

JHARKHAND STATE ELECTRICITY REGULATORY COMMISSION

(Tariff for Solar PV and Solar Thermal)

Order dated 12-07-2010

Sl. No.	Description	Summary																																		
1.	Title	Suo-Moto Tariff Order for Procurement of Power from Solar PV Power Project and Solar Thermal Power Project) 2010 order dated 12-07-2010																																		
2.	Type	Generic Tariff for Solar PV power project and Solar thermal power project on the basis of norms prescribed in the said Regulations.																																		
3.	Levelised Tariff for Solar PV Power Projects	<p>(i) Cost parameters considered by the Commission to determine tariff for power generated from solar PV power projects which also include Rooftop Solar PV projects are summarized below: Cost parameters considered by Commission for tariff determination</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="width: 60%;">Parameters</th> <th style="width: 40%;">Solar PV project</th> </tr> </thead> <tbody> <tr> <td>Capital cost (Rs Crores/MW)</td> <td>17</td> </tr> <tr> <td>Capacity Utilization Factor</td> <td>19%</td> </tr> <tr> <td>Auxiliary consumption</td> <td>-</td> </tr> <tr> <td>Useful life /Life of the machine</td> <td>25 yrs</td> </tr> <tr> <td>Debt: equity ratio</td> <td>70:30</td> </tr> <tr> <td>Loan repayment period</td> <td>10 yrs</td> </tr> <tr> <td>Interest on loan</td> <td>13.39%</td> </tr> <tr> <td>Interest on Working Capital</td> <td>12.89%</td> </tr> <tr> <td>O&M expenses</td> <td>Rs 9 lakhs per MW with annual escalation of 5.72%</td> </tr> <tr> <td>Depreciation</td> <td>1 to 10 yrs – 7% 11 to 25 yrs – 1.33%</td> </tr> <tr> <td>Residual value</td> <td>10% of capital cost</td> </tr> <tr> <td>Return on equity (pre-tax)</td> <td>19% - for first 10 yrs, 24% - from 11th yr to 25 yr</td> </tr> </tbody> </table> <p>(ii) The generic levelised tariff determined as per these Regulations shall be applicable for projects commissioned in the year 2010-11 on or after the date of notification of these Regulations and the projects commissioned till June 30, 2013 and shall be valid for a tariff period of 25 years from the Commercial Operation Date (COD) provided PPA are signed by 31st March 2011.</p> <p>(iii) The generic levelised tariff shall be as under:</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="width: 25%;">Particulars</th> <th style="width: 20%;">Levellised Tariff (Rs/ kwh)</th> <th style="width: 20%;">Levellised benefit of accelerated depreciation if availed (Rs/ kwh)</th> <th style="width: 35%;">Net Levellised Tariff after adjustment for accelerated depreciation (Rs/kwh)</th> </tr> </thead> <tbody> <tr> <td>Solar PV power projects</td> <td style="text-align: center;">17.96</td> <td style="text-align: center;">(2.98)</td> <td style="text-align: center;">14.98</td> </tr> </tbody> </table>	Parameters	Solar PV project	Capital cost (Rs Crores/MW)	17	Capacity Utilization Factor	19%	Auxiliary consumption	-	Useful life /Life of the machine	25 yrs	Debt: equity ratio	70:30	Loan repayment period	10 yrs	Interest on loan	13.39%	Interest on Working Capital	12.89%	O&M expenses	Rs 9 lakhs per MW with annual escalation of 5.72%	Depreciation	1 to 10 yrs – 7% 11 to 25 yrs – 1.33%	Residual value	10% of capital cost	Return on equity (pre-tax)	19% - for first 10 yrs, 24% - from 11th yr to 25 yr	Particulars	Levellised Tariff (Rs/ kwh)	Levellised benefit of accelerated depreciation if availed (Rs/ kwh)	Net Levellised Tariff after adjustment for accelerated depreciation (Rs/kwh)	Solar PV power projects	17.96	(2.98)	14.98
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<p>4.</p>	<p>Levelised Tariff for Solar Thermal Power Project</p>	<p>Cost parameters considered by Commission for tariff determination</p> <table border="1" data-bbox="581 233 1312 821"> <thead> <tr> <th>Parameters</th> <th>Solar Thermal project</th> </tr> </thead> <tbody> <tr> <td>Capital cost (Rs Crores/MW)</td> <td>13</td> </tr> <tr> <td>Capacity Utilization Factor</td> <td>23%</td> </tr> <tr> <td>Auxiliary consumption</td> <td>10%</td> </tr> <tr> <td>Useful life /Life of the machine</td> <td>25 yrs</td> </tr> <tr> <td>Debt: equity ratio</td> <td>70:30</td> </tr> <tr> <td>Loan repayment period</td> <td>10 yrs</td> </tr> <tr> <td>Interest on loan</td> <td>13.39%</td> </tr> <tr> <td>Interest on Working Capital</td> <td>12.89%</td> </tr> <tr> <td>O&M expenses</td> <td>Rs 13 lakhs per MW with annual escalation of 5.72%</td> </tr> <tr> <td>Depreciation</td> <td>1 to 10 yrs – 7% 11 to 25 yrs – 1.33%</td> </tr> <tr> <td>Residual value</td> <td>10% of capital cost</td> </tr> <tr> <td>Return on equity (pre-tax)</td> <td>19% - for first 10 yrs, 24% - from 11th yr to 25 yr</td> </tr> </tbody> </table> <p>(iv) The generic levelised tariff determined for solar thermal power projects based on the Capital Cost and other norms applicable for the projects commissioned in the year 2010-11 on or after the date of notifications of these Regulations shall be applicable for projects commissioned till June 30, 2013 and shall be valid for a tariff period of 25 years from the Commercial Operation Date (COD), provided PPA is signed by 31 March, 2011 and capacity is as per PPA is commissioned on or before June 30, 2017.</p> <p>(v) The generic levelised tariff shall be as under:</p> <table border="1" data-bbox="581 1066 1435 1255"> <thead> <tr> <th>Particulars</th> <th>Levelised Tariff (Rs/ kwh)</th> <th>Levelised benefit of accelerated depreciation if availed (Rs/ kwh)</th> <th>Net Levelised Tariff after adjustment for accelerated depreciation (Rs/kwh)</th> </tr> </thead> <tbody> <tr> <td>Solar Thermal power projects</td> <td>13.12</td> <td>(2.09)</td> <td>11.02</td> </tr> </tbody> </table>	Parameters	Solar Thermal project	Capital cost (Rs Crores/MW)	13	Capacity Utilization Factor	23%	Auxiliary consumption	10%	Useful life /Life of the machine	25 yrs	Debt: equity ratio	70:30	Loan repayment period	10 yrs	Interest on loan	13.39%	Interest on Working Capital	12.89%	O&M expenses	Rs 13 lakhs per MW with annual escalation of 5.72%	Depreciation	1 to 10 yrs – 7% 11 to 25 yrs – 1.33%	Residual value	10% of capital cost	Return on equity (pre-tax)	19% - for first 10 yrs, 24% - from 11th yr to 25 yr	Particulars	Levelised Tariff (Rs/ kwh)	Levelised benefit of accelerated depreciation if availed (Rs/ kwh)	Net Levelised Tariff after adjustment for accelerated depreciation (Rs/kwh)	Solar Thermal power projects	13.12	(2.09)	11.02
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<p>5.</p>	<p>Subsidy/Incentive</p>	<p>In case Central Government or State Govt. notification specifically provides for any Generation Based incentive or any other incentive over and above the tariff as determined by the Commission in this order, the same shall be factored in the tariff for power generated from such projects which qualify for availing the incentive declared by the Central Govt. or State Govt.</p>																																		