TAMIL NADU ELECTRICITY REGULATORY COMMISSION

Consultative Paper for procurement of wind power and related issues

(Comments/Suggestions are invited on or before 14.3.2020)

1.0 Overview

1.1 Commission in exercise of the powers vested under the Electricity Act,2003 and in compliance with the mandate of the Act to promote renewable energy has issued a number of tariff orders in respect of various sources of renewable energy. These orders on renewable energy sources covered tariff determination for purchase of power by the Distribution licensee, issues related to open access, its promotional aspects and banking of energy depending on the source of renewable power.

1.2 The conducive policies of the Central and State Government for promotion of renewable power has helped the sector achieve remarkable progress. Government of India has set a target of installing 60 GW of wind power capacity by 2022.

1.3 India is the world's fourth largest wind power producer with a total installed capacity of 37.5 GW as on 31st December 2019. Tamil Nadu is the largest producer of wind power with a State owned capacity of 8506 MW. The total capacity of renewable power in the State is 14144.35 MW. The tariff order for wind power was issued last on 13.4.2018 vide Order No.6 of 2018. The control period of this Order No.6 of 2018 on wind energy expires on 31.3.2020.

1.4 Government of India(GoI) issued draft guidelines in 2017 for tariff-based competitive bidding process for procurement of power from grid-connected wind projects. The guidelines were notified by GoI vide resolution No.23/54/2017-R&R dt.8.12.2017.

1.5 The Solar Energy Corporation of India(SECI) has been conducting reverse auctions for wind power. The first auction for wind power in February 2017 fetched a tariff of Rs.3.46 per unit. Subsequent auctions saw the tariff reduce further to the extent of Rs.2.44 per unit (SECI's auction in February 2018). SECI's tender in May 2019 conducted with a tariff ceiling of Rs.2.83 received bids at prices ranging from Rs.2.79 to Rs.2.83 per unit and for the bidding closed in August 2019, tariffs of Rs.2.83 and Rs.2.84 per unit were obtained from two bidders for 439.8 MW. In the latest bidding under tranche IX, SECI has raised the ceiling tariff initially fixed at Rs.2.85 per unit to Rs.2.93 per unit.

1.6 The development of wind energy in India has come against a back drop of favorable policy environment with grant of subsidies, generation based incentives and other fiscal incentives and promoted by the feed in tariff regime. Over the years there is a shift from the feed in tariff/preferential tariff regime to an auction based regime. This has lowered the cost of procurement of power by the Distribution licensees. Technological improvements have made it possible to have high wind power generation even in low potential sites.

1.7 Several States have started procuring wind power through competitive bidding conducted by the State or by the Centre. The Central Electricity Regulatory Commission has not determined tariffs for wind power since the notification of RE Tariff Regulations in 2017.

1.8 Commission issues this consultative paper discussing the approach for procurement of wind power by the Distribution Licensee and on related issues of open access.

.

2.0 Legal framework:

2.1 Related Provisions of Electricity Act, 2003

2.1.1 Relevant provisions of Electricity Act, 2003 are reproduced below:

"Section 3(1): The Central Government shall, from time to time, prepare the National Electricity Policy and tariff policy, in consultation with the State Governments and the Authority for development of the power system based on optimal utilisation of resources such as coal, natural gas, nuclear substances or materials, hydro and renewable sources of energy.

Section 61: The Appropriate Commission shall, subject to the provisions of this Act, specify the terms and conditions for the determination of tariff, and in doing so, shall be guided by the following, namely:-

…………………………………………………………………………………………

(h) the promotion of cogeneration and generation of electricity from renewable sources of energy;

(i) the National Electricity Policy and tariff policy;

Section 62(1): The Appropriate Commission shall determine the tariff in accordance with the provisions of this Act for –

(a) supply of electricity by a generating company to a distribution licensee:

Section 62(2): The Appropriate Commission may require a licensee or a generating company to furnish separate details, as may be specified in respect of generation, transmission and distribution for determination of tariff.

Section 62(5): The Commission may require a licensee or a generating company to comply with such procedure as may be specified for calculating the expected revenues from the tariff and charges which he or it is permitted to recover.

Section 63: Notwithstanding anything contained in section 62, the Appropriate Commission shall adopt the tariff if such tariff has been determined through transparent process of bidding in accordance with the guidelines issued by the Central Government.

Section 86(1)(e): The State Commission shall 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 licensee;"

2.2 Related Provisions of National Electricity Policy

2.2.1 Relevant provisions of National Electricity Policy are reproduced below:

"Section 5.2.20 Feasible potential of non-conventional energy resources, mainly small hydro, wind and bio-mass would also need to be exploited fully to create additional power generation capacity. With a view to increase the overall share of non-conventional energy sources in the electricity mix, efforts will be made to encourage private sector participation through suitable promotional measures.

Section 5.12.2 The Electricity Act 2003 provides that co-generation and generation of electricity from non-conventional sources would be promoted by the SERCs by providing suitable measures for connectivity with grid and sale of electricity to any person and also by specifying, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee. Such percentage for purchase of power from non-conventional sources should be made applicable for the tariffs to be determined by the SERCs at the earliest. Progressively the share of electricity from non-conventional sources would need to be increased as prescribed by State Electricity Regulatory Commissions. Such purchase by distribution companies shall *be through competitive bidding process. Considering the fact that it will take some time before non-conventional technologies compete, in terms of cost, with conventional sources, the Commission may determine an appropriate differential in prices to promote these technologies.”*

2.3 Related Provisions of Tariff Policy

2.3.1 Relevant provisions of Tariff Policy, 2016 are reproduced below:

Para 6.4 “(1) Pursuant to provisions of section 86(1)(e) of the Act, the Appropriate Commission shall fix a minimum percentage of the total consumption of electricity in the area of a distribution licensee for purchase of energy from renewable energy sources, taking into account availability of such resources and its impact on retail tariffs. Cost of purchase of renewable energy shall be taken into account while determining tariff by SERCs. Long term growth trajectory of Renewable Purchase Obligations (RPOs) will be prescribed by the Ministry of Power in consultation with MNRE.

………

(i) Within the percentage so made applicable, to start with, the SERCs shall also reserve a minimum percentage for purchase of solar energy from the date of notification of this policy which shall be such that it reaches 8% of total consumption of energy, excluding Hydro Power, by March 2022 or as notified by the Central Government from time to time.

………

(iii) It is desirable that purchase of energy from renewable sources of energy takes place more or less in the same proportion in different States. To achieve this objective in the current scenario of large availability of such resources only in certain parts of the country, an appropriate mechanism such as Renewable Energy Certificate (REC) would need to be promoted. Through such a mechanism, the renewable energy based generation companies can sell the electricity to local distribution licensee at the rates for conventional power and can recover the balance cost by selling certificates to other distribution companies and obligated entities enabling the latter to meet their renewable power purchase obligations. The REC mechanism should also have a solar specific REC.

(iv) Appropriate Commission may also provide for a suitable regulatory framework for encouraging such other emerging renewable energy technologies by prescribing separate technology based REC multiplier (i.e granting higher or lower number of RECs to such emerging technologies for the same level of generation).Similarly, considering the

change in prices of renewable energy technologies with passage of time, the Appropriate Commission may prescribe vintage based REC multiplier(i.e granting higher or lower number of RECs for the same level of generation based on year of commissioning of plant).

(2) States shall endeavor to procure power from renewable energy sources through competitive bidding to keep the tariff low, except from the waste to energy plants. Procurement of power by Distribution Licensee from renewable energy sources from projects above the notified capacity, shall be done through competitive bidding process, from the date to be notified by the Central Government.

However, till such notification, any such procurement of power from renewable energy sources projects, may be done under Section 62 of the Electricity Act, 2003."

2.4 Regulation 4(2) of the Power Procurement from New and Renewable Sources of Energy Regulation, 2008, specifies as follows:

"(2) While deciding the tariff for power purchase by distribution licensee from new and renewable sources based generators, the Commission shall, as far as possible, be guided by the principles and methodologies specified by:
(a) Central Electricity Regulatory Commission
(b) National Electricity Policy
(c) Tariff Policy issued by the Government of India
(d) Rural Electrification Policy
(e) Forum of Regulators (FOR)
(f) Central and State Governments

(3) The Commission shall, by a general or specific order, determine the tariff for the purchase of power from each kind of new and renewable sources based generators by the distribution licensee. ...
Provided where the tariff has been determined by following transparent process of bidding in accordance with the guidelines issued by the Central Government, as provided under section 63 of the Act, the Commission shall adopt such tariff."

2.5 The Central Electricity Regulatory Commission in its Regulations on Tariff determination for renewable energy sources issued on 17.4.2017 has not fixed any generic tariff for wind and solar power for the reason that setting generic tariff based on norms may not provide the right price signals. However, the Central Commission has set financial and operational norms that would serve as ceiling norms for determination of project specific tariff.

3. Procurement of wind power on expiry of control period of wind tariff order of 2018

3.1 The Electricity Act 2003, the National Electricity Policy and the Tariff Policy 2016 all have key enabling provisions that facilitate competitive bidding and these stipulations on competitive bidding aim to provide electricity at reasonable and competitive rates. Many of the States have refrained from determining tariffs for wind power under section 62 of the Electricity Act 2003 and are procuring wind power through competitive bidding.

3.2 The wind power generation industry has matured. Competitive bidding in an open market has brought about many private players. The Solar Energy Corporation of India (SECI) has been conducting competitive biddings for wind and solar power from the year 2017 in different tranches. Each bidding has secured different tariffs. To state a few, SECI's bidding in the first tranche in February 2017 fetched Rs.3.46 per unit for a total capacity of 1000 MW, the second tranche in May 2017 fetched tariffs of Rs.2.64, Rs.2.65 for 1000 MW capacity. The wind tariff scaled down to Rs.2.44 per unit in the third tranche (2000 MW) in January 2018, Rs.2.51 in the fourth (2000 MW) in February 2018, Rs.2.76,2.77 in the fifth (1200MW) in September 2018, Rs.2.82,2.83 in the sixth tranche(1200 MW) in February 2019, Rs.2.79 -2.83 per unit in tranche VII (1200 MW) in June 2019, Rs.2.83 in tranche VIII and a ceiling of Rs.2.93 per unit fixed for the bidding in tranche IX. An auction conducted by Gujarat in May 2019 fetched tariffs ranging from Rs.2.80 to Rs.2.95 per unit quoted by 8 developers. UPERC in the order dt.22.8.2019 has approved adoption of tariff of Rs.2.90 plus trading margin of Rs.0.07 per unit for procurement of 460 MW of wind power from SECI. Maharashtra ERC in the order dt.9.4.2019 has authorized the Maharashtra State Electricity Distribution Company to fix tariff ceiling limits after due diligence and float tender to procure power for a period exceeding a year from the wind machines whose purchase agreements had expired.

3.3 Commission determined a tariff of Rs.4.16 per unit in Order No.3 of 2016 dt.31.3.2016. A tariff of Rs.2.86 per unit was determined in the Commission's order No.6 of 2018 for wind power. Different tariffs have been discovered in the biddings conducted over the last three years by the States, SECI. The tariffs obtained in the biddings are competitive and are reflective of the market.

3.4 The tariffs being discovered through competitive bidding are generally lower than cost plus tariffs. Commission proposes procurement of wind power by the Distribution Licensee, for compliance of RPO requirement, through the competitive bidding route under section 63 of the Electricity Act 2003 following the bidding guidelines issued by the Central Government or procure power from the projects contracted through competitive bidding process by SECI, the nodal agency that floats tenders and conducts e-reverse auction for procurement of power from solar and wind power projects. Energy Purchase Agreement, billing and payment shall be as per the terms in the bidding. Sharing of CDM benefits shall be at 100% in the first year and thereafter reduced by 10% every year till the sharing becomes equal(50:50) between the developer and consumer.

4.0 Issues related to open access:

1. Banking
2. Open access charges – Transmission and Wheeling, and Line losses
3. Cross subsidy surcharge
4. Reactive power charges
5. Grid availability charges
6. Energy Accounting and Billing Procedure
7. Energy wheeling agreement and fees
8. Security Deposit
9. Power factor disincentive
10. Metering
11. Connectivity and evacuation of power
12. Harmonics

4.1 Banking :

4.1.1 The history of banking in this State is given below:

4.1.2 The first tariff order for wind power issued by the Commission was on 15.5.2006. Prior to this date, the erstwhile TNEB followed its rule of banking. Initially the wind energy generator was allowed to adjust the energy generated in two HT industrial services. A banking charge of 2% was levied from March 1986. This was raised to 5% in March 2002. Banking was initially fixed for a period of nine months and then modified to one month and then 3 months. Again in September 1986, banking was allowed for one year. In November 1989, banking was considered for two years which was then modified to one year from April to March in the year 2000. In March 2001, the banking period was reduced to one month and in 2002, banking was permitted for one year commencing from 1st of April. Commission permitted banking for one year from April to March in the 2006 order and continued with it in all its orders issued in 2009, 2012 and 2016. In Commission's Orders of 2006 the unutillized energy was allowed to be encashed at 75% of the preferential tariff rate and this was continued in all the tariff orders for wind power issued by the Commission.

4.1.3 In the consultative processes undertaken by the Commission before issue of every tariff order, the Distribution licensee has always requested to remove the facility of banking provided to the wind energy generators citing huge financial losses on account of banking and the wind energy generators on the other hand had requested to continue with banking disputing the financial losses claim made by the licensee.

4.1.4 In the order of 2012, the banking charges were fixed as the difference between the average power purchase cost through bilateral trading on all India basis taken for a period of two years and the maximum preferential tariff specified in the order which worked out to Rs.0.94 per kWhr. This order on banking charges was challenged by stakeholders before Hon'ble APTEL vide Appeal Nos.197, 198 of 2013 etc. and APTEL remanded the issue to the Commission.

4.1.5 While disposing the remanded case in R.A No.6 of 2013 dt.31.3.2016, Commission observed that it is time that the promotional concessions are gradually withdrawn and however fixed the banking charges at 10% in kind. In the order No. 3 of 2016, Commission fixed the banking charges at 12% in kind and in the order of 2018 banking charges were fixed at 14% in kind.

4.1.6 Appeals have been filed against the Order No. 3 of 2016, the remanded case in R.A No.6 of 2013 by the distribution licensee as well as the wind generators and captive users before the Hon'ble Appellate Tribunal of Electricity. Appeals have also been filed against the order of APTEL in Appeal Nos. 197,198 of 2013 etc. dt.24.5.2013, by the Distribution licensee and wind energy generators before the Hon'ble Supreme Court of India and against Order No.6 of 2018 dt.13.4.2018. These litigations are pending before the respective Courts of law.

4.1.7 Commission in the order No.6 of 2018 dt.13.4.2018 decided to continue with the banking period of 12 months from the 1st of April to 31st of March of the succeeding year for the Wind Energy Generators (WEGs) commissioned on or before 31.3.2018 under captive wheeling in the case of normal and REC scheme with the banking charges at 14% in kind, and extended banking facility of one month to the new WEG machines commissioned on or after 01.04.2018 both under normal and REC category, from 01.04.2018.

4.1.8 Cases have been filed against the order No.6 of 2018 by stakeholders before the Hon'ble APTEL.

4.1.9 Abstract of the banking provisions in some of the renewable rich States are furnished below:

Name of State ERC	Banking provisions
Andhra Pradesh ERC	Banking period – 12 months from April to March; Drawal of banked energy not permitted during from 1st April to 30th June and from 1st February to 31st March. In addition, drawal of banked energy during ToD period not permitted throughout the year. Banking charges - adjusted in kind @ 5% of the energy delivered at the point of drawal; Provisions on banking pertaining to drawal restrictions to be reviewed based on

	the power supply position in the State. Energy injected into the grid from date of synchronization to Commercial Operation Date(COD) considered as deemed energy banking. The unutilized banked energy deemed to be purchased by Discoms at 50% of the Average Pooled Power Purchase Cost for the applicable year. Payment for the deemed purchase of un-utilized banked energy shall be capped to 10% of the total banked energy during the applicable year. Energy settlement shall be done on monthly basis.
Gujarat ERC	Banking facility of one month; Excess generation shall be set off in one billing cycle in proportion to generation in peak and normal hours. No Banking for third party and set off will be done in the 15 minute time block with open access consumer's consumption. Surplus power after set off to be purchased by Distribution licensee at Rs.1.75 per unit and in case of wind power projects availing OA for captive use / third-party sale and opting for REC, the surplus power after set off will accordingly be purchased by the Distribution Licensee at 85% of Rs. 1.75/kWh, i.e., Rs. 1.50 per kWh. (The above are as proposed in the discussion paper in January 2020)
Karnataka ERC	Banking – annual; Banking charges – 2% in kind; Unutilised banked energy purchased at 85% of generic tariff.

Maharashtra ERC	Banking - Permitted only on monthly basis (Previously it was for 12 months) Credit for energy banked during the month adjusted in the same month as per the energy injected in the respective TOD slots determined by the Commission in its orders; Energy banked during peak TOD slots can be drawn during off peak TOD slots but energy banked during off peak TOD slots cannot be drawn during peak TOD slots. Unutilised banked energy limited to 10% of actual total generation in a month considered as deemed purchase by Distribution licensee at a rate equivalent to that stipulated under yearly generic RE tariff order. Deemed purchase to be counted towards RPO of Distribution licensee.
Rajasthan ERC	Banking – monthly basis; RE generator has to intimate on the first day of every month the quantum of energy they wish to bank; Banked energy in a month shall not exceed quantum of energy injected in the grid; If energy injected is less than that indicated, banked energy will be restricted to energy injected.10% of unutilized banked energy at the end of the month shall be entitled for payment at 60% of large industrial power tariff excluding fuel surcharge. Unutilized banked energy, in excess of 10% shall lapse. Banking charges -2% in kind.

4.1.10 It may be seen that many of the renewable energy rich states have restricted banking of wind power. Banking is not specifically provided in the

Electricity Act 2003. The facility was extended as a promotional measure for wind power generation. Wind power in this State has been adequately promoted. Banking is a measure not related to tariff but a consideration made under promotional measures. In this consultative paper, Commission proposes the following banking facility depending on the period of commissioning of the wind energy generators:

(I) Category A - For the WEG machines commissioned upto 31.3.2018:- Two options are provided. Comments/suggestions are invited with reasons for the same.

OPTION 1-

The banking period shall commence from 1st April and end on 31st March of the following year. The energy generated each month shall be adjusted against consumption of the same month. Excess generation over and above the consumption of each month i.e the banked energy shall be credited at 75% of the relevant tariff applicable to the WEGs as per the Commission's tariff orders on wind energy. The amount thus credited at the end of the month shall be adjusted with the current consumption charges or paid within 30 days as opted by the captive consumer. Any delay in payment beyond the stipulated period of 30 days will attract interest at the rates notified by the Commission for payment of interest on security deposit.

OPTION 2-

The banking period shall commence from 1st April and end on 31st March of the following year. Drawal of banked energy shall not be permitted during evening peak hours. The energy generated during April shall be adjusted against consumption in April and the balance if any shall be reckoned as the banked energy after deduction of banking charges in kind. The generation in May shall be first adjusted against the consumption in May. If the consumption exceeds the generation during May, the energy available in the bank shall be drawn to the required extent. If the consumption during May is less than the generation during May, the balance shall be added to the banked energy after deduction of banking charges in kind. This procedure shall be repeated every month until the month of December. For the months of January to March of the following year, drawal of banked energy shall not be permitted.

The unutilized energy as on 31st December may be encashed at the rate of 75% of the applicable wind energy tariff fixed by the Commission for existing normal wind energy captive users and at 75% of Pooled cost of power purchase as notified in the orders of the Commission from time to time for the captive generators under REC scheme. The energy generated during the months from January to March shall be adjusted against captive consumption and the excess over and above the adjusted generation shall be paid at 75% of applicable wind tariff/pooled cost of power purchase for the WEGs under normal category/REC category as may be applicable at the end of each month.

(II) CATEGORY B - For the WEGs commissioned during the control period of Order No.6 of 2018 dt.13.4.2018

Banking facility to the WEG machines commissioned during the control period of Order No.6 of 2018 dt.13.4.2018 will be as specified in the said order. i.e Banking facility for both under normal and REC category shall be for one month. No banking charges are applicable. Purchase of excess generation/ unutilized banked energy shall be at 75% of applicable wind energy tariff for the normal category machines. For captive generators under REC scheme, purchase of excess generation/unutilized banked energy shall be at 75% of Pooled cost of power purchase as notified in the orders of the Commission from time to time, at the end of the month.

(III) CATEGORY C - For the WEGs commissioned from the date of the proposed order :-

i) Banking facility for both under normal and REC category shall be for one month. No banking charges are applicable. Purchase of excess generation/ unutilized banked energy shall be at 75% of lowest tariff discovered during the year through competitive bidding in this State or by SECI for normal wind energy captive users at the end of the month. For captive generators under REC scheme, purchase of excess generation/unutilized banked energy shall be at 75% of Pooled cost of power purchase as notified in the orders of the Commission from time to time, at the end of the month.

ii) Capping of wind generating capacity - In order to limit the capacities contracted for wheeling that are disproportionate to the contracted demand/annual average consumption, Commission proposes the following for the WEGs commissioned from the date of the proposed order:

The wind capacity contracted by open access consumers including captive shall be such that there is no excess generation over the annual consumption. Any generation in excess of 10% of annual consumption from the WEGs in a financial year will not be considered for payment of unutilized banked energy.

(IV) Withdrawal of banking in phases

Banking of energy in kind is proposed to be withdrawn in phases for the old machines. As a first step, banking in kind is proposed to be withdrawn for the WEGs that complete/have completed a life of 10 years and banking in value as stated in OPTION 1 under category A in para 4.1.10(I) shall be permitted.

4.1.11 For all the WEGs irrespective of the date of commissioning, there shall be no facility of banking of energy for third party power purchase.

4.1.12 As and when the commercial arrangements of Commission's DSM regulations come into force, the adjustments of energy will be as per the said regulations/orders of the Commission for all WEGs.

4.2 Transmission, Wheeling charges & Scheduling and System operation charges :

4.2.1 Transmission, Wheeling and Scheduling & System operation charges are generally regulated by the Commission's Tariff regulations, Grid Connectivity

& Open access regulations and Commission's order on open access charges issued from time to time. However, as a promotional measure, under sections 61 and 86(1) (e) of the Act, Commission in the tariff orders of 2012 and 2016 fixed 40% of the charges applicable for conventional power for wind energy.

4.2.2 Wind power has adequately been promoted and the tariffs lower than that of conventional power plants. The concessions granted are being subsidized by other users of the network and ultimately borne by the consumers.

4.2.3 In the case of scheduling and system operation charges, the work done by SLDC is the same as in the case of conventional power. SLDC has to monitor the grid operations effectively on real time basis. The scheduling and system operation charges have to be determined in a non-discriminatory manner with reference to the functions of SLDC and there cannot be any concession.

4.2.4 Wind energy is in a position to compete with conventional power sources and thus can be treated in the manner related to conventional power. In view of the above reasons, Commission fixed the transmission, wheeling and scheduling and system operation charges in the order No.6 of 2018 at 50% of that applicable for conventional power as notified by the Commission from time to time. Commission proposes the transmission, wheeling and scheduling and system operation charges at 100% of that applicable for conventional power as notified by the Commission from time to time for the WEGs commissioned under the normal category and in respect of the WEGs availing Renewable Energy Certificates (REC).

4.2.5 Line losses :

4.2.5.1 The generators shall bear the actual line losses in kind as specified in the respective orders of the Commission issued from time to time.

4.3 Cross subsidy surcharge

4.3.1 The Commission in its tariff orders related to different renewable power, has ordered to levy 50% to 70% of the cross subsidy surcharge for third party open access consumers. In the last tariff order for wind power, 60% of cross subsidy surcharge was levied. Wind energy being in a position to compete with conventional power sources, Commission proposes levy of 100% of cross subsidy surcharge of that applicable to conventional power.

4.4 Reactive Power Charges

4.4.1 Due to inherent characteristics, the induction type wind energy generators are prone to draw reactive power from the grid, if adequate power factor correction is not applied. During the wind season, wind energy generators contribute around 25% of the grid demand and in such a situation grid stability will be jeopardized, if the wind energy generators are allowed to draw considerable reactive power from the grid. Therefore, the Commission proposes to retain the charges fixed in Order No.6 dated 13.04.2018 i.e 25 paise per kVARh will be levied on wind energy generators, who draw reactive power up to 10% of the net active energy generated. Anyone drawing in excess of 10% of the net active energy generated will be liable to pay double the charge.

4.5 Grid Availability Charges

4.5.1 Start up power

4.5.1.1 Due to its infirm nature of the wind, stoppage of wind energy generation and frequent start up of WEGs are common in the wind energy sector. Therefore the drawal of energy by the wind generators during the start up from the distribution licensee shall be adjusted against the generated energy.

4.5.2 Stand by charges

4.5.2.1 If adequate generation does not materialize or if drawal by the captive/ third party consumer exceeds generation, the energy charges and demand charges at the user end shall be regulated as per the Tamil Nadu Electricity Regulatory Commission Grid Connectivity and Intra-State Open Access Regulations, 2014 and Commission's Regulation /Order/ on Deviation Settlement Mechanism(DSM) and other relevant orders as may be applicable.

4.6 Energy Accounting and Billing Procedure

4.6.1 The energy accounting shall be regulated by the Commission's Regulations / Order on open access, Deviation Settlement Mechanism(DSM).

Till such time the DSM is implemented in the State, if a renewable energy generator utilizes power for captive use or if he sells it to a third party, the distribution licensee shall raise the bill at the end of the billing period for the net energy supplied. The licensee shall record the slot wise generation and consumption during the billing period. Slot-wise adjustment shall be made for the billing period. Peak hour generation can be adjusted to normal hour or off peak hour consumption of billing period. Normal hour generation can be adjusted to off peak hour consumption of the billing period. Excess consumption will be charged at the tariff applicable to the consumer subject to the terms and conditions of supply.

4.6.2 When DSM is implemented, the licensee shall record the time block wise generation and consumption during the billing period. Time block wise adjustment shall be made for the billing period and the distribution licensee shall raise the bill for the net energy supplied. Excess consumption will be charged at the tariff applicable to the consumer subject to the terms and conditions of supply.

4.6.3 The excess generation/unutilized energy subject to the cap fixed in para 4.1.10(III)(ii) may be sold at the rate of 75% of respective wind energy tariffs determined or discovered bid tariffs, as per applicable orders of the Commission, for normal wind energy captive users, and 75% of Pooled cost of power purchase as notified in the orders of the Commission from time to time for captive generators under REC scheme.

4.6.4 Priority of adjustment of power to a consumer who has captive wind power and purchases power from third party, will be first for the banked energy after adjusting the respective month’s current generation followed by third party power i.e order of adjustment of monthly energy consumed will be (i) current month wind generation followed by (ii) energy available in the bank (energy banked after deduction of banking charges in kind) followed by (iii) third party power purchase. The intention of this clause is to curb practices of consumers purchasing cheaper power from power exchange inspite of adequate energy available in the bank thereby accumulating the banked energy till the end of the financial year.

4.7 Energy Wheeling Agreement and fees

4.7.1 The format for Energy Wheeling Agreement, application and agreement fees, procedure and terms & conditions are governed by Commission’s following regulations in force.

(1) Tamil Nadu Electricity Regulatory Commission Grid Connectivity and Intra-State Open Access Regulations,2014.

(2) Power procurement from New and Renewable sources of energy Regulations 2008.

4.8 Security deposit

4.8.1 As regards the security deposit to be paid by captive/third party user, the Commission proposes to retain the present arrangements i.e. charges corresponding to two times the maximum net energy supplied by the distribution licensee in any month in the preceding financial year shall be taken as the basis for the payment of security deposit.

4.9 Power Factor disincentive

4.9.1 Power factor disincentive may be regulated for the power factor recorded in the meter at the user end as specified in the relevant regulations/orders in force.

4. 10. Metering

4.10.1 The Commission proposes that metering and communication shall be in accordance with the following regulations in force:

(1) Central Electricity Authority (Installation and Operation of Meters) Regulations

(2) Tamil Nadu Electricity Distribution and Supply Codes

(3) Tamil Nadu Electricity Grid Code

(4) Tamil Nadu Electricity Regulatory Commission Grid Connectivity and Intra-State Open Access Regulations,2014.

4.11 Connectivity and Evacuation of power

4.11.1 The connectivity and power evacuation system shall be provided as per the Act / Codes/ Regulations/orders in force.

4.12 Harmonics

4.12.1 The WEGs shall follow the CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013 in respect of harmonics. It is the responsibility of the generator to provide adequate filtering mechanism to limit the harmonics within the stipulated norms. It shall be done before connecting the generator to the grid and the harmonics shall be measured by the respective distribution licensee during the commissioning. If the WEGs inject the harmonics beyond the stipulated limit, they shall pay a compensation of 15% of applicable generation tariff rate to the distribution licensee in whose area the plant is located till such time it is reduced within the stipulated limit. The distribution licensee is responsible for measurement of harmonics with standard meters and issue notices for payment of compensation charges if the harmonics is beyond the stipulated limit. A minimum of 15 days notice period shall be given for payment of compensation charges.

4.13 Parallel operation charges

4.13.1 WEGs who opt for parallel operation with the grid shall pay 100% of applicable parallel operation charges to the distribution licensee as specified in relevant regulations/orders of the Commission.

5.0 Applicability of the proposed order

5.1 This Order shall come into force on expiry of the control period of order No.6 of 2018 dt.13.04.2018 i.e from 1.4.2020. The open access charges and other terms and conditions specified in this order shall be applicable to all the wind energy generators, irrespective of their date of commissioning.

(By order of Tamil Nadu Electricity Regulatory Commission)

(S.Chinnarajalu)
Secretary
Tamil Nadu Electricity Regulatory Commission