

**BEFORE THE KARNATAKA ELECTRICITY REGULATORY COMMISSION,
BENGALURU**

Dated : 4th May, 2017

Present:

Shri M.K. Shankaralinge Gowda	..	Chairman
Shri H.D. Arun Kumar	..	Member
Shri D.B. Manival Raju	..	Member

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BETWEEN:

Biomass Power Producers Association of Karnataka,
No.3423, 10th Main, 3rd Cross,
(Near Water Tank),
Indiranagar,
Bengaluru – 560 038.

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PETITIONER

[Represented by Keystone Partners, Advocates]

AND:

- 1) The State of Karnataka,
By its Additional Chief Secretary,
Energy Department,
Vikasa Soudha,
Bengaluru- 560 001.
- 2) Karnataka Power Transmission Corporation Limited,
Cauvery Bhavan,
K.G. Road,
Bengaluru – 560 009.
- 3) Karnataka Renewable Energy Development Limited,
No.39, "SHANTHIGRUHA"
Bharath Scouts & Guides Building,
Palace Road,
Bengaluru – 560 001.

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- 4) Bangalore Electricity Supply Company Limited,
K.R. Circle,
Bengaluru – 560 001
- 5) Gulbarga Electricity Supply Company Limited,
Station Road,
Kalaburagi – 585 101.
- 6) Mangalore Electricity Supply Company Limited,
MESCOM Bhavana,
Kavoor Cross Road,
Bejai,
Mangaluru – 575 004.
- 7) Chamundershwari Electricity Supply Corporation Limited,
No.29, Kaveri Gramena Bank Road,
Vijayanagar, 2nd Stage,
Mysuru – 570 019.
- 8) Hubli Electricity Supply Company Limited,
P.B. Road, Navanagar,
Hubballi – 580 025.

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RESPONDENTS

[Respondents No. 2,4,5,6,7 & 8 represented by Indus Law, Advocates and Respondent No. 3 by Sri. G. S. Kannur, Advocate]

ORDERS

- 1) The Petitioner, Biomass Power Producers Association of Karnataka (hereinafter referred to as the Petitioner), a registered Society under the provision of Karnataka Societies Registration Act, 1960 has filed this Petition under Sections 61,62 and 63 read with Section 86(1) (a) of the Electricity Act, 2003, Regulation 9(1) of the KERC (Power Procurement from Renewable Sources by Distribution Licensees and Renewable Energy Certificate Framework) Regulations, 2011 and

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Regulation 11 of the KERC (General and Conduct of Proceedings) Regulations, 2000 praying the Commission to:

- (a) Determine the tariff applicable to air cooled condenser based biomass projects to be Rs.8.31/kWh for the financial year 2013-14, with an annual escalation of 10%;
- (b) Determine tariff applicable to water cooled condenser based biomass projects to be Rs.8.01/kWh for the financial year 2013-14, with an annual escalation of 10%;
- (c) Pass any other orders in the interest of justice and equality.

2) The material facts made out in the Petition in support of the above prayers may be stated as follows:

- (a) The tariff determined by the Commission in its orders dated 10.7.2014 and 1.1.2015, for air cooled biomass power plants and water cooled biomass power plants respectively, is inadequate to make biomass based power projects in the State commercially viable resulting in only a few plants remaining operational despite Governmental sanctions for a large number of plants.
- (b) The petitioner contends that the tariff for the biomass power plants, in the State, is significantly lower and inadequate as compared to the latest tariff structure suggested by the CERC, as well as those prevailing in other States.

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(c) The petitioner further contends that, the tariff orders currently in force for the biomass power plants, should be reviewed immediately curtailing the Control Period, as done in respect of solar power plants.

(d) The petitioner has sought for revision of tariff by adopting following revised parameters:

(i) *Interest on the Term Loan and Working Capital loan:*

The rates of interest at 12.50% for term loan and 13.25% for working capital loan/s, adopted in the current tariff orders are not comparable with actual rates being charged by the Commercial lending banks which consider biomass power projects, as risky. The CERC, in its orders dated 28.02.2013 and 31.03.2015, has fixed the interest rate at 13.50%, which is also the rate charged by the Power Finance Corporation Ltd., and the Indian Renewable Energy Development Corporation Ltd. While stating that the Haryana Electricity Regulatory Commission has adopted a rate of 13.75%, the Petitioner has sought fixing of an uniform interest rate of 13.50% for both term loan and working capital loan, in respect of the biomass power plants commissioned from the FY 2013-14 onwards.

(ii) *Capital cost:*

The Petitioner contends that, the Commission has fixed the capital cost at Rs.5.80 crores per MW, in respect of air cooled biomass power plants, and Rs.5.70 crores per MW, in respect of water cooled biomass power plant

which are lower than the actual capital cost involved in setting up of biomass power plants in the State. While in respect of water cooled condenser based projects, the CERC in its orders dated 31.03.2015, has fixed the capital cost at Rs.558.705 lakhs and Rs.610.437 lakhs, depending on the type of biomass fuel, in respect of air cooled condenser based projects, it has fixed at Rs.600.091 and Rs.651.822 lakhs. Considering these figures, the Haryana Electricity Regulatory Commission has fixed the capital cost at Rs.6.054 Crores/MW and the Bihar Electricity Regulatory Commission has fixed it at Rs.6.34 Crores/MW. The Petitioner has sought fixing of capital cost at Rs.6.10 Crores/MW for water cooled plants and Rs.6.51Crore/MW for air cooled plants, in respect of biomass power plants, commissioned from FY 2013-14 onwards.

(iii) *Operating and Maintenance (O&M) Expenses and escalation, thereon:*

The Petitioner contends that the O&M expenses, fixed by the Commission at 23.20 lakhs/MW for the base year with an annual escalation of 5%, in respect of air cooled plants and Rs.30 lakh/MW with annual escalation of 5.72%, in respect of water cooled plants, are much lower than the actuals which are higher because of labour intensive nature of the plants, remote location of the plants necessitating higher wages to retain skilled personnel and additional expenses for arranging security, smaller size of the plants as compared to thermal plants, etc. The O&M expenses determined by the Commissions in other States are higher ranging from Rs.26.75 lakhs/MW to Rs.40.51 Lakhs/MW, while the CERC has suggested it

at Rs.44.71 lakhs/MW for FY 2015-16. The Petitioner has therefore sought fixation of the O&M expenses at Rs.44.71 lakhs/MW, with 6% escalation.

(iv) *Cost of biomass fuel:*

The petitioner contends that the Commission has fixed the cost of the biomass fuel at Rs.2100 per MT, in the Order dated 01.01.2015, which does not reflect the real cost and is very low. While fixing the cost of the biomass fuel, labour charges involved in its processing and transportation, need to be considered. The Petitioner further contends that, while the CERC in its order dated 31.03.2015 has fixed the fuel cost at Rs.3144.80 per tonne, Commissions of other States have fixed it, ranging from Rs.2550/tonne to Rs.3731/tonne. The petitioner also contends that, the local farmers prefer to sell biomass to neighboring States because of higher prices fetching there, resulting in fuel shortage in the State. The petitioner has, therefore, sought the fuel cost to be fixed at Rs.3200/MT.

(v) *Specific Fuel Consumption:*

The Petitioner contends that the Commission has adopted a calorific value of 3300 kcal/kg and station heat rate of 3900 kcal/Kwh amounting to specific fuel consumption of 1.18 kg/unit, in respect of air cooled plants and a calorific value of 3,300 kcal/kg and a station heat rate of 4000 kcal/kwh, amounting to specific fuel consumption of 1.21kg/unit, in respect of water cooled plants, without considering the fact that actual moisture content of the biomass ranges from 30% to 40%, resulting in

calorific value between 2600 and 3000 kcal/kg. While, further contending that, the Commissions of other States have fixed calorific value ranging from 3100 kcal/kg to 3400 kcal/kg, the petitioner has sought fixation of calorific value of the biomass at 3000 kcal/kg.

- (vi) The Petitioner has also sought to justify the upward revision of tariff on the grounds of biomass based power plants being environmental friendly, capable of creating job opportunities to the local population, along with additional revenue to farmers and the electricity generated being firm, unlike other renewable sources, would help the distribution licensees to overcome power shortage.
 - (vii) The Petitioner has further contended that, the Commission has revised tariffs, in respect of solar power plants, curtailing the control periods taking into account latest developments after issuance of its earlier tariff orders.
- 3) Upon admission of the Petition and issuance of Notices, the Respondents (except Respondent No.1) appeared through their Counsel. In their statements of Objections, the Respondents have opposed the Petitioner's prayers, among other things contending that:
- (a) The Commission has determined a reasonable and well balanced tariff for the biomass power plants, considering the interest of all stakeholders, including the

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consumers who finally bear the burden of the tariff fixed and there are no sufficient grounds for the revision now.

- (b) The biomass power plants' inability to remain operational is a result of their inefficiency in use of resources and lack of proper planning.
- (c) The petitioner has not raised any new grounds which justify the prayer for increase in tariff that were fixed by the Commission after considering the inputs from all the stakeholders and affected persons.
- (d) The petitioner is virtually seeking revision of the Commission's Orders of 2014 and 2015, based on the facts and the documents that were already considered by the Commission.
- (e) The facts and the circumstances, leading to downward revision of solar power tariff before the end of control period, are not applicable to the biomass power plants, which are seeking a significant upward revision.
- (f) The normative rates of interest fixed by the Commission, are well considered and reasonable.
- (g) Similarly, the normative capital cost determined by the Commission, is well considered, reasonable and the fact of a higher capital cost, in respect of an

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individual plant cited again now, was considered by the Commission earlier. That the capital cost, currently determined by the Commission, is much higher than a few other States, where it ranges from Rs.4.04 crores/MW to Rs.4.98 crore/MW as compared to Rs.5.8/5.7 crore/MW fixed in the Karnataka State.

- (h) The Commission has determined the O&M expenses, after considering the same inputs which are now relied on by the petitioner seeking its upward revision. The O&M expenses vary from State to State, depending on local factors and the Petitioner has conveniently relied only on the normative figures of only those States, which are higher. The normative price determined by the CERC, is only an indicative and not binding.
- (i) The Commission has considered all relevant factors before determining the cost of the biomass fuel and there is no substantial change in the biomass environment or cost of the biomass fuel, necessitating its upward revision now.
- (j) Similarly, the Commission has considered all relevant factors before determining specific fuel consumption and the petitioner has not raised any new ground in the present Petition. The petitioner has placed reliance only on the calorific values of States, which are lower than Karnataka State.
- (k) Haveri Bio Energy Pvt. Ltd., a member of the Petitioner Society, had filed *OP No.10/2013*, pursuant to which, the Commission has fixed the tariff at Rs.5.15/unit for air cooled biomass projects, after public consultation process. The

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said petitioner had then filed a Review petition, numbered as RP No 3/2014, which has been dismissed by the Commission, among other grounds, that all the grounds relied on by the Petitioner for seeking review had already been considered by the Commission.

- (l) Raichur Bio Energy Pvt. Ltd, a member of the Petitioner Society has challenged the Commission's Order dated 01.01.2015, in which tariff was determined for water cooled biomass power plants, but has not been diligent in contesting the Appeal, numbered as 91/2015, before the Hon'ble Appellate Tribunal for Electricity. This amounts to abuse of the process of Court.

- (m) The redetermination of tariff at higher rates sought retrospectively is impermissible in law and also not feasible, as the ESCOMs cannot absorb the additional cost. Further, as held by the Hon'ble Supreme Court in the *Konark Power Projects* case, the Commission does not have the power to vary the tariff, after its determination.

- 4) The counsel for Petitioner, during the course of his oral submissions while rebutting the objections raised by the Respondents, has relied on several judgments of Hon'ble Appellate Tribunal for Electricity to contend that the Commission is empowered to revise tariffs determined earlier, renewable power should be promoted and in determination of tariff, cost to consumers should not be the main objective and, societal gains, environment protection, etc., should also be

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kept in mind. He prayed for fresh determination for tariff after public consultation. The Counsel for Respondents has reiterated the objections filed in writing.

- 5) Accepting the plea of the Petitioner for initiating public consultation for determination of tariff for the biomass based power projects, the Commission called for views of the stake holders and gave an opportunity of hearing to them. The views and submissions, made pursuant to such process may be stated as follows:
- (a) A realistic tariff for the biomass plants would help in electricity generation round the year, thereby reducing prevalent power shortage.
 - (b) The Biomass fuel was being supplied till May, 2016, at a price ranging from Rs.3480/MT to 3590/MT.
 - (c) Closure of the biomass plants because of lower tariff, has affected the local population and also others employed in such plants.
 - (d) The cost of rice husk, ranges from Rs.3800/- to Rs.4800/- per tonne.
 - (e) The Biomass power plants, being decentralized source, do not burden the grid.
 - (f) The Hon'ble Supreme Court has dismissed the appeal filed by the DISCOM, challenging the order of the Hon'ble Appellate Tribunal for Electricity directing

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Madhya Pradesh Electricity Regulatory Commission to adopt Station Heat Rate of 4200 kcal/kwh and Gross Calorific value of 3100 kcal/kg and refix the tariff.

(g) Koganti Power Ltd., which states to have commissioned a 7.5MW biomass plant in November,2005, has sought determination of a viable tariff, so that, it can enter into fresh PPA with ESCOMs.

(h) Auric Industries Ltd. states that, the additional cost required to be incurred by it for its biomass power project using other than rice husk and non-Sulphur-free fuels need to be factored in revision of tariff for the biomass power plants with the water cooled condensers.

6) We have carefully examined the submissions made by all the parties including the documents and data furnished by them. The following issues arise for our consideration:

(1) Whether the Petitioner has made out any grounds, in support of the prayer seeking determination of tariff for air-cooled and water cooled condenser based biomass projects and the rates prayed for, that too, retrospectively from the financial year 2013-14?

(2) Whether the Petitioner is in effect seeking revision of the Commission's orders dated 10.7.2014 and 01.01.2015, insofar as they relate to the biomass power plants without raising any new grounds as contended by the Respondents?

- (3) Whether Haveri Bio Energy Pvt. Ltd., a member of the Petitioner-Society, by way of the present Petition, is re-agitating the same grounds, which have been rejected earlier by the Commission, and the other member of the Petitioner-Society, namely, Raichur Bio Energy Pvt. Ltd., is pursuing parallel proceedings, before the Hon'ble Appellate Tribunal, and also this Commission, as contended by the Respondents?
- (4) What order?
- 7) After considering the submissions of the learned counsel for both the parties and material placed on record by them as well as the comments received as a part of the public consultation process, our findings on the above issues are as follows:
- 8) **ISSUE No.(1)** : *Whether the Petitioner has made out any grounds, in support of the prayer seeking determination of tariff for air-cooled and water cooled condenser based biomass projects and the rates prayed for, that too, retrospectively from the financial year 2013-14?*
- ISSUE No.(2)** : *Whether the Petitioner is in effect seeking revision of the Commission's orders dated 10.7.2014 and 01.01.2015, insofar as they relate to the biomass power plants without revising any new grounds as contended by the Respondents?*
- ISSUE No.(3)** : *Whether Haveri Bio Energy Pvt. Ltd., a member of the Petitioner-Society, by way of the present Petition, is re-agitating the same grounds, which have been rejected earlier by the Commission, and the other member of the Petitioner-Society, namely, Raichur Bio Energy Pvt. Ltd., is pursuing parallel proceedings, before the Hon'ble Appellate Tribunal, and also this Commission, as contended by the Respondents?*

- (a) The above three issues are interconnected and we therefore proceed to consider them together.
- (b) The Commission pursuant to the Petition (OP No.18/2013), filed by the Haveri Bio Energy Pvt. Ltd., (one of the members of the Petitioner-Society, in the present case) which was praying for determination of tariff, applicable to such projects, at Rs.5.90 per kWh for the financial year 2013-14 with an annual escalation of 6%, after public consultation passed order dated 10.07.2014, determining the tariff ranging from Rs.5.15/per unit in the first year to Rs.6.04 per unit in the 10th year for all the biomass based power projects using air-cooled condensers, including the project of Haveri Bio Energy Pvt. Ltd., achieving commercial operation during the period from 01.04.2014 to 31.03.2018.
- (c) Earlier to this, after due public consultation, the Commission in its order dated 11.12.2009, while determining the tariff for various renewable sources of energy, determined tariff for bio-mass projects (ranging from Rs.3.66 per unit in the first year to Rs.4.13 per unit in the 10th year) in respect of which PPAs are submitted to the Commission for approval on or after 01.01.2010. It was also declared that, the tariff determined would be reviewed after 5 years.
- (d) The Commission thereafter, in its order dated 01.01.2015, has determined the tariff for biomass projects with water cooled condenser (comprising of fixed cost of Rs.2.37/unit and variable cost for FY15 at Rs.2.82 per unit, FY 16 at Rs.2.98 per

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unit, FY17 at Rs.3.16 per unit and FY18 at Rs.3.34 per unit) that get commissioned during the period between 01.01.2015 and 31.03.2018 for which PPAs have not been entered into prior to the date of such order.

- (e) The petitioner apart from making general statements and references to the orders of the CERC and other SERCs, has not furnished any documentary proof in support of the claim that the actual rates of interest, in respect of term loan and working capital availed by any of its members is higher than what has been adopted by this Commission. We find that before adopting the interest rates, indicated in its Orders dated 10.07.2014 and 01.01.2015, this Commission has considered similar contentions raised. Therefore, we are unable to accept the Petitioner's unsubstantiated claim for upward revision in respect of rate of interest.
- (f) Similarly, we find that all the grounds urged and documents furnished in support of the claims of the Petitioner for fixing Capital cost, higher than what is fixed by this Commission in its Orders dated 10.07.2014 and 01.01.2015, have been considered by the Commission earlier. Haveri Bio Energy Pvt. Ltd and Dharwad Bio Energy Pvt. Ltd. had produced similar documents before this Commission, in the course of proceedings relating to such orders, to claim fixation of a higher capital cost, which was negatived. We may point out that, the Commission determines generic tariff based on normative costs as applicable to similar plants in general and any deviation in the case of an individual unit cannot be factored in. Therefore, we are unable to accept the Petitioner's claim even in

respect of Capital cost. Further, we note that, the claim made in respect of a proposed plant by one of the objectors, during the public hearing, for providing additional cost towards certain special type of biomass fuel, cannot be considered in the present petition.

- (g) The Petitioner's claim for revision of O&M expenses is similarly based on expenses stated to have been incurred by two plants. No material is produced justifying the absolute need of such higher expenditure. As pointed earlier, the Commission determines the generic tariff on normative basis and higher expenses incurred by any individual plants cannot be taken as a benchmark. We are unable to accept the Petitioner's claim in respect of O&M expenses too, which are based on the same grounds and documents, which were considered earlier by the Commission.
- (h) The petitioner's claim for upward revision of cost of biomass fuel, is also based on the same grounds and documents which were considered by the Commission in its earlier proceedings. We note that, there are contradictory statements supporting the claim for upward revision. While it is contended that, there is shortage of biomass fuel because of poor rainfall, it is also contended that, it has been diverted for alternative use. Similarly, while seeking a better price to the local farmers, it is also contended that the farmers are selling to other States where the prices of biomass are higher. The biomass fuel being an unorganized and unregulated sector, the documents furnished in support of the claim cannot

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be accepted at their face value. We are unable to accept the claim of the Petitioner, in respect of cost of the biomass fuel also.

- (i) The Petitioner's claim for refixation of 'Specific Fuel Consumption' (SFC) is also based on the same grounds and documents produced before the Commission in its earlier proceedings. In the absence of any new grounds, we therefore, find no case for refixation of the SFC.

- (j) In support of its plea for upward revision of tariff for the biomass power plants, our attention has been drawn to the higher tariffs determined and being paid by the distribution companies for solar power projects and Municipal Solid Waste based power plants. The factors and the circumstances taken into account in determination of tariff for the above non-conventional/renewable sources of energy are different and cannot be made applicable to the Petitioner's case. The relatively high tariff fixed earlier for solar power plants was based on their higher capital cost, as compared to other plants, when the sector was in its nascent stage. But, with rapid development in solar power technology supported by increased interest by investors encouraged by adequate tariff, there has been phenomenal reduction in its capital cost and improvement in efficiency, resulting in its tariff falling lower than that of thermal power. We note that, lower tariff burden on the consumers, in respect of solar power, that would be procured by the distribution companies from a larger new solar generation capacity will more than offset the higher cost that need to be paid to the older but very small generating capacity created. Such is not the case with the

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Petitioner's sector. In contrast to periodical reduction in tariff for solar power plants, the Petitioner and its members have been seeking periodical increase. The Commission has also been making periodical upward revision though not as sought by the Petitioner and its members and such revisions are based on norms and parameters as applicable to tariff determination.

- (k) Similarly, the norms and parameters considered in determination of tariff for Municipal Solid Waste based Power Plants, are not comparable to that of the biomass Power Plants. The MSW sector is in a very nascent stage with hardly any operating capacity. The reasons and the need for promoting investment and capacity addition in such sector are obvious and too well known.
- (l) We agree with the contentions of the Respondents that the Petitioner has sought to rely on only those technical and financial parameters available in the Orders of the CERC and the Commissions of other States which are favourable to it and that most of the grounds raised have already been considered by the Commission in its earlier proceedings. The other parties to the proceedings also have not raised any new grounds and a few have raised issues that are not relevant to the present proceedings.
- (m) We also agree with the contention of the Respondents that, through the present Petition, a member of the Petitioner-Society is reagitating its revision petition, which was dismissed by this Commission and another is pursuing parallel

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proceedings. Thus, in effect, the Petitioner has sought for revision of this Commission's Orders dated 10.07.2014 and 01.01.2015.

(n) We also note that, the Petitioner's prayer for determination of tariff applicable to the biomass projects, for the financial year 2013-14, amounts to review of this Commission's Order dated 11.12.2009, and is barred by limitation. No grounds have been made out by the Petitioner and other parties to the proceedings to condone to their inordinate delay in seeking the review of such order.

(o) For the above reasons we answer Issue No. (1) in the negative and Issues Nos.(2) and (3) in the affirmative.

9) **ISSUE No.(4)** : *What Order?*

For the foregoing reasons, we pass the following :

ORDER

The Petition is dismissed.

Sd/-

(M.K. SHANKARALINGE GOWDA)
CHAIRMAN

Sd/-

(H.D. ARUN KUMAR)
MEMBER

Sd/-

(D.B. MANIVAL RAJU)
MEMBER