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**BEFORE THE KARNATAKA ELECTRICITY REGULATORY COMMISSION,  
BENGALURU**

**Dated : 20<sup>th</sup> March, 2018**

**Present:**

Shri M.K. Shankaralinge Gowda	..	Chairman
Shri H.D. Arun Kumar	..	Member
Shri D.B. Manival Raju	..	Member

**OP No.216/2017**

**BETWEEN:**

Shree Cement Limited,  
SB-187, IV Floor,  
Opp. Rajasthan University,  
J.L.N. Marg, Bapur Nagar,  
Jaipur – 302 015.

.. **PETITIONER**

*[Represented by Keystone Partners, Advocates & Solicitors]*

**AND:**

- 1) Karnataka Power Transmission Corporation Limited,  
Cauvery Bhavan,  
K.G. Road,  
Bengaluru – 560 009.
- 2) Gulbarga Electricity Supply Company Limited,  
Station Road,  
Kalaburagi – 585 101.
- 3) Karnataka Renewable Energy Development Limited,  
No.39, "SHANTHIGRUHA"  
Bharath Scouts & Guides Building,  
Palace Road,  
Bengaluru – 560 001.

.. **RESPONDENTS**

*[Respondents-1 and 2 are represented by Justlaw, Advocates,  
Respondent-3 is represented by Shri Rakshith Jois Y.P., Advocate]*

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**ORDERS**

- 1) In essence, this Petition is filed for a declaration that the Solar Plant, intended to be set up by the Petitioner for its captive requirement, is entitled to the banking facility, though there is no wheeling of the Solar energy to the transmission and/or distribution system of the State Grid and consequently, for a direction to the Respondents to allow the banking facility, and for such other reliefs.
  
- 2) The material facts leading to the filing of the present Petition may be stated as follows:
  - (a) The Petitioner is a Company registered under the Companies Act, 1956.
  
  - (b) The Petitioner is setting up a 4 MTPA capacity integrated Cement Plant at Codla Village, Sedam Taluk, Kalaburagi District, Karnataka State (Cement Plant). The connected load of the Cement Plant is expected to be about 40 MW and is to be connected through a dedicated Feeder to the 220 kV Sedam Sub-Station, being operated by the 1<sup>st</sup> Respondent-Karnataka Power Transmission Corporation Limited (KPTCL). An application for HT supply of 30 MVA has also been made by the Petitioner before the 2<sup>nd</sup> Respondent-Gulbarga Electricity Supply Company Limited (GESCOM). By the side of the Cement Plant, the Petitioner is also setting up a Waste Heat Recovery Power Plant of 15 MW capacity, which would make use of the

waste hot gases being released out of the same manufacturing process, to meet a part of the energy requirement of the same Cement Plant. The Petitioner is also desirous of setting up a Solar Photo Voltaic Plant of 25 MW capacity at the same location where the Cement Plant would come up.

- (c) The Solar Plant is also intended for the captive requirement of the Cement Plant. The Cement Plant, the Waste Heat Recovery Power Plant and the Solar Plant are being set up in the same premises. The Solar Plant would be directly connected to the electrical system of the Cement Plant.
- (d) The Petitioner, however, anticipated that the Cement Plant may be operated at lower capacities or may not be operating at all for certain durations in a year. In such a scenario, the Cement Plant would not be able to absorb a part or whole of the Solar power, which in turn, would be fed into the Grid through the Grid connectivity of the Cement Plant.
- (e) According to the Petitioner, the connectivity of the Solar Plant to the electrical system of the Cement Plant, for utilization of the Solar energy generated, would not amount to wheeling of Solar energy generated from the Solar Plant through the Stat Grid to the Cement Plant. The Petitioner states that the quantum of the Solar energy injected into the Grid on account of non-utilization would be significant and the Petitioner would not

be able to utilize or benefit from this energy, without extending the benefit of banking.

- (f) The Petitioner, through letters dated 26.04.2017 and 19.05.2017, addressed to the Secretary, KERC, requested to clarify whether the unutilized Solar energy injected into the Grid would be treated as 'banked energy' under the present Orders / Regulations governing the banking of energy. The letters also further state that, in the present scenario, there would be no wheeling of the Solar energy from the Generation Point to the Consumption Point, thereby, there would not be any charges payable for transmission or wheeling of energy or otherwise. This aspect is also requested to be clarified.
- (g) This Commission, through its letter dated 24.05.2017, has intimated that, "*As the Solar power is proposed to be generated and used in the same premises by your Company, it does not involve any wheeling of energy. Hence, the question of providing 'banking facility' does not arise*".
- (h) According to the Petitioner, the concept of 'wheeling' and the concept of 'banking' are different. Therefore, even without there being wheeling of energy, as in the present case, the banking facility should be extended, with a view to promoting the Solar power generation, otherwise the Petitioner would suffer a huge unjustifiable loss.

- (j) Therefore, the Petitioner has filed the present Petition, seeking the reliefs noted above.
- 3) Upon Notice, the Respondents have appeared through their counsel. The Respondents 1 and 2 have filed their Statement of Objections, the gist of which may be stated as follows:
- (a) This Commission through its letter dated 24.05.2017, has already clarified that, in the present case, the question of providing the banking facility would not arise, therefore this Petition is not maintainable.
- (b) Without the use of the distribution / transmission network of the Respondents, there can be no banking of energy at all.
- (c) The concept of Wheeling and Banking is one, which involves the use of distribution / transmission system for banking of energy to be utilized at some future period of time. A conjoint reading of the definition of the term 'Wheeling', as defined in the Electricity Act, 2003 and the term 'Banking', as recognized by this Commission, would indicate that this Commission has not recognized the existence of 'Banking' without 'Wheeling'.

- (d) In order to utilize the banked energy at the Cement Plant as well as for banking the energy, the use of the distribution /transmission system is imperative, therefore, the claim of the Petition that in the present case, there could be 'banking' without 'wheeling', is incorrect. The distance of a Consumption Point from a Generation Point is of no relevance at all. Therefore, according to these Respondents, the prevalent charges for wheeling and banking should be paid, apart from fulfilling the other terms and conditions specified by the Commission. Therefore, these Respondents have prayed for dismissal of the Petition.
- 4) Respondent No.3 has appeared through its counsel and stated that, it is for Respondent Nos.1 and 2 to counter the contentions urged by the Petitioner and that this Respondent is not a necessary party to this Petition.
- 5) We have heard the learned counsel for the parties. The following issues would arise for our consideration:
- (1) Whether the Solar energy consumed by the Cement Plant, out of the energy generated from the Solar Plant of the Petitioner, would not amount to 'wheeling' of the said energy through the State Grid, in the event of the Solar Plant being directly connected to the electrical system of the Cement Plant, as contended by the Petitioner?

- (2) Whether the Petitioner is entitled to claim banking of Solar energy, remaining unutilized by it, under the existing provisions for 'banking', on the facts of the present case, in the event of the Solar Plant being directly connected to the electrical system of the Cement Plant? If so, on what terms?
- (3) What Order?
- 6) After considering the oral submissions of the parties and the material placed on record, our findings on the above issues are as follows :
- 7) **ISSUE No.(1)**: *Whether the Solar energy consumed by the Cement Plant, out of the energy generated from the Solar Plant of the Petitioner, would not amount to 'wheeling' of the said energy through the State Grid, in the event of the Solar Plant being directly connected to the electrical system of the Cement Plant, as contended by the Petitioner?*
- (a) The contesting Respondents have stated that there cannot be 'banking' of energy without injection of the unutilized energy into the State Grid from the Solar Plant. Such injection of the Solar energy into the State Grid would amount to 'wheeling' of the energy. This part of the Statement of Objections of the contesting Respondent appears to be unassailable. The learned counsel for the Petitioner has not countered this contention.

- (b) The connected load of the Cement Plant is expected to be about 40 MVA through a dedicated Feeder to the 220 kV Sedam Sub-Station of the KPTCL and already an application is filed before the 2<sup>nd</sup> Respondent (GESCOM) for HT supply of 30 MVA.
- (c) The 25 MW capacity Solar Power Plant would be directly connected to the electrical system of the Cement Plant for utilization of the Solar energy generated. The question for consideration is whether, in such a scenario, that quantum of the Solar energy, which would be utilized by the Cement Plant, should be treated as the energy 'wheeled' through the Stat Grid.
- (d) According to the Petitioner, that the quantum of the Solar energy, which is directly consumed through the electrical system of the Cement Plant, would not amount to 'wheeling', as any part of the State Grid would not be utilized for conveyance of that energy. The contesting Respondents appear to have denied this contention. They have contended that, the distance between the Consumption Point and the Generation Point is of no relevance. Further, they have denied the contention of the Petitioner that, less burden is put on the transmission system when the generator transmits the energy to the Load Centre through a dedicated line, without utilizing any portion of the State Grid and only injects a portion of the energy into the State Grid for 'banking'.



(e) The Electricity Act, 2003 defines 'Wheeling' thus:

**"2.** *In this Act, unless the context otherwise requires,*

XXX

XXX

XXX

*(76) "wheeling" means the operation whereby the distribution system and associated facilities of a transmission licensee or distribution licensee, as the case may be, are used by another person for the conveyance of electricity on payment of charges to be determined under section 62;*

XXX

XXX

XXX"

(f) In a broader sense, the whole of the Distribution System and the Transmission System ('Grid') is an infinite bus. All the generators and all the loads are connected to this infinite bus. The total energy of all the generators connected to the infinite bus would be utilized by all the loads connected to the same infinite bus. It could be contended that, even in the case of captive generation, in the event of the generator being connected to the infinite bus, such generation will have to be treated as having been injected to the Grid and the entire generation will have to be treated as having been injected into the Grid. That is so, because the power flow in the Grid is by displacement method and it is incorrect to assume that the energy injected, at the Injection Point itself, would reach the Drawal Point of the consumer. We could also note that, the velocity of electricity is comparable only with the velocity of light, which travels at the rate of 3 Lakh KMs per Second. It is, therefore, very difficult to conceive the velocity

of light or electricity by human perception. Such is the great speed of electricity. Therefore, the distance between the Injection Point and the consumption Point has no relevance, in reality.

(g) Considering the above characteristic of electricity in the infinite bus, it is quite possible to contend that, irrespective of the Injection Point and the Consumption Point, the energy is conveyed through the Grid, once the Consumption Point is connected to the State Grid. In other words, the injection of energy generated from the Solar Plant, either consumed by the Cement Plant or banked, could have been contended to be treated as the energy 'wheeled' through the State Grid, in the event of the Load Centre being connected to the Grid.

(b) Considering the definition of 'wheeling' provided in the Electricity Act, 2003, we are of the considered view that the above possible contentions cannot be accepted. The reason may be stated thus. The definition of 'wheeling' would show that, the conveyance of electricity, through the Distribution System and the associated facilities of a Transmission Licensee or a Distribution Licensee is one of the requirements of 'wheeling'. Whenever the energy generated, is directly injected to the Load Centre for consumption, the quantum of energy so consumed is not recorded by a bi-directional meter connected at the Interface Point of the Grid and the Load Centre. Only the quantum of energy, remaining unutilized after

consumption, would be injected into the Grid. If the consumption at the Load Centre is greater than the energy injected to the Load Centre from the generator, the excess energy for consumption would be drawn from the State Grid. Therefore, the quantum of energy that could be 'banked' alone would amount to conveyance of electricity through the State Grid by the generator. Therefore, wheeling of energy could be only to the extent of the energy 'banked'.

(h) Therefore, we hold Issue No.(1) in the affirmative.

8) **ISSUE No.(2):** *Whether the Petitioner is entitled to claim banking of Solar energy, remaining unutilized by it, under the existing provisions for 'banking', on the facts of the present case, in the event of the Solar Plant being directly connected to the electrical system of the Cement Plant? If so, on what terms?*

(a) In principle, the Commission is of the view that, there is no good reason to deny the 'banking' facility to the Petitioner in the present case, merely on the ground that the Solar Power Plant would be directly connected to the Load Centre, i.e., the electrical system of the Cement Plant. The definition of 'Banking' under the present Wheeling and Banking Agreement reads thus:

*“**Banking;** means the facility by which electrical energy remaining unutilized by the 'Exclusive' or 'Non-Exclusive' Consumer or 'Captive Consumer' out of the energy injected by the Company into the transmission and/or distribution*

*system of Corporation/ESCOM/s, which is allowed to be utilized for wheeling to 'Exclusive' or 'Non-Exclusive' Consumers of the Company or Captive Consumer for later use, as per the terms and conditions set forth in this agreement."*

- (b) The above definition of 'Banking' is framed, taking into consideration only the generators connected to the State Grid and such generators wheeling the energy to any Open Access Consumer or a Captive Consumer. The energy remaining unutilized could be easily ascertained even in the case of the generated energy being connected directly to the Load Centre of the Open Access Consumer or the Captive Consumer, when such Load Centre is connected to the Grid. Therefore, necessary alterations to the Standard Format of the Wheeling and Banking Agreement are to be made to allow the 'banking' facility, as in the present case. When the Commission has allowed the 'banking' facility in respect of some Renewable Sources of energy, we are of the considered view that the same benefit should be allowed to such generator, irrespective of the conveyance of the energy generated through the State Grid or not.
- (c) Therefore, we answer Issue No.(2) in the affirmative.
- (d) For the present, in respect of the Solar Power Projects, Wheeling and Banking charges for the intra-State Open Access transactions have not been fixed, though the intra-State wheeling and banking are allowed.

However, as and when such Wheeling and Banking charges are levied on the intra-State wheeling and banking of the Solar energy, the same shall become payable.

9) **ISSUE No.(3):** *What Order?*

(a) We have reached the above conclusions based on the assumption that, no energy is being injected into the Grid, at any point of time, from the Waste Heat Recovery Power Plant of the Petitioner.

(b) For the foregoing reasons, we pass the following:

**ORDER**

(1) The Solar Plant, intended to be set up by the Petitioner for its captive requirement, is entitled to the 'banking' facility, though there is no 'wheeling' of the entire Solar energy generated from the Solar Plant to the transmission and/or distribution system of the State Grid. The Wheeling and Banking Agreement, to be executed by the parties concerned, shall contain the necessary changes;

(2) The Wheeling and Banking charges, as may be prevailing, shall be paid for the intra-State wheeling and banking transactions; and,

- (3) The above Order is subject to the condition that, no energy be injected into the Grid, at any point of time, from the Waste Heat Recovery Power Plant of the Petitioner.

Sd/-

(M.K. SHANKARALINGE GOWDA)  
CHAIRMAN

Sd/-

(H.D. ARUN KUMAR)  
MEMBER

Sd/-

(D.B. MANIVAL RAJU)  
MEMBER