

**Appellate Tribunal for Electricity
(Appellate Jurisdiction)**

**Appeal Nos. 82 of 2014,
Appeal No. 11 of 2014 & IA Nos. 14 & 272 of 2014
Appeal No. 49 of 2014 IA Nos. 85 and 273 of 2014**

Dated: 25th November, 2014

**Present: Hon'ble Mr. Justice M. Karpaga Vinayagam, Chairperson
Hon'ble Mr. Rakesh Nath, Technical Member**

Appeal No. 82 of 2014

In the matter of:

**Guttaseema Wind Energy Company Pvt. Limited,
Plot No. 1366, Road No. 45, Jubilee Hills, 56,
Hyderabad-500 033**

**(Represented by its Director,
Mr. C. Purushotham)**

... Appellant

Versus

- 1. Karnataka Electricity Regulatory Commission,
6th & 7th Floor, Mahalaxmi Chambers,
No. 9/2, M.G. Road,
Bangalore-560 001
(Represented by its Managing Director)**
- 2. Indian Wind Energy Association,
1st Floor, A-Wing, AMDA Building,
7/6, Siri Fort Institutional Area,
August Kranti Marg,
NEW DELHI-110 049
(Represented by its Managing Director)**
- 3. Bangalore Electricity Supply Company Limited,
K.R. Circle, Bangalore-560 001
(Represented by its Managing Director)**
- 4. Mangalore Electricity Supply Company Limited,**

**Paradigm Plaza,
A.B. Shetty Circle,
Mangalore-575 001
(Represented by its Managing Director)**

- 5. Chamundeshwari Electricity Supply
Company Limited,
No. 927, L.J. Avenue
New Kantharaja URS Road,
Saraswathi Puram,
Mysore-575005
(Represented by its Managing Director)**
- 6. Hubli Electricity Supply Company Limited,
Navanagar, Hubli-580 029,
(Represented by its Managing Director)**
- 7. Gulbarga Electricity Supply Company Limited,
Station Road,
GULBARGA-585101,
(Represented by its Managing Director)**
- 8. Karnataka Renewable Energy
Development Limited,
39, "SHANTI GRUHA".
Palace Road,
Bangalore-560 001,
(Represented by its Managing Director)**
- 9. Indian Wind Turbine Manufacturers Association,
Suit # A2, OPG Towers,
74, (Old #133), Santhome High Road,
Chennai-600 004,
(Represented by its (Secretary))**
- 10. Indian Wind Power Association,
"SHAKTHI TOWERS", Tower-1,
Door No. E, 6th Floor,
No. 766, Anna Salai,**

**CHENNAI-600 002
(Represented by its Secretary)**

11. **Mytrah Energy (India) Limited,
8001, 8th Floor, Q City,
Nanakramguda, Gachibowli,
Hyderabad-500 032
(Represented by its Managing Director)**
12. **Department of Energy,
Government of Karnataka,
M.S. Building,
Bangalore-560 001
(Represented by its Principal Secretary) ... Respondents**

**Counsel for the Appellant(s): Mr. Sridhar Prabhu &
Mr. Ananatha Narayana M.G.**

**Counsel for the Respondent(s): Mr. Anand K. Ganesan,
Ms. Swapna Seshadri for R-1
Mr. Darpan
Mr. B.C. Thiruvengadam for R-2 to 6
Mr. Ravi Aggarwal for R-3 to 7
Mr. G.S. Kannur for R-8**

Appeal No. 11 of 2014 & IA Nos. 14 & 272 of 2014

In the matter of:

**Indian Wind Power Association,
"SHAKTHI TOWERS", Tower-1,
Door No. E, 6th Floor,
No. 766, Anna Salai,
CHENNAI-600 002**

Versus

1. **Karnataka Electricity Regulatory Commission,
6th & 7th Floor, Mahalaxmi Chambers,**

**No. 9/2, M.G. Road,
Bangalore-560 001**

- 2. The Principal Secretary,
Department of Energy,
Government of Karnataka,
M.S. Building,
Bangalore-560 001.**
- 3. Bangalore Electricity Supply Company Limited,
K.R. Circle, Bangalore-560 001**
- 4. Hubli Electricity Supply Company Limited,
P.B. Road, Navanagar, Hubli-580 029,**
- 5. Mangalore Electricity Supply Company Limited,
Paradigm Plaza,
A.B. Shetty Circle,
Mangalore-575 001**
- 6. Gulbarga Electricity Supply Company Limited,
Main Road, Opp. Parivar Hotel,
GULBARGA-585101,**
- 7. Chamundeshwari Electricity Supply
Company Limited,
No. 927, L.J. Avenue
New Kantharaja URS Road,
Saraswathi Puram,
Mysore-575005**
- 8. Karnataka Renewable Energy
Development Limited,
39, "SHANTI GRUHA", Bharath Scouts and Guides Buildings,
Palace Road,
Bangalore-560 001,**

9. **M/s. Mytrah Energy (India) Limited,
8001, 8th Floor, Q City,
Nanakramguda, Gachibowli,
Hyderabad-500 032**

Appeal No. 49 of 2014 IA Nos. 85 and 273 of 2014

In the matter of:

**Indian Wind Turbine Manufacturers Association,
5th Floor, Meridian House,
121/3, TTK Road,
Manickam Avenue,
Alwarpet,
Chennai-600 018.**

... Appellant

Versus

1. **Karnataka Electricity Regulatory Commission,
6th & 7th Floor, Mahalaxmi Chambers,
No. 9/2, M.G. Road,
Bangalore-560 001**
2. **Bangalore Electricity Supply Company Limited,
K.R. Circle, Bangalore-560 001**
3. **Hubli Electricity Supply Company Limited,
P.B. Road, Navanagar, Hubli-580 029,**
4. **Mangalore Electricity Supply Company Limited,
Paradigm Plaza,
A.B. Shetty Circle,
Mangalore-575 001**
5. **Gulbarga Electricity Supply Company Limited,
Main Road, Opposite Parivar Hotel,
GULBARGA-585101,**

**6. Chamundeshwari Electricity Supply
Company Limited,
No. 927, L.J. Avenue
New Kantharaja URS Road,
Saraswathipuram,
Mysore-575009**

**Counsel for the Appellant(s): Mr. Vishal Gupta,
Mr. Kumar Mihir**

**Counsel for the Respondent(s): Mr. Anand K. Ganesan,
Ms. Swapna Seshadri for R-1
Mr. Darpan
Mr. B.C. Thiruvengadam for R-2 to 6
Mr. Ravi Aggarwal for R-3 to 7
Mr. G.S. Kannur for R-8**

JUDGMENT

HON'BLE MR. RAKESH NATH, TECHNICAL MEMBER

These Appeals have been filed by Indian Wind Power Association, Indian Wind Turbine Manufacturer's Association and Guttaseema Wind Energy Co. Pvt. Ltd. challenging the impugned order dated 10.10.2013 passed by Karnataka Electricity Regulatory Commission ("State Commission") determining the tariff of wind energy generators for 10 years.

2. Indian Wind Power Association is the Association of developers who have set up or in the business of setting up wind energy generators. Indian Wind Turbine Manufacturer's Association is the Association of manufacturers of wind energy generators. Guttaseema Wind Energy Co. Pvt. Ltd. is a company in the business of setting up wind energy generators. The State Commission is the first Respondent. The other Respondents are the State Government, the Distribution Licensees and the Karnataka Renewable Energy Development Ltd., the nodal agency of the State for development of the renewable sources of energy.

3. The brief facts are as under:

3.1 The State Commission framed the Karnataka Electricity Regulatory Commission (Power Procurement from Renewable Sources by Distribution Licensee) Regulations,

2004 dated 27.09.2004, hereinafter referred to “RE Regulations 2004”, specifying the terms for determination of tariff for the purchase of renewable energy by the Distribution Licensees in the State of Karnataka.

3.2 In terms of the above Regulations the State Commission vide its order dated 18.01.2005 determined the tariff applicable to renewable sources of energy. In this order the State Commission determined the tariff for wind energy as Rs. 3.40 per unit without escalation.

3.3 As per the RE Regulations 2004, the tariff determined by the State Commission was subject to review after five years.

3.4 In view of above, the State Commission vide its order dated 11.12.2009 determined the tariff of power procurement by the Distribution Licensees for renewable energy sources including wind energy for the control period of 5 years from 01.10.2010 to 31.12.2014. By this order the State

Commission determined the tariff for wind energy generators as Rs. 3.70 per unit without escalation for the first 10 years period from the date of signing of Power Purchase Agreement (“PPA”).

3.5 The State Commission on 16.03.2011 framed Karnataka Electricity Regulatory Commission (Power Procurement from Renewable Sources for Distribution Licensees and Renewable Energy Certificate Framework) Regulations 2011, hereinafter referred to as “RE Regulations 2011”.

3.6 The Appellants in the year 2012 filed petitions before the State Commission *inter alia* seeking curtailment of control period from 01.01.2010 to 31.12.2014 fixed in the State Commission’s order dated 11.12.2009 in respect of wind power projects and determine the preferential tariff for future wind energy projects commissioned after 31.03.2012.

3.7 The State Commission after hearing the parties in a public hearing passed the impugned order dated 10.10.2013. It determined tariff for wind energy projects at Rs. 4.20 per unit without any escalation for the period of PPA and held that the same shall be applicable to all the PPAs signed during the period of five years from the date of the impugned order.

3.8 Aggrieved by the impugned order dated 10.10.2013, the Appellants have filed these Appeals.

4. As the issues raised in the Appeals are similar and the impugned order is common, a common judgment is being rendered.

5. The Appellants have raised the following issues.

i) The State Commission has carried out a simple average of tariffs determined for 10 years and has not levelled the tariff by taking time value of money.

- ii) The capacity utilisation factor has been fixed uniformly at 26.5% across the State without taking into consideration different wind zones and regimes.
- iii) The State Commission has fixed depreciation @ 5.83% instead of 7% without appreciating that loans are to be fully serviced within 10 years.
- iv) Operation and Maintenance expenses have been fixed at 1.25% of the capital cost with an annual escalation of 5% without any justification and without considering the Central Commission's Regulations of 2012.
- v) Rebate to Distribution Licensees:

This issue has not been pressed in view of the judgment of this Tribunal dated 28.04.2014 in Appeal no. 320 of 2013.
- vi) Capital cost is inadequate. The Capital cost towards the evacuation infrastructure, impact of foreign exchange and proper indexation mechanism have not been considered.

vii) Clarity on interconnection point leading to precise factoring of the transmission losses upto the point of interconnection.

6. On the above issues we have heard the Learned Counsel for the Appellants and the Respondents. They have also filed the written submissions. Keeping in view the contentions of the parties, the following issues arise for our consideration.

i) Whether the State Commission has erred in carrying out simple averaging of the tariff for 10 years without considering the time value of money?

ii) Whether the State Commission has erroneously fixed the capacity utilisation factor at 26.5% across the State of Karnataka without taking into consideration the different wind zones and regimes?

- iii) **Whether the State Commission has erred in determining the depreciation at 5% without considering the loan repayment period of the wind generators?**
 - iv) **Whether the State Commission has erred in fixing the Operation and Maintenance expenses?**
 - v) **Whether the State Commission has erred in fixing the capital cost.**
 - vi) **Whether the State Commission has failed to define the interconnection point for the purpose of accounting of the transmission losses from the generating station to the sub-station of the licensee?**
- 7. Let us take the first issue regarding the simple averaging of the tariff for 10 years without considering the time value of money.**

- 7.1 According to the Appellants, the State Commission has done simple average of the tariffs determined for 10 years instead of applying discount factor to levelise the same in order to give time value for money in arriving at the correct levelled tariff for 10 years contrary to the judgment of this Tribunal dated 18.12.2007 in Appeal no. 205 and 236 of 2006.
- 7.2 According to Learned Counsel for the Stae Commission, the Commision has consistently followed the practice of averaging of the tariff for all renewable energy projects excluding solar projects. By applying this practice the project developed over the life of the plant gets adequate tariff, which may be more than the levelled tariff for the life of the project. Even in Appeal no. 205 and 236 of 2006 decided by the Tribunal by judgment dated 18.12.2007 referred to by the Appellants, the levelisation principle was adopted only when the tariff is determined for a period of 20 years, and not when the tariff was determined only for 10 years. In case of

solar projects, the State Commission determined the tariff for the entire life of the project in one go and in the circumstances the tariff was levelled.

7.3 Learned Counsel for the Respondents 3 to 7 has argued that the Central Commission's Regulations would not be applicable and applying discounting factor and levelisation of tariff would not be in the larger consumers interest.

7.4 Let us first examine the RE Regulations 2011 notified by the State Commission on 16.03.2011. These Regulations provide that the State Commission shall be guided by the principles and methodologies specified by the Central Commission, National Electricity Policy and Tariff Policy while determining tariff for renewable sources of energy. No tariff norms have been specified in the State Commission's Regulations.

- 7.5 The Central Commission's Regulations provide for useful life of 25 years for wind energy projects. However, the tariff period for wind energy projects has been specified as 13 years and the tariff determined under the Regulations is applicable for the determination of the tariff period. Regulation 10 provides for determination of generic tariff on levelled basis. According to Regulation 10 the levelled tariff is to be carried out for the 'useful life' of the Renewable Energy project while tariff is to be specified for the period equivalent to "tariff period". A discount factor is to be used for determining the levelled tariff.
- 7.6 Thus, as per the Central Commission's Tariff Regulations, the levelled tariff has to be determined using a discount factor as specified in the Regulations.

7.7 The issue of average tariff vs levellised tariff has been dealt with in this Tribunal's judgment dated 18.12.2007 in Appeal nos. 205 of 2006 and 236 of 2006 in the matter of Wind Power Producers Association vs Union of India and Others.

The Tribunal held as under:

"11. The Supreme Court had the occasion to refer to the present value and the net present value in the case of TN Godavarman Thirumulpad Vs. Union of India & Others (2006) 1 SCC Page 1 in which the Supreme Court said as under:

"22. Clause 6.6 which by use of the word "may" leaves it to the discretion of CAMPA to establish special-purpose vehicles (SPV) for undertaking compensatory afforestation deserves to be amended so as to substitute the word "may" by the word "shall" so that the regeneration is done by some SPV n specified areas."

.....

28. Cost is a function of the discount rate (a measure of the value of capital) used. Under NPV (net present value), all costs are discounted to some reference date which we have taken as 2005 for illustration. The total cost reckoned at this reference date is the sum of present value or future value of costs discounted to the year 2005. Similarly, one can calculate the present value of

the revenues from the expected benefits of forest regeneration.

29. *The question then is why charge NPV. In the case of conventional project like hydroelectric project, the accounting procedure is normally based on return on investment (ROI) in which the unit cost of energy includes return on capital, investment, depreciation of capital, annual fuel cost and operational and maintenance costs. However, ROI excludes the time value of money. It also excludes the gestation period of the project. Therefore, we have the NPV method which discounts future costs and future benefits by use of appropriate discount rate and brings down such costs and benefits to the reference date which in the present case has been assumed to be the year 2005.*

.....

37. *The above discussion shows that NPV helps levelising the costs of public projects like forestry. It is an important tool of SBCA. Under SBCA, benefits from each of the above environmental outputs are identifiable. Hence applying NPV, one can allocate levelised costs according to the contribution of each product in the total revenue. It is important to bear in mind that a benefit or cost received or incurred now is worth more than that received or incurred later. Therefore, using the appropriate discount rate helps to aggregate marginal benefits and costs. The choice of interest rate depends upon time preference. For public project, such as forestry, a social discount rate,*

which indicates time preference of the society, should be used.”

- 12) *The rate of interest or the rate at which the future value is discounted for arriving at the present value is an important criterion for levelising the future payments and present payments. When future figure is weighted with the present figure, by taking into consideration the rate of discount, the average of such weighted figures will certainly be different from the average of original figures. It cannot be said that the weight will not make any difference.*
- 13) *The Commission’s view that the factor “the time value of money” is taken care of by providing escalation of O&M charges, de-rating of CUF and grouping of generators in two categories is clearly an incorrect view. O&M charges will increase over time and the expected O&M charges as would stand at the future point of time is the absolute value. The same value cannot be taken today if the time value of money is taken into consideration. De-rating of CUF after 10 years or grouping of existing generators in two categories also do not satisfy the need of factoring in the time value of money. Even the Honorable Commission has not made any effort to make two parallel calculations to show how with the figures of escalation of O&M charges, de-rating of CUF and grouping of the existing generators are equal to the levelised tariff as it could be determined with a reasonable discounting factor.”*

.....

“17) The factoring in time value of money is a rational way of looking at future incomes and future returns from an investment made today. The above orders passed by the Rajasthan and Gujarat Commissions are examples of how tariff for future years can be fixed on the basis of costs levelised over a number of years in the future.”

“24) Accordingly we allow the appeal and set aside the impugned tariff fixed by the Tamil Nadu Electricity Regulatory Commission by the impugned orders and direct that the tariff for the wind power producers be re-determined within the next two months by taking into consideration the time value of money. The Commission shall allow the appellant an opportunity of being heard in the process of redetermination. The members of the appellant association shall be entitled to recover from the TNEB the arrears as per the new tariff order for the period during which they have been paid at the rates fixed by the impugned orders and the TNEB shall pay the same within two months of the redetermination of tariff.”

7.8 The findings of the Tribunal in Appeal nos. 205 and 236 of 2006 will squarely apply to the present case.

7.9. We feel that the tariff determined by the State Commission by simple averaging of the tariff for 10 years is not correct as the average tariff will not allow the desired return to the wind energy generators. We are not agreeable to the justification given by the learned counsel for the State Commission that application of the average tariff for 10 years for the life of the project will allow a higher return to the developer. We feel that if the average tariff will give a higher tariff if applied to the life of the project, then there is all the more reason to determine the levelled tariff so as to provide a balance between the developer and the consumers. Allowing average tariff for ten years for the life of the project/entire PPA period will be detrimental to the consumers interest.

7.10 The State Commission as per its own Tariff Regulations is required to be guided by the Central Commission's Regulations. However, the State Commission in the

impugned order has decided the tariff contrary to the provisions of Central Commission's Regulations.

7.11 We, therefore, direct the State Commission to re-determine the levellised tariff for the useful life of the project/ the entire period of PPA using a discount factor.

8. The second issue is regarding Capacity Utilisation Factor (CUF):

8.1 According to the Appellants, the State Commission has fixed CUF of wind generators at 26.5% despite clearly noting the fact that 60% area in the State falls in the Zone where the wind power density can only yield a CUF of about 20% and 25% of the area in the State is in the Zones which have wind power density of a level to yield CUF of 22% to 25%. The State Commission was not correct to fix CUF at 26.5%

only on the basis of 15% of the area which according to the State Commission can yield a CUF of more than 30%.

8.2 According to Learned Counsel for the State Commission, the Appellants have solely relied on Indian Wind Atlas of 2010 publication by the Centre for Wind Energy Technology (C-WET) as per which at 50 meter hub height, 60% of the State is in Zone – 1 capable of yielding of CUF about 20%; 25% of the State in Zone-2 and 3 with CUF potential of 22% to 25% and only remaining 15% of the State in Zone – 4 and 5 is capable of yielding CUF of more than 30%. The technology in wind turbine has significantly improved and 80 meters and even higher hub height turbines are now available. The efficiency of the turbine has also been increased. In the impugned order, the State Commission has allowed significant increase in capital cost at Rs. 5.6 crores per MW including transmission cost as against Rs. 4.7 crores per MW previously approved. In the

circumstances, when the State Commission has increased the capital cost, it should be possible for the developers to use new technologies capable of achieving higher CUF due to increase in hub height to 80 meter and above. Thus, the CUF at relatively low potential areas is capable of being improved.

8.3 Similar arguments has also been extended by the Learned Counsel for the Respondent nos. 3 to 7.

8.4 Let us examine the impugned order.

8.5 The State Commission has indicated that the Wind Atlas of 2010 published by C-WET indicates 60% of the State was in Zone –I with wind Power Density of less than 200 W/ M² and capable of yielding CUF of about 20% at 50 meters hub height. Other areas consisting of about 25% of the State's area have WPD of 200 to 300 W/M² (Zone 2 and 3) with CUF potential of 22 to 25%. The remaining area of 15% was

classified at Zone 4 and 5 and has a potential of 300 Watts/ M^2 , capable of yielding a CUF of more than 30%. However, with the advancement of the wind turbine technology and adoption of installation of units at higher hub heights of 80 meters and above, the CUF of even relatively low potential area is capable of being improved. As the State Commission has allowed increase in capital cost, it should be possible for the developers to adopt improved technology and install machinery at higher hub height to achieve higher CUF. Accordingly, the Central Commission specified a normative CUF of 26.5%.

8.6 We find that Central Commission's Regulations provide CUF varying from 20% to 32% for mean wind power density (W/M^2) from upto 200 to more than 400. The wind power intensity is to be measured at 80 meter hub height. For upto 300 W/M^2 wind power density, the CUF has been considered as 25%.

8.7 We find from the data considered by the State Commission in the impugned order that 85% of the area in the State lies in Zones with WPD of upto 300 W/M² with CUF potential of 20% to 25%. The data furnished by the State Renewable Energy Development Agency also indicates actual average CUF of 21.18% for the wind energy generators installed in the State. We find that the State Commission without any supporting data or a scientific study on WPD for 80 meters hub height and cost of higher hub height wind generator has concluded that, it should be possible to achieve the specified CUF with higher hub height.

8.8 We, therefore, direct the State Commission to reconsider the issue and decide after considering a scientific study or supporting data available for the State from C-WET or any other reliable data. The State Commission may also take into consideration the actual wind energy generation data available with the distribution licensees for the existing wind

power generators for different areas of the State and the Regulations and object and reasons of the Regulations of the Central Commission.

9. The Third issue is regarding Depreciation:

9.1 According to the Appellants, the State Commission has failed to appreciate that loan tenure of the debt component is 10 years and the loan has to be fully serviced during the said 10 years. The fixation of depreciation at 5.83% has been done on the basis loan to be serviced in 12 years which is erroneous.

9.2 The Respondents have argued that the claim of the Appellants that depreciation ought to have been 7% is erroneous. The Central Commission's Regulations 2012 take into account land cost which never depreciates. Salvage value of the asset is determined at 10% and the

same has not been factored in addition to land value which is estimated to be 5%

9.3 We find that the Central Commission's Regulations provide for depreciation rate for the first 12 years tariff period as 5.83% and the remaining depreciation spread over the remaining useful life of the project from the 13th year onwards. We find that the State Commission allowed depreciation according to the Central Commission's Regulations. The Appellants for other parameters are requesting for considering the Central Commission's Regulations but for depreciation they want a different norm. We do not find any infirmity in the orders of the State Commission in following the Central Commission's Regulations. The State Commission while determining the levelled tariff for the life/PPA period shall also follow the Central Commission Regulation regarding depreciation for the period beyond 10 years.

10. The fourth issue is Operation and Maintenance Expenses:

10.1 According to the Appellants, the State Commission has fixed Operation and Maintenance expenses at 1.25% of the capital cost with annual escalation of 5% which is not in consonance with the Central Commission's Regulations.

10.2 According to the Respondents, the State Commission in the order dated 11.12.2009 allowed O&M at 1.25% of the capital cost with an annual escalation rate of 5%. Based on above, the O&M expenses for FY 2012-13 worked out to be Rs. 6.75 lakhs per M/W and the same has been allowed.

10.3 We find that the Central Commission in its Regulations has provided for O&M expenses of 9 lakhs per M/W for the period FY 2012-13 to be escalated annually @ 5.72% over the tariff period to compute the levellised tariff.

10.4 We find that the State Commission has considered the O&M cost of 5.875 lakhs per MW considered in its tariff order dated 11.12.2009 and escalated it by 5% annually and computed the figure of 6.75 lakhs per MW for FY 2012-13. The State Commission has also recorded that it has decided to retain O&M cost at the same percentage i.e. 1.25% of the capital cost with 5% escalation annually. Thus, the State Commission has followed the same approach has followed in the previous tariff order.

10.5 We find that in the impugned order the State Commission has followed the same norm of 1.25% for O&M expenses as decided in the previous tariff order. However, in the impugned order, the State Commission has fixed the capital cost of 5.6 crores/MW. Calculating @ 1.25%, this would give O&M cost of Rs. 7 lakhs/MW. The State Commission is guided by the Central Commission's Regulations. However, in the present case, the State Commission has decided

O&M cost different from that specified in the Central Commission's Regulations without giving any reason. We, therefore, remand the matter to the State Commission to reconsider and if it is adopting value different from the Central Commission Regulations, it should give proper reason for the same. Accordingly, ordered.

11. The Fifth issue is regarding determination of capital cost raised in Appeal No. 82 of 2014.

11.1 The issue raised by the Appellant is that in capital cost there is inadequate provisions towards evacuation infrastructure and impact of foreign exchange and proper indexation mechanism has not been considered.

11.2 The Learned Counsel for the Respondents has argued that the Appellant has raised a issue of only general and vague in nature and no details have been provided as to what is the

actual cost incurred by the Appellant. Regarding the indexation of capital cost for calculating the capital cost for the control period it is submitted by the learned counsel for the State Commission that whenever there are changes in circumstances and revision in capital cost, the State Commission has re-determined the capital cost and other norms and parameters. The Learned Counsel for the State Commission has stated that the RE Regulations 2011 allow determination of tariff for renewable energy sources any time either *suo moto* or on application by distribution Licensees. Therefore, there is no need for an indexation mechanism. The capital cost can be revised by the Commission whenever the need arises. Regarding the foreign exchange variation it is submitted by the Respondents that the cost is incurred by the developers in Indian Rupee and therefore, there is no justification in providing for foreign exchange variation.

11.3 We find that the Central Commission in its Regulations has determined the capital cost of Rs. 5.75 crores per M/W for FY 2012-13 and also determined the capital cost indexation mechanism for adjustment in capital cost over the control period linked to wholesale price index for steel and electrical machinery. However, the State Commission has not included any indexation mechanism and decided the fixed capital of 5.6 crores per MW for the entire control period.

11.4 We feel that the State Commission should have included the indexation mechanism to allow for the escalation in cost linked to the price indices over the control period. Accordingly, we remand the matter to the State Commission to reconsider the issue and decide capital cost indexation mechanism for determining the capital cost for the control period. Alternatively, the State Commission can carry out the exercise every year before the commencement of the

financial year to determine the capital cost for the subsequent year keeping in view the prevailing prices. We find that the Respondents have made only general points relating to cost of evacuation infrastructure and have not given specific data relating to their project. We are, therefore, not inclined to interfere in the matter. We also feel that there is no case made out by the Appellant for change in cost due to foreign exchange variation. For foreign exchange variation also the Appellant has given only general point without giving any supporting data and justification. Therefore, we reject the contention of the Appellant on the issues of infrastructure cost and foreign exchange variation.

12. The Seventh issue is relating to defining the interconnection point:

12.1 This issue has been raised in the Appeal no. 82 of 2014. The Appellant has pointed out that in the impugned order there is no clarity regarding interconnection point/delivery point at which the tariff determinations takes effect. According to the Central Commission's Regulations the meter is to be installed at the interconnection point of the generator bus bar with the transmission/ distribution system concerned. Therefore, tariff is to be paid to the generator based on energy metered at this interface point. However, this aspect has not been dealt by the State Commission.

12.2 We find that this issue has not been examined in the State Commission's order. The Respondents have also not made any specific submissions regarding this issue. We have already remanded some of the issues to the State Commission. The State Commission while considering those issues shall also consider the issue raised by the Appellant regarding interface point at which the tariff is payable.

13. Summary of our findings:

i) Average vs. levellised tariff:

The tariff determined by the State Commission by simple averaging of the tariff for 10 years is not correct as it does not take into consideration the time value of money. The State Commission as per its own Tariff Regulations is required to be guided by the Central Commission's Regulations. However, the State Commission in the impugned order has decided the tariff contrary to the provisions of Central Commission's Regulations. This issue has been decided by the Tribunal in Appeal Nos. 205 and 236 of 2006, the findings of which will squarely apply to the present case. We direct the State Commission to re-determine the levellised tariff for the useful life of the project/the entire period of PPA using a discount factor.

ii) **Capacity Utilisation Factor (CUF):**

We direct the State Commission to reconsider the issue and decide after considering a scientific study or supporting data available for the State from C-WET or any other reliable data. The State Commission may also take into consideration the actual wind energy generation data available with the distribution licensees for the existing wind energy generators for different areas of the State and the Regulations and object and reasons of the Regulations of the Central Commission.

iii) **Depreciation:**

We find that the State Commission allowed depreciation according the Central Commission's Regulations. We do not find any infirmity with the impugned order. However, while determining the levellised tariff for the life/PPA period, the State Commission should also

follow the Central Commission's Regulations for depreciation for the period beyond 10 years.

iv) Operation and Maintenance Expenses:

We find that in the impugned order the State Commission has followed the same norm of 1.25% for O&M expenses as decided in the previous tariff order. However, in the impugned order, the State Commission has fixed the capital cost of 5.6 crores/MW. Calculating @ 1.25%, this would give O&M cost of Rs. 7 lakhs/MW. The State Commission is guided by the Central Commission's Regulations. However, in the present case, the State Commission has decided O&M cost different from that specified in the Central Commission's Regulations without giving any reason. We, therefore, remand the matter to the State Commission to reconsider and if it is adopting value different from the Central Commission's Regulations, it

should give proper reason for the same. Accordingly, ordered.

v. **Capital Cost:**

We remand the matter to the State Commission to reconsider the issue and decide capital cost indexation mechanism for determining the capital cost for the control period. Alternatively, the State Commission can carry out the exercise every year before the commencement of the financial year to determine the capital cost for the following year keeping in view the prevailing prices. We do not find any merit in the issues relating to cost of evacuation infrastructure and foreign exchange variation.

vi. **Defining the interconnection point:**

We find that this issue has not been considered in the impugned order. We have already remanded some of the

issues to the State Commission. The State Commission while deciding those issues will also consider this issue and pass order as per law.

14. The Appeal is allowed in part as indicated above and the matter is remanded to the State Commission for re-determination of the tariff as per the directions given above within 3 months of the date of this judgment. No order as to costs.

15. Pronounced in the open court on this **25th day of November, 2014.**

**(Rakesh Nath)
Technical Member**

√

REPORTABLE/NON-REPORTABLE

**(Justice M. Karpaga Vinayagam)
Chairperson**

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