



**TELANGANA STATE ELECTRICITY REGULATORY COMMISSION
HYDERABAD.**

5th Floor, Singareni Bhavan Lakdikapul Hyderabad 500004

O. P. No. 86 of 2015

Dated: 08.01.2019

Present

Sri. Ismail Ali Khan, Chairman

Between:

M/s. Indian Wind Power Association
C/o Sree Rayalaseema Alkalies & Allied Chemicals Ltd.
No. 6-2-1012, 2nd Floor, TGV Mansion,
Opp: The Institution of Engineers,
Khairatabad, Hyderabad – 500 004.

.... Petitioner.

AND

1. Transmission Corporation of Telangana Limited,
Vidyut Soudha, Khairatabad, Hyderabad – 500 082.
2. Southern Power Distribution Company of Telangana Limited,
6-1-50, Mint Compound, Hyderabad, Telangana – 500063.
3. Northern Power Distribution Company of Telangana Limited
H.No. 2-5-31/2, Corporate Office, Vidyut Bhavan,
Nakkalgutta, Warangal – 506001.
4. Telangana New & Renewable Development Corporation Ltd.
5-8-207/2, Pigah Complex, Nampally,
Hyderabad – 500 001.

.... Respondents.

This petition came up for hearing on 03.07.2015, 03.08.2015, 25.08.2015, 02.11.2015, 12.06.2017, 23.10.2017 and 04.08.2018. The appearance of the parties on each date is shown in the table below.

Date	Representation for the petitioner	Representation for the respondent (s)
03.07.2015	Sri. S. S. Murali, Secretary of the petitioner association for the petitioner is present.	Sri. Y. Rama Rao, Counsel for the respondent is present.
03.08.2015	Sri. V. Sailendra, Convenor of the petitioners association is present.	Sri. Y. Rama Rao, Counsel for the respondents is present.
25.08.15	Sri. V. Sailendra, Convenor of the petitioners association is present.	Sri. Y. Rama Rao, Counsel for the respondents is present.
02.11.2015	Sri. Y. Anantha Raman, Advocate representing Sri. S.V. S. Chowdary, Counsel for the petitioner along with Sri. V. Sailendra, Cordinator of the petitioner is present.	Sri. Y. Rama Rao, Counsel for the respondent along with Sri. J. Ashwini Kumar, Advocate is present.
12.06.2017	Sri. S. V. S. Chowdary, Counsel for the petitioner	Sri. B. Vijaya Bhaskar, Advocate representing Sri. Y. Rama Rao, Standing Counsel for the respondents
23.10.2017	Sri. Yella Reddy, Advocate representing Sri. S.V.S. Chowdary, Counsel for the petitioner	Sri. Y. Rama Rao, Standing Counsel for the respondents along with Ms. Pravalika, Advocate
04.08.2018	Smt. Rajeshwari, Asst. General Manager for the petitioner	Sri. Y. Rama Rao, Standing Counsel for the respondents along with Ms. Pravalika, Advocate.

This petition having stood over for consideration to this day, the Commission passed the following:

ORDER

M/s. Indian Wind Power Association (petitioner) has filed a petition under sec 61 (h) read with sec 86 (1) (e) of the Electricity Act, 2003 (Act, 2003) seeking determination / refixation of several factors that form part of the tariff for the state of Telangana

2. The petitioner stated that it was set up in 1996 as a non-profit organization under the Tamil Nadu Societies Registration Act, 1975. It began with 37 members, now has 1,100 members spread all over India. The national office of the association is located at Chennai and has regional offices at Delhi, Jaipur, Mumbai, Ahmedabad, Hyderabad and Bengaluru. Since its inception it has worked consistently, towards removing barriers to wind power development and creation of an enabling regulatory

and policy environment for investments in this sector. It is working closely with several national industry bodies such as the Indian Renewable Energy Development Agency (IREDA), Ministry of New and Renewable Energy (MNRE), Ministry of Power (MOP), Ministry of Environment (MoEF), National Institute of Wind Energy (NIWE), Central Electricity Regulatory Commission (CERC), Central Electricity Authority (CEA), Confederation of Indian Industry (CII), state utilities, State Electricity Regulatory Commission (SERC), state nodal agencies, World Wind Agency Association, Bonn, Germany etc. It publishes monthly WINDPRO journal for dissemination of information to members and conducts annual international conference and exhibition on wind energy.

3. The petitioner stated that its objective is to main stream wind energy in India as a commercially viable utility scale power plants with 20% grid penetration by 2020 by addressing the key and critical technical or policy related or capacity building issues ahead and creating a roadmap. It is a 1100 members strong pan Indian association of the people who have invested in wind power sector. The other stake holders like the turbine manufacturers, ancillary equipment manufacturers and service providers are also members of the Association. It's activities are governed by a National Council having 21 members.

4. The petitioner stated that focus area of it is the development of modern machines and grid management, wind resource / power management, technological development and to work for conducive policies and regulations for development of the wind energy sector. It is a representative body of wind energy sector in India committed to the growth of excellence in the field of wind energy. It is a national level association dedicated to providing service to its members.

5. The petitioner stated about regulations / policies for promoting renewable energy sources. The Act, 2003 envisages promotion of generation of electricity from non-conventional sources. Further, Sec 3 of the Act, 2003 provides that the central government shall, from time to time, prepare the National Electricity Policy (NEP) and National Tariff Policy (NTP), in consultation with the state governments and the CEA for development of the power system based on optimal utilization of resources such as coal, natural gas, nuclear substances or materials, hydro and renewable sources of energy. Sec 4 of the Act, 2003 further provides that the central

government shall, after consultation with the state governments, prepare and notify a national policy, permitting standalone systems (including those based on renewable sources of energy and non-conventional sources of energy) for rural areas.

6. The petitioner stated further that sections 61 (1) (h) and 86 (1) (e) of the Act, 2003 enjoin the CERC and SERCs respectively to 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 licence.

7. The petitioner stated that section 86 (4) of the Act, 2003 speaks that SERC in discharge of its functions shall be guided by NEP National Electricity Plan (NEPL) and NTP published under section 3. The NEP framed under Sect 3 of the Act, 2003 provides for promotion of non-conventional energy sources in the following manner has amended the NEP on 20.01.2011.

8. The petitioner stated that recently Electricity Amendment Bill, 2014 is introduced in Lok Sabha, has also proposed many provisions in order to promote renewable energy which include,

- A separate National Renewable Energy Policy, for development of renewable energy industry.
- Renewable Generation Obligation on coal and lignite based thermal power plants.
- Specific exemptions to Renewable Energy sources from Open Access charges.
- Separate penal provisions for noncompliance of Renewable Purchase Obligation.

In addition to Act, 2003, NEP and NTP, the National Action Plan on Climate Change (NAPCC) also speaks about the national level renewable power purchase obligation (RPPO) target.

9. The petitioner stated that the erstwhile Andhra Pradesh Electricity Regulatory Commission (APERC) under APERC – Renewable Purchase Obligation (Compliance by purchase of Renewable Energy / Renewable Energy Certificates)

Regulations 2012 (Regulation No. 1 of 2012) has fixed the RPPO targets for the obligated entities. It may also be noted that under the aforesaid Regulations framed by APERC the following penalty clause is provided in case of non-compliance of RPPO targets.

10. The petitioner stated about specification of adequate preferential tariff by adopting equitable and appropriate principles for tariff determination. It stated that as per Sect 86 (1) (e) of Act, 2003 the SERCs are empowered to take necessary measures for promotion of renewable energy based generation in the state. The Act, 2003 vide Sec 61 (h) specifies that the Commission shall be guided by relevant provisions while determining tariff. Further, NTP vide clause 6.4 specifies that the appropriate Commission shall determine the preferential tariff for power procurement by the distribution licensee (DISCOMs) from renewable energy sources. It is evident from the provisions of NTP that preferential tariff for renewable energy is to be determined by the Commission, in accordance with Sect 61 of the Act, 2003.

11. The petitioner stated that the 'prevailing tariff' determined by APERC for wind power is Rs. 4.70 / unit vide its order in O. P. No. 13 / 2012 which have a control period till 31.03.2015, hence there is no clarity on what will be the preferential tariff for wind power projects that will get commissioned in the state of Telangana post 31.03.2015. It stated that as per recent studies carried out by NIWE to determine wind potential assessment at 80 meter hub height, the united Andhra Pradesh is bestowed with wind power potential of 14,497 MW, however out of 78 wind masts installed by NIWE in united AP region, only 13 fall under the Telangana region as this region was considered to have a low wind regime.

12. The petitioner stated that the private developers in the wind arena have already signed MOUs for the Wind Resource Assessment (WRA) activity and have also sought capacity sanctions to a tune of 800 MW to 900 MW in the state of Telangana could be in the range of 2000 MW to 2500 MW. Mahabubnagar, Rangareddy, Medak and Nizamabad are the 4 districts where the initial potentials have been identified. Wind rich districts in the state have wind power density measured at 50 m hub height in the range of 100 W/m² to 200 W/m². It is further stated that as per CERC order in the matter of determination of generic levelised generation tariff for the FY 2014-15 under regulation 8 of CERC (Terms and

Conditions for tariff determination from Renewable Energy Sources) Regulations, 2012 (CERC RE Tariff Regulation 2012) the wind zones have been classified based on wind power density of particular zone along with the tariff details.

13. The petitioner stated that it would like to submit their views, as under, on the assumptions that may be considered wherever applicable for the future wind power projects, keeping in mind the ground realities and the need to encourage wind energy projects in the state.

Project Cost

a) The erstwhile APERC in its order O. P. No. 13 / 2012 has considered Rs. 5.75 Cr / MW as the project cost based on the market price during the FY 2012-13 which includes evacuation infrastructure up to the state transmission utility substation. However APERC has not considered the fact that CERC has considered Rs. 5.75 crores / MW for FY 2012-13 which is exclusive of evacuation infrastructure. It has drawn the attention of the Commission to section 61 of Act, 2003, which is extracted in the petition.

b) Hence, the petitioner Association prays the Commission to consider CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2012 under which CERC has indexed capital cost for wind power projects with whole sale price index (WPI) of electrical and machinery and steel for determining the first wind tariff for the newly formed state of Telangana.

c) The petitioner stated that if the same indexation formula is considered that is CERC indexed capital cost for wind power projects with WPI of electrical and machinery and steel and take the WPI indices of steel and electrical machinery for period January 2014 to November 2014. The capital cost calculated on the basis of available data of WPI of electrical machinery and steel till November 2014 comes out to be Rs. 619.19 lakhs / MW.

d) The petitioner also stated about the recent judgment passed by the Hon'ble Appellate Tribunal of Electricity (ATE) on Appeal No. 11, 49 and 82 of 2014 dated 25.11.2014 in the matter of appeals filed by it, M/s. Indian Wind Turbine Manufacturer's Association and M/s. Guttaseema Wind Energy Company Private Limited, challenging the wind tariff order dated 10.10.2013 passed by Karnataka Electricity Regulatory Commission (KEREC).

- e) In addition to the above the CERC under clause 12 of the RE Tariff Regulation has specified that capital cost shall be inclusive of all capital works like plant and machinery, civil works, erection and commissioning, financing and interest during construction and evacuation infrastructure up to inter-connection point. The interconnection point in relation to wind energy projects shall be line isolator on outgoing feeder on HV side of the pooling sub-station.
- f) The petitioner stated that the Commission should notice that wind turbines are generally located at remote places, as a result the developers have to build in the evacuation infrastructure incurring huge cost so that the wind power can be fed in to the state distribution utility grid sub-station. Further, states like Gujarat and Rajasthan have considered appropriate evacuation cost on per MW basis in order to fully harness the wind power potential.

Capacity Utilization Factor (CUF)

- a) The erstwhile APERC in its order O. P. No. 13 / 2012 has considered CUF of 23% for the state of Andhra Pradesh.
- b) The petitioner the attention of the Commission to the fact that the state of Telangana has low wind regime as per the study conducted by NIWE the wind power density of the State ranges from 100 – 200 W/m² , Mahabubnagar, Rangareddy, Medak and Nizamabad are the few districts where initial potentials have been identified.
- c) As per CERC RE Tariff Regulation 2012 the tariff has been prescribed based on the four wind zones depending upon the respective CUF.
- d) The states which have comparatively less wind power density, have already determined the preferential tariff for wind, in order to fully harness the wind power potential of their respective states.
- e) The petitioner has placed before the Commission a recent judgement passed by the Hon'ble ATE on Appeal No. 11, 49 and 82 of 2014 dated 25.11.2014 in the matter of Appeals filed by it, M/s. Indian Wind Turbine Manufacturer's Association and M/s. Guttaseema Wind Energy Company Private Limited, challenging the wind tariff order dated 10.10.2013 passed by KERC have passed a judgment stating on CUF.
- f) The recent studies conducted by private developers suggest that the wind power density of the state lies in between 100 – 200 W/m² , which gives an average CUF of 19% - 20% for the state of Telangana.

Interest on Term Loan and Interest on Working Capital:

- a) The erstwhile APERC in its order O. P. No. 13 / 2012 has considered interest on term loan to be 12.30% (SBI base rate prevalent during the first six months of the year plus 300 basis points) and interest on working capital to be 12.80% (SBI base rate prevalent during the first six months of the year plus 350 basis points) based on CERC RE Tariff Regulation for the FY 2012-13.
- b) The sector is in dire need of innovative financial instruments to suit project cycle requirements in financing wind energy projects in India. An appropriate and judicious combination of government incentives and public institutional financing at cheaper rates are needed at various stages of development of a wind power sector.
- c) The petitioner draws the Commission's attention to the current interest rate regime of financing institutions and the basis to arrive on.
- d) In order to curb inflation the Reserve Bank of India (RBI) has increased the repo rate also called as short term lending rate. The repo rate has increased from 7.25% in May 2013 to as high as 8.00% in January 2014. As a result of which various banks have increased their minimum lending rate that is base rate in this period for example there is an increase in SBI base rate from 9.70% in February 2013 to 9.80% in September 2013 and further to 10.00% in November 2013.
- e) The interest rate offered by various government institutions like PFC, REC and IREDA for the developers below AAA rating are in the range of 13% to 13.5%.

Return on equity

The petitioner stated that the erstwhile APERC in its order O. P. No. 13 / 2012 has considered return on equity to be 20% pre-tax for the first 10 years and 24% pre-tax from the 11th year onwards based on CERC RE Tariff Regulations 2012.

Operation and maintenance cost

- a) The erstwhile APERC in its order O. P. No. 13 / 2012 has considered Operation and Maintenance cost at 1.25% of the capital cost which comes out to be Rs. 7.20 lakhs / MW, However, keeping in view the possible increase in O & M over a long period and the rates fixed by other SERC's the APERC

considered to fix the O & M cost at Rs. 7.40 lakhs per MW with an O & M escalation of 5% every year thereon.

b) CERC in its order dated 15.05.2014 in the matter of determination of generic levelised generation tariff for FY 2014-15 under clause 8 of CERC RE Tariff Regulations 2012 has considered an O & M cost of Rs. 10.05 lakhs / MW with an annual escalation of 5.72%.

Loan tenure and depreciation

a) The erstwhile APERC in its Order O. P. No. 13 / 2012 has considered a loan tenure of 10 years and a depreciation of 4.5% per annum for the first 10 years and 3% from the 11th year onwards for the remaining project period of 15 years. It is stated that most of the states have considered 10 years as the loan tenure period for wind power projects.

b) One can easily see that all the other SERCs have considered the loan tenure 10 years while determining the generic tariff for the state further due to prevailing economic slowdown, lenders are not having confidence in providing loan for a longer tenure.

Proposed tariff

Considering the fact the wind power generation needs to be promoted in the state, it requests and prays the Commission to determine tariff for future wind power projects to be commissioned in Telangana in line with the guiding principles as prescribed in CERC RE Tariff Regulation 2012. Based on assumptions the levelised tariff for wind power projects works out to be Rs. 6.55 / unit.

14. The petitioner has sought the following prayer in the petition.

“a) The petitioner association prays the Commission to consider Rs. 619.19 lakhs / MW towards capital cost component for FY 2015-16 and re-determine the capital cost for the subsequent year projects based on CERC capital cost indexation mechanism, also determine appropriate evacuation infrastructure cost on a per MW basis.

b) The petitioner association prays the Commission to determine the new wind tariff for the state of Telangana and the CUF corresponding to wind – zone – 1 may be adopted as it is the most appropriate zone representing the average CUF of the whole state and also there is no actual wind generation

data available since the newly formed state has no generation from wind power as of now.

c) The petitioner association prays the Commission to consider CERC RE Tariff Regulation 2012 for determining the interest component for the wind power projects getting commission in the state of Telangana post March 31, 2015. Based on the interest on term loan comes out to be 13% (SBI base rate prevalent during the first six months of the year plus 300 basis points) and interest on working capital comes out to be 13.5% (SBI base rate prevalent during the first six months of the year plus 350 basis points)

d) The petitioner association prays the Commission to consider return on equity of 20% pre-tax for the first 10 years and 24% pre-tax from the 11th year onwards for determining the new wind tariff for the state as this is in line with CERC RE Tariff Regulations 2012.

e) The petitioner association prays the Commission to consider the O&M cost of Rs. 10.62 lakhs / MW which is an escalation of 5.72% of what CERC has determined in aforesaid order for determining the new wind tariff for the state of Telangana.

f) The petitioner association prays the Commission to consider a loan tenure for 10 years and accordingly consider the depreciation rate as 7% for the first 10 years and balance can spread out throughout the useful life of the project.

g) To determine the preferential tariff on year on year basis for the future wind energy projects as per cost plus regime.

Other Reliefs:

a) To determine the Renewable Purchase Obligation (RPO) targets for the obligated entities in the state of Telangana in line with NAPCC.

b) To enforce penalty on obligated entities in case of non-compliance of RPO targets.

c) To determine the average power purchase cost on year on year basis.”

15. The petitioner has sought the following interim prayer in the petition.

“To instruct the distribution companies to sign a temporary PPA at Rs. 4.70/- unit and make the new tariff applicable as and when it is determined by this Hon’ble Commission.”

16. The Southern Power Distribution Company of Telangana Limited (TSSPDCL) being the 2nd respondent has filed a counter affidavit on behalf of the respondent Nos. 1 to 3 and stated as below.

Capital Cost

i. The Commission of united Andhra Pradesh (APERC) in its erstwhile order in O. P. No. 13 of 2012 dated on 15.11.2012 has determined the tariff for wind power projects commissioned before 31.03.2015 and has come up with the capital cost of INR 575 Lakhs duly considering the CERC Regulation 2012 date 06.02.2012, various other Commission orders and assessing the market conditions.

ii. The latest tariff order on wind released on 29.05.2015 by RERC considers the capital cost to be INR 579 Crores for projects commissioned in FY 2015-16. The base capital cost has been calculated in the FY 2014-15. The tariff order by KERC released in 2015 considers the capital cost as INR 576.8 Crores for the year FY 2015-16. KERC has further made the following observation on the declining wind turbine costs. The International Renewable Agency (IRENA) in its report on

“Renewable Power Generation Costs in 2014” issued in January, 2015 has observed that the global capital costs of wind power plants are on a declining trend. The report points out that with improved technology, higher hub heights and larger rotor diameter, higher energy output is evident. It is observed that the capital costs in India are fractionally higher in 2014 as compared to costs in 2010 and has broadly remained stable.”

iv. The petitioner has asked for capital cost as determined by CERC with annual escalations from 2012. The CERC regulations base capital cost has been assessed in 2012. It is felt that adopting the method of indexation on the basis of the prevailing rate of inflation may result in the capital cost getting unduly inflated. Also indexation mechanism does not account for the technological progress and the associated cost reduction and improvement in efficiencies it brings. It is seen that capital cost for same renewable energy technologies tend to decline over the years due to more efficient technologies becoming available. This phenomenon has been most marked in the case of solar energy where the capital cost per MW has declined from more than Rs.

16 Crores per MW in 2010 to about Rs. 7 Crores per MW at present that is in less than five years.

v. A more apt approach would be to consider the actual capital costs as assessed in the latest years by the various SERCs which would give a better picture of the prevailing market conditions. The capital cost is in the range of INR 579 Crores for the financial year as evident in the latest tariff orders passed by the various SERCs.

Sl. No.	Commission	Order	Date	Capital Cost / MW (in Lakhs)	Financial Year considered
1	RERC	Determination of generic tariff for sale of electricity from wind power plant	29.05.2015	579	(For FY 15-16)
2	KERC	Tariff for wind power plants FY 14-18	24.02.2015	576.8	(For FY 15-16)
3	MERC	Determination of generic tariff for renewable energy sources for FY 2014-15	07.07.2014	585	For FY 14-15
4	GERC	Determination of tariff for procurement of power by the distribution licensees and others from wind power projects and petition No. 1243 / 2012	08.08.2012 & 07.01.2014	568	For FY 15-16 (excluding transmission infrastructure cost)

vi. Therefore, the respondents pray that this Commission may consider the capital cost be fixed at INR 579 lakhs / MW towards capital cost component for FY 2015-16. The capital cost for subsequent year to be determined based on prevalent market conditions.

O & M Cost

vii. The Commission of united Andhra Pradesh (APERC) in its erstwhile order in O. P. No. 13 / 2012 dated on 15.11.2012 has felt appropriate to consider O & M cost at 1.25% of the capital cost, which works out to 7.20 lakhs / MW and has followed in its previous order dated 01.05.2009. However, keeping in view the possible increases in O & M over and long period and the

rates fixed by other SERCs, the then APERC has fixed the O & M cost at Rs. 7.40 lakhs / MW with an O & M escalation of 5% every year.

viii. The respondents stated that since O & M cost is dependent on capital cost, O & M cost be taken as 1.3% of the capital cost with an escalation of 5.72% every year which is slightly more than the erstwhile APERC tariff order. This is also in-line with the other SERCs such as Rajasthan, Tamil-Nadu. Further as stated by the petitioner, centralized monitoring and control measures are being implemented by many wind farm developer, the respondents are of the view that this will lead to a decrease in the employee and associated expenses.

ix. The respondents pray that this Commission may be pleased to consider the O & M cost at INR. 7.53 lakhs / MW (1.3% of the capital cost) with an annual escalation of 5.72%.

CUF

x. DISCOMs stated that the tabulation of wind potential regions in Telangana as put up the Indian Wind Power Association is based on the wind power density measured at the rate of 50 m. However, the CUF determination has to be at 80 m level as the new wind power projects are of the latest technology and would be implemented at 80 m level or higher level. Moreover, this is also being reflected in the CERC regulations.

xi. DISCOMs invite the kind attention of this Commission to the CUF determination followed by CERC Regulations 2012, which provides as under.

1. CUF norms for this control period shall be as follows:

Annual Mean Win Power Density (W/m ²)	CUF
Upto 200	20%
201-250	22%
251-300	25%
301-400	30%
>400	32%

2. (2) The CERC regulation the annual mean wind power density specified in sub-clause (1) shall be measured at 80 meter hub-height.

3. For the purpose of classification of wind energy project into particular wind zone class, as per MNRE guidelines for wind

measurement, wind mast either put up by C-WET or a private developer and validated by C-WET would be normally extended 10 KM from the mast-point to all directions for uniform terrain and limited to appropriate distant in complex terrain with regard to

4. Complexity of the site. Based on such validation by C-WET, state nodal agency should certify zoning of the proposed wind farm complex.

xi. As per National Institute of Wind Energy (NIWE) the WPD at 50 mts and 80 mts hub height are as per the table below.

Sl. No.	Mast Location of WPD measured	District	WPD measured / Extrapolated @ 50 m (W/m ³)	WPD measured / Extrapolated @ 80 m (W/m ³)
1	Nazeerabd	Rangareddy	232	311*
2	Kottur	Medak	187	250*
3	Kotrathanda	Mahboobnagar	180	241*
4	Mangithanda	Medak	169	231
5	Motlampalli	Mahboobnagar	164	220*
6	Sanghi Nagar	Rangareddy	154	206*
7	Chowdarapalli	Medak	154	206*
8	Tadwai	Nizamabad	138	185*
9	Ottuguntla	Mahboobnagar	131	170
10	Samudrathanda	Medak	129	173
11	Bandameedapalli	Rangareddy	117	175
12	Patha Ananthapur	Adilabad	109	130
13	Chinnapalasa	Adilabad	72	96*

Note:* The WPD measurement for 80 m has been extrapolated considering the ratio of Telangana specific sites ratio of WPD at the rate of 50 m and WPD at the rate of 80 m at ratio of 1.34 as given by the unstarred sites. (For sites numbered 4, 9, 10, 11 and 12) the WPD has been measured at 80 mts. The average ratio of WPD at the rate of 80 mts / WPD at the rate of 50 mts comes to 1.34).

xii. As wind power generation is in the nascent stage in Telangana and areas with high potential are yet to be fully utilized. It is requested that the CUF is set corresponding to the 201-250 W / m² band.

xiii. As 7 sites out of the total of 13 sites in the above table are having a WPD greater than 200 w / sq. m, the high wind potential areas needs to be tapped effectively by the developers before looking at other areas in the state.

Further, in order to encourage wind generation, any generation above 23%, the Commission may fix a nominal rate (Rs.0.50 / KWh) at which the licensee may buy power from wind power developers. This rate may act as an incentive only as the developer is recovering all costs and earns a return at 23% CUF.

xiv. The respondents pray that this Commission may consider a CUF of 23% between 22% and 25% corresponding to the two bands) be fixed to fully utilize areas with high potential.

Depreciation:

xv. Government of India vide its Notification No. 43 / 2014 / F. No. 152 / 1 / 2013-TPL S. O. 239 (E) dated 16.09.2014 has reinstated the benefit of accelerated depreciation of 80% for wind power plants installed on or after 01.04.2014. Accordingly, the generic tariff may be worked out. In case accelerated depreciation is not availed by the developer, CERC mandated depreciation rates may be taken.

Return on Equity:

xvi. The then APERC in its order dated 01.08.2015 has considered a normative return on equity of 16% post tax with MAT / Income Tax as pass through. Before considering post tax RoE the following points need to be considered.

- a) Economic: The tax implication on project developer would vary substantially depending on factors like actual capital structure, CUF, O & M expenses etc. The tax pay out of project developer would increase if actual equity is more than the normative equity which would have a financial impact on distribution licensees.
- b) Administrative: Distribution licensees would face challenges in implementation of the same as the same as the actual tax receipts submitted by the project developer would have to be verified by distribution licensees to ensure tax paid by the project developer is specific to that particular project for which tariff payment has been done and not for other projects which the project developer might operate.

xvii. Given the tax incentives being extended to industries in the state of Telangana and challenges expressed above, the respondents pray that the

Commission may consider a normative return on equity of 16% (pre-tax) for tariff determination.

Proposed tariff:

xviii. Considering the above facts the respondents pray that this Commission may determine the tariff for future wind power projects to be commissioned in Telangana at Rs. 4.64 / kWh in line with the following assumptions.

Parameters	Proposed value / assumptions	Remarks
Capital cost	579 lakhs / MW	As per the norms followed by other SERC's in their latest tariff orders
CUF	23%	Considering potential at 80 mt. hub height and availability of regions with adequate capacity in wind zone – 2 & wind zone – 3.
Debt – equity	70:30	As per CERC guidelines
Interest on loan	13%	As per CERC guidelines (SBI base rate for FY 2014 – 15 + 300 basis points)
Interest on working capital	13.5%	As per CERC guidelines (SBI base rate for FY 2014 – 15 + 350 basis points)
Term of loan	12 years	As per CERC guidelines
Return on equity	16% (pre – tax)	In view of tax incentives for Telangana and challenges expressed in the clause 5.1 above.
O & M expenses per annum	1.3% of capital cost with an escalation of 5.72%	As per erstwhile APERC guidelines.
Depreciation	5.83% for the first 12 years 1.54% for the remaining 13 years	As per CERC guidelines
Discount rate	First 10 years – 9.85% 11 – 25 years – 9.18%	As per CERC methodology

The sharing of CDM benefits may please be considered as per CERC Regulations.

xix. As all reasonable costs and returns are being allowed to be recovered through this proposed tariff, any policy support by way of capital subsidy / capital finance assistance (CFA), higher depreciation benefit or generation based incentives (GBI) by the GoI / GoAP, which becomes available to the developer / generator, may be passed on to the DISCOMs.

17. The matter was listed for hearing on the above said dates and arguments were advanced in the matter. Later the arguments were concluded and I have perused the record and the material available therefor.

18. While the matter stood thus for consideration and passage of orders, this Commission noticing that there is a need for determining the generic tariff in respect wind based power plants initiated the necessary process. After undertaking thorough exercise by following the due procedure, this Commission had passed an order on 06.10.2018 determining the generic tariff for wind based power projects, which is applicable for the period 2018 -2020. In the conclusion the Commission observed as below.

6. SUMMARY OF TARIFF COMPONENTS:

The Commission has considered all the parameters and submissions brought before it with reference to its discussion paper and it is of the view that the submissions made in respect of certain issues do not satisfy the normative conditions nor can they be factored while determining the tariff. Therefore, the Commission has arrived at the tariff based on the normatives that are taken into consideration and discussed thoroughly in this order. Based on the discussion, the final tariff is arrived at, which is applicable in the State of Telangana for wind generation projects for the period FY 2018-2020 (FY 2018-19 and 2019-20) in terms of the applicability stated at clause 4 of this order. Normatives parameter adopted for determination of tariff are given at Table – 5.”

19. In view of the determination made in the above said order, there is no necessity of undertaking a separate exercise of determination of tariff with reference to the petitioner’s project specifically. Suffice it to state that the determination would equally apply to the petitioner also. It is also appropriate to state that the

Commission is not required to go into the rival contentions in view the order passed in the above said proceeding. That all the other contentions are left open except tariff determination which is covered by the said order and the same is being applied to this case.

20. Accordingly, having considered the rival contentions and relevant material including the discussion in the preceding paragraphs, the present petition is disposed in terms of the above said order. However, in the circumstances without any costs.

This order is corrected and signed on this the 8th day of January, 2019.

**Sd/-
(ISMAIL ALI KHAN)
CHAIRMAN**

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