

Karnataka Electricity Regulatory Commission,
No.9/2, 6th & 7th Floor, Mahalaxmi Chambers, M.G. Road,
Bangalore-560 001

Dated 4th JULY, 2014

Present :

1. Sri. M.R. Sreenivasa Murthy	Chairman
2. Sri H.D. Arun Kumar	Member
3. Sri D.B. Manival Raju	Member

**In the matter of Determination of Wheeling and Banking Charges
in respect of Renewable Sources of Energy**

ORDER

I] Preamble:

1) In exercise of the powers under the provisions of the Electricity Act, 2003, read with the KERC (Terms and Conditions for Open Access) Regulations, 2004, the Commission had determined the Transmission charge, Wheeling charge and Cross subsidy surcharge for Open Access transactions including Renewable Energy (RE) sources vide its order dated 9th June 2005. In the said Order, the Commission had determined the Wheeling charges for renewable energy sources as 5% and Banking charges [banking only for Wind and Mini-hydel projects] at 2% of the energy injected. Further, the Commission had also ordered to allow banking facility in respect of Wind and Mini-hydel projects subject to payment of the difference of unscheduled interchange [UI] charges between the time of injection and the time of drawal of power.

2) The Commission vide its Order dated 11.7.2008 approved the standard 'Wheeling and Banking Agreement' for RE projects. The above order was valid for a period of 5-years from 11.7.2008 i.e. for RE projects commissioned between 11.7.2008 and 10.7.2013. In the said Order, the Commission continued the 5% Wheeling charges and 2% Banking charges for the RE sources (Banking only for Mini-hydel and

Wind Projects). The Order also specified that these charges shall be applicable to the Projects for a period of 10 years from the date of their commercial operation.

- 3) Further, the Commission on 20.6.2013 issued a Discussion Paper proposing to:
 - (a) levy Wheeling and Banking charges on all renewable sources of the State on par with the charges applicable to non-RE generating Companies; and
 - (b) discontinue annual banking facility, to introduce monthly banking, with the excess energy remaining at the end of the month to be purchased by ESCOMs at 85% of the generic tariff or at APPC fixed by the Commission.

- 4) The Commission, after receiving comments from the stake-holders on the above Discussion Paper and also after hearing the stake-holders on 4.9.2013, passed Orders on 9th October 2013, deciding as under:

- “(i) The Wheeling and Banking charges fixed in the Commission's Order dated 9.6.2005 and continued thereafter, including in the Commission's Tariff Order dated 6.5.2013, shall continue till 31.3.2014 in respect of RE generators, except captive generators opting for participation in the REC mechanism.

- (ii) Captive Generators who desire to avail of the benefit of Renewable Energy Certificate mechanism, shall be entitled to exercise an option to that effect. On exercise of such an option, they shall be liable to pay the normal transmission, wheeling and other charges as determined in the Tariff Orders in force. They shall be allowed banking facility, which shall be on a monthly basis instead of annual basis, as set out in the Commission's Discussion Paper referred to above. The excess energy injected at the end of each calendar month shall be deemed to have purchased by the Distribution Licensee of the area where the generator is situated and shall be paid for at the APPC rate determined by the Commission from-time-to-time.”

- 5) Further, the Commission, vide Order dated 10.7.2013 extended the validity of the Order No.B/01/1 dated 11.7.2008 in the matter of 'Wheeling and Banking

Agreement' for a period of three months up to 10.10.2013. The above Order was further extended vide Order dated 10.10.2013, from 11.10.2013 to 31.03.2014. The Commission, vide Order dated 24.4.2014, extended the validity of the above Order for a further period up to 30.6.2014 or till the date of issue of a revised Order in the matter, whichever is earlier.

6) In the light of the above, the Commission issued a discussion paper on, "WHEELING AND BANKING CHARGES' FOR RE GENERATORS" inviting views / suggestions / comments on the following issues:

- [i] Whether the existing wheeling charges of 5% and banking charges at 2% (banking in case of wind and mini hydel only) need to be continued for some more time and if so, for how many years? Or should the existing charges be continued till the total installed capacity of wind and mini hydel put together in the State reaches any quantitative target of installed capacity of say 5000 MW or 6000 MW?
- [ii] In case the wheeling and banking charges are to be revised, should it be gradually increased i.e. from the existing wheeling charges of 5% and banking charges of 2% to wheeling charges of 7% and banking charges of 3% in FY-15 and wheeling charges of 9% and banking charges of 4% respectively, in FY16 or FY17?
- [iii] Whether to have quarterly banking facility instead of the existing annual banking facility for wind and mini hydel sources, excluding captive Generators opting for REC mechanism? (That is, energy banked during a quarter has to be utilised in the same quarter).
- [iv] Whether banked energy remaining unutilised by the designated consumers at the end of the each quarter or year is to be paid for by the ESCOM where the Generator is located and if so, whether 85% of the generic tariff determined by the Commission to the relevant category of consumer is reasonable?

- [v] Whether the energy drawal in any month or quarter by consumers under WBA be restricted and if so, whether it is reasonable to restrict such drawal to 10 or 11% (in a month) or 33%(in a quarter) of the annual energy estimated to be injected by RE Generator opting for wheeling? Alternatively, whether such restrictions should be only during the peak months of December to May?
- [vi] If the charges are revised, whether the same are to be made applicable to the existing Wheeling and Banking Agreements also?

7) The Commission also held a public hearing in the matter on 25.6.2014 duly notifying the same in the News Papers as well as on the website of the Commission. Several stakeholders have made their oral submissions before the Commission and have also submitted their written comments / views. The highlights of the submissions made are discussed in the following paragraphs of this Order.

II] Important highlights of the submissions made by Stakeholders:

- 1) The Stakeholders have made the following submissions:
- a) Regarding Wheeling and Banking charges the representatives of RE developers have requested to continue the existing wheeling and banking charges for the following reasons:
- (i) Karnataka is having peak and energy deficit and the deficit is expected to continue for a few more years and any additional RE generation could be a big support to the State and hence, needs encouragement.
 - (ii) RE sources have low impact on environment and ecology and have lower carbon foot print compared to conventional sources and are needed for energy security of the State.
 - (iii) Most of the RE sources act as distributed generators, serving the local loads and thereby improve the grid efficiency by reducing losses.

- (iv) With adequate planning, the power generated by RE sources could be utilised during off season thereby conserving hydro and thermal energy for peak months.
- (v) Out of the estimated 38000 MW potential of renewable sources, only about 4400 MW is installed in the State, indicating a realisation of about 11.5% of the potential and further capacity addition would be encouraged with concessional wheeling and banking charges.
- (vi) The proposed increase in charges is not gradual and the impact is substantial. Any upward revision would not only jeopardise the investments in RE sector but also would have a domino effect on employees in the projects. The present charges in Karnataka are in line with the charges levied by other States for non-REC projects.
- (vii) The impact analysis carried out by developers indicates that with the present wheeling and banking charges ESCOMs are gaining financially and none of the ESCOMs except BESCO and MESCOM have placed any proposals or documentation regarding any loss incurred by them. Even the calculations furnished by BESCO and MESCOM are not based on correct assumptions.
- (viii) It is also stated that the power purchase rate during the first half of the year when energy is banked is the same or marginally higher than the second half of the year and therefore, banking is beneficial to the ESCOMs.
- (ix) At present, the wheeled energy is only about 1% of the total power supplied by the ESCOMs and the impact on consumer tariff, if any, could be easily absorbed by them.
- (x) The banked energy at present is only about 2% of the storage capacity of the major hydro stations in the State and it is too small to cost any loss to ESCOMs or any difficulty in managing the system.

In the light of the above, most of the developers have requested, if possible, to reduce the existing wheeling and banking charges or else to retain the existing charges for some more time that is, till the end of the 12th Plan period or till the installed capacity of renewables reaches 7500 – 8000 MW in the State. They have also requested to continue these charges for a period of at least 10 years so that there is clear visibility of charges over a time horizon to give the required regulatory certainty to developers.

On the contrary, the ESCOMs have submitted to the Commission that the infirm RE sources generate and bank electricity during June to September when the demand is low and draw such banked energy during the peak spring and summer months of January to May resulting in ESCOMs buying costly power to facilitate drawal of banked energy by consumers. Further, during peak months, at present, there is a severe corridor constraint to draw power from sources outside the State, resulting in severe burden on the licensees to manage the system as sufficient hydro energy to balance the infirm sources is not available. Further, it is stated that the existing wheeling charges of 5% would not even cover the technical losses up to the HT level which is about 9%. BESCO and MESCOM have also furnished calculations indicating that they are incurring losses by providing wheeling and banking facility with the current concessional rates. In the light of the above, the licensees have requested for:

- (i) Introduction of transmission and wheeling charge for RE generators on par with charges applicable to non-RE generators.
- (ii) Short close the existing W&B agreements and determine the wheeling charges afresh to maintain uniformity among all W& B transactions.
- (iii) To consider the approved or actual distribution losses if only distribution network is used and to consider approved or actual transmission and

wheeling charges, if both distribution and transmission networks are used.

- b) Regarding introduction of quarterly banking, the developers have requested to continue the annual banking facility keeping in view the infirm and seasonal nature of wind and mini-hydel projects and to consider the banking period as 1st May of a calendar year to 30th April of the next calendar year. It is also stated that the wind pattern in Karnataka is not skewed which makes extension of banking facility easier in Karnataka and that the wind generation is mainly during day and evening peak hours, helping ESCOMs to manage their loads.

On the contrary, the licensees have requested to discontinue the annual banking and to introduce monthly or quarterly banking for the reasons that they incur loss on account of providing banking as stated earlier.

Both the developers as well as ESCOMs have requested for discontinuation of the differential UI charges payable to account for the difference in power purchase cost between the time of injection and drawal, as the procedure for calculating the charges is complicated and has not yet been implemented.

- c) Regarding Cross subsidy surcharge, some of the developers have requested for exemption from Cross subsidy surcharge while others have requested for charging 25 – 50% of normal Cross subsidy surcharge as is being done in Maharashtra and Tamil Nadu. They have contended that the claim of ESCOMs that they are incurring any loss on account of Cross subsidy is not correct as the Electricity Act itself exempts captive generators from paying Cross subsidy surcharge.
- d) Regarding payment for the excess banked energy remaining unutilised at the end of the banking period, the Stakeholders have suggested payment of charges varying from 80 % to 100% of the generic tariff of the relevant category of RE source. One of the developers has requested for payment at 85% of HT industrial tariff.



- e) Regarding restriction on the drawal of energy by the consumers, some of the developers have opposed the same as it would impact the viability of both existing as well as new projects and it would be difficult to estimate power generated and consumed during a month. Some developers have suggested that restrictions could be imposed during the months of December to May. One of the developers has suggested that banked energy could be limited to 50% during the first half and drawal in the second half shall be proportionate. On the contrary, ESCOMs have supported the proposal of restriction on drawal of energy as envisaged in the discussion paper.
- f) Some of the developers have requested for introduction of annual banking for projects under REC route also.
- g) Some of the solar developers have requested for specifying the applicable wheeling, banking and cross subsidy charges beyond 2018, so that there is visibility in the charges to help them determine the financial viability of solar energy projects.

III] Commission's views:

The Commission has examined the contentions put forth by the RE developers and the licensees in the matter. The Commission's views on various issues are discussed below:

a) Wheeling and Banking charges:

The Commission is of the view that the determination of the wheeling charges hinges upon two factors viz., the impact on investments in the RE sector and the impact on the end consumers. Eventhough some of the RE sources like Wind and Mini-hydel are infirm in nature, they are environmentally benign, having lower carbon foot prints. Further, these plants being of small capacities compared to conventional plants, would act as distributed generators supplying local loads thereby reducing the requirement of power transmission over long distances.

The Commission also notes that the situation of power shortage in the State is expected to continue for some more years and keeping in view the energy security of the State, any addition of generation capacity from renewables in the State would be advantageous.

The Commission has also noted that many other States have extended concessional benefits for RE sources in the matter of transmission, wheeling and banking.

In the light of the above discussions, the Commission is of the view that the present wheeling charges of 5% and banking charges of 2% of the injected energy need to be continued for some more time. Further, the Commission is of the view that it would be desirable to extend the above concessional charges for a period of 10 years from the date of commissioning of RE projects, to cover the debt repayment period.

b) Annual Banking Facility:

The Commission is also of the view that the existing annual banking facility needs to be continued for RE projects under Non-REC route as a promotional measure. For REC projects, the Commission decides to continue the existing monthly banking facility as per the Commission's Order dated 9.10.2013.

c) Payment for unutilised banked energy at the end of banking period:

The Commission notes that for the surplus energy surrendered to ESCOMs, the charges specified in some States vary from 75% to 85% of the generic tariff. The Commission is of the view that it would be reasonable that the RE generators be paid at 85% of the generic tariff for wind, mini-hydel and solar plants for the energy surrendered at the end of the banking period.

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d) Restriction on Drawal:

The Commission is of the view that introduction of any restrictions on drawal of banked energy at present is not desirable.

e) Cross-Subsidy Surcharge:

The Commission decides to continue the existing Cross subsidy surcharge as per the prevailing Orders of the Commission.

f) Visibility of Charges for Solar Plants:

Regarding the issue raised by solar power developers regarding continuation of exemption from wheeling, banking and cross-subsidy surcharge beyond 31.3.2018, the Commission would take up the matter separately.

g) Payment of differential UI:

Keeping in view the difficulty expressed by stakeholders, in implementing the differential UI charges payable, to account for the difference in the power purchase cost between the time of injection and drawal, the Commission decides to discontinue the same for both existing as well as new projects eligible for banking of energy.


COMMISSION'S ORDER


For the reasons stated above and in exercise of the powers conferred under clause 11 of KERC [Terms and Conditions for Open Access] Regulations, 2004, as amended from time to time and all other powers enabling in this behalf, it is ordered as follows:

- (1) The Wheeling charges shall be 5% of the injected energy for wind, mini-hydel, Bagasse based co-generation plants and Biomass based projects;
- (2) The banking charges shall be 2% of the injected energy and shall be applicable for wind and mini-hydel projects only;

- (3) The annual banking facility is continued for non-REC wind, mini hydel and solar energy projects and henceforth the banked energy unutilised at the end of the wind year, water year or financial year, as the case may be, shall be deemed to have been purchased by the Distribution Licensee of the area where the generator is located and shall be paid for at 85% of the generic tariff determined by the Commission in its latest orders in case of wind, mini-hydel and solar projects. The Commission decides to discontinue the differential UI charges payable, to account for the difference in the power purchase cost between the time of injection and drawal, for both existing as well as new projects utilizing the banking facility;
- (4) These charges shall be applicable for the above mentioned renewable energy projects wheeling energy to consumers within the State of Karnataka and commissioned on or before 31.3.2018 and shall be valid for a period of 10 years from the date of commissioning of the project or units;
- (5) For REC route captive power plants, the wheeling and banking charges as specified in the order dated 09.10.2013 shall continue.


(M.R. SREENIVASA MURTHY)
CHAIRMAN


(H.D. ARUN KUMAR)
MEMBER


(D.B. MANIVAL RAJU)
MEMBER