

KERALA STATE ELECTRICITY REGULATORY COMMISSION,

Notification

No. KSERC/III/Regulations/2008/ Dated, 19th November,2008 Thiruvananthapuram

Kerala State Electricity Regulatory Commission (Power Procurement from Cogeneration Plants by Distribution Licensees) Regulations, 2008

STATEMENT OF OBJECTS AND REASONS

Section 86(1)(e) of the Electricity Act, 2003 mandates the Commission to promote co-generation 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 to specify the quantum of purchase of electricity by a distribution licensee in his area of supply. Section 62(1) of the Act empowers the Commission to determine the tariff for the supply of electricity by a Generating Company to a Distribution Licensee in accordance with the provisions of the Act. Section 61 of the Act further provides that the Appropriate Commission shall, specify the terms and conditions for the determination of tariff and in doing so shall be guided by the principles listed in clauses (a) to (i) of the said Section. In exercise of the powers vested with the Commission under the above Sections read along with Section 181 of the Act, the Commission specifies the following Regulations:

1. *Short title and Commencement.-*

1. These Regulations may be called the Kerala State Electricity Regulatory Commission (Power procurement from Cogeneration Plants by Distribution Licensees) Regulations, 2008
2. These Regulations shall be applicable to the Distribution Licensees in the State of Kerala. However, till such time the STU or any licensee is engaged in the activity of bulk purchase and sale of electricity to distribution licensees, these regulations shall be applicable to such STU/Licensee for the State as a whole.
3. These Regulations shall come into effect from the date of notification in the Kerala Gazette.

2. Definitions.-

- a. "Act" means the Electricity Act, 2003 (Act 36 of 2003)
- b. "Buyer" means:
 - i. A Distribution Licensee
 - ii. STU or any other Licensee engaged in the activity of bulk purchase and sale of electricity to distribution licensee/s.
- c. "Cogeneration" means a process which simultaneously produces two or more forms of useful energy (including electricity)
- d. "Commission" means the Kerala State Electricity Regulatory Commission
- e. "Distribution Licensee" means a licensee authorised to operate and maintain a distribution system for supplying electricity to the consumers in his area of supply.
- f. "Licensee" means a person who has been granted licence under section 14 of the Act.
- g. "Renewable sources" in this context means non-conventional, renewable electricity generating sources such as small hydel, wind, solar, biomass, urban/municipal waste, or other such sources as approved by the Ministry of Non-conventional Energy Sources, GoI or GoK.
- h. "State Transmission Utility (STU)" means the Board or the Government company specified as such by the State Government under sub section (1) of section 39 of the Act.

The words or expressions in these Regulations, which are not defined herein, shall have the same meaning as in the Act . In case of inconsistency, the meaning in the Act shall prevail.

3. Purchase of electricity from Cogeneration plants.-

With the enactment of the Electricity Act, 2003 and declaration of National Electricity Policy and Tariff Policy, Electricity Regulatory Commissions have been directed to encourage non-conventional energy sources.

(a) Section 86 (1)(e) of the Electricity Act stipulates that the State Commission shall

" Promote cogeneration and generation of electricity from renewable sources of energy by providing suitable measures of 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."

(b) Clause 6.4 of Tariff Policy No 23/2/2005-R&R (Vol III) dated 6th January, 2006 resolves

"Non Conventional sources of energy generation including Co-generation:

(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. Such percentage for purchase of energy should be made applicable for the tariffs to be determined by the SERCs latest by April 1, 2006.

It will take sometime 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.

(3) The Central Commission should lay down guidelines within three months for pricing non-firm power, especially from non-conventional sources, to be followed in cases where such procurement is not through competitive bidding".

The policy also stipulates that the procurement by Distribution Licensees for future requirements shall be done as far as possible through competitive bidding process under section 63 of the Act. Consequently the Government of Kerala invited bids for selecting Small Hydro entrepreneurs for the sites selected by the Government for private participation and many agencies have submitted proposals and a few of them have been selected. As per the Act the Commission has to prescribe/assess,

- (1) Percentage of renewable energy sources to be purchased by Licensees
- (2) Its impact on retail tariff
- (3) The maximum tariff that can be allowed for purchase of non-conventional energy.
- (4) The methodology for fixing tariff and PPA

(c) The Commission based on the comments received from stakeholders on 'The Consultative Paper on purchase requirement of non conventional energy and determination of tariff for small hydro generating stations and wind energy' dated 18th January, 2006 and the public hearing held on 20-02-2006 in the Office of the Commission, approved the norms for various parameters for the estimation of tariffs for Small Hydro Power Projects and Wind Energy Projects. Now the Commission proposes the following norms for estimating the tariff of co-generation plants using bagasse. The tariff estimation is done as per Annex-I.

(1) Each Distribution Licensee shall purchase a quantum of 5% from renewable sources expressed as percentage of its total consumption during a year. Out of these 5%, 2% shall be from SHP, 2% from Wind and 1% from all other sources including cogeneration except Small Hydro and Wind.

(2) If the STU or any licensee is engaged in the activity of bulk purchase and sale of electricity to distribution licensees in the State, the quantum of purchase from renewable sources shall be considered at the above specified percentage expressed as percentage of total consumption in the area of supply of all such Licensees considered together.

(3) The Buyer shall indicate the proposed quantum of purchase from renewable sources for the ensuing year in the ARR and ERC filing, duly indicating the sources of purchase.

(4) The Buyer shall source the proposed quantum of electricity from renewable sources within the State.

(5) While contracting power purchase from renewable sources, the priority for purchase shall be on the basis of the date of commercial operation of such generating stations.

(6) The Buyer shall provide adequate payment security mechanism for purchases mentioned above.

(7) The Commission may review the quantum of purchase from renewable sources once in every 3 years.

(8) If the Buyer defaults in payment for the purchase from any generating company, such generating company shall be at liberty to sell electricity to any other person in accordance with the KSERC (Open Access) Regulations.

4. Promotion of cogeneration of energy.-

Any person generating electricity from renewable sources of energy shall have mandatory open access to any Licensee's transmission system and/or distribution system or grid as the case may be.

5. Determination of Tariff for electricity from Cogeneration sources.-

(1) The Commission shall determine the tariff for purchase of electricity from cogeneration sources by a distribution licensee. Provided that, the PPAs approved by the Commission prior to the notification of these regulations shall continue to apply for such period as mentioned in those PPAs.

(2) The Commission shall determine the tariff separately for each process of cogeneration on a case to case basis.

(3) The Commission shall as far as possible be guided by the principles and methodologies if any specified by the CERC, National Electricity Policy and Tariff policy, while deciding the terms and conditions of tariff for cogeneration of energy.

(7) The tariff so determined by the Commission shall be applicable for a period of 10 years from the date as notified by the Commission. (Annex I)

6. Power to remove difficulties.-

The Commission shall *suo motu* or on an application from any person generating electricity by cogeneration or a Buyer/Distribution Licensee may review these regulations and pass appropriate orders to remove any difficulty in exercising the provisions of these regulations.

7. Power to amend.-

The Commission may from time to time add, vary, alter, modify or amend any provisions of these regulations.

Sd/-
MEMBER(F)

Sd/-
MEMBER(E)

Sd/-
CHAIRMAN

By Order of the Commission

Sd/-
Secretary (in charge)

ANNEX - I

Bagasse based Cogenerating Plants

Section 61 of the Act requires that the appropriate Commission shall , specify the terms and conditions for the determination of tariff, and in doing so, shall be guided by promotion of co generation and generation of electricity from renewable sources of energy . For the consideration of promotional measures Co- generation plants can be classified as (1) Fossil Fuel Based Cogeneration plants (2) Non Conventional Energy Sources Based Co-generation Plants.

Waste heat Power generation has now been classified in general under cogeneration.

1) Plant Utilisation Factor:

In case of bagasse based Co-generation plants , PLF depends mostly on the availability of bagasse in the crushing season . Assuming that the projects can run for 130 days during crushing season and another 100 days during non crushing days (with stored bagasse and other biomass fuels), the average PLF that can be achieved is 55%when project runs at a capacity of 90%. Hence the threshold level of PLF at 55% worked out on the basis of the availability of fuel.

2) Capital Cost:

Commission assumes a Capital cost of Rs 3.5 Crores/MW

3) Life of Plant:

Life of plant is assumed as 12 years

4) Depreciation Rate:

Depreciation rate is assumed as 7.5 %

5) Operation and Maintenance:

O&M of 1.5% of capital investment is assumed.

6) Interest cost on Long Term Debts:

The interest on long term loans is assumed as 9%.

7) Term loan period:

Commission assumes a term loan repayment period of 10 years

8) Return on equity:

The Commission assumes a return on equity of 14% of the Capital cost.

Tariff Rates based on the norms approved by the Commission

<u>Year</u>	1	2	3	4	5	6	7	8	9	10
Rate Rs/Unit	2.80	2.75	2.67	2.63	2.59	2.54	2.50	2.45	2.41	2.37

The levelised tariff at 12% Discount Rate comes to Rs 2.55 /Unit. The developers are to provide energy to licensees at a uniform rate of Rs 2.55 /unit for 10 years without any escalation.