HARYANA ELECTRICITY REGULATORY COMMISSION

(Terms and Conditions for determination of Tariff from Renewable Energy Sources, Renewable Purchase Obligation and Renewable Energy Certificate)
Regulations 2010 Notification Dated: 3rd February, 2011 with Amendments dated 05-09-2011, 25-11-2011and 15.7. 2014

SI. No	Description	Summary			
1.	Short Title, Commencement, extent of Application and Interpretation	 (i) Haryana Electricity Regulatory Commission (Terms and Conditions for determination of Tariff from Renewable Energy Sources, Renewable Purchase Obligation and Renewable Energy Certificate) Regulations, 2010. (ii) 1st amendment dated 05-09-2011 (iii) 2nd amendment dated 25-11-2011 (iv) 3nd amendment dated 15.7. 2014 – Regulations 2014 			
2.	Definitions	As per Regulations			
3	Date of Enforcement	From the date of publication in the Haryana gazette and shall extend to the state of Haryana			
4.	Eligibility Criteria				
		Norms			
5.	Control Period or Review Period.	 The first Control Period or Review Period under these Regulations shall be of three years, of which the first year shall be the period from the date of notification of these regulations to 31st March, 2011(Note: In principal Regulations dated 3.2.2011) Provided that the benchmark capital cost for Solar PV and Solar thermal projects may be reviewed annually by the Commission. Provided further that the tariff determined as per these Regulations for the RE projects commissioned during the Control Period, shall continue to be applicable for the entire duration of the Tariff Period as specified in Regulation 4 below. 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. 			

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10.	Tariff Design	 (i) The generic tariff shall be determined on levellised basis for the Tariff Period Provided that for renewable energy technologies having single part tariff with two components, tariff shall be determined on levellised basis considering the year of commissioning of the project for fixed cost component while the fuel cost component shall be specified on year of operation basis. (ii) For the purpose of levellised tariff computation, the discount factor equivalent to weighted average cost of capital or by other appropriate discounting factor shall be considered. (iii) Levellised tariff shall be specified for the period equivalent to the 'Tariff Period'. 		
11	Despatch Principles for Electricity generated from Renewable Energy Sources	 (i) All renewable energy power plants except for Biomass power plants with installed capacity of 10 MW and above, and non-fossil fuel based Cogeneration plants shall be treated as 'MUST RUN' power plants and shall not be subjected to 'merit order despatch' principles. (ii) The Biomass power generating station with an installed capacity of 10 MW and above and non-fossil fuel based Co-generation projects shall be subjected to scheduling and despatch code as specified under Haryana Grid Code (HGC) and other relevant regulations including amendments thereto. 		
		Financial Principles		
12	Capital Cost	The norms for the Capital cost as specified in the subsequent technology specific chapters shall be inclusive of all capital work including plant and machinery, initial spares, civil work, erection and commissioning, financing and interest during construction, and evacuation infrastructure up to inter-connection point. Provided that for project specific tariff determination, the generating company shall submit the break-up of capital cost items along with its petition in the manner specified under Regulation 7.		
13	Debt Equity Ratio	 (i) For generic tariff to be determined based on suo motu petition, the debt equity ratio shall be 70:30. (ii) For Project specific tariff, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan. Provided that where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff. Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment. 		
14	Loan and Finance Charges	 (i) For the purpose of determination of tariff, loan tenure of 10 years shall be considered. (ii) (a) The loans arrived at in the manner indicated above shall be considered as gross normative loan for calculation for interest on loan. The normative loan outstanding as on April 1st of every year shall be worked out by deducting the cumulative repayment up to March 31st of previous year from the gross normative loan. (b) For the purpose of computation of tariff, the normative interest rate shall be considered as average long term prime lending rate (LTPLR) / Base Rate of State Bank of India (SBI) prevalent during the previous year. (c) Notwithstanding any moratorium period availed by the generating company, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed. 		
15	Depreciation	 (i) The value base for the purpose of depreciation shall be the Capital Cost of the asset admitted by the Commission. The Salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the Capital Cost of the asset. (ii) Depreciation per annum shall be based on 'Differential Depreciation Approach' over loan tenure and period beyond loan tenure over useful life computed on 'Straight Line Method'. The depreciation rate for the first 10 years of the Tariff Period shall be 7% per annum and the remaining depreciation shall be spread over the remaining useful life of the project from 11th year onwards. (iii) Depreciation shall be chargeable from the first year of commercial operation. Provided that in case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis. 		

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16	Return on Equity	 (i) The value base for the equity shall be 30% of the capital cost or actual equity (in case of project specific tariff determination) as determined under Regulation (ii) The normative Return on Equity shall be: (a) 16% per annum on normative Equity Capital (b) Applicable MAT/Corporate Tax shall be separately allowed in the tariff. 	
17	Interest on Working Capital	 (i) The Working Capital requirement in respect of Wind energy projects, small Hydro power, Solar PV and Solar thermal power projects shall be computed in accordance with the following: (a) Operation & Maintenance expenses for one month; (b) Receivables equivalent to Two months of energy charges for sale of electricity calculated on the normative CUF; (c) Maintenance spare @ 15% of operation and maintenance expenses. (ii) The Working Capital requirement in respect of biomass power projects and nonfossil fuel based co-generation projects shall be computed in accordance with the following clause: (a) Fuel costs for four months at normative PLF; (b) Operation & Maintenance expense for one month; (c) Receivables equivalent to Two months of fixed and variable charges for sale of electricity calculated on the target PLF; (d) Maintenance spare @ 15% of operation and maintenance expenses. (iii) Interest on Working Capital shall be at interest rate equivalent to average State Bank of India short term PLR / Base Rate during the previous year. 	
18	Operation and Maintenance Expenses	 Operation and Maintenance or O&M expenses' shall comprise repair and maintenance (R&M), establishment including employee expenses, and administrative and general expenses. Operation and maintenance expenses shall be determined for the Tariff Period based on normative O&M expenses specified by the Commission subsequently in these Regulations for the first Year of Control Period. Normative O&M expenses allowed during first year of the Control Period and shall be escalated at the rate of 5.72% per annum over the Tariff Period. 	
19	Rebate	 (1) For payment of bills of the generating company through letter of credit, a rebate of 2% shall be allowed. (2) Where payments are made other than through letter of credit within a period of one month of presentation of bills by the generating company, a rebate of 1% shall be allowed. 	
20	Late payment surcharge	In case the payment of any bill for charges payable under these regulations is delayed beyond a period of 60 days from the date of billing, a late payment surcharge at the rate of 1.25% per month shall be levied by the generating company.	
21	Sharing of CDM Benefits	 The proceeds of carbon credit from approved CDM project shall be shared between generating company and concerned beneficiaries in the following manner: (a) 100% of the gross proceeds on account of CDM benefit to be retained by the project developer in the first year after the date of commercial operation of the generating station; (b) In the second year, the share of the beneficiaries shall be 10% which shall be progressively increased by 10% every year till it reaches 50%, where after the proceeds shall be shared in equal proportion, by the generating company and the beneficiaries. 	
22	Subsidy or Incentive by the Central / State Government	 The Commission shall take into consideration any incentive or subsidy offered by the Central or State Government, including accelerated depreciation benefit if availed by the generating company, for the renewable energy power plants while determining the tariff under these Regulations. Provided that the following principles shall be considered for ascertaining income tax benefit on account of accelerated depreciation, if availed, for the purpose of tariff determination: (a) Assessment of benefit shall be based on normative capital cost, accelerated depreciation rate as per relevant provisions under Income Tax Act and corporate income tax rate. 	

		Per wei	(b) Capitalisation of RE projects during second half of the fiscal year. Per unit benefit shall be derived on levellised basis at discount factor equivalent to weighted average cost of capital or any other appropriate discounting factor considered by the Commission.				
23	Taxes and Duties	Tariff determined under these regulations shall be exclusive of taxes and duties as may be levied by the appropriate Government. Any tax on generation shall be allowed as pass through on actual incurred basis subject to production of documentary evidence by the generating company.					
		Tech	nnology Specific Para	ameters for Win	nd Energy		
24	Capital Cost	(ii)	 (i) The capital cost for Wind energy project shall include Wind turbine generator including its auxiliaries, land cost, site development charges and other civil works, transportation charges, evacuation cost up to inter-connection point, financing charges and IDC. (ii) The capital cost for wind energy projects shall be Rs. 5.15 Crores/MW (FY 2010-11 during first year of Control Period) and shall be linked to indexation formula as outlined under Regulation 25. 				
25	Capital Cost Indexation Mechanism	As p	per Regulations				
26	Capacity Utilisation	CUI	F norms for the contro	l period shall be	as follows:		
	Factor	A	nnual Mean Wind Po	wer Density (W	//m²) CUF		
			200-2	50	20%		
			250-3	00	23%		
			300-4		27%		
			> 40	0	30%		
27	Operation and	The annual mean Wind power density specified above shall be measured at 50 meter hub-height. Normative O&M expenses for the first year of the Control Period (i.e. FY 2010- 11) shall					
	Maintenance Expenses	be F	be Rs. 6.50 Lakh per MW shall be escalated at the rate of 5.72% per annum over the tariff period to compute the levellised tariff and .				
	Ted	chnol	logy specific parame	ters for Small H	lydro Project		
28	Capital Cost.	(i) The normative capital cost for small hydro projects during first year of Contro (FY 2010-11) shall be as follows:			ol Period		
			Size of project Capital Cost (Rs. in Crores)				
			Below 5 N		5.50		
			5 MW to 25	5 MW	5.00		
		(ii) The capital cost for subsequent years shall be determined on the basis of indexation formula as outlined under Regulation 29.					
29	Capital Cost Indexation Mechanism	Asp	As per Regulations				
30	Capacity Utilisation Factor	56%. The normative CUF shall be net of free power to the State, if any, and any quantum of free power if committed by the developer over and above the normative CUF shall not be factored into the tariff.					
31	Auxiliary Consumption	Nor	mative Auxiliary Cons	umption for the s	small Hydro projects sha	all be 1.0%.	
32	Operation and Maintenance	1 ''			year of the Control per	iod (i.e. FY 2	2010- 11)
ı	Expenses		[]	0014.5		1	
	Expenses		Project size	O&IVI Expen	ises (Rs. In Lakhs)		
	Expenses		Below 5 MW	O&M Expen	nses (Rs. In Lakhs) 17		
	Expenses			O&M Expen			

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		(ii) Normative O&M expenses allowed under these Regulations shall be escalated at the rate of 5.72% per annum for the Tariff Period for the purpose of determination of levellised tariff.			
	Technology Specific Parameters for Biomass based Power Projects				
33	Technology Aspect	The norms for tariff determination specified hereunder are for Biomass power projects based on Rankine cycle technology application using water cooled condenser.			
34	Capital Cost	 (i) The normative capital cost for the Biomass power projects equipped with water cooled condensers shall be Rs.4.50 Crores/MW (FY 2010-11 during first year of Control Period) and shall be linked to indexation formula as outlined under Regulation 35. (ii) The normative capital cost for the biomass power projects equipped with air cooled condenser with steam turbine shall be Rs. 4.75 Crores/MW (FY 2010-11 during first year of Control Period) and shall be linked to indexation formula as outlined under Regulation 35 			
35	Capital Cost Indexation Mechanism	As per Regulations			
36.	Plant Load Factor	 (i) Threshold Plant Load Factor for determining fixed charge component of Tariff shall be: (a) During Stabilisation: 60% (b) During the remaining period of the first year (after stabilization): 70% (c) From 2nd Year onwards: 80 % (ii) The stabilisation period shall not be more than 6 months from the date of commissioning of the project. 			
37	Auxiliary Consumption	10% for the determination of tariff.			
38	Station Heat Rate	3800 kCal /kWh			
39	Operation and Maintenance Expenses	 (i) Normative O&M expenses for the first year of the Control period (i.e. FY 2010- 11) shall be Rs.20.25 Lakh per MW. (ii) Normative O&M expenses allowed at the commencement of the Control Period (i.e. FY 2010-11) and shall be escalated at the rate of 5.72% per annum. 			
40	Fuel Mix	As per Regulations			
41	Use of Fossil Fuel	The use of fossil fuels shall be limited to the extent of 15% of total fuel consumption on annual basis.			
42	Monitoring Mechanism for the use of Fossil fuel	As per Regulations			
43	Calorific Value	3458 kCal/kg. for determination of tariff			
44	Fuel Cost	Biomass fuel price during first year of the Control Period shall be Rs. 1906/MT and shall be linked to indexation formulae as specified under Regulation 45. Alternatively, for each subsequent year of the Tariff Period, the normative escalation factor of 5% per annum shall be applicable at the option of the biomass project developer.			
45	Fuel Price Indexation Mechanism	As per Regulations			
	Technology Spe	ecific Parameters for Non-fossil fuel based Cogeneration Projects			
46	Technology Aspect	A project shall qualify as a non-fossil fuel based Co-generation project, if it is in accordance with the eligibility criteria as specified under Regulation 3(d).			
47	Capital Cost	The normative capital cost for the non-fossil fuel based cogeneration projects shall be Rs. 4.45 Crores/MW for the first year of Control Period (i.e. FY 2010-11), and shall be linked to indexation formula as outlined under Regulation 48.			
48	Capital Cost Indexation Mechanism	As per Regulations			

49	Plant Load Factor	 (i) For the purpose of determining fixed charge, the plant load factor for non-fossil furbased cogeneration projects shall be computed on the basis of plant availability for number of operating days considering operations during crushing season and of season as specified under sub regulation (2) below and load factor of 85%. (ii) The number of operating days for the State of Haryana shall be 150 days (crushing + 60 days (off-season) = 210 days operating days and the Plant Load Factor shabe 53%. 		
50	Auxiliary Consumption	8.5% for the computation of tariff		
51	Station Heat Rate	3600 kCal / kWh for power generation component alone shall be considered for computation of tariff for non-fossil fuel based Cogeneration projects.		
52	Calorific Value	The Gross Calorific Value for Bagasse shall be considered as 2250 kCal/kg. For the use of Biomass fuels other than Bagasse, calorific value as specified under regulation 43 shall be applicable.		
53	Fuel Cost	 (i) The price of Bagasse shall be 600(Rs./MT) and shall be linked to indexation formulae as outlined under Regulation 54. Alternatively, for each subsequent year of the Control Period, the normative escalation factor of 5% per annum shall be applicable at the option of the project developer. (ii) For use of Biomass other than Bagasse in Co-generation projects, the Biomass prices as specified under Regulation 45 shall be applicable. 		
54	Fuel Price Indexation Mechanism	As per Regulations		
55	Operation and Maintenance Expenses	Normative O&M expenses during first year of the Control Period shall be Rs. 13.35 Lakh per MW and shall be escalated at the rate of 5.72% per annum		
	Tech	nology Specific Parameters for Solar PV Power Project		
56	Technology Aspects	Applicable for grid connected PV systems 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.		
57	Capital Cost.	Normative capital cost -Rs. 17.00 Crores/MW for FY 2010-11. Provided that the Commission may deviate from above norm in case of project specific tariff determination		
58	Capacity Utilisation Factor	19%. Provided that the Commission may deviate from above norm in case of project specific tariff determination		
59	Operation and Maintenance Expenses	Rs. 9 Lakhs/MW for the 1st year of operation and shall be escalated at the rate of 5.72% per annum.		
	Techno	logy Specific Parameters for Solar Thermal Power Project		
60	Technology Aspects	Applicable for Concentrated Solar Power (CSP) technologies viz. line focusing or point focusing, as may be approved by MNRE, and uses direct sunlight, concentrating it several times to reach higher energy densities and thus higher temperatures whereby the heat generated is used to operate a conventional power cycle to generate electricity.		
61.	Capital Cost	Normative capital cost - Rs. 13.00 Crores/MW for FY 2010-11. Provided that the Commission may deviate from the above norm in case of project specific tariff determination		
62	Capacity Utilisation Factor	23%. Provided that the Commission may deviate from the above norm in case of project specific tariff determination		
63	Operation and Maintenance Expenses	O&M Expenses shall be Rs.13 Lakhs/MW for 1st year operation. Normative O&M expenses allowed at the commencement of the Control Period under these Regulations shall be escalated at the rate of 5.72% per annum.		

64	Auxiliary Consumption	10% Provided that the Commission may deviate from the above norm in case of project				
		specific tariff determination				
	Renewable Purchase Obligation (RPO) and Renewable Energy Certificate (REC)					
65	Renewable Purchase Obligation	(i) Every obligated entity in Haryana shall purchase from renewable energy sources under the Renewable Purchase Obligation (RPO) not less than the quantum of renewable energy as indicated in the table below:-				
			Financial Year	Total RPO (As a Percentage of Total Consumption)		
			2013-14	3.00		
			2014-15	3.25		
			20 15-16	3.50		
			2016-17	3.75		
			20 17-18	4.00		
			20 18-19	4.50		
			2019-20	4.75		
			2020-21	5.00		
			2021-22	5.50		
		(ii)	quantum of solar rene	obligation of every obligated entity shall be not less than the ewable energy as indicated in the table below:		
			Financial Year	Solar RPO (as a percentage of total consumption)		
			2013-14	0.10		
			2014-15	0.25		
			20 15-16	0.75		
			2016-17	1.00		
			20 17-18	1.25		
			20 18-19	1.50		
			20 19-20	2.00		
			2020-21	2.50		
			2021-22	3.0		
			it from its renewable e licensee at the rates of not refuse to purchase of the Commission.	energy generating company offers to sell energy generated by energy generating station located in Haryana to the distribution determined by the Commission, the distribution licensee shall e power from such generating company, without prior approval		
66	Certificates under the Regulations of the Central Commission	Subject to the terms and conditions contained in these regulations the Certificates issued under the Central Electricity Regulatory Commission (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010 shall be the valid instruments for the discharge of the mandatory obligations set out in these regulations for the obligated entities to purchase electricity from renewable energy sources. Provided that in the event of the obligated entity fulfilling the renewable purchase obligation by purchase of certificates, the obligation to purchase electricity from generation based on solar as renewable energy source can be fulfilled by purchase of solar certificates only, and the obligation to purchase electricity from generation based on renewable energy other than solar can be fulfilled by purchase of non-solar certificates.				
67	State Agency	(HA	AREDA) as the State	signated Haryana Renewable Energy Development Agency Agency for accreditation and recommending the renewable ration and to undertake functions under these regulations.		

68	Effect of Default	If the obligated entities do not fulfill the renewable purchase obligation as provided in these regulations during any year and also does not purchase the certificates, the Commission may direct the obligated entity to deposit into a separate fund, to be created and maintained by such obligated entity, such amount as the Commission may determine on the basis of the shortfall in the RPO determined under these regulations from time to time at the forbearance price decided by the Central Commission.		
		Miscellaneous		
69	Deviation from Norms	Vested with the Commission		
70	Power to Relax	Vested with the Commission		
71	Issue of orders or Directions	Vested with the Commission		
72	Power to amend	Vested with the Commission		
73	Power to Remove Difficulties	Vested with the Commission		
74	Grid connectivity and Wheeling charges	 (i) The State Transmission Utility or the transmission licensee other than STU or the distribution licensee, as the case may be, shall bear the cost of EHV / HV transmission line up to a distance of 10 KM from the interconnection point. In case the distance between the interconnection point and point of grid connectivity is more than 10 KMs then cost of the transmission line for the distance beyond the 10 KMs shall be shared equally between the renewable energy developer and the licensee. (ii) Unless otherwise exempted by the Commission the wheeling charges shall be levied @ 2% of energy fed to the grid by the renewable energy developer in case the power is purchased by the distribution licensee. In all other cases wheeling charges or transmission charges, as the case may be, shall be levied at the rates determined by the Commission from time to time. (iii) Provided that the RE Project Developers shall have the option to pay of the actual cost of construction of transmission line (as on date of commissioning) up to a distance of 10 KM from the interconnection point to HVPNL / Discoms, as the case may be, in full or twelve equal monthly installments without any interest cost if the repayment is made in a staggered manner over a period of 12 months and in the intervening period HVPNL/Discoms shall continue to deduct 2% of the energy fed into the grid by the RE Generator. Once the entire amount has been paid off, levy of wheeling charges @ 2% shall be discontinued. This shall be applicable to the RE Projects already commissioned as well as the future projects. However, those who do not opt for this option shall continue to pay 2% of energy fed by them into the grid as wheeling charge. 		