**IWPA’s suggestions / comments on the TNERC’s consultative paper on Wind Energy Tariff and allied issues.**

| **Sl.****No** | **Description** | **TNERC’s Proposed Parameters / determinants / procedures in its Consultative paper** | **Item wise comments by IWPA** |
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| 1 | Tariff Parameters | **6.1 Tariff Components**

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| --- | --- |
| **Tariff Components** | **Values** |
| Capital cost  |  Rs.5.25 Crores/MW |
| CUF  |  29.15% |
| Operation and maintenance expenses | 1.1% on 85% of Capital investment and 0.22% on 15% of the Capital investment with an escalation of 5% |
| Insurance  | 0.75% on 85% of the Capital Cost for the first year and to be reduced by 0.5% every year |
| Debt-Equity ratio | 70:30 |
| Life of plant and machinery | 25 years |
| Return on Equity | 17.56%(pre-tax) |
| Term of Loan | 10 years with 1 year moratorium period |
| Interest on loan | 9.95% |
| Depreciation | 3.6% p.a |
| Working Capital components | one month O&M cost and two months receivables |
| Interest on working capital | 10.95% |
| Discount factor | 8.75% |

 | **Tariff Components**

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| **Tariff Components** | **Values** |
| Capital cost  | Rs. 6.50 Crores/MW |
| CUF  | 27.15% |
| Operation and maintenance expenses | 2.1% on 85% of Capital investment and 0.26% on 15% of the Capital investment with an escalation of 5% |
| Insurance  | 0.90% on 85% of the Capital Cost for the first year and to be reduced by 0.5% every year |
| Debt-Equity ratio | 70:30 |
| Life of plant and machinery | 25 years |
| Return on Equity | 17.56%(pre-tax) |
| Term of Loan | 10 years with 1 year moratorium period |
| Interest on loan | 12% |
| Depreciation | 3.6% p.a |
| Working Capital components | one month O&M cost and two months receivables |
| Interest on working capital | 13% |
| Discount factor | 8.75% |

**Request Rate at Rs3.46 against Rs\_2.86****1.Capital cost**Since the present trend of wind power purchase by distribution licensee is through competitive bidding process, this FIT to be determined will be applicable only to small WEGs whose total capacity is less than 25 MW in the State. The prevailing total cost of such machines works out to Rs.6.5 to 7.00 Crores per MW. Even the cost of the higher capacities machines ordered with the manufacturers in large capacities of 100 to 200 MW worksout to Rs.6.5 Crores. This include the following1. As project takes a minimum of one year for implementation, the IDC cost of 7-8% of project cost.
2. All Taxes & Duties like GST etc. as applicable.

Therefore Rs.6.5 Crores is the best possible Capital cost per MW.**2.CUF**Small WEGs as discussed hereinbefore will generally be installed at 80 metres height and its CUF will be around 27%. Further, the WEG installations are possible only in low wind zones as most of the high wind zones have already been exploited. PLF in low wind zones are low and hence the Hon’ble Commission may retain the CUF of 27.15% as adopted in the earlier orders. **3.O&M Cost**The Commission’s proposed O&M cost of 1.1% on 85% of Capital investment and 0.22% on 15% of the Capital investmentswithout considering the GST of 18%. The present O&M rate is Rs. 10 Lakhs per MW. Taking into account the GST and other charges, the revised O&M cost works out to 2.1% on 85% of Capital investment and 0.26% on 15% of the Capital investment with an escalation of 5%.4. Insurance chargesTaking into account the GST, the insurance charges works out to 0.90% instead of 0.75% as proposed by the Commission on 85% of the Capital Cost for the first year and to be reduced by 0.5% every year.5. Interest rateThe Commission’s proposed interest of 9.95% is based on MCLR rate of SBI as applicable for one year borrowing only.  In case of 10-years or above borrowing, the rate quoted by SBI or any other bank / financial institutions are different.  Additionally, the term loan for the project funding always carries a higher rate of interest and the same presentlyis not less than **12% per annum**for SME segment Industry/Entrepreneur. 6. Interest on working capitalInterest on working capital is always higher than that of the long term loan and it is presently around 13 – 13.5%. It is prudent to consider 13% interest on working capital. |
| 2 | Wind Energy Tariff | 7.1 The tariff works out to Rs. 2.86 per unit without accelerated depreciation and Rs.2.80 per unit with Accelerated Depreciation(AD). | Taking into account the above tariff components, the tariff works out to Rs. 3.46 per unit without accelerated depreciation and Rs3.42 perunit with Accelerated Depreciation(AD). |
| 3 | Quantum of Purchase by Distribution Licensee.  | 8.1.1 The distribution licensee can purchase wind energy at the rate determined by the Commission from the WEGs to meet the Renewable Power purchase Obligations(RPO) requirement on “first come first served basis”. It is open to the Distribution licensee to procure the same through competitive bidding route following the guidelines of Government of India if it can realize a more competitive rate than the one determined by Commission’s order. For any procurement in excess of RPO, specific approval shall be obtained from the Commission. | The bidding guidelines issued by the government of India for wind power prescribes a minimum individual size of 5 MW and above at one site with minimum bid capacity of 25 MW for intra state bidding. Therefore, the TANGEDCO shall procure at FIT, under section 62, on priority basis from such small WEGs whose total request for addition in capacity is less than 25 MW in the State before the TANGEDCO procuring wind power through bidding process under section 63. A direction to TANGEDCO to this effect has to be included in Para 8.1.1. |
| 4 | Banking Period and charges | 9.1.13 Commission proposes the following alternatives:i) To dispense the facility of banking of wind energy but with deemed purchase of excess generation. (OR)ii) Banking facility of one month with time block wise adjustments on implementation of DSM regulations and purchase of unutilized energy at the end of each month. (OR)iii) Banking facility for 12 months from January to December with time block wise adjustments on implementation of DSM regulations and banking charges of 14% in kind and purchase of unutilized energy at the end of the year.  (OR) iv) Banking facility for 12 months from April to March with time block wise adjustments on implementation of DSM regulations and banking charges of 14% in kind and purchase of unutilized energy at the end of the year. | **Banking to continue Status Quo as at present**In connection with banking of wind energy, the Hon’ble APTEL has already held that the banking **is contractually and judicially recognised and hence the TNEB cannot be allowed to deny the benefit of banking.** The relevant part of the order in Appeal No. 53 of 2010 is reproduced below. *25. It is also to be pointed out that it is only because promises made by the Government and the Electricity Board in respect of wind power generation which included the concept of banking, the generators set up the facilities by incurring heavy expenditure. Therefore, the Board is estopped from making claims contrary to the said promises. The Electricity Board is one of the pioneers in developing regime for wind energy. It has introduced the concept of banking. It was on the basis of the said policy initiative that substantial investments came to be made in the wind sector. After permitting the same for more than 25 years, the Electricity Board now is seeking to take such a different stand.* *26. Therefore, the Electricity Board cannot be allowed to deny the benefit of banking which has been contractually and judicially recognised. The tariff orders were also passed recognising the same. The concept of banking is contained in the tariff order applicable to wind energy generators. This order has already been upheld by this Tribunal in Appeal No.98 of 2010. Hence, the grounds of this Appeal have no basis.**27. Summary of findings:**(d) The concept of “banking” was evolved by the State Commission which is in line with the provisions of the Act, 2003, National Electricity Policy and the National Tariff Policy. Therefore, the impugned order promotes the object of the Act/Rules and the purpose it serves. It would be impossible to set-up the Wind Energy Units without the banking facilities due to the very characteristics of wind power generation.* ***It was only because of the promises made by the Government and the Appellant in respect of Wind Power Generation which included the concept of banking, the wind generators set-up their facilities by incurring heavy expenditure. Therefore, the Appellant is estopped from making claims contrary thereto.***This order of the APTEL has not only directed to continue the banking but also **explained in detail the reason for upholding the banking provision.**Therefore*,* any proposal of TNERC to withdraw or modify the existing banking provision **is a gross violation of said APTEL order.** Hence, the first three proposals of the Commission are against the Honourable APTEL’s order and may be deleted from the draft consultative paper. Further, the main grievance of the TANGEDCO for opposing the banking provision is their wrong presumption that providing banking to wind power causes financial losses to them. Firstly,it can be provedbeyond doubt that the TANGEDCO is only making profit by providing Banking which will be discussed in detail hereinafter. Secondly, even if there is any loss in providing banking, it is a known fact that it has to be made good by the Commission while approving the ARR. It is a legal and logical factwhich cannot be denied by anyone. In fact the TANGEDCO itself accepted this fact in its Appeal No. 380 & 381 of 2017that the Commission allows these banking charges as pass through expenditure while approving the ARR.Thirdly, it is our duty to prove scientifically that there is no loss to TANGEDCO in providing banking to wind power. It is pertinent to state that as per the ARR approved by the Commission in its latest Tarff Order dated 11.08.2017, the unit average realization of TANGEDCO works out to Rs. 5.70. Wind generators having open access are paying all the open access charges for the banked energy, including the line losses, as approved by TNERC. Therefore, the net gain to TANGEDCO is the difference between the Average Realization (**“AR”**) and the Average Power Purchase Cost (**“APPC”**) of the TANGEDCO. Additionally, the WEG’s are also paying Banking Charges of 12% to TANGEDCO. Therefore, the total profit of TANGEDCO for the year 2016-17 is as follows:

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| --- | --- | --- | --- | --- | --- |
| Banked and consumed energy in MUs | Per Unit Rate realized by TangedcoRs | Per Unit rate realized including Banking Charges in Rs | Average Per unit power purchase cost of Tangedco in Rs | Per unit gain for Tangedco in Rs | Total gain to Tangedco in Crore of Rs |
| **1672** | **5.70** | **6.38** | **4.28** | **2.10** | **351** |

It is further submitted that out of the total banked units, for the quantum of units which are consumed by the open access consumers, the line loss is the same that of considered while returning the units by the TANGEDCO which has already been deducted by the TANGEDCO from the concerned OA consumer. However, for the lapsed units at the end of the year, the TANGEDCO have directly sold it to their consumers. The TANGEDCO is only paying 75% of applicable feed in tariff/APPC tariff determined by the Commission for the lapsed units. Therefore, for the lapsed banked units, the average rate paid by the TANGEDCOas specified by the Commission is deducted from the ABR to arrive at the net profit for the year 2016-17, which is set out below:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Lapsed units sold to Tangedco in MUs | Per Unit Rate realized by TangedcoRs | Per unit cost of power for lapsed units paid by Tangedco in Rs | Per unit gain for Tangedco in Rs | Total gain to TANGEDCO in Crore of Rs |
| **334** | **6.38** | **2.31**  | **4.07** | **136** |

Hence, the total profits earned by the TANGEDCO from banking of wind energy, for the period 2016-17 are arrived at as Rs.487 Crores. Therefore, providing banking to WEGs only results in profits to the TANGEDCO, contrary to the misconception of the TANGEDCO that they are incurring losses. It is further submitted that as calculated above, the 12% banking charges fixed by the Commission in the earlier order itself unduly enrich the TANGEDCO. Hence, increasing the banking charges from 12% to 14% in this concept paper has not been legally and logically justified.The above discussion and details leads to the following conclusions. 1. Hon’ble APTEL in its order in Appeal No. 53 of 2010 has held that the banking **is contractually and judicially recognised and hence the TNEB cannot be allowed to deny the benefit of banking.**Hence, withdrawing or modifying banking provision for the existing WEGs is a gross violation of APTEL order and hence we request the Commission to delete such proposals from the consultative paper.
2. The above calculation clearly proves that the TANGEDCO is only making profit in providing banking to WEGs.Therefore providing banking in the existing format is a “win-win” situation to both the WEGs and the TANGEDCO to avoid 65 Lakhs workers of captive consumers factories to be thrown on streets and worth of 1.5 Lakh Crores of TN exports coming to a standstill. On the other hand if banking is not provided to WEGs, the very purpose of the Electricity Act, 2003 and Electricity Policies which provide specifically encouragements and promotional measures to the wind power developers shall stand defeated. As per the mandate of the Electricity Act 2003, the Commission can function as a “Facilitator” and definitely not as a “Terminator”. Therefore, the banking facility in the existing format may be continued for all the future WEGs also.
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| 5 | Banking to third party sale | 9.1.14 There shall be no facility of banking of energy for third party power purchase. | **Banking to continue for Third Party Power Purchase also.**The differences between captive and third party seller/purchaser are only payment of cross subsidy surcharge and additional surcharges if any. Except these charges, the Act and the Regulations made thereon treat both the captive and third party open access customers in the same manner. The Act provides promotional measures to the Renewable Power and it does not restrict it only to captive renewable power. Therefore, discriminating the third party RE power seller/buyer in providing banking by the Commission is illegal and hence the relevant Para of the consultative paper may be deleted. |
| 6 | Transmission, Wheeling and Scheduling and system operation charges. | 9.2.4 Wind energy is in a position to compete with conventional power sources and thus can be treated in the manner related to conventional power. Commission proposes the transmission, wheeling and scheduling and system operation charges at 50% of that applicable for conventional power as notified by the Commission from time to time. In respect of the WEGs availing Renewable Energy Certificates (REC), 100% of the respective charges as specified in the relevant orders shall apply. | First of all it is to be understood that the wind energy is in a position to compete with conventional energy only in terms of generation cost and not in terms of Transmission, Wheeling and Scheduling and System operation charges. Hence it is meaningless to change the concessional percentage for the said charges. Secondly, the concession in Transmission, Wheeling and Scheduling and system operation charges were provided by the Commission in accordance with the promotional measures for RE power as provided in its Preamble, Section 61(h) and other provision of the Electricity Act 2003 and the Policies and Regulations made thereon. In the previous orders, the Commission decided to fix 40% of the transmission charges and 40% of the wheeling charges as applicable to the conventional power to the Wind power. In as much as such provisions of the Act, Policies and Regulations are not resented / modified till date, there is no valid legal requirement to change the percentage of concession. Changing the said percentage is purely arbitrary. Further, the levy of 40% of Transmission, Wheeling and scheduling charges itself is higher in terms of cost per unit compared to the conventional sources of power in view of its low PLF. Hence, if it is increased further, it would not only place non-conventional sources at a disadvantageous position but will also contravene the provisions of Sections61(h), 86(1)(e) of the Electricity Act, 2003, which require promotion of renewable energy sources.Therefore, the 60% of concession in transmission and wheeling charges may be retained in this order also. In case of Scheduling and system operation charges (SSOC), the Commission defined a very logical formula for fixing the SSOC in its wind tariff Order No 6 of 2012 dated 31- 07- 2012 as below:***8.9 Scheduling and system operation charges – One Schedule is only given for the entire wind installation in the State so that scheduling charges can be equally divided among all wind generator in TN. System operation can continue to be levied on per MW basis at the present rate.****In Tariff Order No. 2 of 2012, Commission has considered Scheduling and system operation charges of Rs.2,000 per day for conventional power. To fix this charge for WEGs, the Commission took into account the fact that the capacityutilization factor in wind energy generators is about 27% as against the average of 85% in conventional power plants and that in actuality large size wind mills are generally available in capacities of around 2 MW. Accordingly, if the generator capacity is 2 MW and above, a scheduling and system operation charge of Rs.600/- per day would apply. If the generator capacity is less than 2 MW, the charges shall be proportionate.*Changing this logic is not legally tenable.Further, SLDC is not scheduling the power from each WEG and presently the scheduling of wind energy is being done only at the state level. Hence, the scheduling charges shall be collected considering the entire installation of WEGs in the state as a single plant for the purposes of scheduling.  |
| 7 | Cross subsidy surcharges. | 9.3.1 The Commission in its tariff orders related to different renewable power, has ordered to levy 50% of the cross subsidy surcharge for third party open access consumers. Wind energy being in a position to compete with conventional power sources, Commission proposes levy of 60% of cross subsidy surcharge of that applicable to conventional power. | **50% concessional charge for wind to continue**As explained hereinbefore, it is to be understood that the wind energy is in a position to compete with conventional energy only in terms of generation cost and not in terms of cross subsidy surcharges. Hence it is meaningless to change the existing concessional percentage for the cross subsidy surcharges. Any change in the number is only arbitrary and not legally tenable. The existing concessional rate of 50% may be retained. |

**8. Other issues of Consultative Paper.**

9.6 Energy Accounting and Billing Procedure:

Slot-wise adjustment shall be adopted to those category having differential rates in the slots. When uniform rate is specified for the categories of consumers, the monthly consumption shall be adjusted against monthly generation irrespective of TOD.

9.7 Energy Wheeling Agreement and Fees:

The existing TNERC approved EWA format should be continued with addition of the line“Banking shall be done at the generator end only’.

9.8 Security Deposit:

Interest shall be payable to Open Access customer, i.e., generator for the quantum ofsecurity deposit at MCLR rate of State Bank of India.

9.11 Connectivity and Power Evacuation:

The directions given by APTEL in its order dated 24.05.2013 shall be complied with immediately.

In the event of forced back down of WEGs by the utility, deemed generation to the extentof CUF as adopted for determination of preferential tariff shall be compensated. This is crucial considering that the investors would have a severe adverse financial impact if they are not compensated at the FIT for the energy lost due to grid backing down.

9.12: Harmonics

TNEB has framed a committee to go into the aspects of measuring and analysis of Harmonics generated from wind mills. As per the provisions in the CEA regulations 2013, the generators and the utility shall discuss and mutually agree about the implementation. On receipt of committee’s report IWPA shall submit comments to the TNERC on adopting the TANGEDCO methodology for measuring harmonics in wind mills which the commission can approve.

10.1. Applicability of the proposed order:

All financial implications shall have to take effective from date of release of the order.

**9. Other issues not covered by the consultative Paper:**

1. Applicable APPC Rate for PPAs under APPC with REC

 The Hon’ble Commission amended the RPO Regulation in 2013 by capping the applicable APPC rate payable by the Distribution Licensee to 75% of the preferential tariff fixed by the Commission.Now, with the preferential tariff proposed to be made significantly lower than the preferential tariff that existed at the time of commissioning the machines, a cap of 75% on the preferential tariff would very much lower the viability of the projects. Hence, we suggest that the Regulations be amended to restore the original position as existed before the amendment was made in 2013 to enable the RE Generators having PPA under APPC to realise the actual APPC rate in full. Already, the REC floor prices have been reduced by 50 paise and the RE Generators have been affected because of the same.Alternatively, the tariff for APPC generator could be APPC rate or preferential tariff whichever is lower.

1. Cost of forecasting incurred by WEGs to be considered for determining the tariff

 In the tariff fixation exercise, the cost incurred for forecasting and scheduling is not considered by the Hon’ble Commission.

 As per the CERC regulations, generators who meet the criteria stipulated for forecasting and scheduling the wind energy are required to do the same and incur additional cost in doing that. This works out to approximately Rs.2 Lakh per MW and the same shall be considered while determining the tariff.

1. NO O and M charges levied by TANGEDCO:

 While TANGEDCO and TANTRANSCO have been including all the costs incurred by them for maintaining the substations which is already included in the ARR for determination of respective tariff, it is not correct to levy O and M charges on WEGs alone by TANGEDCO contravening the Regulations of the Hon’ble Commission. This is being levied on the installations of both Sale to Board category and Captive generator. Hon’ble Commission should hence give a direction to TANGEDCO not to recover the O and M charges from WEGs as Hon’ble Commission has not approved such a levy. Presently, this is being recovered at Rs. 1,85,220 per MW per annum.

It is also submitted that the Hon’ble Commission has not considered this as a cost while determining the preferential tariff nor has it considered this recovery while fixing tariff for transmission and wheeling charges for WEGs. Hence, it is very clear that this recovery is not made with the approval of the Hon’ble Commission and TANGEDCO should be directed not to recover this.

1. Time Value of Money as per Supreme Court Judgement to be taken in to account for tariff determination.