
**BEFORE THE KARNATAKA ELECTRICITY REGULATORY COMMISSION,
No.16, C-1, Millers Tank Bed Area, Vasanth Nagar, Bengaluru-560 052.**

Dated: 29.10.2021

Present

Shri Shambhu Dayal Meena	: Chairman
Shri H.M. Manjunatha	: Member
Shri M.D. Ravi	: Member

Petition No.N/170/2018 in the matter of Judgment dated 02.08.2021 in

Appeal No.229/2018 before the Hon'ble APTEL

BETWEEN:

South India Sugar Mills Association & Others. Petitioners

[Petitioner SISMA represented by Advocates
Sri Anand Ganeshan, Ms. Swapna Sheshadri and
Sri Aditya H. Dubey for MSA Partners]

AND

Bangalore Electricity Supply Company Limited & Others. Respondents

[Respondents represented by Sri S. Sriranga,
Smt. Sumana Naganand & Ms. Medha M. Puranik,
Advocates for M/s Just Law]

ORDERS

1. This Petition is filed by South India Sugar Mills Association (SISMA) to consider the matter afresh and pass consequential order to implement the Judgment order dated 02.08.2021 passed by the Hon'ble Appellate Tribunal for
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Electricity in Appeal No. 229 of 2018 against the impugned Tariff order dated 14.05.2018 passed by this Commission. After receipt a copy of the Hon'ble ATE, the case was fixed for hearings and the Commission issued notice to all concerned.

2. Brief Facts of the Case:

- (i) The Karnataka Electricity Regulatory Commission (hereinafter referred to as 'the Commission') vide order dated 14.05.2018, determined the tariff for Mini-Hydel, Bagasse based Co-Generation and Rankine Cycle based Biomass power plants and had also revised the tariff for existing Bagasse based Co-Generation and Rankine Cycle based Biomass power plants also, due to the revision in fuel charges. Aggrieved by the above order, an Appeal No: 229 of 2018 was filed before the Hon'ble Appellate Tribunal for Electricity by South Indian Sugar Mills Association of Karnataka (SISMA-K) on the ground that the tariff determined in the impugned order is applicable to Bagasse based Co-Generation power plants due to revision of Capital Cost and Fuel charges. Subsequently through IAs, M/s Nirani Sugars Limited, M/s Shree Sai Priya Sugars Limited, M/s. Athani Sugars Limited, M/s. Balaji Sugars and Chemicals Pvt. Limited, M/s. Shree Basaveshwar Sugars Limited Shri Bhimashankar Sahakari Sakkare Kharkhanne Niyamit, M/s. Bidar Kissan Shakhar Karkhana Limited, M/s. Bilagi Sugars Limited, M/s. Harsha Sugars Limited, M/s. Mylar Sugars
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Limited, M/s. Venkateshwara Power Project Limited and M/s. Sri Chamundeswari Sugars Limited, intervened in the Appeal as Intervenors. The First Respondent in the Appeal was the Commission and rest of the Respondents were DISCOMs of the State.

(ii) The Appellant SISMA prayed in the aforesaid Appeal to set aside the impugned order dated 14.05.2018 to the extent challenged in the Appeal and also to pass orders as Hon'ble ATE may deem just and proper. In the said appeal, with respect to bagasse based power plants, the Appellant had challenged the following issues of the impugned Tariff order, as under:

- a. Fuel Cost (Bagasse Price);
- b. Capital Cost;
- c. Plant Load Factor;

(iii) The Intervenor Nirani sugars submitted before the APTEL that while passing the impugned order, the Commission had not considered their comments on Fuel Cost, Specific Fuel Consumption and auxiliary consumption. The reduced tariff has severely affected the day to day business of Nirani Sugars and Sai Priya Sugars. The Impugned order suffers from non-consideration of suggestions, non-application of mind to relevant factors, CERC Regulations, local factors etc.

- (iv) The Other Interveners have submitted that the Commission has disregarded all the submissions made by them and the impugned order has to be set aside being arbitrary and illogical causing severe financial prejudice and that they are challenging only the fuel cost/variable cost determined by the Commission. The order is challenged on the grounds that it has been passed in violation of principles of natural justice and the impugned order is arbitrary and unreasonable.
- (v) After hearing the Appellants as well as the Respondents, the Hon'ble ATE passed orders on 02.08.2021, setting aside the impugned order of the Commission dated 14.05.2018 to the extent of Capital cost and Fuel Cost pertaining to bagasse based co-generation power plants. Further, the Hon'ble ATE remanded the matter back to the Commission, directing the Commission to pass consequential order, keeping in view the opinion expressed by the Hon'ble ATE in the judgement in accordance with law, within three months from the date of pronouncement of the Judgement.
3. The Commission issued notices to the Appellants and the Respondents on 06.08.2021 and subsequently held hearings through video conferencing on 13.08.2021, 19.08.2021, 09.09.2021, 20.09.2021 and 28.09.2021. The Submissions made by the Appellants and the Respondents are discussed in the subsequent paragraphs.
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4. The Appellant SISMA made the following submissions on 12.08.2021 in writing to the Commission:

(1) In the appeal, the Tariff Order dated 14.05.2018 passed by this Hon'ble Commission had been challenged. Though the challenge was on several issues, the Appellate Tribunal vide Judgment dated 02.08.2021 has set aside the Order on the following issues-

- (i) Determination of bagasse price
- (ii) Capital cost considered

(2) With regard to determination of bagasse price, the Appellate Tribunal has held that the principles and methodologies adopted by the Central Electricity Regulatory Commission (CERC) i.e. Equivalent Heat Value approach is logical and scientific and should be adopted for determination of bagasse price. Relevant extracts from the Judgment are as under –

“132. We are not impressed by the decision of the State Commission in deciding the price of bagasse as 30% of the cost of sugarcane on the basis of the fact that 1-tonne of sugarcane on crushing yields about 30% of bagasse. In our opinion, there is no relationship between the fact that the sugarcane on crushing yields about 30% of bagasse and, therefore, the price of bagasse should be 30% of the cost of sugarcane. This decision of the State Commission, therefore, needs to be rejected on the ground that there is no rationality or logic in establishing a correlation between the two i.e. the

fact that sugarcane on yields 30% bagasse and the decision that in view of this fact the price of bagasse should be 30% of the cost of sugarcane.

“133. The Central Commission has adopted ‘equivalent heat value approach’ to determine the price of bagasse. The power generating stations are basically energy converters wherein one form of energy is converted to another form of energy i.e. electricity. In the case of cogeneration plants, the heat energy stored in the bagasse is converted to electricity. This process is similar to a coal fired generating station wherein the heat energy stored in the coal is converted to electricity. The Central Commission has determined the price of bagasse on the basis of heat energy stored in bagasse and comparing it with the price of coal. In view of this fact, the “equivalent heat value” approach adopted by the Central Commission in determination of the price of bagasse is scientific, logical and on a firm footing.”

“134. Section 61 of the Electricity Act, 2003 reads as under:

“Section 61. (Tariff regulations): 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: -

- (a) the principles and methodologies specified by the Central Commission for determination of the tariff applicable to generating companies and transmission licensees;
 - (b) the generation, transmission, distribution and supply of electricity are conducted on commercial principles;
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- (c) the factors which would encourage competition, efficiency, economical use of the resources, good performance and optimum investments;
- (d) safeguarding of consumers' interest and at the same time, recovery of the cost of electricity in a reasonable manner;
- (e) the principles rewarding efficiency in performance;
- (f) multi-year tariff principles;
- (g) 1[(g) that the tariff progressively reflects the cost of supply of electricity and also, reduces cross subsidies in the manner specified by the Appropriate Commission;]
- (h) the promotion of co-generation and generation of electricity from renewable sources of energy;
- (i) the National Electricity Policy and tariff policy:

Provided that the terms and conditions for determination of tariff under the Electricity (Supply) Act, 1948, the Electricity Regulatory Commission Act, 1998 and the enactments specified in the Schedule as they stood immediately before the appointed date, shall continue to apply for a period of one year or until the terms and conditions for tariff are specified under this section, whichever is earlier."

135. We note the submission made by the Appellant that the State Commission has erred in not considering the principles and methodologies of the Central Commission, the methodologies adopted the State Commission itself in Tariff Orders of 2005, 2009 and 2015 and also the findings of this Tribunal in Appeal No. 199 of 2012. In the Order dated 04.09.2013 passed in Appeal No. 199 of 2012, this Tribunal has held as follows-

“53. The State Commission is bound to be guided by the Central Commission principles and methodology having regard to the local condition in the State. Accordingly, the State Commission ought to have considered the equivalent heat value method and the market price of bagasse before deciding the price of bagasse.

55. It cannot be disputed that the State Commission ought to have determined the Fuel Price on the basis of equivalent heat value method with coal as available to the generating plants or on the basis of market price of Bagasse.

56. It is well known that Bagasse has several uses and that it is saleable in the open market. Even the CERC explanatory memorandum for the 2012 Regulations explicitly states so. If the Bagasse is not used by the Sugar Mills in the power generation, it would be sold and it will fetch revenue at the market price. That revenue which is foregone when the Bagasse is used for power generation is cost to the sugar mill and consequently it is the cost of the input for power generation.”

The State Commission has erred in not following the above principle laid down by this Tribunal.

136. The State Commission has not followed the principles and methodologies of CERC as provided in Regulations 9 (3) of the KERC (Power Procurement from Renewable Sources by Distribution Licensee and Renewable Energy Certificate Framework) Regulations, 2011 and on the other hand misinterpreted the bagasse pricing mechanism of CERC RE Regulations, 2017, wherein the Central Commission has not differed from equivalent heat value method as was the earlier

case in the CERC Regulations, 2009. Instead, the Central Commission has only dispensed with the option of earlier indexation method and adopted straight 5% for annual escalation on bagasse cost. The relevant extract from the CERC RE Regulations, 2017 is reproduced below –

“Analysis and Decision: The Commission has analysed the comments and observations submitted by stakeholders. Some stakeholders have proposed to increase the price of fuel cost. However, there are views that there should not be any provision for fuel cost for bagasse based co-generation plants as Bagasse is a by-product of sugarcane crushing while manufacturing sugar and this cost is already included by the State Governments in sugar pricing.

The Commission is of the view that fuel prices should be considered for Bagasse based cogeneration plant plants for the purpose of tariff determination. Accordingly, the Commission has retained the fuel prices specified in the Draft Regulations.

Year – on – year escalation shall be 5%, hence it is no more linked to a defined index. The clause on escalation has been modified accordingly.”

137. In view of the above, we are of the considered opinion that the decision of the State Commission to determine the price of bagasse as 30% of the price of sugarcane on the basis of the fact that 1 tonne of sugarcane on crushing yields 30% of bagasse is erroneous, illogical and wrong and, therefore, needs to be rejected.

138. We are also of the considered opinion that the principles and methodologies i.e. equivalent heat value approach adopted by the Central Commission in determining the price of bagasse is scientific and logical and State Commission should have been guided by the same while determining the price of bagasse."

(3) The Petitioner submitted that the CERC has derived the fuel prices from 2017-18 to 2021-22 by escalating the notified prices of first year of control period by 5%. For each subsequent year of the Tariff period, a normative escalation factor of 5% per annum. The calculations made by CERC are summarised in the following table –

State	Bagasse Price for FY 2017-18 (Rs./MT)	Bagasse Price for FY 2018-19 (Rs./MT)	Bagasse Price for FY 2019-20 (Rs./MT)	Bagasse Price for FY 2020-21 (Rs./MT)	Bagasse Price for FY 2021-22 (Rs./MT)
Andhra Pradesh	1622.16	1703.27	1788.43	1878	1971.90
Haryana	2307.26	2422.62	2543.75	2671	2804.55
Maharashtra	2273.75	2387.44	2506.81	2632	2763.60
Punjab	2030.49	2132.01	2238.62	2351	2468.55
Tamil Nadu	1747.51	1834.89	1926.63	2023	2124.15
Telangana	-	-	-	1877	1970.85
Uttar Pradesh	1809.57	1900.05	1995.05	2095	2199.75
Other States (including Karnataka)	1964.71	2062.95	2166.09	2274	2387.70
Reference	CERC RE Tariff Order, 2018-19 dated 28.03.2018- Page 3 (relevant page)		CERC RE Tariff Order, 2019-20 dated 19.03.2019- Page 11 (relevant page)	CERC RE Tariff Order, 2021-22 dated 31.03.2021- Page 23 (relevant page)	

The Petitioner submitted that the redetermination of bagasse may be done on the basis of prices indicated in above table. Bagasse price may

be considered at the FRP fixed for year 2020-21i.e., Rs.2850 per Tonne at the rate of 10% recovery, which would work out to Rs.2386 per Tonne.

(4) On the issue of Capital cost, the Appellate Tribunal has held as under:

“Para 140. The Central Commission in its Notification dated 17.04.2017, has considered the capital cost for bagasse based co-generation plant at Rs.492.50 lakhs / MW, for high pressure boilers for FY 2017-18. The increase in cost was held to be justified by the Central Commission for the reason of encouraging and ensuring deployment of high pressure boilers which are more efficient in nature. The Central Commission had revised the Capital cost after considering the comments of the stakeholders. One of the objectors was National Federation of Co-operative Sugar Factories Ltd., (NFC SFL). NFC SFL had proposed to the Central Commission to consider the capital cost at a minimum of Rs.543 lakhs / MW, since the economic size of the sugar plant is 5000 TCD, with a boiler pressure of 87 Kgs to 110 Kgs and above. It was also submitted that the prices of steel and other inputs have gone up significantly, subsequent to the DFPD's approval of the capital cost. The analysis of the Central Commission is recorded in the Statement of Reasons of the CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2017 as under –

"32.2. National Federation of Co-operative Sugar Factories Ltd. (NFC SFL) has proposed to consider Capital Cost at a minimum of Rs.543 Lakhs / MW. They have highlighted that an economic size of sugar plant is of 5000 TCD, with a boiler pressure of 87 Kg to 110 Kg / cm² and even more in some cases. Prices of steel and other inputs have increased over the years, because of which the cost of high-pressure boilers has also gone up. This normative cost of Rs.543 Lakhs / MW has been fixed by Government of India for the purpose of funding from Sugar Development Fund and this cost has been arrived after making exhaustive study.

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Analysis and Decision:

The Commission has analysed the comments and observation submitted by the stakeholders. The comments above highlight that actual capital cost for Bagasse based cogeneration projects is on the higher side as considered in the Draft Regulations. The commission has also analysed the data on normative cost from Sugar Development Fund (Ministry of Consumer Affairs, Food & PD);

Boiler Pressure (ata)	Normative Cost (Rs. Lakhs / MW)
Below 67	Not eligible
67 to 86	385.00
87 to 109	442.00
110 and above	543.00

Averaging the normative cost for High Boiler Pressure Projects (above 87 APA), it yields a value of Rs.492.5 Lakhs / MW. Thus, the Commission has decided to revise the Capital cost for Bagasse based cogeneration projects to Rs.492.5 Lakhs / MW for High Pressure Boilers for FY2017-18. Higher capital cost is provided to encourage and ensure deployment of high pressure boilers which are more efficient in nature. This capital cost will remain valid for the entire duration of the control period unless reviewed earlier by the Commission.

141.we are convinced by the analysis and the decision of the Central Commission and are of the opinion that the State Commission should have considered the same capital cost of bagasse based cogeneration plants i.e. Rs.492.5 lakhs /MW."

(5) In terms of the above capital cost needs to be taken as Rs.492.5 lakhs / MW as against Rs.470 lakhs / MW taken by this Hon'ble Commission in the Order dated 14.05.2018.

(6) Therefore, it is requested that the tariff needs to be re-worked for the period FY2018-19, FY2019-20 & FY2020-21 taking into account the above CERC bagasse price and the capital cost.

5. The Respondent BESCO filed the Statement of Objections on 20.09.2021 stating that:

- (i) The Petitioner had filed Appeal No 229 of 2018 before the Appellate Tribunal for Electricity, (hereinafter referred to as "APTEL") challenging the order of this Hon'ble Commission dated 14.05.2018 wherein the tariff for bagasse based co-generation plant was determined. The Hon'ble APTEL vide judgement dated 02.08.2021 has remanded the matter to this Hon'ble Commission in respect to determination of fuel cost and capital cost. In respect to fuel cost, the APTEL was of the view that the equivalent heat value approach adopted by the Central Commission in determining the price of bagasse is scientific and logical and this Hon'ble Commission ought to be guided by the said principle while determining the price of bagasse.
- (ii) Rule 49 of CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2017 states that base price of Bagasse for first year of the Control Period (i.e. FY2017-18) shall be as specified in the table below and shall be escalated at 5% to arrive at the base price for subsequent years of the Control Period. For the purpose of determining the levelized tariff a normative escalation factor of 5% per annum shall be applicable on bagasse prices.

State	Bagasse Price (FY 2017-18) (Rs./ MT)
Andhra Pradesh	1622.16
Haryana	2307.26
Maharashtra	2273.75
Punjab	2030.49
Tamil Nadu	1747.51
Uttar Pradesh	1809.57
Other States	1964.7

- (iii) It is submitted that above mentioned Regulation has not determined the base bagasse price for Karnataka specifically for the FY2017-18. The Hon'ble APTEL has directed to adopt equivalent heat value method dispensing with the earlier indexation method and adopt straight 5% for annual escalation on bagasse cost.
- (iv) It is pertinent to note that CERC in para 8.9 of the *Explanatory Memorandum for Terms and Conditions for determination of tariff for Renewable Energy Source Regulation, 2009* has stated that determination of price of bagasse is performed on equivalent heat value of coal approach. Under this approach, the price and calorific value of coal used by the thermal generating stations within the State has been considered in order to determine the fuel price linked to heat content (in terms of Rs./k.cal) at each station.
- (v) The CERC vide Regulation 48 has approved gross calorific value as 2250 k.cal / kg and vide Regulation 47 has approved station heat rate as 3600 k.cal / kWh. Thus, specific fuel consumption is 1.60 kg / kWh, which is approved by this Commission and upheld by APTEL vide orders dated 14.05.2018 and 02.08.2021 respectively.
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(vi) The CERC in para 53.2 of the *Explanatory Memorandum for Terms and Conditions for determination of tariff for Renewable Energy Source Regulation, 2009* has specified as under;

“The commission would like to clarify that in order to compute the fuel price of bagasse for respective States the commission has adopted an equivalent heat value approach for landed cost of coal for thermal stations for respective States”

(vii) It is submitted that this Commission in the Generic Tariff Order dated 14.05.2018 has considered 2300 k.cal/kg as Gross calorific value of the bagasse based cogeneration units instead of 2250 k.cal/kg approved by CERC. It is submitted that as per the information obtained from KPCL state owned generating station, base rate for the different grades of coal being received by the plant is produced as Annexure R1 (Colly).

(viii) It is submitted that KPCL is procuring coal from Mahanadi Coalfields Ltd (MCC), Western Coalfields Ltd (WCL) and Singareni Collieries Company Ltd (SCC). It is submitted that thermal stations of KPCL such as RTPS, BTPS and YTPS are using coal ranging between Grade 8 to 13 with GCV ranging between 3400 k.cal/kg to 5200 k.cal/kg. The GCV of Grade 17 coal is ranging between 2201 to 2500 k.cal/kg. But GCV of 2300 k.cal/kmkg considered by this Commission is upheld by APTEL.

(ix) In case of Cogeneration plants coming under Renewable energy category are permitted to use 15% of coal and 85% bagasse or biomass.

Hence, entire fuel components such as GCV, heat rate etc. of coal seems to be not applicable. It should be the combination of both coal and bagasse. As such the Hon'ble APTEL has directed adoption of equivalent heat value method which is based on scientific method.

- (x) Apart from the base fuel cost, generators have to incur additional cost transportation. In case of a State generator like KPCL it is submitted that the coal is sourced from SCCL, WCL & MCL. The cost of the transportation is ranging from Rs.1200/- to Rs.1400/- per MT in case of SCCL, Rs.1400 to Rs.1700 per MT in case of WCL and Rs.1700/- to Rs.1900/- per MT in case of MCL. Other costs which are likely to be incurred by agency etc., & these costs are not relevant as the bagasse based Co-generation plant use only 15% of coal under RE and balance is bagasse. The sugarcane is purchased for sugar manufacturing and after crushing it is used as bagasse in Co-generation units. The sugarcane is available within State and not procured from other States as KPCL procures coal from coal mines in other States incurring huge coal transportation cost. Therefore, cost of transportation cannot form part of computation.

- (xi) Hence, this Commission is requested to consider appropriate fuel cost of bagasse clubbed with 15% of coal cost without linking it to entire 100% coal cost of State Thermal Stations and determine the tariff of Co-gen plant for 2018-19 to 2020-21 duly adopting equivalent heat value method
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scientifically for calculation of fuel cost while arriving variable cost and fixed cost as directed by the APTEL.

6. In response to the Statement of Objection filed by BESCO, the Petitioner has filed rejoinder and made the following submission that:

(i) The primary objection taken by BESCO is that since the Central Electricity Regulatory Commission (hereinafter referred to as the 'Central Commission') in its various tariff Orders determining the Bagasse price has included Karnataka in "Other States", there is no specific Bagasse price determination made by the Central Commission. This objection is wrong and seeks to interpret not just the Appellate Tribunal's Judgement dated 02/08/2021 but also the determination made by the Central Commission. The fact that while for some states there is a specific number while for Karnataka the determination is at Rs.1964.7/MT (FY2017-18) as a part of Other States does not detract from the fact that the Central Commission following the equivalent heat value approach has determined the Bagasse price at Rs.2307.26/MT.

(ii) Since, there is a clear finding in the Judgement dated 02/08/2021 that the Central Commission's methodology needs to be adopted, the number arrived by at Central Commission by following the said methodology is the best evidence to be followed by this Commission.

- (iii) BESCO has also relied on the rates for different grades of coal being received by the thermal generating plants set up by State owned KPCL, BESCO has used the GCV of Rs.2300 k.cal/ kg decided by this Commission in the original tariff Order dated 14/05/2014 has been upheld by the Appellate Tribunal, the equivalent heat value method should be followed taking 85% of bagasse and 15% of coal. This approach is completely erroneous. It is not for this Commission to consider the specific fuel mix used by particular generators, GCV of such fuels and the general GCV of coals being received by KPCL to determine the bagasse price. This would be totally overreaching the Orders passed by the Appellate Tribunal.
- (iv) It is further submitted that the Hon'ble ATE has rejected the basis of determination of price of bagasse done by KERC in its order dated 14.05.2018 and opined that the principles and methodology adopted by Central Commission in determining the price of bagasse is scientific and logical and State Commission should have been guided the same while determining the price of bagasse. Therefore, there is no question of giving new methodology for computation of bagasse price.
- (v) There are also specific findings at paras 133-135 of the above judgment that this Commission should have followed the Principles and methodologies provided under Section 61 of Electricity Act,2003 and
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should have followed the principles and methodology of the Central Commission. By following of such methodology, when the Central Commission has determined the bagasse price from 2017-18 to 2021-22, how can the BESCO argue that such determination should be ignored and equivalent heat value method in a new form should be followed by this Commission.

(vi) The last issue raised by BESCO is that State generators like KPCL have to incur transportation cost for coal unlike bagasse which is purchased from local sources. This is an erroneous submission. Sugarcane is purchased from the farmers and is transported by incurring substantial cost like transportation of cane from field to factory (i.e 100 km).

7. We have heard the arguments and the submissions made by the learned counsels for the parties. From the facts of the case and the submissions made by the parties, the following issues would arise, for our consideration:

Issue No.1: What Capital cost has to be considered for determination of tariff?

Issue No.2: What Fuel cost has to be considered for determination of tariff?

Issue No.3: What Other Parameters have to be considered for determination of tariff?

Issue No. 4: What should be the tariff for the Bagasse based co-generation power plants for the control period FY19 to FY21?

Issue No. 5: What Order?

After considering the submissions of the parties and the pleadings and material on record, our findings on the above issues are as follows:

8. **Issue No.1:** What Capital cost has to be considered for determination of tariff?

Regarding the Capital Cost, The Hon'ble ATE, has elaborately discussed and decided at Paras 139 to 141 of the Order and the Para 141, is reproduced as here under:

“141. We are convinced by the analysis and the decision of the Central Commission and are of the opinion that the State Commission should have considered the same capital cost of bagasse based cogeneration plants i.e. Rs.492.50 lakhs MW.”

In view of the above decision of the Hon'ble ATE, the Commission decides to allow the Capital Cost of Rs.492.50 lakhs per MW for the entire control period FY-19 to FY-21, without any escalation.

Therefore, the Commission decides to adopt a Capital cost of Rs.4.925 Crores /MW including infrastructure cost of evacuation, for the entire control period, without any indexation.

Thus, the Issue No.1 is answered accordingly.

9. **Issue No.2:** What Fuel cost has to be considered for determination of tariff?

While the Appellant has contended that, CERC while determining the fuel cost has arrived at specific fuel cost for some states and for Karnataka the

determination is at Rs.1964.71/MT (FY 2017-18) as classified under Other States, the Respondent has contended that there is no specific Bagasse price determination has been made by the Central Commission for Karnataka.

Further, the Respondent has contended that the State generators like KPCL have to incur transportation cost for coal unlike bagasse which is purchased from local sources. On the contrary, the Petitioner has submitted that, Sugarcane is purchased from the farmers and is transported by incurring substantial cost like transportation of cane from field far off from the factory (i.e around 100km).

The Commission notes that the Hon'ble ATE on the fuel cost has discussed in detail at Paras 130 to 138 and at Paras 137 and 138 and has decided as indicated below:

“137. In view of the above, we are of the considered opinion that the decision of the State Commission to determine the price of bagasse as 30% of the price of sugarcane on the basis of the fact that 1 tonne of sugarcane on crushing yields 30% of bagasse is erroneous, illogical and wrong and, therefore, needs to be rejected.

138. We are also of the considered opinion that the principles and methodologies i.e. equivalent heat value approach adopted by the Central Commission in determining the price of bagasse is scientific and logical and State Commission should

have been guided by the same while determining the price of bagasse."

The Hon'ble ATE has directed the Commission to adopt the methodology of 'equivalent heat value approach' to determine the price of bagasse.

Further, Regulation 84 of the CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulation, 2017 specify as follows:

"84. Deviation from norms
Tariff for sale of electricity generated from a generating station based on renewable energy sources, may also be agreed between a generating company and licensee, in deviation from the norms specified in these regulations subject to the conditions that the levelled tariff over the useful life of the project on the basis of the norms in deviation does not exceed the levelled tariff calculated on the basis of the norms specified in these regulations."

Therefore, the Commission is of the view that considering the average price of coal applicable for the Karnataka State, it can determine the price of bagasse. Even though the Commission has obtained the annual coal data, verification, validation and analysis of data has to be carried out station-wise and month-wise for the power procured from various thermal power plants by the State DISCOMs based on records, which is voluminous and time consuming and needs to be carried out through a

third party. As the Hon'ble ATE has directed this Commission to pass orders within three months from the date of judgement and as it would take considerable time to verify, validate and analyze the coal consumption and costs for the various stations, the Commission for the purpose of this order decides to adopt the CERC determined fuel price of Rs.1964.70/MT for FY18. The Petitioner SISMA has also requested the Commission to adopt the fuel price for cogeneration plants as determined by CERC for 'Other States'. Therefore, with 5% escalation per annum the fuel cost for FY19, FY20 & FY21 will be Rs.2063, Rs.2166 and Rs.2275 respectively, after rounding off, which is considered in determining the tariff.

Regarding, the issue of transportation cost raised by the Respondent BESCOM, the Commission notes that the CERC has considered the landed cost of coal to arrive at bagasse price based on 'equivalent heat value approach'. Hence, the above issue raised by Respondent is answered accordingly.

Thus, the Issue No.2 is answered accordingly.

10. Issue No.3: What Other Parameters must be considered for determination of tariff?

The Petitioner had also raised issues pertaining to plant load factor, specific fuel consumption and auxiliary consumption before the Hon'ble ATE. The Hon'ble ATE at Para 142 of the Order has decided as under:

“142. We have gone through the analysis done by the State Commission regarding the other aspects i.e. Plant Load Factor, Specific Fuel Consumption and Auxiliary Consumption and are of the opinion that the impugned order dated 14.05.2018 regarding the decision on these aspects is in order and do not call for any interference of this Tribunal.”

In view of the above, the Commission decides to retain the other parameters as per the impugned order of Commission dated 14.05.2018 which are given below in Issue No.4.

11. Issue No. 4: What should be tariff for the Bagasse based co-generation power plants for the period FY19 to FY21?

In the light of the above discussions and considering the approved parameters, the Commission hereby determines the tariff in respect of Bagasse based Co-Generation Power Plants for control period FY19 to FY21 as follows:

Parameter	Bagasse based Co-generation Power Plants
1	2
Debt: Equity	70:30
RoE	14%
Income Tax on RoE	Pass through as per actuals
Interest on term loan	10.50%
Depreciation	5.38% for first 13 years and balance spread equally over the life of the plant
Interest on WC	11.50%
Capital Cost[CC] -Rs.Crs./MW	4.925
O & M as percentage of CC for base year	3.0%
O & M annual escalation	5.72%
PLF	60%
Auxiliary	8.50%

Parameter	Bagasse based Co-generation Power Plants
1	2
Specific Fuel consumption- Kg/kWh	1.60
Fuel Cost-Rs./MT-Base year FY-18	1964.70
Fuel Cost escalation / Annum.	5.0%
Discount Factor (WACC)	11.55%
Tariff	<p>Fixed cost- Levelized for life of the Projects: Rs.1.89/unit</p> <p>Variable cost [Rs/Unit] applicable to the relevant year:</p> <p>FY19: Rs.3.61 FY20: Rs.3.79 FY21: Rs.3.98</p>

12. **Issue No. 5:** What Order?

For the foregoing reasons, we pass the following:

ORDER

- a) The tariff for the control period FY19 to FY21 for the co-generation power plants shall be as indicated below:

Tariff	<p>Fixed cost- Levelized for life of the Projects: Rs.1.89/unit</p> <p>Variable cost [Rs/Unit] applicable to the relevant year:</p> <p>FY19: Rs.3.61 FY20: Rs.3.79 FY21: Rs.3.98</p>
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- b) The concerned ESCOM, shall pay the difference in tariff (i.e., the difference in tariff as determined in this order and the payment made as per impugned order) for the control period FY19 to FY21, to the co-generators who have entered into PPA as per the Generic Tariff determined by the Commission in the impugned order dated 14.05.2018, in six equal installments.
- c) The date of effect of the order and applicability and all other terms and conditions, shall be the same as decided in the impugned order dated 14.05.2018.

sd/-

(SHAMBHU DAYAL MEENA)
Chairman

sd/-

(H.M.MANJUNATHA)
Member

sd/-

(M.D.RAVI)
Member
