ASSAM ELECTRICITY REGULATORY COMMISSION

FILE NO. AERC. 262/2007 PETITION NO. 7 of 2007

ORDER SHEET

12.07.2007

In The Matter of

Approval of Tariff and Power Purchase Agreement between Hayen Hydel Power Project Company Private Ltd. and Lower Assam Electricity Distribution Company Ltd. for purchase of power from Champamati Mini Hydro electric Project of 2.25 MW capacity under section 61, 62, and 86(1) of the Electricity Act, 2003.

Order

The Petitioner, M/S Hayen Hydel Power Project Company Pvt. Limited is a special purpose vehicle company promoted by M/S Bodoland Infrastructure Development Company Limited a joint venture Company of Infrastructure Leasing & Financial Service Limited (IL&FS), New Delhi and Bodoland Territorial Council (BTC), Kokrajhar. The Company has proposed to implement an Irrigation outlet 2.25 MW Champamati Small Hydro Electricity Generating Project (SHP) located on the river of same name in the Chirang District of Assam near village Nangdalbari. The project has been conceived as a Run on River project with diurnal storage.

The Company plans to supply the entire power for distribution to the Lower Assam Electricity Distribution Company Limited (LAEDCL) which is a deemed distribution licensee. The Company expects that the electrical energy generated from the Project would meet the needs in the districts of Kokrajhar and Barpeta and will improve the availability of power in the region. The energy from the station will be delivered at 11 KV existing network of LAEDCL supplying power to the Champamati Irrigation Scheme. The petitioner had entered into a Memorandum of Understanding (MOU) with LAEDCL on 13th April'07 in this regard for purchase of entire saleable power from the station with a sealing rate on Rs 3.20 /kwh levelised subject to approval from AERC.

The petitioner has submitted a Detailed Project Report (DPR) prepared by engaging consultant namely "Science and Technology Entrepreneurship Park, Indian Institute of Technology, Roorkee".

As per the DPR likely energy to be produced in a year is 7.6 MU and after accounting for free power agreed between BTC and IL&FS to the extent of 25 KVA for first fifteen years for irrigation department and 7.5% from sixteenth year onward the net energy duly accounted for auxiliary consumption is considered for calculation of Tariff.

The Company filed a petition before the Commission on 20.04.07 for approval of Tariff and Power Purchase Agreement (PPA) before the Commission as per the provision of AERC Conduct of Business Regulation 2004 along will necessary fee. The Commission after examination of the petition admitted the petition on 03.05.07 and vide order dated 03.05.07 directed to issue public notice inviting comments/observations from interested person on the matter within 21 days from the publication of the notice. The notice was directed to be published in one English Daily, one Assamese daily, one Bodo Daily and one Bengali Daily published from Assam. Further copy of the petition was also made available in the website of the IL&FS and AERC for the purpose.

The petitioner complied with the direction and the last notice was published on 23rd May, 07. However after expiry of stipulated 21 days from the last published notice, no response was received from any quarter regarding the proposal submitted by the petitioner. No comments and responses have been received from LAEDCL, the main beneficiary of the project either. Therefore, the Commission decided not to hold any public hearing on the matter.

Regulatory Requirements:

The Electricity Act, 2003 provides various guidelines to be followed by the commission. For determination of tariff, Section 61(h) of the Act stipulates "the promotion of co-generation of electricity from renewable sources of energy" and Section 61 (i) stipulates that Commission shall be guided by the National Electricity Policy and Tariff Policy.

Section 86(1) (a) empowered the Commission to determine tariff, where stipulation has been made under Section 86(1)(e) to "promote cogeneration and generation of electricity from renewable sources of energy by providing suitable measure 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 total consumption of electricity in the area of distribution licensee".

Subsequent notification of National Electricity Policy and National Tariff Policy stressed for ways and means so that the non conventional source of electricity is able to supplement the conventional electricity in gradual manner so that precise resources such as coal, gas and petroleum etc can be saved from further depletion.

The Petitioner prayed for

(1) Approve the procurement of power from the project by Lower Assam Distribution Company Limited
(2) Approved the Tariff Principle proposed in the petition.
(3) Approve the tariff design proposed in the petition.
(4) Approve the deviations in financial and operational norms propoposed in the petition.
(5) Approve the levelised tariff of Rs 3.20 per kwh for 35 years.
(6) Condone any of errors, omission and deletions in the petition and give a chance to provide any other necessary information as deemed fit by the commission.
(7) Any other directive as deem suitable by the commission.

After examining the prayers of the Petitioner, The Commission has came to the following conclusions :–

The petitioner Company has already entered into a MOU dated 13.04.2007 with LAEDCL for procurement of entire saleable power at 11 KV network which is already in place for supply of 25 KVA power to the existing Champamati Irrigation project. The Commission approves the arrangement as proposed.

The Petitioner has proposed the Cost Plus approach with a levelised tariff. In support of their claim, the following arguments are put forward.

(a) Cost plus methodology will allow the investor to earn reasonable return commensurate to the risk born by them.

(b) The methodology will provide certainty of revenue to the investors, which in turn will make financing of the project feasible.

(c) The cost plus approach to tariff determination would ensure that the investors, to a large extent, are protected for the cost and associated risk, i.e. allow cost to be recovered completely and also to allow a return commensurate with the risk borne by the investor.

(d) However a strict cost plus approach would lead to a high tariff during the initial years and result in extra burden on the consumer. Therefore it is proposed to adopt the strategy of levelised cost.

The Commission observed that unless tariff is fixed through competitive bidding principle as per provision of Section 63 of the Electricity Act 2003, the cost plus approach through regulation is most suitable method with predetermined norms. The AERC Terms and conditions for Tariff Regulation 2006 are based on such approach in line with CERC's similar regulation. As such the Commission has accepted the Cost plus approach for tariff determination. The Commission further accepted the principle of levelised tariff for entire useful life of the generating equipments with same escalation for 35 years. The levelised tariff calculation is basically a multi year tariff (MYT) principle which, if adopted for entire life of the project is termed as levelised tariff. Although, there are some inherent risk of calculating MYT for a longer span of time like change on inflation and interest regime etc, the commission adopted the same in principle as prayed for by the petitioner.

The petitioner has proposed a single part tariff structure instead of two part tariff as per the prevailing regulations in view of the following reasons.

(a) Single part tariff offers a high level of investment certainty by providing a guarantee of recovery of fixed price for each kwh of power fed into the grid over a certain period.

(b) This approach would ensure adequate compensatory return and will provide reasonable incentive to developers as it gives stable tariff over a longer period.

(c) The levelised tariff approach incentives to operate and maintain the assets efficiently during the latter years of the agreement as against the approach of front loaded tariff.

(d) The single part tariff facilitates the easy monitoring and settlement for such small project.

The Commission observed that Two Part tariff was introduced in the country keeping a view to protecting the large project investor from vagaries of nature like drought etc and to ensure that power generated are fully utilized. The petitioner has put forward their views in support of single part tariff with levelised one to counter any unforeseen disadvantage in case of SHP. The Commission, after careful consideration, approves the adoption of single part tariff calculated as per cost plus approach with predetermined parameters and levelised for 35 years covering entire useful life of main generating equipments.

The petitioner calculated the tariff taking into consideration financial and operational norms stipulated in the AERC (T&C) for Tariff Regulation with minor deviations for some items. The following table shows the position of the petition vis a vis stipulation in the Tariff Regulation. In the remark column the observation of the Commission is given

Sl no	Parameters	As per Regulation	As per petition	Remarks
1	Availability/ PLF	85% for purely ROR project. No specific provision for irrigation based project	40% PLF as per available hydrology, annualized	Considered as reasonable considering irrigation based project.
2	Aux. Consumption	0.5%	0.5%	As per regulation
3	Transformation loss	0.5%	0.5%	-do-
4	Depreciation	Straight line method with expected life with 10% salvage value	Straight line method on entire project cost, for 30 years with 10% salvage value	As per depreciation schedule of the regulation, the life of electro mechanical assets is 35 years. Basis of calculation should be for 35 years.
5	Interest on term load	On actual on debt component of asset.	10% on debt component of asset.	As levelised tariff is proposed, the same is approved
6	O&M	Not specifically mentioned. CERC regulation recommended 1.5% with 4% annual escalation.	2% of project cost with 4% escalation	Considering small project, the same is approved.
7	Int. on W.C.	(a) O&M for one month (b) 1% of historical cost escalated at 6% per annum (c) Receivable with two month of fixed charge at normative capacity index.	(a)O&M for one month (b)1% of historical cost escalated at 6% per annum © Receivable with two month of fixed charge at normative capacity ind	Same as regulation and adopted for calculation.
8	Debt equity ratio	70:30	70:30	Same as regulation and approved.
9	Tax	As expenditure and pass through	Corporate tax 33% on ROE	As per regulation, and approved
10	ROE	14% max.	14%	Same as regulation and approved

11	Tariff	Two part with annualized calculation	Single part at normative level. Levelised for 30 years	Single part tariff is beneficial to the users. Levelised Tariff for 35 years is approved
12	Other income	Net income after taking into consideration of expenditure should be utilized for reduce tariff	Not proposed. The petitioner has mentioned that the project is qualified as CDM project for carbon trading: Estimated 9435 tonn per annum equivalent carbon for trading may be available.	Benefit of CDM income if any after the station qualified as CDM with counterpart agreements is to be shared with the beneficiary i.e. LAEDCL at a ratio of 50:50 As per present information the rate per tonne of carbon trading is Euro 8 to 10., equivalent to Rs 400 to 500 per tonne.
13	Capital cost	The actual expenditure in the case of new investment shall be subject to prudence check by the commission with reference to DPR and such other document	DPR submitted with the petition was prepared by Science and Technology Entrepreneurship Park, IIT, Roorkee. The civil structure estimations are reportedly made as per APWD rate schedule and electromechanical part as per market rate	The capital cost is considered as reasonable for the purpose of tariff calculation. The respondent LAEDCL also has not made any observation otherwise.

The petitioner has submitted an estimated capital cost of the project at Rs 1723.90 Lakhs which included IDC component during the gestation period of the project. Based on the capital cost the tariff is calculated for a period of 35 years with average depreciation of 2.57% covering 90% of the entire project cost through depreciation. After detail calculations the levelised tariff is arrived at Rs 3.19 /KWH. including income tax component as per prevailing Income tax rule.

During the process of disposing the petition it was found that the tariff calculation in the DPR was made for a period of 30 years instead of 35 years as prayed for covering entire useful life of the project. Further a component of 1% of GFA with escalation of 6% was not included in the calculation of Interest of Working capital (IWC) in levelised tariff calculation. After examining all aspect it is decided to calculate the levelised tariff for 35 years along with the component of GFA as provided in the regulation.

In the petition the petitioner prayed for approval of tariff and power purchase agreement (PPA) between Hayen Power Company Private Ltd. and Lower Assam Electricity Distribution Company Limited (LAEDCL). For purpose of approval of power purchase agreement (PPA), preparation of draft PPA incorporating all relevant parameters of the Tariff Order and other terms and conditions is required.

The Petition is disposed off accordingly. Inform all concerned.

Sd/-	Sd/-	Sd/-
(H. Dutta)	(J. P. Saikia)	(P. K. Bora)
Member, AERC	Member, AERC	Chairperson, AERC