



COMMISSION'S ORDER

ON

RENEWABLE ENERGY TARIFF & OTHER ISSUES

FOR FY 2007-08 TO FY 2012-13

May 15, 2007

HARYANA ELECTRICITY REGULATORY COMMISSION
BAYS 33-36, SECTOR - 4, PANCHKULA - 134 109, HARYANA

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HARYANA ELECTRICITY REGULATORY COMMISSION
BAYS NO. 33-36, SECTOR – 4, PANCHKULA.

Date of Order: 15/05/2007

ORDER

Power is a critical infrastructure input for the development and growth of the economy of a country. Since there is a limitation of producing power from conventional sources such as coal, oil etc., it is imperative that some alternative energy source has to be discovered to meet the increasing demand of energy in the country. In this backdrop, power from renewable energy assumes importance. Renewable energy not only augments energy generation but also contributes to improvement in environment, conservation of fast depleting fossil fuel and employment generation.

Keeping in view the importance of producing power from renewable sources, Government of Haryana came out with a new policy for promoting generation of electricity through renewable energy sources vide Notification No.22/69/2005-5P dated 23.11.2005 to encourage Independent Power Producers (IPPs) for setting up of power plant based on renewable energy sources such as Biomass, Bagasse Co-generation, Wind Energy, Small Hydro, Solar and Urban Waste. The said policy also includes incentives like banking of power, exemption from electricity duty, exemption of Local Area Development Tax, exemption of conversion charges by the Town & Country Planning Department for setting up of renewable power projects in agriculture zone etc. It was also decided to treat all such new projects as industry in terms of Industrial Policy 2005. As a follow up

to this Haryana Renewable Energy Development Agency (HAREDA) sent a request to the Commission on 2.5.2006 to fix the percentage of energy to be procured from renewable energy sources and also fixing wheeling charges and tariff for biomass, small hydro, cogeneration and wind energy based power projects. They have intimated that as per the tariff policy framed by the Govt. of India under section 3 of Electricity Act, 2003, the State Electricity Regulatory Commission has to fix percentage of energy and tariff from non-conventional energy sources including co-generation. It was also mentioned that the State Government vide their notification No.22/69/2005-5P dated 23.11.2005 aims at achieving a minimum of 10% (i.e.500 MW) of the total capacity addition of 5000MW of conventional power to be generated through renewable energy power projects by 2012. HAREDA which has been declared nodal agency for implementation of renewable energy projects in Haryana, has invited proposals from Independent Power Producers (IPPs) for setting up power projects based on biomass, small hydro and wind energy. The Commission set about the task of determining the tariff etc. for the above sources of renewable energy by issuing a Consultation Paper for comments from experts and stakeholders. The response was encouraging and comments were received from as many as eleven parties.

It will be relevant at this stage to mention the statutory provisions as given in the Electricity Act, 2003 on the subject. As per section 86(e) of the said Act the State Commission shall promote cogeneration and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of

electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee. It was also further stipulated in Section 61 of the Act that the State Commission shall subject to the provision of the Act specify the terms and conditions for determination of tariff for promotion of co-generation and generation of electricity from renewable sources of energy.

In compliance with Section 3 of the Electricity Act, 2003 the Central Government has notified the Tariff Policy on 6.1.2006 in continuation of the National Electricity Policy notified on 12.2.2005. Section 6.4 in the said policy deals with the non-conventional sources of energy including co-generation, which is reproduced as under:-

- (1) Pursuant to provisions of section 86(1)(e) of the Act, the Appropriate Commission shall fix a minimum percentage for purchase of energy from such sources taking into account availability of such resources in the region and its impact on retail tariffs.

It will take some time before non-conventional technologies can compete with conventional sources in terms of cost of electricity. Therefore, procurement by distribution companies shall be done at preferential tariffs determined by the Appropriate Commission

- (2) Such procurement by Distribution Licensees for future requirements shall be done, as far as possible, through competitive bidding process under Section 63 of the Act within

suppliers offering energy from same type of non-conventional sources. In the long-term, these technologies would need to compete with other sources in terms of full costs.”

In compliance with the statutory provision in the Act and the policy guidelines given in the Tariff Policy of the Govt. of India, the Commission tentatively indicated the following parameters and vide order dated 31.1.2007 decided to invite suggestions/objections from all the stakeholders.

(i) Percentage of electricity from non-conventional sources of total consumption of electricity.

FY 2006-07	upto 2%
FY 2007-08	upto 2%
FY 2008-09	upto 3%
FY 2009-10	upto 10%

(ii) Wheeling Charges: The wheeling charges are proposed to be 2% of the energy fed to the grid irrespective of the distance from the generating stations.

(iii) Tariff: Benchmark tariff for procurement of power from various non-conventional sources was proposed as under:-

Rates in Rs. Per kwh.

Small Hydel	2.81
Wind	3.36
Biomass	3.32
Bagasse	3.28

All the stakeholders were requested to submit their comments/response to the Commission latest by 9.3.2007, which was subsequently extended to 31.3.2007 on the request of the stakeholders. The Commission also held a public hearing on 24.4.2007 at Panchkula to hear the stakeholders. The broad arguments from the parties are submitted as under:-

1. WIND POWER:

Arguing for wind power the Indian Wind Energy Association pleaded that availability of wind power in Haryana is still under monitoring and data collection is under progress. On the basis of available data they expect CUF to be around 18% to 20%. They wanted tariff to be fixed keeping in view ROE at 16% interest rate 10% and debt/equity ratio 70:30. They felt the project cost is likely to be around Rs. 5 Crores per MW. They wanted evacuation to be provided by the State Power Utilities. The other parties including M/s Suzlon Energy Ltd. broadly agreed with these suggestions.

2. SMALL HYDRO:

The situation obtaining in Haryana in this regard were highlighted in the arguments. It was pointed out that small hydro projects in Haryana are basically canal based having very low head and require substantial civil work. Consequently it would lead to escalation in the project cost.

3. BIO-MASS:

While arguing, all the parties pointed out towards highly fluctuating markets of biomass and agriculture waste in Haryana. There is bound to be escalation in the cost when more competition is generated. Moreover, it being seasonal

in nature, the promoter would be required to collect these in advance. This would require creating huge storage facilities and the consequential risk involved. With high land cost in Haryana especially in NCR, the project cost will also be much higher than similar projects in the adjacent States. They wanted preferential tariff keeping in view the uncertainty in the trade.

4. Bagasse (Co-generation):

Suggestions were given by Sugarfed Haryana and Saraswati Sugar Mills explaining that situation obtaining in Haryana specially the fiber contents in the sugarcane, high cost of bagasse due to declining acreage of cultivation of sugarcane, and seasonal nature of functioning.

HPGCL and HVPNL also submitted their suggestions for promoting renewable energy in the State. With regard to wheeling charges, HVPNL wanted it should at par with conventional power.

HAREDA being the nodal agency in the Govt., made a detailed presentation for promotion of renewable energy in Haryana highlighting state specific problem for different types of renewable energy. The Agency wanted a preferential treatment as compared to conventional energy. They also gave suggestions with regard to the notice issued by the Commission indicating rates for different parameters.

The Commission examined the suggestions made in writing by different stakeholders and also took note of the presentation made during the time of public hearing on 24.4.2007 in our office at Panchkula. The Commission agrees that as maiden venture in the State, the projects need encouragement in the form of competitive tariff so as to make them viable. While finalizing our views the Commission has taken a realistic views on the

project cost and the fuel cost as obtaining in the state. The land cost in the state specially in the NCR has also been considered. We however, make it very clear at this stage that some of the issues presented before us during the time of public hearing like payment of monthly minimum charges (MMC) etc. does not come within the purview of the instant order. They can make a separate representation to the Commission during the next distribution and retail supply ARR and Tariff review for consideration. We also make it clear at this stage that rates and other parameters being suggested by us will have a prospective effect and would relate to the project to be set up hereafter. Projects, which are in pipeline for which PPAs have already been finalized, would not be reopened as a result of our orders.

After detailed deliberations the Commission decides as under: -

(i) Percentage of electricity from non-conventional sources of total consumption of electricity.

Every distribution licensee in Haryana will have to procure electricity generated from non-conventional sources of energy at the minimum percentage specified below (unless otherwise decided by the Commission) of its total consumption of electricity within the area of the distribution licensee: -

Year	Minimum %age
2007-08	3%
2008-09	5%
2009-10& thereafter	10%

(ii) Wheeling Charges:

The wheeling charges shall be levied @ 2% of the energy fed to the grid irrespective of the distance from the generating stations.

(iii) Grid Connectivity:

The state transmission utility / distribution licensee will bear the cost of EHV/HV transmission line up to a distance of 10 km from the point of energy metering. Beyond the 10 km distance, the balance cost of the transmission line shall be shared equally between the developer and the STU / distribution licensee.

(iv) Banking:

The banking facility shall be allowed anytime of the day and night subject to condition that surplus energy at the end of the financial year shall not be carried over to the next year.

(v) Tariff:

The Commission approves the average tariffs in respect of different sources of energy as per table below. The tariffs shall be applicable for a period of five years and energy shall be purchased from non-conventional energy sources on first charge basis. The parameters and assumptions considered for determination of average rate are provided at Annexure B

	Wind	Mini Hydel (upto 2 MW)	Biomass	Bagasse (Cogeneration)
Tariff (Rs/kWh) base year FY 2007-08	4.08	3.67	4.0	3.74
Annual Escalation from FY 2008-09	1.5%	1.5%	2%	2%

The IPPs will be required to submit details of carbon credit availed by them on an annual basis on 1st of April every year as per Kyoto Protocol. The Commission shall decide the appropriation of the same amongst the stakeholders including consumers.

The IPPs shall sign power purchase agreement (PPA) with the electricity distribution licensee(s) for sale of energy generated by them from non-conventional energy sources in the state of Haryana.

This order is signed, dated and issued by the Haryana Electricity Regulatory Commission on 15th May, 2007.

Date: 15th May, 2007

Place : Panchkula.

**Shri T. S. Tewatia
(Member)**

**Er. T. R. Dhaka
(Member)**

**Shri Bhaskar Chatterjee
(Chairman)**

Annexure 'A'

List of Stakeholders who attended the public hearing on 24.4.2007 at 11.30 AM in the Conference Hall of the Commission for fixation of Tariff and other issues for purchase of power from Non-conventional energy sources in Haryana.

Sr.No.	Name of Company	Name of persons
1.	HPGCL, Panchkula	- Sh. J.C. Kinra, Director - Sh. V.K. Goel, CE PPM - Er. H.R. Satija, SE/Tech
2.	HVPNL, Panchkula	- Sh. A.S. Chugh, Director/P - Sh. B.K. Ashla, Xen/SO
3.	HAREDA, Chandigarh	- Sh. B.S. Yadav, project Director - Sh. L. Prabhakar, Consultant
4.	A.C.M.E., Power	- Sh. V.K. Sinha
5.	INWEA.	- Sh. A.H. Pandit, S Infra Consultant. - Jami Hossain.
6.	M/S. Suzlon Energy Ltd.	- Sh. T.S. Brar - Sh. Vinod Bishnoi.
7.	Consortium of Gammon & Bermaco.	- C.M. Kaura,
8.	M/s. Starwire (India) Ltd.	- Sh. P.P. Gupta, Chief Executive - Sh. B.K. Jha, Marketing Executive.
9.	M/s. Tecpro Energy (P) Ltd.	- Sh. Jagdeep Singh, C.S.
10.	M/s. P.R. Engineering, Chandigarh.	- Sh. Paveljeet Singh.
11.	M/s. Senergy Global	- Sh. Pradeep Kumar
12.	M/s. SE Energy Parle Ltd.	- Sh. Harpreet Singh
13.	M/s. Turboatom TPS Projects Ltd., New Delhi.	- Sh. H.C. Gaba, GM - B.R. Oberoi, CMD
14.	Saraswati Sugar Mill, Y.Nagar	- Sh. S.L. Singh, - Sh. D.K. Goel
15.	Sugarfed, Panchkula	- Sh. M.S. Dahiya, TA(E) - Sh. S.B. Agnihotri
16.	M/s. Puri Oil Mills, New Delhi	Mr. Ajay Maini.

FINANCIAL PARAMETERS & ASSUMPTIONS		ANNEXURE B			
	Items	Mini Hydel <2MW	Wind	Biomass	Bagasse Cogeneration
1	Capital Cost (Rs Mln)	102.5	43	42.9	39.5
2	Debt (%) capital cost	70	70	70	70
3	Equity (%) capital cost	30	30	30	30
4	ROE (%) on Equity Capital	16%	16%	16%	16%
5	PLF / CUF (%)	70	20	80	80
6	Auxiliary Consumption (%)	0.5	1.5	10	10
7	Fuel (Rs/kg)	0.00	0.00	1.60	0.90
8	Specific Fuel Consumption (Kg/kWh)	0.00	0.00	1.36	2.38