

CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations

ISSUED BY	Central Electricity Regulatory Commission	
ISSUED ON	06.02.2012, Amendments dated 18-03-2014, 05-01-2015, 10-07-2015, 7-10-2015, 30-03-2016	
CONTROL PERIOD	These regulations shall come into force on 1.4.2012, and unless reviewed earlier or extended by the Commission, shall remain in force for a period of 5 years from the date of commencement	
ELIGIBILITY	<ul style="list-style-type: none"> • Wind Power Projects • Small Hydro Project (lower than or equal to 25 MW at single location) • Biomass Power Plant Based on Rankine Cycle Technology (use of Fossil fuel is restricted up to 15% in terms of calorific value on annual basis till 31-03-2017). • Non Fossil fuel based Co-generation • Solar PV and Solar Thermal Power Project • Biomass Gasifier based Power Project (uses 100% producer gas engine, coupled with gasifier technologies) • Biogas Based Power Project (uses 100% Biogas fired engine coupled with Biogas technology for Co-digesting agriculture residues, manure and other bio waste) • Municipal Solid Waste based Power Projects • Refuse derived Fuel based Power Projects using new plant & machinery 	
TARIFF PERIOD	Wind	13 Years
	Solar PV and Solar Thermal Power Projects	25 Years
	Biomass gasifier, Biogas, Municipal solid waste and Refuse derived fuel based power projects	13 Years
	Small Hydro (>5 MW)	13 Years
	Small Hydro (35 Years
	Municipal solid waste (MSW) and Refuse derived fuel (RDF) based power projects	20 Years
PROJECT SPECIFIC TARIFF	<p>To be determined by the commission on case to case basis for the following type of projects.</p> <ul style="list-style-type: none"> • Municipal Solid waste and Refuse derived fuel based projects • Any other new renewable energy technologies approved by MNRE • Other hybrid projects include renewable - renewable-renewable or renewable- conventional sources • Solar PV and Solar Thermal projects, if project developer opts for project specific tariff • Hybrid Solar Thermal Power Plants • Biomass project other than that based on Rankine Cycle technology application with water cooled condenser. 	

TARIFF STRUCTURE	<p>Single part tariff consisting of the following fixed cost components:</p> <p>(a) Return on equity (b) Interest on loan capital (c) Depreciation (d) Interest on Working capital (e) Operation and maintenance expenses (f) Fuel cost component to be added to the above for Biomass and Non-Fossil Cogeneration.(Single part tariff with two components, fixed cost component and fuel cost.) (i) The generic tariff shall be determined on levelised basis for the Tariff Period.</p>
TARIFF DESIGN	<p>For single part tariff with two components, tariff shall be determined on levelised basis considering the year of commissioning of the project for fixed cost component and on year of operation basis for fuel cost component. (ii) For levelised tariff computation, the discount factor equivalent to weighted average cost of capital shall be considered. (iii) Levelisation shall be carried out for the useful life while tariff shall be specified for the period equivalent to Tariff Period.</p>
CAPITAL COST	<p>All capital works including plant and machinery, civil works, erection and commissioning, financing, interest during construction and evacuation infrastructure up to inter-connection point. For project specific tariff the generating company shall submit the break-up of capital cost items along with its petition For generic tariff based on suo - motu petition it is 70:30</p>
DEBT EQUITY RATIO	<p>For project specific tariff:</p> <ul style="list-style-type: none"> • If equity is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan. • If equity is less than 30%, actual equity to be considered for determination of tariff. • Equity invested in foreign currency be designated in Indian rupees on the date of each investment.
LOAN TENURE	<p>12 years</p>
INTEREST RATE	<p>Calculation for interest to be worked out on gross normative loan.</p> <ul style="list-style-type: none"> • Normative loan outstanding as on 1st April of every year shall be worked out by deducting the cumulative repayment up to March 31st of previous year from the gross normative loan. • For the computation of tariff, the normative interest rate shall be considered as average of State Bank of India (SBI) Base rate prevalent during the first six months of previous year plus 300 basis points. • The payment of loan to commence from 1st year of commercial operation of the project and shall be equal to the annual depreciation allowed.

DEPRECIATION	<p>Depreciation be allowed up to 90% of capital cost with salvage value as 10%. Depreciation per annum to be on "Differential Depreciation Approach" over loan period beyond loan tenure over useful life computed on "Straight Line Method". Depreciation - 5.83% per annum for first 12 years of tariff period. Remaining depreciation to be spread over the remaining useful life of the project. Depreciation to be charged from the first year. In case commercial operation is for part of the year, depreciation to be charged on pro-rata basis.</p>				
RETURN ON EQUITY	<p>The value base for the equity shall be 30% of the capital cost or actual equity (as determined in debt-equity ratio). The normative Return on Equity shall be:</p> <ul style="list-style-type: none"> • 20% per annum for the first 10 years • 24% per annum 11th year onwards 				
INTEREST ON WORKING CAPITAL	<table border="0"> <tr> <td>Wind Energy/Small Hydro Power/Solar PV/Solar Thermal</td> <td> <ul style="list-style-type: none"> a) O&M expenses - for 1 month (b) Receivables - 2 months of energy charges for sale of electricity calculated on the normative CUF. (c) Maintenance spares - 15% of O&M expenses </td> </tr> <tr> <td>Biomass Power, Municipal Solid Waste and Refuse Derived Fuel, and Non-Fossil Fuel Co-generation projects</td> <td> <ul style="list-style-type: none"> a) Fuel cost -4 months equivalent to normative PLF (b) O&M expenses - for 1 month (c) Receivables - 2 months of fixed and variable (fuel) charges for sale of electricity calculated on the target PLF. (d) Maintenance spares - 15% of O&M expenses </td> </tr> </table>	Wind Energy/Small Hydro Power/Solar PV/Solar Thermal	<ul style="list-style-type: none"> a) O&M expenses - for 1 month (b) Receivables - 2 months of energy charges for sale of electricity calculated on the normative CUF. (c) Maintenance spares - 15% of O&M expenses 	Biomass Power, Municipal Solid Waste and Refuse Derived Fuel, and Non-Fossil Fuel Co-generation projects	<ul style="list-style-type: none"> a) Fuel cost -4 months equivalent to normative PLF (b) O&M expenses - for 1 month (c) Receivables - 2 months of fixed and variable (fuel) charges for sale of electricity calculated on the target PLF. (d) Maintenance spares - 15% of O&M expenses
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OPERATION AND MAINTENANCE EXPENSES	<p>Interest on working capital shall be interest rate equivalent to average State Bank of India base rate prevalent during first six months of the previous year plus 350 basis points.</p> <p>comprise of repair and maintenance (R&M), establishment including employee expenses and administrative & general expenses. determined based on normative O&M expenses for the first Year of Control Period. Normative O&M expenses allowed during first year of the Control Period (i.e. FY 2012-13) shall be escalated at the rate of 5.72% per annum over the Tariff Period.</p>				
REBATE	<p>For payment of bills of the generating companies through Letter of Credit - 2% Payment other than through Letter of Credit but within 1 month of presentation of bills by generating companies - 1%</p>				
LATE PAYMENT SURCHARGE.	<p>Payment of bills beyond 60 days from the date of billing - 1. 25% p.m.</p>				
SHARING OF CDM BENEFITS	<p>Shared between generating company and concerned beneficiaries as follows:</p> <ul style="list-style-type: none"> • 1st Year - 100% by project developer after the date of commercial operation • 2nd year - share of beneficiaries @ 10% to progressively increase by 10% every year up to 50% and then to be shared in equal proportion, by the generating company and the beneficiaries. 				

SUBSIDY OR INCENTIVE BY THE CENTRAL / STATE GOVERNMENT	To be taken into consideration including accelerated depreciation benefit, if availed, while tariff is determined For income tax benefit on account of accelerated depreciation, if availed, the following principles to be considered. (i) Assessment of benefit shall be based on normative cost, accelerated depreciation rate as per relevant provision under income tax Act and corporate income tax rate. (ii) Capitalization of RE projects during second half of the fiscal year. Per unit benefit shall be derived on levellised basis at discount factor equivalent to Post Tax weighted average cost of capital.
TAXES AND DUTIES	Tariff determined under these regulations shall be exclusive of taxes and duties as may be levied by the appropriate Government and shall be allowed as pass through on actual incurred basis.
DISPATCH PRINCIPLES FOR ELECTRICITY GENERATED FROM RENEWABLE ENERGY SOURCES	All RE Power Plants including Municipal Solid Waste and Refuse Derived Fuel based power projects except Biomass Power Plants with installed capacity of 10MW and above, and non- Fossil Fuel based Co-generation plants to be treated as "MISTRUN" power plants and not subjected to merit order dispatch principles. Biomass Power Plants of 10 MW installed capacity and above, non-Fossil Fuel based Co-generation projects, Municipal Solid Waste and Refuse Derived Fuel to be subjected to scheduling and dispatch code and specified under CERC (Indian Electricity Grid Code) Regulations,2010 and CERC (Unscheduled Interchange and related matters) Regulations, 2009 including amendments thereto. Wind power generation plant 10 MW and above and connection point at 33 kV and above shall also be subjected to scheduling
CAPITAL COST & FUEL PRICE INDEXATION MECHANISM	As detailed in the regulations

LINKS	http://www.cercind.gov.in/Current_reg.html
REFERENCES	http://www.cercind.gov.in/2012/regulation/CERC_RE-Tariff-Regualtions_6_2_2012.pdf http://www.cercind.gov.in/2014/regulation/noti94.pdf http://www.cercind.gov.in/2015/regulation/Noti5.pdf http://www.cercind.gov.in/2015/regulation/NotiRE.pdf http://www.cercind.gov.in/2015/regulation/NotiRE.pdf