

**JHARKHAND STATE ELECTRICITY REGULATORY COMMISSION**  
**(Determination of Tariff for Procurement of Power from Solar PV Power Project and Solar Thermal Power Project) Regulations, 2015.**  
**DRAFT**

Sl. No.	Description	Summary
1.	<b>Short Title, Extent and Commencement</b>	JSERC Determination of Tariff for Procurement of Power from Solar PV Power Project and Solar Thermal Power Project) Regulations, 2015. <ul style="list-style-type: none"> <li>• Regulations to extend to the entire State of Jharkhand;</li> <li>• Regulations to come into force from the date of publication in Official Gazette of the Government of Jharkhand and unless reviewed earlier or extended by the Commission, to remain in force up to 31<sup>st</sup> March, 2020.</li> </ul>
2.	<b>Definitions and Interpretations</b>	As per Regulations
3.	<b>Applicability</b>	Applicable to: <ul style="list-style-type: none"> <li>• Grid connected Solar Photovoltaic (PV) power projects that directly convert solar energy into electricity and are based on the technologies such as crystalline silicon or thin film etc. as may be approved by MNRE.</li> <li>• Grid connected Solar thermal power projects based on Concentrated solar power (CSP) technologies as may be approved by MNRE</li> <li>• Solar PV and solar thermal power projects in the state commissioned on or after the date of issue of this order and intended for sale of electricity to the Distribution Licensees within the state.</li> <li>• Control period to start from the date of publication and extend upto 31<sup>st</sup> March, 2020.</li> <li>• Tariff decided in a particular control period to apply to all projects which come up within that control period.</li> <li>• Revision in Regulations for next Control Period to be undertaken at least six months prior to the end of the this Control Period and in case Regulations for the next Control Period are not notified until commencement of next Control Period, the tariff norms as per these Regulations shall continue to remain applicable until notification of the revised Regulations subject to adjustments as per revised Regulations.</li> </ul>
4.	<b>Determinants of Tariff</b>	<ul style="list-style-type: none"> <li>• Stand-alone Solar PV and solar thermal power projects supplying to Rural areas will not have tariff determined by the Regulator</li> <li>• Generic tariff determined for Solar PV projects based on the capital cost and other norms applicable for any year of the control period to apply for such projects during the next year;</li> <li>• Generic tariff determined for Solar thermal projects based on the capital cost and other norms for the any year of the control period to apply for such projects during the next two years,  Provided: <ul style="list-style-type: none"> <li>➤ Power Purchase Agreements(PPA) in respect of the Solar PV and Solar thermal projects are signed on or before last day of the year for which generic tariff is determined and</li> <li>➤ Entire capacity covered by the PPA is commissioned on or before 31<sup>st</sup> March of the next year in respect of Solar PV projects and on or before 31<sup>st</sup> March of subsequent two years in respect of Solar thermal projects</li> </ul> </li> </ul> For more Details Refer Regulations

<p><b>5.</b></p>	<p><b>Tariff Principle</b></p>	<ul style="list-style-type: none"> <li>• Generalised Single Part levelled tariff.</li> <li>• Levellisation to be carried out for the 'useful life' of the RE project while tariff shall be specified for the period equivalent to 'Tariff Period'</li> <li>• <b>Components of Tariff</b> <ul style="list-style-type: none"> <li>➤ Capital cost</li> <li>➤ Capacity utilization factor;</li> <li>➤ Auxiliary consumption;</li> <li>➤ Debt-equity ratio ;</li> <li>➤ Term of loan and Interest on long term debt;</li> <li>➤ Depreciation;</li> <li>➤ Operation and Maintenance expenditure;</li> <li>➤ Working capital and interest on working capital;</li> <li>➤ Return on equity.</li> </ul> </li> </ul>																																							
<p><b>6.</b></p>	<p><b>Tariff Determinants</b></p>	<p>The financial and operational parameters are tabulated below:</p> <table border="1" data-bbox="537 772 1360 1751"> <thead> <tr> <th>Tariff Components</th> <th>Solar Photovoltaic</th> <th>Solar Thermal</th> </tr> </thead> <tbody> <tr> <td>Capital cost</td> <td>Rs.605.85 lakhs /MW</td> <td>Rs. 1200 lakhs/MW</td> </tr> <tr> <td>CUF</td> <td>19%</td> <td>23%</td> </tr> <tr> <td>Auxiliary Consumption</td> <td>-</td> <td>10%</td> </tr> <tr> <td>Useful life /Life of the machine</td> <td>25 years</td> <td>25 years</td> </tr> <tr> <td>Debt-equity ratio</td> <td>70:30</td> <td>70:30</td> </tr> <tr> <td>Loan repayment period</td> <td>12 yrs</td> <td>12 yrs</td> </tr> <tr> <td>Interest on loan</td> <td>Average SBI Rate during first 6 months of previous years +3%</td> <td>Average SBI Rate during first 6 months of previous years +3%</td> </tr> <tr> <td>Interest on Working Capital</td> <td>Average SBI Rate during first 6 months of previous years +3.5%</td> <td>Average SBI Rate during first 6 months of previous years +3.5%</td> </tr> <tr> <td>Operation and Maintenance Expenses</td> <td>Rs.11.88 Lakhs/ MW with annual escalation of 5.72 %</td> <td>Rs.17.16 Lakhs/MW with annual escalation of 5.72%</td> </tr> <tr> <td>Depreciation</td> <td>1 to 12 yrs – 5.83% Remaining depreciation spread over useful life</td> <td>1 to 12 yrs – 5.83% Remaining depreciation spread over useful life</td> </tr> <tr> <td>Residual value</td> <td>10% of capital cost</td> <td>10% of capital cost</td> </tr> <tr> <td>Return on equity(pre-tax)</td> <td>20% - for first 10 yrs, 24% - from 11<sup>th</sup> yr to 25<sup>th</sup> yr</td> <td>20% - for first 10 yrs, 24% - from 11<sup>th</sup> yr to 25<sup>th</sup> yr</td> </tr> </tbody> </table>	Tariff Components	Solar Photovoltaic	Solar Thermal	Capital cost	Rs.605.85 lakhs /MW	Rs. 1200 lakhs/MW	CUF	19%	23%	Auxiliary Consumption	-	10%	Useful life /Life of the machine	25 years	25 years	Debt-equity ratio	70:30	70:30	Loan repayment period	12 yrs	12 yrs	Interest on loan	Average SBI Rate during first 6 months of previous years +3%	Average SBI Rate during first 6 months of previous years +3%	Interest on Working Capital	Average SBI Rate during first 6 months of previous years +3.5%	Average SBI Rate during first 6 months of previous years +3.5%	Operation and Maintenance Expenses	Rs.11.88 Lakhs/ MW with annual escalation of 5.72 %	Rs.17.16 Lakhs/MW with annual escalation of 5.72%	Depreciation	1 to 12 yrs – 5.83% Remaining depreciation spread over useful life	1 to 12 yrs – 5.83% Remaining depreciation spread over useful life	Residual value	10% of capital cost	10% of capital cost	Return on equity(pre-tax)	20% - for first 10 yrs, 24% - from 11 <sup>th</sup> yr to 25 <sup>th</sup> yr	20% - for first 10 yrs, 24% - from 11 <sup>th</sup> yr to 25 <sup>th</sup> yr
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<p><b>7.</b></p>	<p><b>Wheeling</b></p>	<p>50% discount on wheeling charges and other surcharge on wheeling charges applicable to conventional form of Generation</p>																																							

<b>8.</b>	<b>Scheduling</b>	<ul style="list-style-type: none"> <li>•Solar PV and Solar thermal power projects with installed capacity of 10 MW and above to be treated as 'MUST RUN' power plants and not subjected to 'merit order despatch' principles.</li> <li>• Solar plants with capacity of 5 MW and above and connected at 33 kV level and above to be subjected to scheduling and despatch code as specified under Indian Electricity Grid Code (IEGC) -2010, as amended from time to time.</li> <li>•In case of solar generation no UI shall be payable/receivable by Solar generator.</li> </ul> <p>For more Details Refer Regulations</p>
<b>9.</b>	<b>Reactive Power Supply</b>	Charges applicable as per JSERC (Open Access in Intra-State Transmission and Distribution) Regulations, 2005 and subsequent amendments thereof.
<b>10.</b>	<b>Metering and Billing</b>	<ul style="list-style-type: none"> <li>• As per JSERC (Open Access in Intra-State Transmission and Distribution) Regulations, 2005 and subsequent amendments thereof, Grid Code and CEA (Installation and Operation of Meters) Regulations, 2006 in consultation with Distribution Licensee/State Transmission Utility.</li> <li>• Periodicity of testing, checking, calibration etc., to be as per CEA (Installation and Operation of Meters) Regulations, 2006 and regulations issued by the Commission from time to time</li> <li>• Main and Check Meters to have facility to communicate its reading to SLDC on real time basis or otherwise as specified by the commission.</li> <li>• Billing of the metered energy to be on monthly basis</li> </ul>
<b>11.</b>	<b>Payment Mechanism</b>	<ul style="list-style-type: none"> <li>• 60 days from the date of presentation of the bill for the net energy sold</li> <li>• Delay beyond the 60 days, Distribution Licensee to pay late payment surcharge @ 1.25% pm to the generating company.</li> <li>• For payment other than through LC within 30 days from the date of presentation of bills by the generating company, a rebate of 1% billed amount allowed by the generating company.</li> <li>• For payments through LC within 1 month of presentation of bill, a rebate of 2% allowed to the Distribution Licensee.</li> </ul>
<b>12.</b>	<b>Third Party Sale</b>	<ul style="list-style-type: none"> <li>• In case of default in payment for more than three months by the Distribution Licensee, the generating company can sell power to the third party.</li> <li>• In cases where the developer has an existing arrangement for third party supply or for captive consumption and in case the generating company desires to terminate the agreement with third party and to supply to the Distribution Licensee, the Licensee with the prior permission of the Commission, shall purchase the power at the rate as determined by the Commission</li> </ul>
<b>13.</b>	<b>Start up Power</b>	Allowed from the Distribution Licensee's network and to be adjusted against the generated energy.
<b>14.</b>	<b>Drawing of Power during Shut down</b>	<ul style="list-style-type: none"> <li>• Allowed from the Distribution Licensee's network during shutdown period of plant or other emergencies.</li> <li>• The energy consumed shall be billed at the temporary rate applicable to HT Industrial category.</li> <li>• Drawl shall not normally exceed 11.5 % of the MW capacity it delivers to the Distribution Licensee</li> </ul>
<b>15.</b>	<b>Banking</b>	<ul style="list-style-type: none"> <li>• 100% banking of generated power allowed on the condition that banked power will not be returned by more than a fixed quantity at one time.</li> <li>• Utilities to facilitate banking so that power banked during off-peak period is not drawn during peak season.</li> </ul>

<b>16.</b>	<b>Minimum Purchase Requirement</b>	As per JSERC (Renewable purchase obligation and its compliance) Regulations, 2010 and as amended from time to time.
<b>17.</b>	<b>Evacuation Infrastructure</b>	State Transmission Utility (STU) to bear 100% of the cost of evacuation infrastructure
<b>18.</b>	<b>CDM Benefits</b>	Proceeds of carbon credit from approved CDM project to be shared between generating company and concerned beneficiaries as follows- <ul style="list-style-type: none"> <li>• 100% to the project developer in the first year after the date of commercial operation of the generating station;</li> <li>• In the second year, share of the beneficiaries to be 10% which progressively increase by 10% every year till it reaches 50%, where after to be shared in equal proportion by the generating company and the beneficiaries.</li> </ul>
<b>19.</b>	<b>Incentive by Central / State Government</b>	Commission to take into consideration any incentive/ subsidy offered by the Central/State Government, including accelerated depreciation benefit if availed by the generating company, for the RE power plants while determining the tariff
<b>20.</b>	<b>Taxes and Duties</b>	Tariff to be exclusive of taxes and duties as may be levied by the appropriate Government and allowed to pass through on actual incurred basis.
<b>21.</b>	<b>Financial Benefits for RE Projects</b>	<ul style="list-style-type: none"> <li>• Exemption of electricity duty for 10 years from COD</li> <li>• Exempted from open access charges.</li> <li>• Use of government land, if available, for a token land premium per year for 30 years or project life whichever is less</li> <li>• Exemption of 50% on stamp duty if the power producer purchases private land for the project.</li> <li>• Non-conventional energy equipment and other items related to the equipment exempted from commercial tax.</li> <li>• All RE power plants in Jharkhand to be given the status of industry and will be entitled to get all benefits available for industrial units.</li> <li>• Allowed to wheel energy</li> </ul>
<b>22.</b>	<b>Single Window Clearance</b>	State Government to facilitate such provision in Jharkhand.
<b>23.</b>	<b>Tariff Period</b>	25 years for the SPV and Solar thermal projects having Commercial Operation Date (COD) up to 31 <sup>st</sup> March, 2020.
<b>24.</b>	<b>Power To Remove Difficulties</b>	Vested with the Commission
<b>25.</b>	<b>Power to Amend</b>	Vested with the Commission
<b>26.</b>	<b>Savings</b>	Nothing in these Regulations: <ul style="list-style-type: none"> <li>• Shall be deemed to limit or otherwise affect the inherent power of the Commission to make orders</li> <li>• From adopting in conformity with the provisions of the Act a procedure, which is at variance with any of the provisions of these Regulations</li> <li>• Dealing with any matter or exercising any power under the Act for which no Regulations or Regulations have been framed</li> </ul>