

**PUNJAB STATE ELECTRICITY REGULATORY COMMISSION
SCO NO. 220-221, SECTOR 34-A, CHANDIGARH**

**Petition No. 59 of 2011 (Suo Motu)
Date of Order: 31.10.2011**

In the matter of: Determination of generic levellised generation tariff for Renewable Energy Power Projects

Present: Ms. Romila Dubey, Chairperson
Er. Virinder Singh, Member
Er. Gurinderjit Singh, Member

ORDER

1. The Punjab State Electricity Regulatory Commission (Commission) in its Order dated 30.09.2010 in Petition No. 32 of 2010 (Suo Motu) in the matter of Determination of generic levellised generation tariff for Renewable Energy Power Projects (other than Solar) after the due process adopted the Central Electricity Regulatory Commission (Terms & Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2009 as amended from time to time, with the modifications brought out in para 3B for biomass fuel price and para 4 in respect of plant load factor (PLF) for Non-fossil fuel based Co-generation Projects of the said Order dated 30.09.2010, hereinafter called RE Regulations. In the same Order, the Commission also determined the generic levellised generation tariff for Renewable Energy Power Projects (other than Solar) commissioned during FY 2010-11. As regards tariffs for Solar Power Projects, the Commission had issued a separate Order on 7.7.2010 in Petition No.26 of 2010 (Suo Motu) read with Commission's Order dated 8.7.2011.

2. Central Electricity Regulatory Commission (CERC) has, in due discharge of the mandate under Regulation 8 of the Central Electricity Regulatory Commission (Terms & Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2009 (CERC RE Regulations), determined the generic levelled tariff of Renewable Energy (RE) Power Projects for the third year (FY 2011-12) of the first control period (2009-10 to 2011-12) in its Order dated 9.11.2010 in Petition No. 256/2010 (Suo Motu).

3. For determination of generic levelled generation tariff for different types of RE projects/technologies to be commissioned during FY 2011-12 in accordance with the RE Regulations and CERC Order dated 9.11.2010, a staff paper was put on public notice on 14.7.2011 inviting comments/suggestions. Simultaneously staff paper was also uploaded on website of the Commission. In response, comments/suggestions were received from A2Z Powercom Ltd., A2Z Maintenance & Engineering Services Ltd., Rana Sugars Ltd., KRBL Ltd., Nahar Industrial Enterprises Ltd. and Punjab State Power Corporation Ltd. (PSPCL). A hearing by the Commission was held on 8.9.2011 wherein representatives of these objectors were invited. A summary of the issues raised and the views of the Commission are contained in Annexure-1 of this Order.

4. As regards determination of the generic levelled tariff for Biomass based Power Projects, the Commission observes that CERC in its Order dated 9.11.2010 has fixed the fuel price for such projects as Rs. 2349 per MT for FY 2011-12 and in the neighbouring State, Haryana Electricity Regulatory Commission has allowed an average cost of fuel for Biomass based Power Projects as Rs.2390 per MT for FY 2011-12 along with escalation of 5% per annum on compounded basis as per its Order dated 27.5.2011. PSPCL in its comments stated that the escalation in fuel price for Biomass based Power Projects should be either 5% or as worked out in accordance with the indexation mechanism, whichever is lower. To balance the interest of all stakeholders and to promote generation of electricity from such projects, the Commission is inclined

to allow an escalation of 5% on the cost of fuel fixed for FY 2010-11 (Rs.2500 per MT). Accordingly, the fuel cost for Biomass based Power Projects for FY 2011-12 works out to Rs.2625 per MT.

For Non-fossil fuel based Co-generation Projects, the Commission in its Order dated 30.09.2010 adopted a PLF of 80% with a view to optimize the generation from these power projects besides providing additional benefits for the developer, implying thereby that such units will work for a total of 292 days in a year out of which 155 days would be bagasse based co-generation and in the remaining period would utilize biomass as fuel. For FY 2010-11, the fuel price for Non-fossil fuel based Co-generation Projects was calculated as Rs.1939 per MT on the basis of weighted average of the prices of biomass fixed as Rs. 2500 per MT and bagasse adopted as Rs. 1443 per MT by the Commission. For FY 2011-12, the fuel price for Non-fossil fuel based Co-generation Projects has also been calculated with an escalation of 5% and the same works out to Rs.2036 per MT. Accordingly, the tariff for such units has been arrived at on the basis of weighted average of various parameters for bagasse and biomass.

In case of Biomass based Power Projects and Non-fossil fuel based Co-generation Projects, the variable component of tariff is calculated based on the fuel cost for FY 2011-12. This variable component will change each year based on whether a RE Power Project developer opts for fuel price indexation or escalation factor of 5%. Hence, while calculating the total applicable tariff for Biomass based Power Projects and Non-fossil fuel based Co-generation Projects, levellisation of only fixed component is considered and the variable component for the first year of operation (i.e. 2011-12) is specified.

5. In respect of tariff for Small Hydro, Wind Energy and Solar Power Projects, since no objection or suggestion has been received, the tariffs proposed in the staff paper are hereby confirmed and specified in the Table-1. As regards Wind Power Projects, the Commission observes that Ministry of New & Renewable Energy, Govt. of India vide circular no. 51/55/2011-WE dated 1.8.2011 has done away with the minimum requirement of Wind Power Density

(WPD) of 200 watt / m² at 50 metre hub height for suitability of Wind Power Projects. As such, in the event of such a project being established, the specified tariff for Wind Power Projects would be applicable. Accordingly, the tariff for various types of RE projects to be commissioned during FY 2011-12 will be as specified in the Table-1 below.

Table-1

Levelling Fixed cost/Tariff	Variable cost/Tariff (FY 2011-12)	Applicable Tariff Rate (FY 2011-12)	Benefit of Accelerated Depreciation(if availed)	Net Applicable Tariff (upon adjusting for Accelerated Depreciation benefit, if availed)
(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)
Biomass based Power Projects				
2.02	3.29	5.31	(0.19)	5.12
Non-Fossil Fuel based Co-Generation Projects				
1.81	2.98	4.79	(0.19)	4.60
Small Hydro Power Projects				
Particulars	Levelling Total Tariff (FY 2011-12)	Benefit of Accelerated Depreciation(if availed)	Net Levelling Tariff (upon adjusting for Accelerated Depreciation benefit) (if availed)	
	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	
Small Hydro Power Projects				
Below 5 MW	4.49	(0.55)	3.94	
5 to 25 MW	3.84	(0.50)	3.34	
Wind Energy Power Projects				
Wind Projects	5.33	(0.80)	4.53	

Particulars	Levellised Total Tariff (FY 2011-12)	Benefit of Accelerated Depreciation (if availed)	Net Levellised Tariff (upon adjusting for Accelerated Depreciation benefit) (if availed)
	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)
Solar Power Projects whose PPA signed on or before 31.3.2011			
Solar PV	17.91	(2.96)	14.95
Solar Thermal	15.31	(2.46)	12.85
Solar Power Projects whose PPA signed after 31.3.2011			
Solar PV	15.39	(2.45)	12.94
Solar Thermal	15.04	(2.35)	12.69

6. The above generic tariff has been specified for the RE Power Projects, other than Solar, to be commissioned during the FY 2011-12. For the Solar PV and for Solar Thermal Power Projects, tariff specified for the year FY 2010-11 shall be applicable during FY 2011-12 subject to the conditions that PPA(s) for such Solar PV and Solar Thermal Power Projects were signed before 31.3.2011 and entire capacity commissioned on or before 31.3.2012 in case of Solar PV Projects and on or before 31.3.2013 in case of Solar Thermal Projects. For the Solar PV Projects and for Solar Thermal Power Projects for which PPAs are signed after 31.3.2011, tariff specified in this Order for the year FY 2011-12 shall be applicable.

7. In the eventuality that tariff based competitive bids are invited for purchase of electricity from RE Power Projects and the per unit tariff offered by the lowest bidder is less than the aforementioned tariff, a petition shall be filed by the procurer for consideration and adoption of tariff by the Commission under Section 63 of the Electricity Act, 2003.

8. The Commission observes that in accordance with Regulation 22 of the RE Regulations, any incentive or subsidy offered by the Central or State

Governments if availed by a RE developer is to be deducted while determining tariff. Although the per unit reduction on account of accelerated depreciation benefit has been quantified, reduction in tariff on account of other incentives and subsidies has not been specified. However, such incentives/subsidies can not be generically determined and will have to be worked out separately on the basis of project capacity. In the circumstances, the Commission directs that Punjab State Power Corporation Ltd. will, before signing the power purchase agreement with the developer, work out subsidy availed by the developer as per the formulae indicated in the applicable scheme framed by Ministry of New & Renewable Energy, Govt. of India and reduce the tariff to that extent for a period of 10 years.

**Sd/-
(Gurinderjit Singh)
Member**

**Sd/-
(Virinder Singh)
Member**

**Sd/-
(Romila Dubey)
Chairperson**

Date: 31.10.2011
Place: Chandigarh

[Click here for Annexure 1](#)