

**BEFORE THE HONOURABLE KERALA STATE ELECTRICITY  
REGULATORY COMMISSION**

At its office at CV Raman Pillai Road, Vellayambalam, Thiruvananthapuram.

**FILING NO**                    **/2022**

**CASE No.**

**IN THE MATTER OF:**

Petition in the matter of redetermination of tariff for electricity generated from M/s. Ahaliya Alternate Energy Pvt Ltd under Section 21 (6) (b) of KSERC (Renewable Energy) Regulation, 2015 and as per the direction of Hon'ble KSERC vide order dated 22.02.2017 on Petition No. 10/2016.

AND

**PETITIONER:**

Kerala State Electricity Board Limited,  
Vydyuthi Bhavanam, Pattom, Thiruvananthapuram

Applicant

**RESPONDENT:**

Ahalia Alternate Energy Pvt Ltd, Palakkad

**Chief Engineer (Commercial & Tariff)  
Kerala State Electricity Board Limited**

## AFFIDAVIT VERIFYING THE APPLICATION

I, Sri. Sasankan Nair C.S, son of Sri. G.Chellappan Pillai aged 55 years residing at Sasindu, Snehapuri Road, Karumom, Thiruvananthapuram do solemnly affirm and state as follows:

I am the **Chief Engineer (Commercial & Tariff)** of the Kerala State Electricity Board Limited, Vidyuthi Bhavanam, Pattom, Thiruvananthapuram, and the **respondent** in the above matter and I am duly authorized by the Board to make this affidavit on its behalf. I solemnly affirm at Thiruvananthapuram on this the **.05.2022 that**

- (i) Contents of the above petition are true to my information, knowledge and belief. I believe that no part of it is false and no material has been concealed there from.
- (ii) That the statements made in paragraphs of the accompanying application now shown to me are true to my knowledge and are derived from the official records made available to me and are based on information and advice received which I believe to be true and correct.

Deponent

Chief Engineer (Commercial & Tariff)  
Kerala State Electricity Board Limited, Vidyuthi Bhavanam,  
Pattom, Thiruvananthapuram – 695 004

## VERIFICATION

I, the above named deponent, solemnly affirm at Thiruvananthapuram on this the **.05.2022** that the contents of the affidavit are true to my information, knowledge and belief, that no part of it is false and that no material has been concealed there from.

***Deponent***

Chief Engineer (Commercial & Tariff)  
Kerala State Electricity Board Limited, Vidyuthi Bhavanam,  
Pattom, Thiruvananthapuram – 695 004

Solemnly affirmed and signed before me

Advocate and Notary



- 5) KSEB Ltd during the hearing and also vide the written submission dated 30-08-2016, had submitted before the Hon'ble commission that, KSEB Ltd had been purchasing electricity from Agali (13.80MW) and Koundickal (4.8MW) wind farms, both in Palakkad District and the average Plant Load Factor of these projects are above 25%. KSEB Ltd, therefore, requested to consider fixing CUF as 25%.
- 6) Hon'ble Commission vide the order dated 22-2-2017 had approved the generic tariff of Rs.5.34/unit for the project as per the provisions of KSERC (Renewable Energy) Regulation, 2015 duly considering the benefit of accelerated depreciation,as submitted below:
- (i) *"The generic tariff applicable to 8.4 MW wind power project developed by M/s Ahalia Alternate Energy Pvt. Ltd, Palakkad under IPP mode is Rs 5.34 per unit, duly considering the benefit of accelerated depreciation. This tariff is applicable for the entire energy purchased by KSEB Ltd from the date of commercial operation of the first unit on 22-02-2016 till the term of the PPA.*
  - (ii) *M/s AAEPL shall claim CDM benefits and share the same with K S E B Ltd. as directed in para 26 of this order.*
  - (iii) *The draft power Purchase Agreement duly initialed by both the petitioner M/s AAEPL and the respondent KSEB Ltd is hereby approved with modification to the extend as directed in order (i) and (ii) above. Item No (i) may be incorporated into the agreement by modifying clause 6.9 of draft agreement suitably. M/s AAEPL & K S E B Ltd. are directed to make suitable modifications in the draft PPA before they enter into PPA.*
  - (iv) *The agreement shall remain valid for a period of 13 years from 23-03-2016, i.e. from the date of commissioning of the three units out of four units installed by M/s AAEPL.*
  - (v) *A copy of the PPA, duly signed and entered in to between the parties shall be submitted to the Commission for records.*
  - (vi) *In clause 6.9 of draft PPA, the word 'order dated 11/11/2015 of KSERC' may be substituted by the words 'Kerala State Electricity Regulatory Commission (Renewable Energy) Regulation, 2015 issued on 11.11.2015'"*
- 7) Hon'ble Commission while approving the above generic tariff had considered the CUF of the project as 22% under wind zone – 2 in accordance with the order of CERC dated 31.03.2015 in petition No SM/004/2015(Suo Motu). The tariff of Rs.5.34/unit determined with CUF of 22% was ordered to be applicable for the entire energy purchased from the date of commercial operation of the 1<sup>st</sup> unit till the term of the PPA.
- 8) Subsequently, KSEBL conducted negotiation with M/s. Ahaliya Alternative Energy Pvt Ltd and the generator offered Rs.5.23/unit (a reduction of 2 % from the approved tariff of Rs. 5.34/unit). KSEBL has since been purchasing electricity from M/s. Ahaliya Alternate Energy Pvt Ltd Palakkad, at a tariff of Rs. 5.23 per unit for

a period of 13 years from CoD i.e., 23.03.2016 as per the terms and conditions laid out in the PPA.

- 9) As per the Article 6.8 of the PPA, the tariff for the power generated from the project shall be as per the KSERC (Renewable Energy) Regulation, 2015 notified vide the notification No. 442/CT/2015/ KSERC dated 11-11-2015. Hon'ble Commission has also adopted the provisions of KSERC (Renewable Energy) Regulations, 2015 for fixing the tariff of the project.
- 10) Regulation 21(6) of the KSERC (Renewable Energy) Regulations, 2015 stipulate that the Commission may, on application from the generator or the purchaser of electricity from a renewable energy project, revise the generic tariff applicable to the said project and issue appropriate orders, in case, the actual average capacity utilization factor for three consecutive years immediately following the date of commissioning of a wind energy project varies due to site specific reasons, in such a way that the actual average capacity utilization factor conforms to that of a different wind zone. The relevant provisions for capacity utilisation factor in the KSERC (Renewable Energy) Regulation, 2015 regarding the determination of tariff for wind projects are extracted below,

Quote:

*"21 (6) The Commission may, on application from the generator or the purchaser of electricity from a renewable energy project, revise the generic tariff applicable to the said project and issue appropriate orders, in case,-*

*(a) the actual average capacity utilization factor for three consecutive years immediately following the date of commissioning of the projects other than wind energy projects varies due to site specific reasons, by more than ten percent of the normative capacity utilization factor adopted earlier for the determination of the generic tariff applicable to that project; and*

*(b) the actual average capacity utilization factor for three consecutive years immediately following the date of commissioning of a wind energy project varies due to site specific reasons, in such a way that the actual average capacity utilization factor conforms to that of a different wind zone."*

Unquote:

- 11) This was also confirmed by Hon'ble Commission under paragraph 28 of the order which states that *"The generator or the power purchaser can approach the Commission for revising the generic tariff determined as above, if the actual average capacity utilisation factor for three consecutive years immediately following the date of commissioning of the wind power projects of M/s AAEPL varies due to site specific reasons, in such a way that the actual average capacity utilisation factor conforms to that of a different wind zone, invoking the sub regulation (6) to Regulation 21 of the KSERC (Renewable Energy) Regulations, 2015."*

- 12) The generation details of the plant for the last three years were analyzed and it is observed that the actual CUF of the plant is found to be in the range of 25% to 28%. The details are given below:

Period	Total units Purchased	CUF %
2017-18	20981231.22	28.51
2018-19	18132451.2	24.64
2019-20	19225560	26.13
2020-21	18513480	25.16

- 13) In addition, KSEBL humbly submit the following project and site-specific reasons necessitating redetermination of tariff for the project.

- I. As per the request of KSEBL, the National Institute of Wind Energy (NIWE) Chennai had conducted study on wind potential at Kanjikode, prepared a report and was submitted on 16.02.2016. The details of the study are submitted below

a. Site Description – Kanjikode

The study area is located at Kanjikode which is in Palakkad Pass. The site is situated approximately 12 km East of Palakkad Town. The terrain of the site is flat with gentle undulation, dense plantation and Industries are surrounding the proposed region. The study area has already 9 numbers of 225 kW VESTAS-RRB made turbines are operational with the cumulative capacity of 2.025 MW.

The reference mast (Kanjikode) geographical details are given below,

Latitude: 10°47'15.03"N

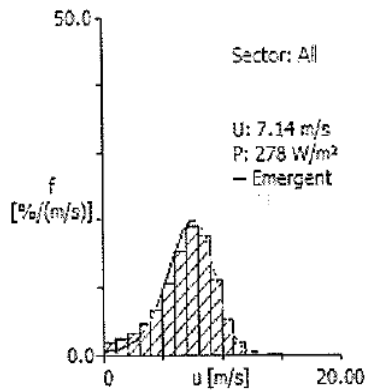
Longitude: 76°46'30.00"E

Elevation: 125.5 M

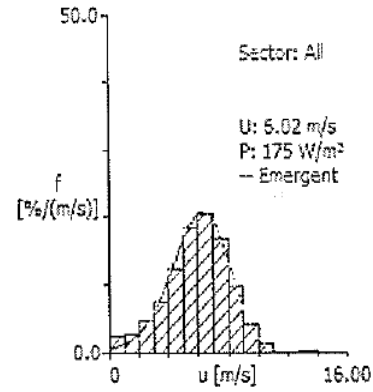
They reported that Kanjikode site is having very good wind potential based on the 80 meter mast.

b. Wind characteristics of region-

The study was conducted at the Kanjikode wind monitoring station and the period of measurement from March 2012 to February 2014 was used in the analysis. Wind characteristics at 80 m and 50 m level of Kanjikode wind mast as per the report of NIWE is as below.



**Fig. 4. Wind Speed Frequency Distribution at 80m**



**Fig 5. Wind Speed Frequency at 50m (Both Histogram & Weibull Fit)**

The mean wind power density at 80 meter is 278 W/m<sup>2</sup> and 50 meter is 175 W/m<sup>2</sup>, comparing the wind profiles, 80 meter level has high wind power density than 50 meter. The wind power density at 80 meter height as per the report of NIWE is 278 W/m<sup>2</sup>. A copy of the report is enclosed as **Annexure**.

- 14) As per the CERC order dated 31.03.2015 in petition No SM/004/2015(Suo Motu), the wind density of 278W/m<sup>2</sup> is classified under Wind Zone-3 with CUF 25%.
- 15) Considering the facts other details as submitted above and the provisions in the KSERC (Renewable Energy) Regulation, 2015 and as per the direction of the KSERC vide order dated 22.02.2017 on Petition No. 10/2016, KSEBL humbly request before Honourable Commission to redetermine the tariff for Electricity generated from the 8.4 MW wind power project of M/s. Ahaliya Alternate Energy Pvt Ltd.

## **Prayer**

KSEBL humbly request before Honourable Commission to redetermine the tariff for the electricity generated from the 8.4 MW wind energy of M/s. Ahaliya Alternate Energy Pvt Ltd. considering the facts and other details as submitted in the instant petition and the provisions in the KSERC (Renewable Energy) Regulation, 2015 and the direction of the Hon'ble Commission vide order dated 22.02.2017 on Petition No. 10/2016.

**Chief Engineer (Commercial & Tariff)**