

RAJASTHAN ELECTRICITY REGULATORY COMMISSION

**(Biogas, Biomass, Biogas and Biomass Gasifier Energy) Regulations, 2015,
Dated: 07-05-2015**

Sl. No.	Description	Summary		
1.	Control Period	4 – Years (FY-2015-16)		
2.	Applicability	These Regulations shall apply in cases where generic tariff for generating plants based on Biomass, Biogas and Biomass Gasifier energy is to be determined by the Commission .		
3.	Tariff Period	The Tariff Period for Biomass, Biogas and Biomass Gasifier based power plants shall be twenty (20) years.		
4.	Tariff Structure	The tariff for Biomass, Biogas and Biomass Gasifier based power plants shall be a two-part tariff consisting of fixed cost component and fuel cost component. The fixed cost component shall have the following components: (a) Operation and Maintenance (O&M) Expenses; (b) Depreciation; (c) Interest on Loan Capital; (d) Interest on Working Capital; and (e) Return on Equity.		
5.	Tariff Design	1. The generic tariff shall be determined on levellised basis considering the year of commissioning of the power plant for fixed cost component for the Tariff Period while the fuel cost component shall be specified on yearly basis. However, for the purpose of computation of interest on the working capital requirement of the fixed cost component, an escalation of 5% per annum in fuel/feed stock price shall be considered. 2. Levellisation shall be carried out for the Tariff Period of the Biomass, Biogas and Biomass Gasifier based power plants.		
6.	Discount factor for levellised Tariff	Equivalent to post tax weighted average cost of capital.		
7.	Despatch Principles	Biomass, Biogas and Biomass Gasifier based power plants shall be treated as 'Must Run' power plants and shall not be subjected to 'Merit Order Despatch' principles.		
8.	Capital Cost	Sr. No.	RE Technology	Capital Cost (in Rs. Lakh/MW)
		1.	Biomass Power Plant	
			water cooled condenser	540
			air cooled condenser	575
		2.	Biogas Power Plants	1183.62
		3.	Biomass Gasifier based Power Plants	607.24
9.	Debt-equity ratio	For the purpose of determination of generic tariff, debt-equity ratio shall be 70:30.		

10.	Loan and Finance Charges	Loan Tenure-12 Years The normative interest rate shall be considered as average State Bank of India (SBI) Base Rate prevalent during the first six months of the year previous to the relevant year plus three hundred (300) basis points.																
11.	Depreciation	<ol style="list-style-type: none"> 1. The Salvage Value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the total Capital Cost. 2. The depreciation rate for the first 12 years of the Tariff Period shall be 5.83% of the Capital Cost per annum and the remaining depreciation shall be spread over the remaining useful life of the project from the 13th year onwards. 3. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro-rata basis. 																
12.	Return on Equity	<ol style="list-style-type: none"> 1. The value base for the equity shall be 30% of the Capital Cost. 2. The Return on Equity shall be computed at the base rate of 16% to be grossed up. 3. The rate of return on equity shall 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. 																
13.	Interest on Working Capital	The normative interest rate shall be considered as average SBI Base Rate prevalent during the first six months of the year previous to the relevant year plus two hundred and fifty (250) basis points.																
14.	Operation and Maintenance Expenses	Normative O&M expenses allowed during first year of the Control Period (i.e., FY 2015-16) under these Regulations shall be escalated at the rate of 5.85% per annum over the Tariff Period.																
		<table border="1"> <thead> <tr> <th>Sr. No.</th> <th>RE Technology</th> <th>Capital Cost (in Rs. Lakhs/MW)</th> </tr> </thead> <tbody> <tr> <td rowspan="3">1.</td> <td>Biomass Power Plant</td> <td></td> </tr> <tr> <td>For water cooled condenser</td> <td>35.64</td> </tr> <tr> <td>For air cooled condenser</td> <td>38.00</td> </tr> <tr> <td>2.</td> <td>Biogas Power Plants</td> <td>47.27</td> </tr> <tr> <td>3.</td> <td>Biomass Gasifier based Power Plants</td> <td>47.27</td> </tr> </tbody> </table>	Sr. No.	RE Technology	Capital Cost (in Rs. Lakhs/MW)	1.	Biomass Power Plant		For water cooled condenser	35.64	For air cooled condenser	38.00	2.	Biogas Power Plants	47.27	3.	Biomass Gasifier based Power Plants	47.27
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15.	Rebate	<p>For payment of bills of the generating company through letter of credit or by cash/cheque within three working days of presentation of bills, a rebate of 2% shall be allowed.</p> <p>If payments of bills of the generating company are made through letter of credit or by cash/cheque beyond three working days of presentation of bills but within thirty days of presentation of bills, a rebate of 1% shall be allowed.</p>																
16.	Late Payment Surcharge	In case the payment of any bill is delayed beyond a period of 45 days from the date of presentation of bills, a late payment surcharge of 1.25% per month calculated on a daily basis shall be levied by the generating company.																
17.	Sharing of CDM Benefits	The proceeds of carbon credit from approved CDM plants during the Control Period shall be shared in the ratio of 25:75 between the distribution licensee and generating company, respectively																
18.	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																

19.	Plant Load Factor/Capacity Utilisation Factor	Sr. No.	RE Technology	CUF/PLF	
		1.	Biomass Power Plant		
			During stabilisation	60%	
			During first year after stabilisation	70%	
			From year-2 onwards	75%	
2.	Biogas Power Plants	85%			
3.	Biomass Gasifier based Power Plants	85%			
20.	Auxiliary Consumption	Sr. No.	RE Technology	CUF/PLF	
		1.	Biomass Power Plant	during stabilisation	after stabilisation
			Air cooled condensers	12.5%	12%
			Water cooled condensers	10.5%	10%
		2.	Biogas Power Plants	12%	
		3.	Biomass Gasifier based Power Plants	10%	
21.	Station Heat Rate		Biomass Power Plant	during stabilisation	after stabilisation
			water cooled condenser	4300 kcal / kWh	4200 kcal/kWh
			Air cooled condensers	4540 kcal / kWh	4440 kcal / kWh
22.	Calorific Value		Biomass Power Plant	3400 kCal/kg.	
23.	Fuel Cost		Biomass Power Plant	2550/MT	
			Biogas Power Plants	1269/MT	
			Biomass Gasifier based Power Plants	2550/MT	
24.	Specific Fuel consumption		Biogas Power Plants	3 kg of substrate mix per kWh	
			Biomass Gasifier based Power Plants	1.25 kg per kWh	
25.	Metering	<p>1. In respect of sale of energy to the Distribution Licensee, from Biomass, Biogas and Biomass Gasifier based power plants, the metering for the purpose of accounting shall be at the line isolator on the outgoing feeder on HV side of the generator transformer.</p> <p>2. In case of open access for Biomass, Biogas and Biomass Gasifier based power plants and in case of sale of electricity under REC mechanism, the metering for the purpose of accounting shall be at EHV substation of transmission licensee or HV station of distribution licensee as the case may be.</p>			
26.	Other Charges	<p>1. kVARh charges</p> <p>Net kVARh drawal by generating plants from the Grid shall be billed at 12.50 paise / kVARh w.e.f 01.04.2015 escalated annually at 0.50 paise / kVARh, unless otherwise revised by the Commission by Order.</p>			

		<p>2. Transmission & wheeling charges</p> <p>(a) For use of transmission network, transmission charges and losses as determined by the Commission in respect of open access transactions would be applicable.</p> <p>(b) For use of distribution licensee's network, the wheeling charges and losses as determined by the Commission in respect of open access transactions at respective voltage levels at which electricity is supplied, would be applicable. For use of both EHV and distribution network, both transmission and wheeling charges as well as losses, as applicable, shall be payable.</p>
27.	SLDC Fees and Charges	SLDC fees and charges shall be as specified in RERC (Levy of fee and charges by the State Load Despatch Centre) Regulations, 2004 as amended from time to time.
28.	Surcharge	The Cross-subsidy surcharge as determined by the Commission from time to time shall not be applicable in case of open access transactions involving biomass, Biogas and Biomass Gasifier based power stations.
29.	Banking	<ol style="list-style-type: none"> 1. The RE Power Generator/Developer would be entitled to get payment @60% of energy charges applicable for large industrial power tariff, excluding fuel surcharge, if any, in respect of 10% of unutilized banked energy after the end of month of banking. Unutilized banked energy, in excess of 10% shall lapse. 2. The RE Generator shall raise the monthly bill and after raising bill, the Distribution Licensee shall make the payment within 30 days from date of receipt of bill, beyond which, the Late Payment Surcharge (LPS) at the rate of 1.25% per month, calculated on a daily basis would become applicable. 3. Banking charges at the rate of 2% of banked energy in each month would be payable in kind.