

RAJASTHAN ELECTRICITY REGULATORY COMMISSION

(Terms and Conditions for Determination of Tariff for Renewable Energy Sources-Wind and Solar Energy) Regulations 2014

**Order dated 24th February 2014 and First Amendment Regulations 2014
Dated: November, 2014**

Sl. No.	Description	Summary
1.	Short title and Commencement	Rajasthan Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff for Renewable Energy Sources-Wind and Solar Energy) Regulations 2014. These regulations shall be applicable w.e.f. April 2014 and onwards up to March 31, 2019 (2018-19). and First Amendment Regulations 2014 Dated: Nov. 2014
2.	Scope of Regulations and Extent of Application	Regulations to apply in cases where generic tariff for generating plants based on Wind, Solar PV and Solar Thermal Sources of energy to be determined by the Commission and subjected to fulfillment of eligibility criteria.
3.	Eligibility Criteria	(i) Wind Power Plant – Using new wind turbine generators. (ii) Solar PV and Solar Thermal Power Plant based on technologies approved by MNRE
4.	General Principles	
(i)	Control Period	Five financial years starting from April 2014. Tariff determined under these regulations for plants commissioned during the Control Period shall continue to be applicable for the entire duration of the Tariff Period.
(ii)	Tariff Period	(a) Wind energy plants – 25 years (b) Solar PV and Solar Thermal – 25 years
(iii)	Petition and Proceedings for determination of Tariff	The Commission may determine the generic tariff on suo-motu basis at the beginning of each year of the Control period for Wind and Solar energy plants for which principles and norms have been specified under these norms. The tariff determined for any year shall apply for Solar PV plants commissioned during next year and for Solar Thermal plants commissioned during next two years.
(iv)	Tariff Structure	Single Part Tariff
(v)	Tariff Design	<ul style="list-style-type: none"> • Generic tariff shall be determined on levelised basis for the Tariff Period. • For the purpose of levelised tariff computation, the discount factor equivalent to post tax weighted average cost of capital to be considered.
(vi)	Despatch Principles for Electricity Generated from Wind and Solar Energy	All Wind and Solar energy plants shall be treated as 'MUST – RUN' power plants and shall not be subjected to 'merit order despatch' principles.
5.	Financial Principles for Computing Costs and Return	
(i)	Capital Cost	As specified in the technology parameters below:
(ii)	Debt-equity ratio	70:30

(iii)	Loan and Finance Charges	(a) Loan Tenure – 12 years (b) Normative Interest Rate – SBI base rate prevalent during first 6 months of the year previous to the relevant year plus 300 basis points. (c) The repayment of loan shall be considered from first year of commercial operation of project.
(iv)	Depreciation	<ul style="list-style-type: none"> Salvage Value of asset 10% and depreciation up to a maximum of 90% of the total Capital Cost. The depreciation rate for the first 12 years of the Tariff Period shall be 5.83% of Capital cost and balance depreciation shall be spread over the useful life of the project from the 13th year onwards. Depreciation shall be chargeable from first year of commercial operation of project.
(v)	Return on Equity	Base rate of 16% to be computed by grossing up the base rate with the tax rate equivalent to Minimum Alternate Tax (MAT) for first 10 years from COD and normal tax rate for remaining years of project life.
(vi)	Interest on Working Capital	<p>Working Capital comprises:</p> <ul style="list-style-type: none"> O&M Expenses for one month; Receivables for one and a half months of charges for sale of Electricity and Maintenance Spares at 15% of O&M Expenses. <p>Interest on Working Capital at average SBI base rate prevalent during first six months of year previous to relevant year plus 250 basis points.</p>
(vii)	Operation & Maintenance Expenses	As may be notified by the Commission subsequently. First year (2014-15) O&M expenses to be escalated @ 5.85% / annum over tariff period
(viii)	Rebate	Rebate @ 2% for payment through letter of credit or by cash/cheque within 3 days of presentation of bills. If payment is made beyond 3 days and within 30 days, 1% rebate.
(ix)	Late Payment Surcharge	If payment delayed beyond 45 days, late payment surcharge of 1.25% per month calculated on a daily basis shall be levied.
(x)	Sharing of CDM Benefits	During Control Period, CDM benefits to be shared in the ratio of 25:75 between distribution licensee and generating company, 25% share to be passed on to the consumers by distribution licensee.
(xi)	Subsidy or incentive by Central/ State Government	The Commission shall take into consideration any incentive or subsidy or benefit available from Central or State Government, including accelerated or higher depreciation benefit, if availed by the generating company, for the renewable energy power plants while determining the tariff under these Regulations.
6.	Technology Specific Parameters for Wind Power Plants	
(i)	Capital Cost	<p>The normative Capital Cost for wind energy plants shall be inclusive of all capital works including plant and machinery, civil works, erection and commissioning financing and interest during construction, etc., and evacuation infrastructure upto the inter-connection point. Normative Capital Cost for FY 2014-15 - Rs. 565 Lakh/MW.</p> <ul style="list-style-type: none"> It is inclusive of Rs. 25 Lakh/MW towards cost of transmission system including pooling station upto the interconnection point. Rs. 25 Lakh/MW includes Rs. 2 Lakh/MW for grid connectivity charges payable to Transmission Licensee Capital Cost indexation applicable as per these regulations. <p>The Capital Cost, if required, may be reviewed at the end of third year of control period</p>
(ii)	Capacity Utilization Factor (CUF)	21% for Jaisalmer, Jodhpur and Barmer districts and 20% for other districts to be derated @ 1.25% from 6 th , 10 th , 14 th and 18 th year.

(iii)	Operation and Maintenance (O&M) Expenses	Rs. 7.87 lakh/MW for 2014-15 to be escalated @ 5.85 %/ year over tariff period to compute the levelised tariff.																																																																	
7.	Technology Specific Parameters for Solar Thermal Power Plants																																																																		
(i)	Capital Cost	Shall be determined by the Commission separately for each year.																																																																	
(ii)	Capacity Utilization Factor (CUF)	23% with deration factor of 0.25% of CUF every year after four years.																																																																	
(iii)	O&M Expenses	Rs. 17.24 lakh/MW for 2014-15 with escalation of 5.85% per annum over tariff period to compute levelised tariff.																																																																	
(iv)	Auxiliary Consumption	6.5%																																																																	
8.	Others																																																																		
(i)	Tariff for existing Plants set up as per Rajasthan and Government of India Policies	(a) Tariff for electricity supply to the distribution licensee by wind energy plants, for which Power Purchase Agreements (PPAs) have been executed under GoR policy of 1999 & 2000 and commissioned before 31.03.2007 shall be as hereunder, being the same as per the said Policy for FY 2013-14:																																																																	
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		<p>(c) Tariff for Solar Power Plants (commissioned under Govt of India Generation based incentive scheme). This tariff is applicable for 10 years only and thereafter shall be determined under a separate order. The Tariff shall be as under</p> <table border="1" data-bbox="727 317 1442 579"> <thead> <tr> <th>Sl. No</th> <th>Particulars</th> <th>SPV Technology</th> <th>CSP Technology</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Solar power plants eligible for full GBI as per Gol scheme</td> <td>Rs.15.78 /kWh</td> <td>Rs.13.78 /kWh</td> </tr> <tr> <td>2.</td> <td>Solar power plants eligible for reduced GBI as per Gol scheme</td> <td>Rs.15.18 /kWh</td> <td>Rs.13.18 /kWh</td> </tr> </tbody> </table>	Sl. No	Particulars	SPV Technology	CSP Technology	1.	Solar power plants eligible for full GBI as per Gol scheme	Rs.15.78 /kWh	Rs.13.78 /kWh	2.	Solar power plants eligible for reduced GBI as per Gol scheme	Rs.15.18 /kWh	Rs.13.18 /kWh																																																																																																															
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(ii)	<p>Tariff for Existing Plants set up as per the Commission's order</p>	<p>For wind energy plants commissioned after 31.03.2007 and upto 31.03.2009 within Rajasthan, the Tariff Rates shall be as under:</p> <table border="1" data-bbox="686 657 1456 1650"> <thead> <tr> <th rowspan="3">Year of operation</th> <th colspan="2">Jaisalmer, Barmer, Jodhpur Distts.</th> <th colspan="2">Other Distts.</th> </tr> <tr> <th colspan="2">Voltage</th> <th colspan="2">Voltage</th> </tr> <tr> <th>EHV</th> <th>33/11 kV</th> <th>EHV</th> <th>33/11kV</th> </tr> <tr> <th colspan="5">Rs./kWh</th> </tr> </thead> <tbody> <tr><td>1</td><td>3.59</td><td>3.48</td><td>3.67</td><td>3.56</td></tr> <tr><td>2</td><td>3.61</td><td>3.5</td><td>3.71</td><td>3.6</td></tr> <tr><td>3</td><td>3.63</td><td>3.52</td><td>3.75</td><td>3.64</td></tr> <tr><td>4</td><td>3.65</td><td>3.54</td><td>3.79</td><td>3.68</td></tr> <tr><td>5</td><td>3.67</td><td>3.56</td><td>3.83</td><td>3.72</td></tr> <tr><td>6</td><td>3.69</td><td>3.58</td><td>3.87</td><td>3.76</td></tr> <tr><td>7</td><td>3.71</td><td>3.6</td><td>3.91</td><td>3.8</td></tr> <tr><td>8</td><td>3.73</td><td>3.62</td><td>3.95</td><td>3.84</td></tr> <tr><td>9</td><td>3.75</td><td>3.64</td><td>3.99</td><td>3.88</td></tr> <tr><td>10</td><td>3.77</td><td>3.66</td><td>4.03</td><td>3.92</td></tr> <tr><td>11</td><td>3.79</td><td>3.68</td><td>4.04</td><td>3.93</td></tr> <tr><td>12</td><td>3.81</td><td>3.7</td><td>4.05</td><td>3.94</td></tr> <tr><td>13</td><td>3.82</td><td>3.71</td><td>4.06</td><td>3.95</td></tr> <tr><td>14</td><td>3.83</td><td>3.72</td><td>4.07</td><td>3.96</td></tr> <tr><td>15</td><td>3.84</td><td>3.73</td><td>4.08</td><td>3.97</td></tr> <tr><td>16</td><td>3.85</td><td>3.74</td><td>4.09</td><td>3.98</td></tr> <tr><td>17</td><td>3.86</td><td>3.75</td><td>4.10</td><td>3.99</td></tr> <tr><td>18</td><td>3.87</td><td>3.76</td><td>4.11</td><td>4.00</td></tr> <tr><td>19</td><td>3.88</td><td>3.77</td><td>4.12</td><td>4.01</td></tr> <tr><td>20</td><td>3.89</td><td>3.78</td><td>4.13</td><td>4.02</td></tr> <tr><td>Levelised</td><td>3.71</td><td>3.60</td><td>3.89</td><td>3.78</td></tr> </tbody> </table>	Year of operation	Jaisalmer, Barmer, Jodhpur Distts.		Other Distts.		Voltage		Voltage		EHV	33/11 kV	EHV	33/11kV	Rs./kWh					1	3.59	3.48	3.67	3.56	2	3.61	3.5	3.71	3.6	3	3.63	3.52	3.75	3.64	4	3.65	3.54	3.79	3.68	5	3.67	3.56	3.83	3.72	6	3.69	3.58	3.87	3.76	7	3.71	3.6	3.91	3.8	8	3.73	3.62	3.95	3.84	9	3.75	3.64	3.99	3.88	10	3.77	3.66	4.03	3.92	11	3.79	3.68	4.04	3.93	12	3.81	3.7	4.05	3.94	13	3.82	3.71	4.06	3.95	14	3.83	3.72	4.07	3.96	15	3.84	3.73	4.08	3.97	16	3.85	3.74	4.09	3.98	17	3.86	3.75	4.10	3.99	18	3.87	3.76	4.11	4.00	19	3.88	3.77	4.12	4.01	20	3.89	3.78	4.13	4.02	Levelised	3.71	3.60	3.89	3.78
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(iii)	<p>Tariff for Plants under REC Mechanism</p>	<p>In case a Wind or Solar generator desires to switch over from the REC mechanism to preferential tariff mechanism under regulation 12(2) of RERC (Renewable Energy Certificate and Renewable Purchase Obligation Compliance Framework) Regulations, 2010, and if the Discom agrees to purchase considering the scope to accommodate the same in RPO target, the levelised tariff determined in accordance with these Regulations for sale to Distribution Licensee in respect of the year in which the plant was commissioned shall be applicable. However, in case actual purchase rate was lower than this levelised tariff, the same shall be applicable.</p>																																																																																																																											

(iv)	Grid Connectivity	<p>(a) Grid connectivity charges of Rs. 2 Lakh per MW shall be payable by the Wind and Solar plants to Transmission Licensee or Distribution Licensee, as the case may be.</p> <p>(b) The Non-firm power injection into the State grid shall be limited to the line capacity.</p>
(v)	Metering	<p>(a) For Solar PV and solar thermal plants, the metering shall be at the line isolator on the outgoing feeder on HV side of the generator transformer.</p> <p>(b) For wind power plants supplying power through pooling arrangement, the metering shall be at the grid substation of the licensee: For metering at grid substation of licensee losses of 1% for metering upto 33 kV and 2.5% upto 132 kV and above shall be applicable.</p> <p>(c) In case of open access for both Wind and Solar energy and in case of sale of electricity under REC mechanism, the metering would be at EHV substation of transmission licensee or its HV station as the case may be and losses as specified above shall not be applicable</p>
(vi)	Other Charges	<p>(a) kVARh charges Net kVARh drawal by Solar and Wind power plants from grid shall be billed at 12 paise / kVARh w.e.f 01.04.2014 escalated annually at 0.50 paise / kVARh, unless otherwise revised by the Commission by Order.</p> <p>(b) Transmission & wheeling charges : <ul style="list-style-type: none"> • As applicable to open access transactions at respective voltage levels. • Transmission charges and wheeling charges shall be recovered in cash and transmission/wheeling losses shall be recovered in kind. • For PPAs executed and plants commissioned upto 31-03-2007, the charges as per State Govt. Policies shall be applicable. </p> <p>(c) SLDC fees and charges: shall be as specified in RERC Regulation-2004 as amended from time to time.</p> <p>(d) Surcharge: The Cross subsidy surcharge as determined by commission from time to time shall not be applicable in case of open access transactions based on Wind energy, Solar PV and Solar thermal power stations</p>
(vii)	Banking	<ul style="list-style-type: none"> • Energy shall be allowed to be banked at consumption end for only captive consumption within the State for a period one month. • Upto 10% of unutilized banked energy, the generator shall be entitled to get payment @ 60% of energy charges applicable for large industrial power tariff excluding full surcharge. • Un-utilised banked energy in excess of 10% shall lapse. • Banking charges @ 2% of banking energy in each month would be payable in kind.
9.	Deviation from Provisions of these Regulations	Vested with the Commission.