly burdened. Significantly, the Uttarakhand Electricity Regulatory Commission has considered the normative capital cost for solar PV projects above 1 MW at about Rs.308.03 lakhs per MW, whereas, this Commission in the draft proposal, has considered normative capital cost of Rs. 334.06 lakhs to Rs. 341.63 lakhs per MW for Rural/Urban locations, which is more than the UERC normative capital cost. The higher tariff in UERC is mainly due to the difference in O&M charges and escalation factor, lower CUF and higher RoE for which the Commission is of the view that these normative parameters have been considered/fixed by this Commission

reasonably in the State. Therefore, the suggestions do not merit consideration.

(II) **Adjustment Mechanism for Royalty/Inclusion of Royalty in tariff:-**

(i) The HPSEBL has referred to the notification of State Government No. MPP-F(10)-43/2023 dated 21.09.2023 relating to amendment of the clause 4.3.11 in chapter-IV of Swaran Jayanti Policy, 2021:-

> *"4.3.11 Permanent registration will be done by HIMURJA on commissioning of the Projects. On commissioning of the solar power projects tariff based royalty @ 5.00 paisa per unit shall be charged from all the Solar Power Projects having capacity more than 1 MW".*

The stakeholder has referred the list of 12 projects having capacity of more than 1 MW and having PPAs with HPSEBL commissioned after the aforesaid notification. Presently, the bills of projects are being processed without considering the impact of aforesaid royalty. The HPSEBL has also referred to the Commission's order dated 13.06.2024, in petition No. 78 of 2024 in respect of Bhanjal solar PV project (5 MW) of HPPCL vide which pass through of royalty has been allowed. Further, the HPSEBL has made the following submissions on the tariff proposal:-

(a) **Inclusion of Tariff-based Royalty:** The tariff determination process should explicitly account for the 5 paisa per unit royalty imposed by GoHP.

(b) **Adjustment Mechanism**: Either a corresponding adjustment in the applicable tariff should be allowed and Solar Power Developer shall pay the royalty directly to the GoHP based on the monthly energy bill processed by the HPSEBL. If the royalty is to be borne by the HPSEBL, the final tariff order should explicitly include a provision allowing its pass-through in the Annual Revenue Requirement (ARR).

(c) **Regulatory Clarity:** A uniform approach should be adopted to avoid inconsistencies in treatment across various solar power projects.

(ii) The DoE has also submitted that the MPP & Power vide notification No. MPP-F(10)-43/2023 dated 21.09.2023 has amended the clause in chapter-IV of Swaran Jayanti Policy, 2021 and has requested the Commission to consider the same while finalizing the Generic levellized tariff for the solar PV projects FY 2025-26.

Commission's View:-

The Commission has started allowing a pass through of royalty in view of the above notification. The left out cases are being addressed separately.

9. After having addressed the comments/suggestions of the stakeholders, the Commission now proceeds further to categorize the Solar PV plants, fix the technology specific norms for FY 2025-26 and also to determine the generic levellised tariff for the procurement of power by the Distribution Licensee from Solar PV plants not exceeding 5 MW as detailed in the succeeding paragraphs.

10. **Categorization:-**

As per Regulation 18 of RE Tariff Regulations, 2017, the Commission is empowered to categorize the renewable energy technologies based on capacity of the projects, the available subsidy Scheme and such other factors as may be considered appropriate by it. The Commission, after taking into account various factors like geographical and topographical conditions in the State and in order to promote smaller capacities of Solar PV plants at different locations across the State had categorized Solar PV projects vide its previous orders relating to determination of Solar PV tariff only in two categories i.e. upto 1.0 MW and above 1.0 MW upto 5.0 MW.

Since, there is huge gap between the category of 1.0 MW to 5.0 MW capacity, the Commission is of the view that it is necessary to introduce new categories of the Solar PV Projects of capacity above 1.00 MW and upto 3.00 MW and capacity above 3.00 MW to 5.00 MW, as mentioned in the table below for the purposes of normative capital cost and determination of levellised tariff for FY 2025-26:-

Category	**Capacity of Solar PV Project at one site**
I	Upto 1 MW capacity
II	Above 1 MW and upto 3 MW capacity
III	Above 3 MW and upto 5 MW capacity

For the capacities above 5.00 MW, the Commission expects that for higher capacities above 5.00 MW, the Distribution Licensee shall preferably purchase solar power on the tariff discovered through competitive bidding process as per the competitive bidding guidelines issued by the GoI or tariff discovered by the SECI through competitive bidding process.

11. **Technology Specific Parameters.-**

The Sub-Regulation (2) of Regulation 18 of the RE Tariff Regulations, 2017 provides that the Commission may, in order to promote such technologies for smaller capacities, follow, mutatis mutandis, upto the

limits as it may consider necessary separately for each such technology but not exceeding 5.00 MW for any such technology, the technological specific parameters, including capital cost, and other terms and conditions, or the tariff as specified or adopted by the Central Commission for determining project specific tariff for any project(s) or generic levellised tariff for any category of project(s), or the inputs available from any other sources, as the Commission may find appropriate.

The CERC has not made any provision for determination of normative (benchmark) capital cost for Solar PV projects in its existing RE Tariff Regulations. The Commission in the previous orders for determination of generic levellized tariff for Solar PV Project upto 5.00 MW capacity has considered capital cost, O&M expenses and normative net salable energy. Accordingly, the Commission on taking into account various available inputs, previous Solar PV tariff determination orders considers capital cost, O&M expenses and normative net salable energy as the technological specific parameters for the purpose.

11.1 **Capital Cost.-**

a) The capital cost of Solar PV module is not only the single largest component of the capital cost of the project but is also highly sensitive

to the market conditions and the impact of the rapid technological development. The Commission accordingly feels that the cost of this component should be considered after taking all relevant factors into account.

As per the website of www.pvinsights.com, the latest Solar PV Module Weekly support Price, as accessed on 21.03.2025, is as under:

Item	Average (USD/Watt)
Poly Solar Module	0.077
Mono PERC Module	0.077

The average of these prices works out to 77000 USD/MW. The Commission finds it appropriate to consider the cost of Solar PV Module as Rs. 65.758 Lakhs/MW considering the exchange rate of Rs. 85.40/USD based on the average of six months, ending 21.03.2025. The Commission, while determining the generic tariff for Solar PV Plants for FY 2021-22 and as per its Order dated 22nd July, 2021, had escalated the average price, based on the data for the relevant period, by 15% to account for the various factors such as DC/AC ratio, degradation factor, taxes etc. Subsequently, the Government of India has announced levy of import duty, w.e.f. 01.04.2022, on the import of Solar PV Cells and Solar PV Modules @ 25% and 40% respectively.

The GST rate for the goods component has also been increased from 5% to 12%.

The Commission is of the view that introduction of Production Linked Incentive (PLI) in the recent years may result in increase of the production of solar modules at the competitive rates in the Country also. This trend is further likely to continue which may make the rates more and more competitive.

Moreover, the difference in the cost of Solar PV Cells and Solar PV modules as well as taxes thereon, if availed optimally, can also facilitate reduction in the overall cost of the panels. After taking all related factors into account, the Commission hereby decides to consider the normative cost of solar PV modules as Rs.65.758 Lakhs/MW and escalate the same by allowing the additional escalation enhancement of 40% on account of the various factors as mentioned above. Therefore, the average normative price of Solar PV Modules on the above basis works out to be Rs. 92.0612 Lakhs/MW.

b) As regards, the normative cost of the other components which was considered as Rs. 231.55 Lakhs/MW in the tariff order of FY 2024-25, the Commission decides to consider this cost as Rs. 243.13

Lakhs/MW by escalating the same @5% of the cost considered for FY 2024-25. Therefore, the Commission hereby decides to consider the same as Rs. 243.13 Lakhs/MW, for fixation of total capital cost.

c) On the above basis, per/MW normative capital cost of the project works out to Rs.335.19 Lakhs/MW as detailed in the following table:-

Sr. No.	**Particulars**	**Normative Capital Cost (Rs. Lakh/MW)**
1	PV Modules	92.06
2	Preliminary and Pre-operative expenses, Land Cost, Civil & General Works and Mounting Structures. Power Conditioning Units, Evacuation cost up to interconnection point etc.	243.13
	Total Cost	**335.19**

d) As regards, the normative capital cost for the Solar PV projects upto 1.00 MW and projects above 1.00 MW and upto 3.00 MW, the Commission feels that the normative per MW capital cost for the Solar PV projects of these capacities should be slightly higher than the Solar PV projects having capacity above 3.00 MW and upto 5.00 MW. Therefore, the Commission decides to allow 5% and 2.5% increase on Solar PV Projects upto 1.00 MW and projects above 1.00 MW and upto 3.00 MW respectively, over and above the capital cost

determined by way of this Order for the Solar PV projects having capacity above 3.00 MW and upto 5.00 MW.

Further, in line with the above discussions, the Commission also decides to allow marginally higher capital cost in respect of Solar PV project(s) to be set up in Urban areas and Industrial areas notified by the State Government so as to encourage installation of such plants in such areas, keeping in view the fact that location of plants in such areas may generally help the distribution licensee to utilize the power from such plant in more optimal manner. The additional capital cost for these area specific Solar PV project(s) is considered as Rs. 7.50 Lakh per MW over and above the normative capital cost considered for the project(s) to be set up in the areas other than Urban and Industrial areas.

Explanation;-

For the purpose of this tariff order-

(a) The “Urban Areas” mean the areas covered under a Municipal Corporation, Municipal Council or a Nagar Panchayat set up by the State Government under any law enacted by the State Legislative Assembly and shall also include the area falling under the Cantonment Board constituted by the Central Government under the Cantonment Act, 2006.

(b) The “Industrial areas” mean the areas notified as such by the State Government through its Industries Department or through any such other department/ agency authorized by it.

(c) For this purpose, a Solar PV project shall be considered to be situated in the urban area or industrial area, as the case may be, if any one or both of the main components of the project i.e. the generating plant and the interconnection point fall in any such area(s) on the date of filing the petition for approval of PPA.

e) Accordingly, the Normative Capital Cost for respective categories of Solar PV plant, for FY 2025-2026, is tabulated as under:-

Sr. No.	**Category**	**Normative Capital Cost (in Lakh Rs./MW)**
1	**Projects to be set up in areas other than urban areas and industrial areas**	
(a)	Upto 1.00 MW	351.95
(b)	Above 1.00 MW & upto 3.00 MW	343.57
(c)	Above 3.00 MW & upto 5.00 MW	335.19
2	**Projects to be set up in urban areas and industrial areas**	
(a)	Upto 1.00 MW	359.82
(b)	Above 1.00 MW & upto 3.00 MW	351.26
(c)	Above 3.00 MW & upto 5.00 MW	342.69

11.2 **Operation and Maintenance Expenses.-**

The Commission has considered the O&M expenses as Rs.10.55 Lakhs/MW with an annual escalation of 3.84% over the tariff period as per the provision of Regulation 28-C of the RE Tariff Regulations, 2017.

11.3 **Normative Net Saleable Energy.-**

The CUF shall be considered as 21%. The gross generation based on the same shall be reduced by 1.45% on auxiliary consumption, transformation losses and project line losses upto interconnection point on normative basis.

11.4 The other technology specific parameters viz. useful life of the project and tariff period, have already been specified in the RE Tariff Regulations, 2017 and the same shall be followed accordingly.

12. After having considered the technology specific parameters as above, the Commission now proceeds to determine the generic levellised tariff, based on the provisions of RE Tariff Regulations, 2017 for solar PV projects for FY 2025-26 under Regulation 18 of the RE Tariff Regulations, 2017. The main details of the tariff are as follows:-

12.1 **Tariff Structure.-**

Regulation 12 of the RE Tariff Regulations, 2017 stipulates that single part levellised tariff structure, comprising of the following fixed cost components shall be followed and that in case, where, no fuel cost component is involved in power generation, the following parameters shall be considered:-

(a) Return on Equity;
(b) Interest on loan capital;
(c) Depreciation;
(d) Interest on working capital.

Accordingly, single part generic levellised tariff has been worked out for the respective categories of solar PV projects by adopting the methodology, discussed in succeeding paragraphs.

12.2 **Useful Life and Tariff Period.-**

Regulation 10 read with clause (ac) of Sub-regulation (1) of Regulation 2 of the RE Tariff Regulations, 2017, specifies the 'useful life' and tariff period in relation to a Solar PV plant as 25 years from the date of commencement of operation of the project. Accordingly, the useful life of the Project and tariff period has been taken as 25 years.

12.3 **Debt Equity Ratio.-**

The normative debt equity ratio has been considered as 70:30 in accordance with Regulation 23-C of the RE Tariff Regulations, 2017.

12.4 **Return on Equity.-**

Regulation 26-C of the RE Tariff Regulations, 2017 provides that the value base for the equity (on which return on equity shall be calculated) shall be equal to the equity component computed in accordance with the provisions of Regulation 23-C. It has also been specified that the

normative Return on Equity shall be 14%. The normative Return on Equity shall be grossed up by the latest available notified Minimum Alternate Tax (MAT) rate for the first 20 years of the Tariff Period and by the latest available notified Corporate Tax rate for the remaining Tariff Period.

Accordingly, the normative return on equity has been considered as 14% in accordance with the provisions of RE Tariff Regulations, 2017. The grossed-up RoE for the first 20 years of the useful life of the project is worked out as 16.81% by considering MAT @ 16.70% (15% MAT rate+7% Surcharge+ 4% Health and Education cess) and for the remaining 5 years, the same is grossed-up as 19.40% by considering corporate tax @ 27.82% (25% tax rate+7% Surcharge+ 4% Health and Education cess).

12.5 **Interest on Loan.-**

The Sub-regulation (1) of Regulation 24-C of the RE Tariff Regulation, 2017 provides that the loan tenure of 15 years shall be considered for the purpose of determination of tariff for RE projects. Sub-regulation (2) of the Regulation 24-C provides for computation of rate of interest of loan as under:-

"**(2) Interest Rate.-**

(a) *The loan amount (i.e. the debt component) arrived at in the manner indicated in the regulation 23-C shall be considered as gross normative loan for calculation of interest on loan. The normative loan outstanding as on 1st April of every year shall be worked out by deducting the cumulative repayment up to 31st March of previous year from the gross normative loan.*

(b) *For the purpose of computation of tariff(s) under these Regulations, normative interest rate of two hundred (200) basis points above the average State Bank of India Marginal Cost of Funds based Lending Rate (MCLR) (one year tenor) prevalent during the last available six months, prior to the respective date(s) from which such tariff(s) the respective generic levellised tariffs are to be made applicable, shall be considered:*

Provided that in case where the project specific tariff ……. .

(c) *Notwithstanding any moratorium period availed by the renewable energy generator, the repayment of loan shall be considered from the first year of the tariff period and shall be equal to the annual depreciation allowed.*

(d) *The loan repayment for a financial year or the relevant part period thereof shall be considered to have been done in the middle of that financial year or the relevant part period thereof, as the case may be."*

In view of above, the interest rate has been worked out as 10.98% per annum by adding 200 basis points above the average of Marginal Cost of Funds based Lending Rate (MCLR) (one year tenor) of State Bank of India (SBI) prevailing during the last available six months as shown in the table below:-

Month	**Tenor-wise MCLR of SBI**
September, 2024	8.95
October, 2024	8.95
November, 2024	9.00
December, 2024	9.00
January, 2025	9.00
February, 2025	9.00
Avg. for last available 6 months.	**8.98**

12.6 **Depreciation.-**

(i) Regulation 25-C of the RE Tariff Regulations, 2017 provides as under:

"*For the purpose of tariff determination, depreciation shall be computed in the following manner, namely:-*

(a) the value base for the purpose of depreciation shall be equal to sum total of the debt and equity components as per the provisions of regulation 23-C;

(b) the salvage value shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the value base as per clause (a) of this regulation:
Provided that no depreciation shall be allowed to the extent of incentive, grant and capital subsidy available for the project.

(c) depreciation per annum shall be based on 'Differential Depreciation Approach'. For tariff purposes, the depreciation shall be allowed @ 4.67% per annum of the value base as per clause (a) of this regulation till such time the requirement for repayment of loan component of the capital cost as per regulations 21-C, 23-C and 24-C is fully provided and the remaining depreciation shall be spread over the residual useful life of the project on straight line method;

(d) depreciation shall be chargeable from the first year of commencement of operation of the project:
Provided that in case of operation of the asset for part of the year, depreciation shall be charged on pro rata basis for the purposes of project specific determination of tariff."

Accordingly, the rate of depreciation for the first 15 years has been considered as 4.67% and the rate of depreciation from the 16th year onwards has been spread over the balance useful life as under:-

Details	**Solar PV Power Plant**
Useful life (in years)	25
Rate of depreciation for 15 years (%)	4.67
Rate of depreciation after first 15 years (%)	1.995

12.7 **Interest on working capital.-**

(i) In accordance with the Regulation 27-C of the RE Tariff Regulations, 2017, the working capital requirement of the Solar PV project has been considered by including the following:-

"(a) operation and maintenance expenses for one month;
(b) receivables equivalent to 45 days of energy charges for sale of electricity calculated on the net saleable energy corresponding to the CUF considered for tariff determination on normative basis;
(c) maintenance spare @ 15% of operation and maintenance expenses."

(ii) Interest rate on working capital has been worked out as 12.48% per annum by the adding 350 basis points above the average of Marginal Cost of Funds based Lending Rate (MCLR) (one year tenor) of State Bank of India (SBI) prevalent during the last available six months prior to the respective date(s) from which the generic tariff(s) are to be made applicable.

12.8 **Incentive and/or subsidy and/or grant/budgetary support by the Central/ State Government.-**

The Sub-regulation (1) of Regulation 22-C of the RE Tariff Regulations, 2017 provides as under:-

"(1) While determining the generic levellised or project specific levellised tariff, as the case may be, for the renewable energy project(s) under these Regulations, the Commission shall take into consideration any incentive and/or subsidy and/or grant and/or budgetary support available, irrespective of whether the same is actually availed or not, under the schemes of the Central or State Government or their agencies, but excluding accelerated depreciation benefit under the Income Tax Act:

Provided that the capital subsidy under the schemes of the Central or State Government or their agencies shall be adjusted in the normative capital cost and the cost so arrived, after such adjustment, shall be considered for computing Debt-Equity Components for the purposes of determination of generic levellised tariffs:

Provided further that where the Central Government or the State Government notifies, or has notified, any generation based incentive (GBI) scheme for a particular kind of renewable technology, such technology based generating station shall be assumed to have availed the benefit of such a scheme and their tariffs shall be reduced by the amount of generation based incentive (GBI) per unit for the period during which such incentive remains applicable.

(2) Where any additional project specific grant or budgetary support is available to any project, apart from the incentive and/or subsidy and/or grant available under Sub-regulation (1) of this regulation, the Commission shall account for such budgetary support also, while determining project specific levellised tariff.

(3) The amount of subsidy shall be considered for each renewable source as per the applicable policy of the MNRE/State Government/Central Government and if the amount and/or mechanism of subsidy is changed by the MNRE/State Government/Central Government, consequent corrections in tariffs may be carried out by the Commission in accordance with Regulation 20."

12.9 No adjustment of incentive and/or subsidy and/or grant is being made in the tariff calculations. However, adjustment to be made in the rate on the basis of per million (rupees) of subsidy for each MW capacity has been worked out and mentioned in the attached calculation sheet of the project and adjustment, if any, on account of the same shall be made at appropriate stage while applying the tariff after taking into account the eligibility conditions in each case. Similarly, adjustment on account of any other subsidy Scheme(s) available under the Government (Central/State) shall also be made

at appropriate stage(s) after taking into account the extent of subsidy(ies) available under such Scheme(s). The adjustments on account of subsidies, where available, are to be made at the rates indicated in the calculation sheet on normative basis by considering the provisions of Regulations 20-C, 23-C, 24-C, 25-C and 26-C. For this purpose the total amount (in million rupees) of incentive and/or subsidy and/or grant etc., shall be divided by the installed capacity of the projects and the per MW amount (in million rupees) so arrived at, shall be multiplied by the rate indicated in the calculation sheet.

12.10 **Discount Factor.-**

In accordance with Sub-regulation (4) of Regulation 12 of the RE Tariff Regulations, 2017, the discount factor equivalent to the post tax weighted average cost of capital has been considered for the purpose of levellised tariff computation. The discount factor has been calculated on the basis of the normative debt equity ratio (70:30) and weighed average of the post tax rates for debt and equity component. For this purpose, the interest rate on the loan component (i.e. 70%) of capital cost is 10.98%. For equity component (i.e. 30%), rate of Return of Equity (RoE) is considered as post tax rate of 14%. The discount factor has been calculated as

9.75%. The Corporate tax has been taken as 27.82% (25% IT rate+7% Surcharge+4% Health and Education cess).

12.11 **Rounding.-**

The tariff so worked out for solar PV projects has been rounded to nearest paise/kWh. The fraction of 0.5 paise/kWh or above has been rounded to next higher and fraction of less than 0.5 has been ignored.

13. **Generic Levellised Tariff and Associated Terms & Conditions.-**

In light of the discussions made in the preceding paragraphs, the generic levellised tariff and the associated terms and conditions for solar PV power project for FY 2025-26 under the RE Regulations, 2017 have been arrived at and are determined as under:-

A. The generic levellised tariff for Solar PV power projects for FY 2025-26 shall be:-

Sr. No.	Capacity	Generic levellised tariff (Rs. Per kWh)
1	**Projects to be set up in other than industrial areas and urban areas**	
(a)	Upto 1.00 MW	3.45
(b)	Above 1.00 MW & upto 3.00 MW	3.38
(c)	Above 3.00 MW & upto 5.00 MW	3.32
2	**Projects to be set up in industrial areas and urban areas**	
(a)	Upto 1.00 MW	3.50
(b)	Above 1.00 MW & upto 3.00 MW	3.44
(c)	Above 3.00 MW & upto 5.00 MW	3.38

B. This tariff as per item A shall be subject to the RE Tariff Regulations, 2017 and the orders as may be issued by the Commission there under from time to time.

C. This tariff is applicable to solar photovoltaic (PV) power projects which directly convert Solar Energy into Electricity, using the poly crystalline silicon or Mono PERC technology or any other technology as approved by the Ministry of New and Renewable Energy and are connected to the Grid.

D. This tariff does not take into account any capital subsidy or any incentive or grant/budgetary support etc. and the adjustment in this regard shall be carried out in accordance with the RE Regulations, 2017. The adjustments, if any, to be made at the rate per kWh by considering Rs. 10.00 Lacs/MW subsidy have however been indicated in the tariff calculation sheets.

E. The applicability of this tariff shall be governed as per the following provisions:-

(i) in cases where the joint petition for approval of PPA is submitted to the Commission on or after 01.04.2025, but not later than 31.03.2026, this tariff shall be applicable for such capacity(ies) as are commissioned on or before 31.03.2027.

(ii) in other cases, not covered in item (i) above, this tariff shall be applicable for such capacity(ies) for which the generic levellised tariff for FY 2025-26 is applicable in accordance with the provisions of the PPAs read with the applicable tariff Order(s) of previous years.

F. This tariff shall not be applicable in cases where the distribution licensee procures power through Solar Energy Corporation of India or through competitive bidding at its level in accordance with Section 63 of the Electricity Act, 2003.

G. This tariff shall not be applicable in case of the solar PV projects which are installed by the consumers within their premises (rooftop or ground mounted) under net metering scheme.

H. The royalty as provided i.e. 5 paise per unit by the State Government vide notification No. MPP-F(10)-43/2023 dated 21.09.2023 shall be worked out by the HPSEBL from the generation of the project and shall be payable @5 paise per unit to the Government of HP over and above the approved tariff of the project which shall be eligible for the pass through.

14. The detailed computations for generic levellised tariff for FY 2025-26 for the categories of solar PV power projects, without considering any

subsidies/ incentives/grants as well as illustrations thereof are attached as per Appendix – “I, II & III” and “IV, V and VI”.

Ordered accordingly.

Sd/-	Sd/-	Sd/-
(Shashi Kant Joshi)	(Yashwant Singh Chogal)	(Devendra Kumar Sharma)
Member	**Member (Law)**	**Chairman**

Place: Shimla.
Dated: 27th, March, 2025.

Annexure –"A"

Sr.No.	Participants
1.	Sh. Sanjeev Jindal, Manager, Purvik Power Tech. Pvt. Ltd.
2.	Sh. R.K. Verma, Superintendent Engineer , HPSEBL
3.	Er. Pooja Thakur, Sr. Xen (PSP), HPSEBL
4.	Sh. Kuldeep Kumar, Sr. Xen, Directorate of Energy
5.	Sh. KamleshSaklani, HPSEBL
6.	Sh. Sandeep Sharma, Assistant Engineer (PSP), HPSEBL
7.	Sh. VineetSood, Project Manager (Solar), HIMURJA
8.	Sh. Shanti Swaroop, Legal Consultant DoE, Directorate of Energy

Appendix - I

Assumption Parameters for Solar PV Power Projects upto 1 MW

(for project(s) to be setup in area other than Industrial areas and Urban areas)

Sr.No	Assumption Head	Sub Head	Sub Head(2)	Unit	Value
1	Power Generation	Capacity	Installed Generation Capacity	KW	1000
			Capacity Utilisation Factor	%	0.21
			Transmission losses, Auxillary	%	1.45
			Useful Life	Years	25
2	Project Cost	Capital Cost /MW	Project Cost	Lakh Rs./MW	351.95
3	Project Financing	Debt Equity	Tariff Period	Year	25
			Debt	%	70
			Equity	%	30
		Debt Component	Loan Amount	Lakh Rs./MW	246.365
			Moratorium Period	Year	0
			Repayment Period	Year	15
			Interst Rate	%	10.98
		Equity Component	Equity Amount	Lakh Rs./MW	105.585
			Return of equity for first 20 Years	%	16.81
			Return of equity from 21st Years	%	19.4
4	Subsidy	Subsidy			0
5	Depreciation	Depreciation	Recovery of Depreciation	%	90
			Annual Rate of Depreciation till	%	4.67
			16th year Onward	%	1.995
6	Operation & Maintenance		Total O&M Expenses	Lakh Rs./MW	10.55
			Annual Escalation	%	3.84
7	Working Capital		O&M Charges	Month	1
			Maintenance Spares	% of O&M expenses of a Year	15
			Recievables	Months	1.5
			Interest on Working capital	%	12.48
8	Discount Factor		Discount Rate	%	9.75

Determination of Tariff for Solar PV Power Projects up to 1 MW (for project(s) to be setup in area other than Industrial areas and Urban areas)

Unit Generation	**unit**	**year**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**
Installed Capacity	KW		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Gross generation	MU		1.840	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84
Losses	MU		1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45
Net Generation	MU		1.813	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81
Fixed Cost		**year**																									
O&M Expences	Rs. lakh		10.55	10.955	11.38	11.81	12.27	12.74	13.23	13.73	14.26	14.81	15.38	15.97	16.58	17.22	17.88	18.57	19.28	20.02	20.79	21.59	22.42	23.28	24.17	25.10	26.06
Depriciation	Rs. lakh		16.44	16.44	16.44	16.44	16.44	16.44	16.44	16.44	16.44	16.44	16.44	16.44	16.44	16.44	16.44	7.02	7.02	7.02	7.02	7.02	7.02	7.02	7.02	7.02	7.02
Interest on Term Loan	Rs. lakh		26.15	24.35	22.54	20.74	18.94	17.13	15.33	13.53	11.72	9.92	8.12	6.31	4.51	2.71	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs. lakh		1.44	1.43	1.42	1.41	1.40	1.39	1.39	1.38	1.38	1.37	1.37	1.37	1.37	1.37	1.37	1.24	1.27	1.30	1.34	1.37	1.45	1.49	1.53	1.58	1.62
Return on Equity	Rs. lakh		17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	17.75	20.48	20.48	20.48	20.48	20.48
Total fixed Cost	Rs. lakh		72.32	70.91	69.52	68.14	66.79	65.45	64.13	62.82	61.54	60.28	59.05	57.83	56.64	55.48	54.33	44.57	45.32	46.09	46.90	47.73	51.37	52.27	53.21	54.18	55.19
Levellised CoG																											
Per unit CoG	Unit	**levellised**																									
O&M Expences	/kWh	0.78	0.58	0.60	0.63	0.65	0.68	0.70	0.73	0.76	0.79	0.82	0.85	0.88	0.91	0.95	0.99	1.02	1.06	1.10	1.15	1.19	1.24	1.28	1.33	1.38	1.44
Depriciation	/kWh	0.82	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Interest on Term Loan	/kWh	0.76	1.44	1.34	1.24	1.14	1.04	0.95	0.85	0.75	0.65	0.55	0.45	0.35	0.25	0.15	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	/kWh	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.09	0.09
Return on Equity	/kWh	0.99	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	1.13	1.13	1.13	1.13	1.13
Total CoG	/kWh	3.43	3.99	3.9114	3.83	3.76	3.68	3.61	3.54	3.47	3.39	3.33	3.26	3.19	3.12	3.06	3.00	2.46	2.50	2.54	2.59	2.63	2.83	2.88	2.93	2.99	3.04
Discounted factor	%		1	0.91	0.83	0.76	0.69	0.63	0.57	0.52	0.48	0.43	0.39	0.36	0.33	0.30	0.27	0.25	0.23	0.21	0.19	0.17	0.16	0.14	0.13	0.12	0.11
Levellised Tariff	**/kWh**	**3.445**	3.99	3.5639	3.18	2.84	2.54	2.27	2.02	1.81	1.61	1.44	1.28	1.15	1.02	0.91	0.81	0.61	0.56	0.52	0.48	0.45	0.44	0.41	0.38	0.35	0.33

Generic Levellised Tariff (without Subsidy) at Capital Cost of Rs 351.95 Lakh/MW = Rs.3.45/kWh
Indicative Generic Levellised Tariff by considering Subsidy/Incentive/Grant of Rs 10 Lakh/MW = Rs. 3.37/kWh
Adjustment to be made per 10 Lakh of Subsidy/Incentive/Grant per MW= Rs. 0.08/kWh

Appendix - II

Assumption Parameters for Solar PV Power Projects above 1 MW & upto3 MW

(for project(s) to be setup in area other than Industrial areas and Urban areas)

Sr. No	Assumption Head	Sub Head	Sub Head(2)	Unit	Value
1	Power Generation	Capacity	Installed Generation Capacity	KW	1000
			Capacity Utilisation Factor	%	0.21
			Transmission losses, Auxillary	%	1.45
			Useful Life	Years	25
2	Project Cost	Capital Cost /MW	Project Cost	Lakh Rs./MW	343.57
3	Project Financing	Debt Equity	Tariff Period	Year	25
			Debt	%	70
			Equity	%	30
		Debt Component	Loan Amount	Lakh Rs./MW	240.499
			Moratorium Period	Year	0
			Repayment Period	Year	15
			Interst Rate	%	10.98
		Equity Component	Equity Amount	Lakh Rs./MW	103.071
			Return of equity for first 20 Years	%	16.81
			Return of equity from 21st Years	%	19.4
4	Subsidy	Subsidy			0
5	Depreciation	Depreciation	Recovery of Depreciation	%	90
			Annual Rate of Depreciation till	%	4.67
			16th year Onward	%	1.995
6	Operation & Maintenance		Total O&M Expenses	Lakh Rs./MW	10.55
			Annual Escalation	%	3.84
7	Working Capital		O&M Charges	Month	1
			Maintenance Spares	% of O&M expenses of a Year	15
			Recievables	Months	1.5
			Interest on Working capital	%	12.48
8	Discount Factor		Discount Rate	%	9.75

Determination of Tariff for Solar PV Power Projects above 1 MW & upto 3MW (for project(s) to be setup in area other than Industrial areas and Urban areas)

Unit Generation	**unit**	**year**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**
Installed Capacity	KW		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Gross generation	MU		1.840	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84
Losses	MU		1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45
Net Generation	MU		1.813	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81
Fixed Cost		**year**																									
O&M Expences	Rs. lakh		10.55	10.955	11.38	11.81	12.27	12.74	13.23	13.73	14.26	14.81	15.38	15.97	16.58	17.22	17.88	18.57	19.28	20.02	20.79	21.59	22.42	23.28	24.17	25.10	26.06
Depriciation	Rs. lakh		16.04	16.04	16.04	16.04	16.04	16.04	16.04	16.04	16.04	16.04	16.04	16.04	16.04	16.04	16.04	6.85	6.85	6.85	6.85	6.85	6.85	6.85	6.85	6.85	6.85
Interest on Term Loan	Rs. lakh		25.53	23.77	22.01	20.25	18.48	16.72	14.96	13.20	11.44	9.68	7.92	6.16	4.40	2.64	0.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs. lakh		1.41	1.40	1.39	1.39	1.38	1.37	1.37	1.36	1.36	1.36	1.35	1.35	1.35	1.35	1.36	1.23	1.26	1.29	1.33	1.36	1.44	1.48	1.52	1.57	1.61
Return on Equity	Rs. lakh		17.33	17.33	17.33	17.33	17.33	17.33	17.33	17.33	17.33	17.33	17.33	17.33	17.33	17.33	17.33	17.33	17.33	17.33	17.33	17.33	20.00	20.00	20.00	20.00	20.00
Total fixed Cost	Rs. lakh		70.86	69.50	68.15	66.82	65.50	64.21	62.93	61.67	60.43	59.22	58.02	56.85	55.71	54.58	53.49	43.97	44.72	45.49	46.30	47.13	50.71	51.61	52.54	53.51	54.52
Levellised CoG																											
Per unit CoG	Unit	**levellised**																									
O&M Expences	/kWh	0.78	0.58	0.60	0.63	0.65	0.68	0.70	0.73	0.76	0.79	0.82	0.85	0.88	0.91	0.95	0.99	1.02	1.06	1.10	1.15	1.19	1.24	1.28	1.33	1.38	1.44
Depriciation	/kWh	0.80	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Interest on Term Loan	/kWh	0.74	1.41	1.31	1.21	1.12	1.02	0.92	0.83	0.73	0.63	0.53	0.44	0.34	0.24	0.15	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	/kWh	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.09	0.09
Return on Equity	/kWh	0.97	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	1.10	1.10	1.10	1.10	1.10
Total CoG	/kWh	3.37	3.91	3.8333	3.76	3.69	3.61	3.54	3.47	3.40	3.33	3.27	3.20	3.14	3.07	3.01	2.95	2.43	2.47	2.51	2.55	2.60	2.80	2.85	2.90	2.95	3.01
Discounted factor	%		1	0.91	0.83	0.76	0.69	0.63	0.57	0.52	0.48	0.43	0.39	0.36	0.33	0.30	0.27	0.25	0.23	0.21	0.19	0.17	0.16	0.14	0.13	0.12	0.11
Levellised Tariff	**/kWh**	**3.38**	3.91	3.4928	3.12	2.79	2.49	2.22	1.99	1.77	1.58	1.41	1.26	1.13	1.01	0.90	0.80	0.60	0.56	0.52	0.48	0.44	0.44	0.40	0.37	0.35	0.32

Generic Levellised Tariff (without Subsidy) at Capital Cost of Rs 343.57 Lakh/MW = Rs.3.38/kWh
Indicative Generic Levellised Tariff by considering Subsidy/Incentive/Grant of Rs 10 Lakh/MW = Rs. 3.31/kWh
Adjustment to be made per 10 Lakh of Subsidy/Incentive/Grant per MW= Rs. 0.07/kWh

Appendix - III

Assumption Parameters for Solar PV Power Projects above 3 MW & upto 5 MW

(for project(s) to be setup in area other than Industrial areas and Urban areas)

Sr. No	Assumption Head	Sub Head	Sub Head(2)	Unit	Value
1	Power Generation	Capacity	Installed Generation Capacity	KW	1000
			Capacity Utilisation Factor	%	0.21
			Auxiliary Consumption	%	0
			Transmission losses. Auxillary	%	1.45
			Useful Life	Years	25
2	Project Cost	Capital Cost /MW	Project Cost	Lakh Rs./MW	335.19
3	Project Financing	Debt Equity	Tariff Period	Year	25
			Debt	%	70
			Equity	%	30
		Debt Component	Loan Amount	Lakh Rs./MW	234.633
			Moratorium Period	Year	0
			Repayment Period	Year	15
			Interst Rate	%	10.98
		Equity Component	Equity Amount	Lakh Rs./MW	100.557
			Return of equity for first 20 Years	%	16.81
			Return of equity from 21st Years	%	19.4
4	Subsidy	Subsidy			0
5	Depreciation	Depreciation	Recovery of Depreciation	%	90
			Annual Rate of Depreciation till	%	4.67
			16th year Onward	%	1.995
6	Operation & Maintenance		Total O&M Expenses	Lakh Rs./MW	10.55
			Annual Escalation	%	3.84
7	Working Capital		O&M Charges	Month	1
			Maintenance Spares	% of O&M expenses of a Year	15
			Recievables	Months	1.5
			Interest on Working capital	%	12.48
8	Discount Factor		Discount Rate	%	9.75

Determination of Tariff for Solar PV Power Projects above3 MW & upto5MW (for project(s) to be setup in area other than Industrial areas and Urban areas)

Unit Generation	**unit**	**year**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**
Installed Capacity	KW		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Gross generation	MU		1.840	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84
Losses	MU		1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45
Net Generation	MU		1.813	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81
Fixed Cost		**year**																									
O&M Expences	Rs. lakh		10.55	10.955	11.38	11.81	12.27	12.74	13.23	13.73	14.26	14.81	15.38	15.97	16.58	17.22	17.88	18.57	19.28	20.02	20.79	21.59	22.42	23.28	24.17	25.10	26.06
Depriciation	Rs. lakh		15.65	15.65	15.65	15.65	15.65	15.65	15.65	15.65	15.65	15.65	15.65	15.65	15.65	15.65	15.65	6.69	6.69	6.69	6.69	6.69	6.69	6.69	6.69	6.69	6.69
Interest on Term Loan	Rs. lakh		24.90	23.19	21.47	19.75	18.03	16.32	14.60	12.88	11.16	9.45	7.73	6.01	4.29	2.58	0.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs. lakh		1.39	1.38	1.37	1.37	1.36	1.35	1.35	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.22	1.25	1.28	1.32	1.35	1.43	1.47	1.51	1.56	1.60
Return on Equity	Rs. lakh		16.90	16.90	16.90	16.90	16.90	16.90	16.90	16.90	16.90	16.90	16.90	16.90	16.90	16.90	16.90	16.90	16.90	16.90	16.90	16.90	19.51	19.51	19.51	19.51	19.51
Total fixed Cost	Rs. lakh		69.40	68.08	66.77	65.49	64.22	62.96	61.73	60.52	59.32	58.15	57.00	55.87	54.77	53.69	52.64	43.37	44.12	44.89	45.70	46.53	50.04	50.94	51.88	52.85	53.86
Levellised CoG																											
Per unit CoG	Unit	**levellised**																									
O&M Expences	/kWh	0.78	0.58	0.60	0.63	0.65	0.68	0.70	0.73	0.76	0.79	0.82	0.85	0.88	0.91	0.95	0.99	1.02	1.06	1.10	1.15	1.19	1.24	1.28	1.33	1.38	1.44
Depriciation	/kWh	0.78	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
Interest on Term Loan	/kWh	0.73	1.37	1.28	1.18	1.09	0.99	0.90	0.81	0.71	0.62	0.52	0.43	0.33	0.24	0.14	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	/kWh	0.07	0.08	0.08	0.08	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.09	0.09
Return on Equity	/kWh	0.94	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	1.08	1.08	1.08	1.08	1.08
Total CoG	/kWh	3.30	3.83	3.7552	3.68	3.61	3.54	3.47	3.41	3.34	3.27	3.21	3.14	3.08	3.02	2.96	2.90	2.39	2.43	2.48	2.52	2.57	2.76	2.81	2.86	2.92	2.97
Discounted factor	%		1	0.91	0.83	0.76	0.69	0.63	0.57	0.52	0.48	0.43	0.39	0.36	0.33	0.30	0.27	0.25	0.23	0.21	0.19	0.17	0.16	0.14	0.13	0.12	0.11
Levellised Tariff	**/kWh**	**3.32**	3.83	3.4216	3.06	2.73	2.44	2.18	1.95	1.74	1.55	1.39	1.24	1.11	0.99	0.88	0.79	0.59	0.55	0.51	0.47	0.44	0.43	0.40	0.37	0.34	0.32

Generic Levellised Tariff (without Subsidy) at Capital Cost of Rs 335.19 Lakh/MW = Rs.3.32/kWh
Indicative Generic Levellised Tariff by considering Subsidy/Incentive/Grant of Rs 10 Lakh/MW = Rs. 3.25/kWh
Adjustment to be made per 10 Lakh of Subsidy/Incentive/Grant per MW= Rs. 0.07/kWh

Appendix - IV

Assumption Parameters for Solar PV Power Projects upto 1 MW

(for project(s) to be setup in Industrial areas and Urban areas)

Sr. No	Assumption Head	Sub Head	Sub Head(2)	Unit	Value
1	Power Generation	Capacity	Installed Generation Capacity	KW	1000
			Capacity Utilisation Factor	%	0.21
			Transmission losses, Auxillary	%	1.45
			Useful Life	Years	25
2	Project Cost	Capital Cost /MW	Project Cost	Lakh Rs./MW	359.82
3	Project Financing	Debt Equity	Tariff Period	Year	25
			Debt	%	70
			Equity	%	30
		Debt Component	Loan Amount	Lakh Rs./MW	251.874
			Moratorium Period	Year	0
			Repayment Period	Year	15
			Interst Rate	%	10.98
		Equity Component	Equity Amount	Lakh Rs./MW	107.946
			Return of equity for first 20 Years	%	16.81
			Return of equity from 21st Years	%	19.4
4	Subsidy	Subsidy			0
5	Depreciation	Depreciation	Recovery of Depreciation	%	90
			Annual Rate of Depreciation till	%	4.67
			16th year Onward	%	1.995
6	Operation & Maintenance		Total O&M Expenses	Lakh Rs./MW	10.55
			Annual Escalation	%	3.84
7	Working Capital		O&M Charges	Month	1
			Maintenance Spares	% of O&M expenses of a Year	15
			Recievables	Months	1.5
			Interest on Working capital	%	12.48
8	Discount Factor		Discount Rate	%	9.75

Determination of Tariff for Solar PV Power Projects upto 1 MW (for project(s) to be setup in Industrial areas and Urban areas)

Unit Generation	**unit**	**year**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**
Installed Capacity	KW		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Gross generation	MU		1.840	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84
Losses	MU		1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45
Net Generation	MU		1.813	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81
Fixed Cost		**year**																									
O&M Expences	Rs. lakh		10.55	10.955	11.38	11.81	12.27	12.74	13.23	13.73	14.26	14.81	15.38	15.97	16.58	17.22	17.88	18.57	19.28	20.02	20.79	21.59	22.42	23.28	24.17	25.10	26.06
Depriciation	Rs. lakh		16.80	16.80	16.80	16.80	16.80	16.80	16.80	16.80	16.80	16.80	16.80	16.80	16.80	16.80	16.80	7.18	7.18	7.18	7.18	7.18	7.18	7.18	7.18	7.18	7.18
Interest on Term Loan	Rs. lakh		26.73	24.89	23.05	21.20	19.36	17.52	15.67	13.83	11.98	10.14	8.30	6.45	4.61	2.77	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs. lakh		1.46	1.45	1.44	1.43	1.42	1.41	1.40	1.40	1.39	1.39	1.38	1.38	1.38	1.38	1.38	1.24	1.28	1.31	1.35	1.38	1.46	1.50	1.54	1.59	1.63
Return on Equity	Rs. lakh		18.15	18.15	18.15	18.15	18.15	18.15	18.15	18.15	18.15	18.15	18.15	18.15	18.15	18.15	18.15	18.15	18.15	18.15	18.15	18.15	20.94	20.94	20.94	20.94	20.94
Total fixed Cost	Rs. lakh		73.69	72.24	70.81	69.39	67.99	66.61	65.25	63.91	62.59	61.29	60.01	58.75	57.52	56.31	55.13	45.14	45.88	46.65	47.46	48.29	52.00	52.90	53.83	54.80	55.81
Levellised CoG																											
Per unit CoG	Unit	**levellised**																									
O&M Expences	/kWh	0.78	0.58	0.60	0.63	0.65	0.68	0.70	0.73	0.76	0.79	0.82	0.85	0.88	0.91	0.95	0.99	1.02	1.06	1.10	1.15	1.19	1.24	1.28	1.33	1.38	1.44
Depriciation	/kWh	0.84	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Interest on Term Loan	/kWh	0.78	1.47	1.37	1.27	1.17	1.07	0.97	0.86	0.76	0.66	0.56	0.46	0.36	0.25	0.15	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	/kWh	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.09	0.09	0.09
Return on Equity	/kWh	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.16	1.16	1.16	1.16	1.16
Total CoG	/kWh	3.49	4.06	3.9848	3.91	3.83	3.75	3.67	3.60	3.53	3.45	3.38	3.31	3.24	3.17	3.11	3.04	2.49	2.53	2.57	2.62	2.66	2.87	2.92	2.97	3.02	3.08
Discounted factor	%		1	0.91	0.83	0.76	0.69	0.63	0.57	0.52	0.48	0.43	0.39	0.36	0.33	0.30	0.27	0.25	0.23	0.21	0.19	0.17	0.16	0.14	0.13	0.12	0.11
Levellised Tariff	**/kWh**	**3.50**	4.06	3.6308	3.24	2.90	2.59	2.31	2.06	1.84	1.64	1.46	1.31	1.16	1.04	0.93	0.83	0.62	0.57	0.53	0.49	0.45	0.45	0.41	0.38	0.36	0.33

Generic Levellised Tariff (without Subsidy) at Capital Cost of Rs 359.82 Lakh/MW = Rs.3.50/kWh
Indicative Generic Levellised Tariff by considering Subsidy/Incentive/Grant of Rs 10 Lakh/MW = Rs. 3.43/kWh
Adjustment to be made per 10 Lakh of Subsidy/Incentive/Grant per MW= Rs. 0.07/kWh

Appendix - V

Assumption Parameters for Solar PV Power Projects above 1 MW & upto 3 MW

(for project(s) to be setup in Industrial areas and Urban areas)

Sr. No	Assumption Head	Sub Head	Sub Head(2)	Unit	Value
1	Power Generation	Capacity	Installed Generation Capacity	KW	1000
			Capacity Utilisation Factor	%	0.21
			Transmission losses, Auxillary	%	1.45
			Useful Life	Years	25
2	Project Cost	Capital Cost /MW	Project Cost	Lakh Rs./MW	351.26
3	Project Financing	Debt Equity	Tariff Period	Year	25
			Debt	%	70
			Equity	%	30
		Debt Component	Loan Amount	Lakh Rs./MW	245.882
			Moratorium Period	Year	0
			Repayment Period	Year	15
			Interst Rate	%	10.98
		Equity Component	Equity Amount	Lakh Rs./MW	105.378
			Return of equity for first 20 Years	%	16.81
			Return of equity from 21st Years	%	19.4
4	Subsidy	Subsidy			0
5	Depreciation	Depreciation	Recovery of Depreciation	%	90
			Annual Rate of Depreciation till	%	4.67
			16th year Onward	%	1.995
6	Operation & Maintenance		Total O&M Expenses	Lakh Rs./MW	10.55
			Annual Escalation	%	3.84
7	Working Capital		O&M Charges	Month	1
			Maintenance Spares	% of O&M expenses of a Year	15
			Recievables	Months	1.5
			Interest on Working capital	%	12.48
8	Discount Factor		Discount Rate	%	9.75

Determination of Tariff for Solar PV Power Projects above 1 MW & upto 3 MW (for project(s) to be setup in Industrial areas and Urban areas)

Unit Generation	**unit**	**year**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**
Installed Capacity	KW		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Gross generation	MU		1.840	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84
Losses	MU		1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45
Net Generation	MU		1.813	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81
Fixed Cost		**year**																									
O&M Expences	Rs. lakh		10.55	10.955	11.38	11.81	12.27	12.74	13.23	13.73	14.26	14.81	15.38	15.97	16.58	17.22	17.88	18.57	19.28	20.02	20.79	21.59	22.42	23.28	24.17	25.10	26.06
Depriciation	Rs. lakh		16.40	16.40	16.40	16.40	16.40	16.40	16.40	16.40	16.40	16.40	16.40	16.40	16.40	16.40	16.40	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01
Interest on Term Loan	Rs. lakh		26.10	24.30	22.50	20.70	18.90	17.10	15.30	13.50	11.70	9.90	8.10	6.30	4.50	2.70	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs. lakh		1.43	1.42	1.41	1.41	1.40	1.39	1.38	1.38	1.37	1.37	1.37	1.37	1.37	1.37	1.37	1.24	1.27	1.30	1.34	1.37	1.45	1.49	1.53	1.58	1.62
Return on Equity	Rs. lakh		17.71	17.71	17.71	17.71	17.71	17.71	17.71	17.71	17.71	17.71	17.71	17.71	17.71	17.71	17.71	17.71	17.71	17.71	17.71	17.71	20.44	20.44	20.44	20.44	20.44
Total fixed Cost	Rs. lakh		72.20	70.79	69.41	68.03	66.68	65.34	64.03	62.73	61.45	60.20	58.96	57.75	56.56	55.40	54.26	44.52	45.27	46.04	46.85	47.68	51.32	52.22	53.15	54.12	55.13
Levellised CoG																											
Per unit CoG	Unit	**levellised**																									
O&M Expences	/kWh	0.78	0.58	0.60	0.63	0.65	0.68	0.70	0.73	0.76	0.79	0.82	0.85	0.88	0.91	0.95	0.99	1.02	1.06	1.10	1.15	1.19	1.24	1.28	1.33	1.38	1.44
Depriciation	/kWh	0.82	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Interest on Term Loan	/kWh	0.76	1.44	1.34	1.24	1.14	1.04	0.94	0.84	0.74	0.65	0.55	0.45	0.35	0.25	0.15	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	/kWh	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.09	0.09
Return on Equity	/kWh	0.99	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	1.13	1.13	1.13	1.13	1.13
Total CoG	/kWh	3.42	3.98	3.9050	3.83	3.75	3.68	3.60	3.53	3.46	3.39	3.32	3.25	3.19	3.12	3.06	2.99	2.46	2.50	2.54	2.58	2.63	2.83	2.88	2.93	2.99	3.04
Discounted factor	%		1	0.91	0.83	0.76	0.69	0.63	0.57	0.52	0.48	0.43	0.39	0.36	0.33	0.30	0.27	0.25	0.23	0.21	0.19	0.17	0.16	0.14	0.13	0.12	0.11
Levellised Tariff	**/kWh**	**3.44**	3.98	3.5581	3.18	2.84	2.54	2.26	2.02	1.80	1.61	1.44	1.28	1.14	1.02	0.91	0.81	0.61	0.56	0.52	0.48	0.45	0.44	0.41	0.38	0.35	0.33

Generic Levellised Tariff (without Subsidy) at Capital Cost of Rs 351.26 Lakh/MW = Rs.3.44/kWh
Indicative Generic Levellised Tariff by considering Subsidy/Incentive/Grant of Rs 10 Lakh/MW = Rs. 3.37/kWh
Adjustment to be made per 10 Lakh of Subsidy/Incentive/Grant per MW= Rs. 0.07/kWh

Appendix - VI

Assumption Parameters for Solar PV Power Projects above 3 MW & upto 5 MW

(for project(s) to be setup in Industrial areas and Urban areas)

Sr. No	Assumption Head	Sub Head	Sub Head(2)	Unit	Value
1	Power Generation	Capacity	Installed Generation Capacity	KW	1000
			Capacity Utilisation Factor	%	0.21
			Transmission losses, Auxillary	%	1.45
			Useful Life	Years	25
2	Project Cost	Capital Cost /MW	Project Cost	Lakh Rs./MW	342.69
3	Project Financing	Debt Equity	Tariff Period	Year	25
			Debt	%	70
			Equity	%	30
		Debt Component	Loan Amount	Lakh Rs./MW	239.883
			Moratorium Period	Year	0
			Repayment Period	Year	15
			Interst Rate	%	10.98
		Equity Component	Equity Amount	Lakh Rs./MW	102.807
			Return of equity for first 20 Years	%	16.81
			Return of equity from 21st Years	%	19.4
4	Subsidy	Subsidy			0
5	Depreciation	Depreciation	Recovery of Depreciation	%	90
			Annual Rate of Depreciation till	%	4.67
			16th year Onward	%	1.995
6	Operation & Maintenance		Total O&M Expenses	Lakh Rs./MW	10.55
			Annual Escalation	%	3.84
7	Working Capital		O&M Charges	Month	1
			Maintenance Spares	% of O&M expenses of a Year	15
			Recievables	Months	1.5
			Interest on Working capital	%	12.48
8	Discount Factor		Discount Rate	%	9.75

Determination of Tariff for Solar PV Power Projects above 3 MW & upto 5MW (for project(s) to be setup in Industrial areas and Urban areas)

Unit Generation	**unit**	**year**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**
Installed Capacity	KW		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Gross generation	MU		1.840	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84
Losses	MU		1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45
Net Generation	MU		1.813	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81
Fixed Cost		**year**																									
O&M Expences	Rs. lakh		10.55	10.955	11.38	11.81	12.27	12.74	13.23	13.73	14.26	14.81	15.38	15.97	16.58	17.22	17.88	18.57	19.28	20.02	20.79	21.59	22.42	23.28	24.17	25.10	26.06
Depriciation	Rs. lakh		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	6.84	6.84	6.84	6.84	6.84	6.84	6.84	6.84	6.84	6.84
Interest on Term Loan	Rs. lakh		25.46	23.71	21.95	20.19	18.44	16.68	14.93	13.17	11.41	9.66	7.90	6.15	4.39	2.63	0.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs. lakh		1.41	1.40	1.39	1.38	1.38	1.37	1.36	1.36	1.36	1.35	1.35	1.35	1.35	1.35	1.35	1.23	1.26	1.29	1.33	1.36	1.44	1.48	1.52	1.56	1.61
Return on Equity	Rs. lakh		17.28	17.28	17.28	17.28	17.28	17.28	17.28	17.28	17.28	17.28	17.28	17.28	17.28	17.28	17.28	17.28	17.28	17.28	17.28	17.28	19.94	19.94	19.94	19.94	19.94
Total fixed Cost	Rs. lakh		70.71	69.35	68.00	66.68	65.37	64.07	62.80	61.55	60.32	59.11	57.92	56.75	55.61	54.49	53.40	43.91	44.66	45.43	46.23	47.07	50.64	51.54	52.47	53.44	54.45
Levellised CoG																											
Per unit CoG	Unit	**levellised**																									
O&M Expences	/kWh	0.78	0.58	0.60	0.63	0.65	0.68	0.70	0.73	0.76	0.79	0.82	0.85	0.88	0.91	0.95	0.99	1.02	1.06	1.10	1.15	1.19	1.24	1.28	1.33	1.38	1.44
Depriciation	/kWh	0.80	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Interest on Term Loan	/kWh	0.74	1.40	1.31	1.21	1.11	1.02	0.92	0.82	0.73	0.63	0.53	0.44	0.34	0.24	0.15	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	/kWh	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.09	0.09
Return on Equity	/kWh	0.96	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	1.10	1.10	1.10	1.10	1.10
Total CoG	/kWh	3.36	3.90	3.8251	3.75	3.68	3.61	3.53	3.46	3.40	3.33	3.26	3.19	3.13	3.07	3.01	2.95	2.42	2.46	2.51	2.55	2.60	2.79	2.84	2.89	2.95	3.00
Discounted factor	%		1	0.91	0.83	0.76	0.69	0.63	0.57	0.52	0.48	0.43	0.39	0.36	0.33	0.30	0.27	0.25	0.23	0.21	0.19	0.17	0.16	0.14	0.13	0.12	0.11
Levellised Tariff	**/kWh**	**3.38**	3.90	3.4853	3.11	2.78	2.49	2.22	1.98	1.77	1.58	1.41	1.26	1.12	1.00	0.90	0.80	0.60	0.56	0.52	0.48	0.44	0.43	0.40	0.37	0.35	0.32

Generic Levellised Tariff (without Subsidy) at Capital Cost of Rs 342.69 Lakh/MW = Rs.3.38/kWh
Indicative Generic Levellised Tariff by considering Subsidy/Incentive/Grant of Rs 10 Lakh/MW = Rs. 3.30/kWh
Adjustment to be made per 10 Lakh of Subsidy/Incentive/Grant per MW= Rs. 0.08/kWh