

**IN THE APPELLATE TRIBUNAL FOR ELECTRICITY  
(Appellate Jurisdiction)**

**APL No. 229 OF 2018 &  
IA No. 1115 OF 2018 & IA No. 1171 OF 2020 & IA No. 1172 OF 2020  
& IA No. 113 OF 2021 & IA No. 114 OF 2021 & IA No. 1163 OF 2020 &  
IA No. 1164 OF 2020 & IA No. 1165 OF 2020 & IA No. 1166 OF 2020  
& IA No. 1167 OF 2020 & IA No. 1168 OF 2020 & IA No. 1169 OF  
2020 & IA No. 1170 OF 2020**

**Dated: 2<sup>nd</sup> August, 2021**

**Present: Hon`ble Mrs. Justice Manjula Chellur, Chairperson  
Hon`ble Mr. Ravindra Kumar Verma, Technical Member**

**In the matter of:**

**South Indian Sugar Mills Association  
Tamil Nadu, Karumuttu centre  
(2nd Floor),  
No.634, Anna Salai, Nandanam,  
Chennai - 600 035**

**.... Appellant(s)**

**Versus**

**1. Karnataka Electricity Regulatory  
Commission  
Through the Secretary  
No. 16, C-1, Millers Tank Bed Area,  
Vasanth Nagar, Bengaluru – 560052  
Karnataka, India**

**.... Respondent No.1**

**2. Bangalore Electricity Supply Company  
Limited  
Through the Managing Director  
KR Circle, Bengaluru – 560 001**

**.... Respondent No.2**

**3. Chamundeshwari Electricity Supply  
Company Ltd.  
Through the Managing Director  
No. 29, Kaveri Grameena Bank Road,  
Hinkal, Vijayanagar, 2<sup>nd</sup> Stage,  
Mysuru – 570 019**

**.... Respondent No.3**

4. **Mangalore Electricity Supply Company Limited**  
Through the Managing Director  
MESCOM Bhavana,  
Kavoor Cross Road,  
Bejai, Mangaluru – 575 004. .... Respondent No.4
5. **Hubli Electricity Supply Company Limited**  
Through the Managing Director  
P.B. Road, Navanagar, Hubballi – 580 025 .... Respondent No.5
6. **Gulbarga Electricity Supply Company Limited**  
Through the Managing Director  
Station Road, Kalaburagi – 585 101 .... Respondent No.6

**Intervenors in IA Nos. 113 & 114 of 2021**

**Nirani Sugars Limited**  
**Shree Sai Priya Sugars Limited**

**Intervenors in IA Nos. 1163 to 1172 of 2020**

**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 KissanShakharKarkhana Limited**  
**M/s Bilagi Sugars Limited**  
**M/s Harsha Sugars Limited**  
**M/s Mylar Sugars Limited**  
**M/s Venkateshwara Power Project Limited**

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1172 of 2020**

### **JUDGMENT**

**PER HON'BLE MR. RAVINDRA KUMAR VERMA, TECHNICAL  
MEMBER**

1. This Appeal has been filed against the order dated 14.05.2018 passed by the Karnataka Electricity Regulatory Commission (hereinafter referred to as “**State Commission**”) whereby the State

Commission has determined the tariff for Mini-Hydel Projects, Bagasse based co-generation power plants and Rankine cycle based biomass power plants with water cooled condenser as well as air-cooled condenser which are likely to be commissioned after 31.03.2018 and has revised the tariff for existing plants due to proposed revision in fuel costs.

2. The Appellant, South Indian Sugar Mills Association of Karnataka, is a consumer association and the members of the Association have sugar mills with bagasse based co-generation power plants in the State of Karnataka.
3. The first Respondent i.e. Karnataka Electricity Regulatory Commission for the State of Karnataka exercising powers and discharging functions under the provisions of the Electricity Act, 2003.
4. The second to sixth Respondents are the DISCOMs, distributing electricity in the State of Karnataka.

5. **Prayer of the Appellant**

- (a) Allow the appeal and set aside the impugned order 14.05.2018 passed by the State Commission to the extent challenged in the present appeal.
- (b) Pass such other Order(s) and this Hon'ble Tribunal may deem just and proper.

**Facts of the case:**

6. On 01.01.2015, the State Commission issued the order determining the tariff for Mini-Hydel Projects, Bagasse based co-generation power plants and Rankine cycle based biomass power plants with water cooled condenser. This Tariff was made applicable to the power plants commissioned during the period between 01.01.2015 and 31.03.2018, for which the PPAs have not been entered into prior to the date of issue of the said Order. This order also specified that the variable cost determined for Bagasse based co-generation and Rankine cycle based biomass power plants with water cooled condenser will be reviewed after 31.03.2018.
7. Subsequently on 22.01.2015, the State Commission also re-determined the tariff for existing Rankine cycle based biomass power plants with water cooled condenser and bagasse based co-generation power plants, keeping in view the revised fuel costs, for the period FY 2014-15 to FY 2017-18. In this order the State Commission has also stated that wherever the tariff as per the said Order is lower than the tariff now applicable to the existing units, the existing tariff, as per the PPA, shall continue till such time the tariff as determined above exceeds the tariff as per the PPA, after which the tariff as per the above Order shall be applicable. Further, in the said Order it was stated that the fuel cost for the existing biomass based power plants with water cooled condenser and bagasse based co-generation power plants, after 31.03.2018 will be as determined by the State Commission after taking into account the then prevailing fuel prices and other factors.
8. On 14.05.2018, the State Commission determined the tariff for Mini-Hydel Projects, Bagasse based co-generation power plants and

Rankine cycle based biomass power plants with water cooled condenser as well as air-cooled condenser which were likely to be commissioned after 31.03.2018 and revised the tariff for existing plants due to proposed revision in fuel costs.

9. On 19.12.2017, the State Commission issued a consultation paper inviting comments and suggestions from the stakeholders/interested persons on its proposed parameters. The paper was titled as “Determining the generic tariff for electricity generated from select RE sources, to be commissioned during the control period between 01.04.2018 to 31.03.2021”. It also dealt with the revision of KERC generic Tariff Order dated 22.01.2015 and 01.01.2015 for the existing generators.

### **Submissions of the Appellant**

10. The Appellant and some of its members had participated in the public hearing conducted by the State Commission and submitted its comments to the discussion paper issued by the State Commission. But the State Commission has not considered any of the suggestions of the Appellant while passing the Impugned Order.
11. The Impugned order passed by the State Commission is arbitrary, illogical and causes severe financial prejudice to the members of the Appellant. The State Commission has ignored the decisions of this Tribunal as well as the provisions of the RE Regulations notified by CERC while determining the tariff vide the Impugned Order.

12. Further, the State Commission has adopted unrealistic and unachievable norms though the same have already been relaxed by the Central Electricity Regulatory Commission. The norms and parameters fixed by the State Commission for the bagasse based co-generation power plants are unrealistic and non-workable.
13. The members of the Appellant Association have severely been affected since the Impugned Order has resulted in a substantial reduction in the tariff of more than Rs.1.50 per unit for existing cogeneration plants supplying power to the distribution companies.
14. In the circumstances, the present appeal is being filed to challenge the following issues of the Impugned Tariff Order dated 14.05.2018 with respect to the bagasse based power plants:
  - a. Fuel Cost (Bagasse price)
  - b. Capital Cost
  - c. Plant Load Factor

**Issue regarding the Fuel Cost (Bagasse price)**

15. The finding in the Impugned Order on the aspect of fuel cost is as under –

*“Commission’s Views and Decision:*

*(1) The Commission, in its Consultation Paper had proposed the following options for determination of fuel cost for the internally generated bagasse:*

*(a) The Commission had proposed a fuel cost of Rs.600/tonne, considering the fuel cost of Rs.1600/tonne*

*allowed in 2015 Tariff Order, escalating it by 5.72% per annum and deducting the transportation cost of Rs. 1300/tonne. The Commission considers that the approach adopted by the CERC is not binding and that the Commission can adopt a price determination methodology depending on local factors including State's consumers' interest.*

*(b) On the alternative proposal of the Commission to link the fuel cost to the domestic pit head unwashed coal cost with GCV of 2250 kcal/kg, on calorific value basis, which varies from Rs.470 to RS.560/MT, the stakeholders have suggested that 'equivalent heat value' of landed cost of coal as per the CERC methodology should be adopted. As noted earlier, the approach adopted by the CERC is not binding on the State Commission. The CERC, in its SoR for 2009 Regulations, had clarified that, to compute the fuel price of bagasse for respective States, the CERC has adopted 'equivalent heat value' approach for landed cost of coal for thermal Stations for the respective States. For this purpose, the CERC had considered the landed cost and calorific values of coal as approved by the respective State Electricity Regulatory Commissions while determining the generation tariff of the respective State Utility. The bagasse prices so derived had been escalated based on fuel price indexation mechanism stipulated under the Regulations to derive fuel prices during subsequent control periods, till the completion of the current Control period. Nevertheless, the Commission notes that the CERC, in its latest Regulations dated 18.04.2017, has done away with indexation mechanism and has adopted a base price with annual escalation of 5%. Further, in the statement of reasons, the CERC has noted that:*

- a. Indian Sugar Mills Association and NFCSFL have proposed that Fuel Price Indexation Mechanism is not sufficient to arrive at a logical price of bagasse.*
- b. TSMA has strongly recommended that the Bagasse price and its year on year escalation should be linked to Sugarcane*



*price itself instead of linkage to fossil fuels. Thus, the Commission notes that only in the year 2009, the bagasse price was determined by the CERC based on 'equivalent heat value' method, which is not relevant, considering the changes in the pricing mechanism of coal today. Thus, the Commission does not find acceptable, the suggestion of stakeholders to adopt the CERC's 'equivalent heat value' method, which is based on the CERC's 2009 Regulations.*

*(c) The other alternative proposal of the Commission was to link the fuel cost to administered price of sugarcane and consider 30% of such price as bagasse cost, as every tonne of sugarcane crushed produces 30% of bagasse. Based on this, considering that the administered price for FY18 is fixed at Rs.255/quintal, the proposed bagasse price worked out to Rs.765/MT.*

*The Stakeholders, referring to Dr C. Rangarajan Committee Report, have stated that bagasse though generated internally has a value and the proposal to consider 30% of administered price of sugarcane as the price of bagasse as every tonne of sugarcane crushed produces 30% bagasse, is arbitrary. That the price for bagasse considered by the Expert Committee for FY17 is Rs.1670/tonne, which is notified by the Cane Commissioner. That the CERC in its 2009 Regulations, has provided that bagasse price should be linked to indexation formula or alternatively be escalated at 5% per annum. The Commission notes that the price arrived for bagasse by the Expert Committee, is for a different purpose (fixing the price of sugarcane) and that such price cannot be adopted for determining tariff for power generated by the cogeneration plants. If the value of bagasse is also taken into consideration for the fixation of the price of sugarcane, there is no bar for considering for such fixation, the value of bagasse as fixed by this Commission for the purpose of determination of tariff for the power generated by the cogeneration plants. If for the internally generated bagasse, the price of Rs.1850/tonne*

*proposed by SISMA, based on bagasse price fixed by the Cane Commissioner is considered, then the generators would earn about Rs.3.00/unit without incurring commensurate expenditure towards purchase of bagasse. If done so, the generators would earn undue profit, in addition to RoE allowed in Tariff, the burden of which has to be borne by the consumers of the State, and therefore the Commission considers that such approach is not in public interest. Thus, the Commission keeping in view the interest of the consumers, decides not to adopt the bagasse price fixed by the Cane Commissioner for internally generated bagasse, for the purpose of determining tariff for power generated by the Co-generation plants.*

*(2) The proposal of stakeholders to link the fuel cost to market value of bagasse, based on TERI's Report [published in 2010] would not be relevant when the country is moving towards a power surplus situation and the cost of RE power has come down substantially. It is noted that the CERC has also not considered the above approach. Further, the stakeholders present during the public hearing, have stated that though bagasse has alternative use in Paper Industry, at present no paper mill is purchasing bagasse in the State. It is also a fact that no sugar factory in the State is either selling bagasse or purchasing bagasse. Perusal of the crushing capacities of the sugar factories with Co-generation power plants in the State indicates that they generate internally sufficient quantity of bagasse required to run their power plants. In the circumstances, the Commission decides not to link the bagasse price to a notional market value.*

*(3) The Commission also notes that stakeholders have relied upon Hon'ble APTEL's Order in Appeal No.148/2010. The Hon'ble APTEL in the said order has not outrightly rejected the observation of the Commission that there is no expenditure actually incurred for in-house bagasse from accounting point of view as it is available during the season, free of cost. It has*

*only stated that ignoring the fuel price for in-house bagasse (in tariff determination) is against commercial principles. Thus, Commission is of the view that, the final cost determined should be reasonable and just, balancing the interest of the generators and end consumers.*

*(4) The Commission notes that, the rationale for setting up co-generation plant as an integral part of a sugar factory is for optimal utilisation of the scarce energy sources readily available for mutual benefit of both the generator and all other stakeholders including the grid. Cogeneration plant gives an optimal solution for easy, safe and profitable disposal of bagasse, helps the sugar factory to attain self-sufficiency in power required to run its operations and also derive revenue from sale of surplus power to the grid.*

*(5) The Commission, in all its earlier Orders has determined promotional tariff for RE sources, the process of which involved fixing of prices of fuel like bagasse, with the objective of encouraging rapid capacity addition to tide over the ever power deficit situation adversely affecting the economy and living standards of the citizens and also to reduce dependence on environmentally harmful fossil fuel based power plants. This policy has led to substantial capacity addition easing the power supply constraints and at the same time resulted in significant reduction in capital cost of RE plants like Solar power plants because of economies of scale, competition, advancement in technology and production process, cheaper funds etc. making it possible for the Commission to successively lower the generic tariff. This positive development has enabled the States' power procurement agencies/ESCOs to float reverse bidding tenders for development of solar projects in the States for which bids have been received at rates far lower than the generic tariff determined by the Commissions. Similar impact is seen even in wind power projects whose capital cost and thereby the generic tariff had seen periodical upward revision, so far.*

*Recognising this development, the latest Tariff Policy envisages future procurement of Solar and Wind power only through reverse bidding process. With the State along with other States moving towards energy surplus situation and with substantial capacity addition of solar and wind Power, that too with tariff/rates lower than conventional sources, it is imperative for co-generation power plants to compete with wind and solar in terms of tariff, by reducing their capital and operational costs by improving their overall efficiency. With the distribution licensees and other obligated entities being able to purchase cheap power from other RE sources to meet their RPO targets, there would be no justifiable reasons for making them purchase power from co-generation plants at higher tariffs. As noted earlier, other than placing reliance on an old report of TERI and redundant provisions of the CERC Regulations, no material has been placed on record to indicate the commercial value that the sugar factories in the State could have derived from disposal of internally generated bagasse in the market. Therefore, it is considered that it would be just and proper to consider the cost at the production point or ex-factory price of bagasse for the purpose of tariff determination and for arriving at such cost, the price paid towards purchase of sugar can be made use of. As per the data obtained from the Office of the Commissioner for Cane Development and Director of Sugar, Karnataka, the average Fair and Remunerative price for sugar cane payable by the sugar factories in the State is Rs.2817 per tonne (It ranges from Rs.2550 to Rs.3260 per tonne) for 2017-18. Considering that one tonne of sugarcane on crushing yields about 30% of bagasse, the price component of bagasse in sugarcane price (pre-production cost) can be taken at Rs.819 per tonne for 2017-18 and with an annual escalation of 5.72%, it works out to Rs.865.85 per tonne for 2018-19.*

*From the available literature, the cost of production of sugar from sugarcane ranges from 20% to 30%. Considering that bagasse gets generated immediately after crushing of sugar*

*cane, the cost of production of bagasse can be taken at 20% and thereby, the cost of bagasse works out to Rs.1039.00 for 2018-19. With annual escalation of 5.72%, it works to Rs.1098.44 per tonne for 2019-20 and Rs.1161.28 per tonne for 2020-21. The above fuel cost is approved for the control period.”*

(emphasis supplied)

16. The cost of bagasse allowed in the Impugned order (Rs.1039 per tonne for FY 2018-19, Rs.1098.44 per tonne for FY 2019-20 &Rs. 1161.28 per tonne for FY 2020-21) results in a reduced tariff jolt to the Appellant's members. This finding of the Commission is completely contrary to the State Commission's own order dated 14.05.2018 in the matter of revision of “wheeling and Banking Charges for Renewable Power projects” wherein, the State Commission has held as under -

*“The Biomass and Cogeneration Power Project have to bear the high speed fuel cost, apart from their Fixed Costs, there for, the cost of energy per unit, for the present, would be more than Rs.5.00 per unit. Therefore, these projects may not be saddled with the proposed Wheeling Charges and line loss, and such projects may be levied the existing Wheeling Charges, in Kind, out of the net energy injected.”*

17. The State Commission has passed both the Orders on the same date i.e. 14.05.2018. In the Impugned Order, the State Commission has reduced the fuel cost of the Appellant's members drastically and in the Banking Order, the State Commission has accepted that the cost of energy for Cogeneration Power Plants will be more than Rs. 5 per unit. This itself shows that there is complete non application of mind

on the part of the State Commission while fixing the tariff in the Impugned Order and the fuel cost determined should be set aside.

18. The tariff determined by the Impugned Order, namely, Rs.3.59 per unit is not a promotional tariff at all but equal to the Average Pooled Power Purchase Cost (**APPC**) determined by the State of Karnataka which works out to be Rs.3.57 per unit.
19. The State Commission is mandated to promote co-generation and renewable energy generators under Section 86 (1) (e) of the Electricity Act, 2003, and the norms for determination of tariff shall be promotional as per the mandate under Section 61 (g) of the Electricity Act, 2003. However, the generic tariff determined by the State Commission is equal to the APPC in the State of Karnataka. This again reflects non application of mind on the part of the State Commission.
20. In the discussion paper, the State Commission had proposed Rs.600/MT after deducting Rs.1300 / MT towards alleged transport charges with one alternative to link the fuel cost for in-house bagasse to, the domestic pithead unwashed coal cost with GCV of 2250 kcal/kg or the administered price of sugar cane as per which the cost of bagasse works out to Rs.470 to 560/MT, and another alternative of Rs.765 /MT @ 30% of administered cane price of Rs.255 / Quintal.
21. The Appellant had made detailed submissions to propose that the bagasse price for FY18 should be Rs.2974/tonne on 'equivalent heat value' basis or Rs.1850/tonne linking to sugarcane price or Rs. 1890/tonne considering fuel price of Rs.1600/tonne as per the Tariff Order, 2015 with escalation of 5.72% over Rs.1600/tonne.



22. However, the State Commission did not consider the submissions made by the Appellant. The State Commission erred in holding that the cost of production of bagasse can be taken at 20% and thereby, the cost of bagasse works out to Rs.1039.00 for 2018-19. With annual escalation of 5.72%, it works to Rs.1098.44 per tonne for 2019-20 and Rs.1161.28 per tonne for 2020-21.
23. The State Commission has erred in not considering the principles and methodologies of the Central Commission, the methodologies adopted by 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.

24. The fuel price is supposed to be determined on the basis of equivalent heat value method with coal as available to the generating plant or on the basis of market price of bagasse. However, the State Commission has followed a peculiar procedure to drastically reduce the fuel cost.
25. The State Commission has not followed the principles and methodologies of CERC as provided in Regulation 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 analyzed 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 byproduct 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.”*

(emphasis supplied)

26. The State Commission has erred in rejecting the price of bagasse determined by the Cane Commissioner on the basis of administered price of sugarcane holding that the same is arbitrary, without giving any justifiable reasons to support the said finding. The State Commission has further erred in holding that the generators get undue profit without purchasing the bagasse without substantiating the same with any data analysis. The said findings will cause grave financial prejudice to the generators as they do not earn any undue profit on account of bagasse price.
27. The State Commission has erred in comparing the purchase of power from co-generation plants with the solar and wind power. The Electricity Act mandates that the promotion of both power from renewable sources and co-generation plants. The energy generated

from bagasse based Co-generation plants is also Renewable Energy. Therefore, to hold that the distribution licensees should prefer cheaper RE power than buying power from co-generation plants at a higher tariff, is totally against the intent of the legislature in Section 86(1)(e) of the Electricity Act, 2003.

28. The State Commission erred in stating that no material has been placed on record to indicate the commercial value that the sugar factories in the State could have derived from disposal of internally generated bagasse in the market without considering the submissions made by the member of Appellant, where in the member has provided the information about the sold price of bagasse along with the copies of Invoices.
29. The State Commission has erred in not ensuring the transparency of process mandated under Section 86(3) of the Electricity Act, 2003 because the State Commission has not followed either of the two proposals circulated vide the discussion paper while determining the fuel cost. Therefore, the stakeholders were not given adequate opportunity to make their suggestions to the methodology used by the State Commission for final determination. In the case of suo-motu proceedings under Sections 62 & 64 for determining the generic tariff for RE sources, the State Commission ought to have published the draft order for public consultation to maintain transparency under Section 86(3) of the Electricity Act, 2003.
30. It is pertinent to mention that the State Commission has deviated from its own finding in the previous Tariff Order dated 01.01.2015 wherein the CERC price of Rs. 1879/MT was considered to arrive

at the fuel cost of Rs. 1600/MT. The relevant part of the Order dated 01.01.2015 is as follows:

*“Keeping in view the price of Rs.1500/MT suggested by BESCOM, CERC’s price of Rs.1879/MT and SISMA’s own estimate of 1674/MT based on cane price and considering the fact that in-house bagasse is available at free of cost, the Commission decides to allow Rs.1600/ MT as the Fuel cost for bagasse.”*

Therefore, the State Commission has erred in not following its own findings, the CERC price considered earlier and the decisions of this Tribunal to decide the fuel cost on commercial principles.

31. The Appellant had made detailed submissions before the State Commission regarding the bagasse price, which are as follows:

i. The “TERI Report to CERC on Pricing of power from Non-Conventional Sources”reads as under:

*“The bagasse is a bi-product in sugar industry. It has also alternate uses which are basically nonfuel applications like in paper industry. The price that bagasse would otherwise get for other applications, can be considered as cost of bagasse in short term. Alternative approach is to link the fuel cost with the equivalent coal costs. The approach of linking the fuel cost with equivalent coal cost can be followed in states where there is limited number of bagasse power plants., In states where number of bagasse power plants is operational for some time, the alternative cost that the bagasse would have otherwise obtained, can be used as fuel cost.”*

From the said extract, it is clear that the bagasse price to be considered, for tariff determination, is to be the price that bagasse would otherwise get for other applications, or equated to coal cost (on GCV).

- ii. Under Clause 54 of the CERC (Terms and Conditions for determination of the Tariff for RE sources) Regulation 2009, dated 16.09.2009, under the fuel price Indexation mechanism, an equation for determining the bagasse price has been derived. It clearly indicates that the bagasse price should include cost of the bagasse, factors representing handling cost, transportation cost and annual inflation rate, etc.
- iii. It was submitted before the State Commission that the deduction of the transportation cost from the bagasse cost (Rs.1890-Rs.1300), as narrated in the discussion paper is illogical and is not acceptable. The cost of transporting biomass, was based on the statement made by the farmers from Haveri, during the public hearing on 09.12.2014, and not from the bagasse based co generators.
- iv. The State Commission had considered the GCV of unwashed pithead coal with GCV of 2250 kcal/kg. The SOR of CERC Regulations dated 18.04.2017 was brought to the notice of the State Commission wherein the table of calorific value of various bio-mass with moisture content was provided by IBPA (Indian Bio-mass Power Association). It could be seen from the table that only the palm wastes are having net calorific value of 1890

kcal/kg, when fully dried, and the average GCV of Biomass is at 2900Kcal/Kg. when fully dried.

- v. The calorific value of Indian coal of different grades, as notified by the Coal Controller and Ministry of Coal were also filed. According to the grading of coal by GCV, the last graded coal is G14, and GCV ranges from 3101 to 3400Kcal/Kg. Further, from the details of GCV of different grades of coal, available from the Ministry of Coal, Government of India, the least Grade is G, GCV of which ranges from 3113Kcal/Kg to 3865Kcal/Kg., and there is no mention of non coking coal having GCV less than 3000Kcal/Kg.
- vi. The details of the washed coal, and the cost of unwashed pit head coal, as explained by the Coal Controller in the Coal Directory was also put forth before the State Commission, as follows:

Washed Coal: Processing of coal through water separation mechanism to improve the quality of coal by removing denser material (rocks) and high ash produces washed coal which has less ash, higher moisture, better sizing, better consistency, less abrasive, etc. The washed coking coal is used in manufacturing of hard coke for steel making. Washed non-coking coal is used mainly for power generation but is also used by cement, sponge iron and other industrial plants.

Pit head value of coal, is the value of coal at pit-head of the colliery. It is computed on the basis of base price and therefore it does not involve any cost of loading, transportation from pit-head, Cess, Royalty, Sales tax, Stowing Excise Duty etc. This approach is followed by non captive coal companies.

In view of the above, GCV of unwashed pithead coal, considered by the Commission appears to be of G17 grade, whose GCV varies from 2201 to 2500Kcal//Kg. This is one of the last ungraded Non-coking coal, as reported in the Annual Coal Directory 2015-16, published by the Coal Controller, Kolkata.

It was submitted that the grades G15, G16 and G17 are not used in the High pressure boilers for power generation, and hence considering the cost of the pit head un washed coal is not acceptable, for the reasons stated above.

It was submitted by another stakeholder - NSL Sugars Ltd., that the landing cost of the coal at BTPS is at Rs.4746/tonne for the coal with GCV of 3591kcal/kg, (Grade-G13) and this GCV is to be considered and not that of the Grade G15, G16 or 17, as such the bagasse price will be Rs. 2974/tonne, on GCV basis.

- vii. As regards the suggestion in the discussion paper of linking the fuel cost to the administered price of the sugarcane, the administered price of the bagasse announced from Government

of India, from time to time was submitted before the State Commission. It could be seen from the same that the sugarcane price announced by Government of India, under Clause 3(1) of The Sugarcane Control Order 1966, is increasing year after year, except during the season 2016-17.

- viii. This Tribunal has held in the Judgment dated 05.04.2011 in Appeal No. 148 of 2010 that the fuel cost has to be determined on commercial principles. The relevant part of the Judgment is reproduced as hereunder :

*“With respect to fuel price the appellant is too much aggrieved. We have earlier overruled the submissions of the respondent No.1 to 6 that the value of bagasse should be notional on the ground that bagasse produced during the season is available free of cost. This submission goes against the determination of tariff on cost plus principle. The contention that simply because the generation of power is made by co-generation unit the fuel price is ignorable is against the principle that the determination of tariff has to be on the commercial principle. Now, it has rightly been suggested that the value of bagasse is also taken in to consideration for fixation of price of sugarcane.*

.....

*.....The Central Commission in the Regulation 2009 provides that the price of bagasse shall be linked to index formula as given in Regulation 54 and alternatively for each subsequent year of the control period the normative escalation factor of 5% per annum shall be applicable on the option of the project developer. Either the normative escalation factor of 5% per annum is allowed or the price is linked to index formula as given by The Central Electricity Regulatory Commission there is hardly any*

*scope and necessity for re-examination of the matter by the State Commission ....”*

Therefore, the fuel cost had to be determined on commercial principles by the State Commission in consonance with the said Judgment.

- ix. The State Government has enacted The Karnataka Sugarcane (Regulation of Purchase and Supply) Act, 2013 and Amended Act 2014 (Act No. 28/14 dated 28.04.2014). Section 4(f) of the principle Act, provides for determining the sugarcane price on revenue sharing basis taking in to consideration actual revenue realized from sugar, bagasse, molasses and press mud. Further Section 4(g), of the amended Act 2014, provides for determining the additional sugarcane price over and above FRP for the year on revenue sharing basis. Section 4(A) of the Amended Act 2014, empowers the Cane Commissioner to notify the declared additional sugarcane price over and above FRP. For the calculation of revenue realization an expert committee is constituted under Section 4(C) of the Amended Act 2014 and authorizes the expert committee to inspect the sugar factory for ascertaining the realization of the revenue in each sugar factory. Section 4(D) of the Amended Act 2014, details the factors to be taken in to consideration by the Board for deciding additional sugarcane price –Explanation to the said section reads as:

*“For the purpose of this clause, revenue realized from the sugarcane crushed in the year shall include actual*



*production of sugar and its by-products namely, bagasse, molasses, press mud.....”*

Subsequent to the enactment, the State Government is declaring the additional sugarcane price payable over and above FRP, under the provisions of the above sections, at the end of each season. Accordingly, during the season 2014-15, 2015-16 and 2016-17, bagasse price considered by the Expert Committee after visiting the mills are Rs.1200/-per tonne, Rs.1500/-per tonne, and Rs.1670/- per tonne, respectively. The Cane Commissioner has notified the additional cane price payable for the season 2016-17, considering the bagasse price at Rs.1670/- per tonne.

- x. From the above it is very clear that the bagasse price considered for arriving at the realization made by the sugar mills, is much more than what had been proposed by the State Commission in the discussion paper. In view of the facts explained above, the Appellant had proposed that the bagasse price could be incremented proportionate to the cane price –FRP. Accordingly the bagasse price for the season 2017-18 should be allowed at Rs.1850/-per tonne, or considering escalation at the rate of 5.72%, for the bagasse price of Rs.1600/ per tonne, considered in the Generic Tariff Order dated 01.01.2015 and 22.01.2015, the bagasse price should be allowed at Rs.1890/-per tonne.

### **Issue regarding the Capital Cost**

32. The State Commission had proposed the Capital Cost of Rs. 4.75 Crores/MW including the power evacuation infrastructure cost and has adopted a capital cost of Rs. 4.70 Crs/MW without any indexation. The relevant part of the Impugned Order reads as follows –

*“The Commission notes that the capital cost adopted by some of the Commissions referred in the Consultation Paper is in the range of Rs.4.36 Crs./MW to 5.20 Crs./MW.*

*Further, in the 2015 Order, the Capital Cost approved by this Commission is Rs.4.75 Crs./MW including evacuation cost. Further, as per the information furnished by SISMA, it is noted that most of the new plants are adopting boiler pressure of 105 to 110 kgs/cm<sup>2</sup> as per NFCSFL norms and as per the Department of Food and PD of the Gol, the revised normative cost of Cogen plants, for the boiler pressure of 87-109 ATA is Rs.442 Lakhs. In case any developer of cogeneration plant adopts pressure higher than 110kgs/cm<sup>2</sup>, the increase in capital cost would be more or less set-off by the increase in operational efficiency, which would result in lower specific fuel consumption, thereby saving the fuel cost. Since the Commission is retaining the specific fuel consumption at 1.60 kg/unit for the power plants adopting more than 110 kgs/cm<sup>2</sup> pressure also, the Commission decides to adopt the same capital cost, irrespective of boiler pressure adopted. The Commission had proposed a capital cost of Rs.4.75 Crs./MW without considering the capital subsidy granted by MNRE/KREDL. As per the information obtained from KREDL, for Cogeneration plants, the MNRE is extending subsidy of Rs. 15 Lakh x (Capacity in MW) <sup>0.646</sup>. Most of the Co-gen plants in the State have installed Capacity in the range 20MW to 40 MW and therefore, for the purpose of determining capital subsidy, the Commission has considered a capacity of 30MW. Thus, the Capital subsidy/MW works out to  $15 \times (30^{0.646}) / 30 =$  Rs. 4.50 Lakhs /MW. For the reasons stated earlier, after deducting the capital subsidy, the Capital Cost/MW would be*

*Rs 4.71 Crores/MW. Thus, Rs.4.70 Crs./ MW would be a reasonable Capital Cost, including evacuation cost and the applicable GST, for the new control period 2019-2021. Therefore, the Commission decides to adopt a Capital cost of Rs.4.70 Crs./MW including infrastructure cost of evacuation, for the entire control period, without any indexation.”*

33. The State Commission has proceeded on the basis that if higher pressure is used by generators, the increase in capital cost will be offset by increase in operational efficiency. The State Commission, as an expert body, ought to have made a detailed data analysis with a computation of the possible offset of cost before reducing the capital cost on the said basis.
34. The State Commission has simply reduced the capital cost on the assumption that the capital subsidy is being received by all plants. It has been clearly held by this Tribunal in the Judgment dated 20.12.2012 in Appeal No. 150 of 2012 and batch; titled ‘*SLS Power Limited v. APERC &Ors.*’ that the cost pertaining to capital subsidy can be reduced only after receipt of the capital subsidy. The findings of this Tribunal are as under –

*“(xi) We feel that it would not be desirable to reduce the normative capital cost of mini hydel projects by the subsidy amount for the following reasons:*

*a) The subsidy is being given later in post commissioning period directly to the lending agency towards repayment of loan. Reduction of capital cost by subsidy amount will reduce the equity component too whereas in fact there is no reduction in equity resulting in lower return to the Developer. The debt*

*component will also reduce upfront if the capital cost is reduced by the subsidy amount whereas for construction of the project debt component corresponding to capital cost will be arranged by the Developer as subsidy is available only later after commissioning of the project.*

*b) Subsidy is not available to all the Developers.*

*c) Reduction in capital cost by subsidy amount will also reduce the O&M charges as these are determined as a percentage of capital cost which will not be correct as O&M charges are not dependent on subsidy and will not reduce if the subsidy is paid by the Central Government.*

*xii) However, the actual subsidy amount received by the project developer from Government of India after adjusting the pre-payment penalty, if any, may be adjusted against the arrears due to the Developers as a result of determination of tariff as per the directions given in this judgment or against the payments made to the Developers for the energy supplied.*

*xiii) Accordingly, we decide the capital cost for mini hydel projects at Rs. 4.5 Cr./MW.”*

35. The State Commission (unlike in its earlier orders) has not considered the Central Commission's figures while determining the capital cost for the co-generators. 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., (NFCSFL). NFCSFL 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 said submission and 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 Cooperative Sugar Factories Ltd. (NFCSFL) 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/cm<sup>2</sup> 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.*

*.....*

*Analysis and Decision:*

*The Commission has analyzed the comments and observations 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 analyzed 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 FY 2017-18. 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.”*

36. The State Commission has ignored that it was specifically pointed out by NFCSFL before the Central Commission that the sugar mills which are undergoing the expansion of the capacity, to make it viable, are switching over to the boilers with pressure more than 87 Kgs /cm<sup>2</sup> and the new mills which have commissioned in the last two years are with the boilers of pressures more than 105 to 110 Kgs /cm<sup>2</sup>. The State Commission has failed to consider the said objections raised in the present case by another stakeholder – Nirani Sugars.
  
37. The State Commission did not consider that the Department of Food and PD (DFPD) of Government of India vide its letter No. 7-14/2015-SDF dated 23.02.2016, has revised the normative cost of the bagasse based co-generation projects, as decided by the Standing Committee of the Sugarcane Development Fund, in its

128<sup>th</sup> meeting. The boilers having different pressures and the normative cost as approved by the committee, applicable with immediate effect, are:

Boiler pressure (ATA)	Normative cost per MW generation (Rs. lakhs/MW)
Below 67	Not eligible
67-86	385.00
87-109	442.00
110 and above	543.00

38. The State Commission has also erred in not taking into consideration the observations of this Tribunal in Appeal No. 199 of 2012 wherein this Tribunal has held as follows:

*“39. In view of the discussions made above, the rate of capital cost fixed by the State Commission is not correct. The State Commission has to consider the materials furnished by the Appellants as well as the suggestions made by IREDA, and the explanation given by the Central Commission in the statement of objects and reasons of the 2012 Regulations and fix the rate of capital cost on taking into consideration the local/State circumstances. The Appellants are also directed to furnish the information sought by the State Commission regarding steam used in the power generation and sugar production for deciding apportionment of cost between sugar plant and power generation.”*

### **Issue regarding the Plant Load Factor (PLF)**

39. The State Commission has erred in continuing with the PLF of 60% for FY 2019-2021. The relevant part of the Impugned Order is reproduced below:

*“The Commission notes that the SISMA has mainly relied on the CERC’s Order wherein the PLF for ‘Other States’ is 53%, While SISMA has furnished only crushing days’ data published by the Indian Sugar Journal during the period FY12-FY17, it has not furnished the actual PLF achieved by the operating plants in Karnataka during the same period to substantiate its stand of 53% PLF. It is worthwhile to note that, the Commission in all its earlier Orders has retained 60% as PLF. The issue regarding PLF was contested by SISMA in Appeal No.148 of 2010 and the Hon’ble ATE has upheld the decision of the Commission specifying the PLF at 60%. Thus, the matter has reached finality and no case has been made out for its review. Hence, the Commission decides to continue the PLF at 60% for the control period FY 2019-2021.”*

40. The Appellant had proposed PLF of 53% based on the PLF considered by the Central Commission in its Statement of Reasons to the RE Tariff Regulations, 2017 dated 18.12.2017.
41. The State Commission has erred in not considering that in the said SOR dated 18.12.2017, the Central Commission has discussed the average number of working days of the sugar mills in different states and has considered PLF at 53%, in respect of the states where the average crushing days is 150 and less.



42. The State Commission did not consider that according to the published data by Indian Sugar Mills Association (compilation made for all the States in the Country) the average number of crushing days of the mills in Karnataka, for the last 6 years is detailed below:

Year	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Average duration of crushing	152	134	138	151	120	77

43. The State Commission failed to consider that the Central Commission has considered, PLF at 53%, for the plants having 150 average crushing days + 60 days (for off season), bringing the total operating days of the power plant at 210 days. The average crushing days of the sugar mills in Karnataka has not gone beyond 150 days, in the last 5-6 years and as such it falls under 3<sup>rd</sup> category of the classification made by the Central Commission for PLF, and is at 53%.
44. The relevant extracts from the Statement of Reasons issued by the Central Commission are as under –

“Commission’s Proposal:

*(1) For the purpose of determining fixed charge, the plant load factor for non- fossil fuel based cogeneration projects shall be computed on the basis of plant availability for number of operating days considering operations during crushing season and off-season as specified under clause (2) below and load factor of 92%.*

(2) The number of operating days for different States shall be as follows:

State	Operating Days	Plant Load Factor (%)
Uttar Pradesh and Andhra Pradesh	120 days (crushing) + 60 days (off-season) = 180 days operating days	45%
Tamil Nadu and Maharashtra	180 days (crushing) + 60 days (off-season) = 240 days operating days	60%
Other States	150 days (crushing) + 60 days (off-season) = 210 days operating days	53%

.....  
**Analysis and Decision:**

*The Commission has analyzed the comments and data submitted by the stakeholders. The Commission is of the view that by using high pressure boilers there will lead to an increase in overall efficiency of the plant. Nevertheless, the SHR norms are not being amended to account for the same. Thus, the benefit of installing high pressure boilers shall go to the generating station. Hence, the Commission has decided not to change the proposed PLF in Draft Regulations. As regards the suggestion of including Uttarakhand along with Uttar Pradesh, the Commission would like to take a call only after detailed study in this regard. As such, the provision of draft regulation has been retained in the final regulation at present.”*

45. The State Commission cannot simply adopt the figure of 60% PLF when it is impossible for co-generation based plants to achieve such a high PLF.

**OTHER RELEVANT ASPECTS:**

46. Apart from the financial hardship resulting to the Appellant because of the said findings of the State Commission, the State Commission, based on the Impugned Order, has sought to reopen proceedings in Review Petition No. 09 of 2017.
47. The Review Petition No. 09 of 2017 has been filed by the Distribution Companies seeking review of an earlier Tariff Order dated 11.04.2017 in Petition No. 38 of 2017 determining the rate for supply of power from co-generation based plants to the Distribution Companies on medium term basis i.e. from FY 2017 to FY 2021.
48. The Review Petition had been reserved for Orders on 24.04.2018. However, on 19.07.2018, the State Commission expressed that it would like to hear from the parties as to the fuel cost determined in its recent Generic Tariff Order is relevant for disposing the Revision petition either as a ground for review or independent of it, vide its Daily Order dated 19.07.2018.
49. Pursuant to the same, one of the co-generation plants approached the High Court of Karnataka by filing WP No. 31942-43/2018 against the Daily Order dated 19.07.2018 wherein the State Commission has undertaken not to precipitate the matter.
50. It is submitted that the Appellant and its members would also be put to irreparable loss and injury, particularly on account of the fact that the Impugned Order becoming a precedent for the upcoming

reverse bidding process to be undertaken in the State of Karnataka for sale of power from co-generation plants.

51. In view of the above made submissions, it is reiterated that the reduction in tariff has been done by the State Commission without application of mind and in contravention with its own orders passed on the same day and therefore, the Impugned Order ought to be set aside.

### **Submission of Respondent Nos. 2 to 6**

52. The Appellant has challenged the determination of fuel cost in the generic tariff order dated 14.5.2018 of the Karnataka Electricity Regulatory Commission (KERC). The main grievance of the Appellant (and the intervenors) is that there is a decline in the fuel cost i.e. the price of bagasse when compared to previous control periods. It is submitted that in the tariff order the State Commission has given cogent reasons for doing so.
53. The State Commission has decided to take a different approach to the determination of 'fuel cost' in this tariff order which has led to a reduction of the fuel cost. It is seen from the order that the State Commission has very consciously done it. The questions that arise for consideration in this Appeal is whether when the State Commission gives a reasoned decision and arrives at the determination of fuel cost and tariff exercising its powers under S.86 of the Electricity Act, 2003 can it be challenged to be legally infirm just because it has resulted in reduction of fuel cost contrary to the Appellant's expectations of an increase.

54. The State Commission in its order has reasoned as follows:

- (i) The rationale for setting up co-generation plant as an integral part of a sugar factory is for optimal utilization of the scarce energy sources readily available for mutual benefit of both the generator and all other stakeholders including the grid. Cogeneration plant gives an optimal solution for easy, safe and profitable disposal of bagasse, helps the sugar factory to attain self-sufficiency in power required to run its operations and also derive revenue from sale of surplus power to the grid.
- (ii) The stakeholders present during the public hearing, have stated that though bagasse has alternative use in Paper Industry, at present no paper mill is purchasing bagasse in the State. It is also a fact that no sugar factory in the State is either selling bagasse or purchasing bagasse. Perusal of the crushing capacities of the sugar factories with co-generation power plants in the State indicates that they generate internally sufficient quantity of bagasse required to run their power plants. In the circumstances, the Commission decides not to link the bagasse price to a notional market value.
- (iii) The Commission, in all its earlier Orders has determined *promotional tariff* for RE sources, the process of which involved fixing of prices of fuel like bagasse, with the objective of encouraging rapid capacity addition to tide over the power deficit situation adversely affecting the economy and living standards of the citizens and also to reduce dependence on environmentally harmful fossil fuel-based power plants. This policy has led to substantial capacity addition easing the

power supply constraints and at the same time resulted in significant reduction in capital cost of RE plants like solar power plants because of economies of scale, competition, advancement in technology and production process, cheaper funds etc. making it possible for the Commission to successively lower the generic tariff.

- (iv) This positive development has enabled the States' power procurement agencies/ESCOs to float reverse bidding tenders for development of solar projects in the States for which bids have been received at rates far lower than the generic tariff determined by the Commissions. Similar impact is seen even in wind power projects whose capital cost and thereby the generic tariff had seen periodical upward revision, so far. Recognizing this development, the latest Tariff Policy envisages future procurement of Solar and Wind power only through reverse bidding process.
- (v) With the State along with other States moving towards energy surplus situation and with substantial capacity addition of solar and wind power, that too with tariff/rates lower than conventional sources, it is imperative for bagasse-based co-generation power plants to compete with wind and solar in terms of tariff, by reducing their capital and operational costs by improving their overall efficiency.
- (vi) With the distribution licensees and other obligated entities being able to purchase cheap power from other RE sources to meet their RPO targets, there would be no justifiable reasons for making them purchase power from co-generation plants at higher tariffs.

- (vii) If for the internally generated bagasse, the price of Rs.1850/tonne proposed by SISMA, based on bagasse price fixed by the Cane Commissioner is considered, then the generators would earn about Rs.3.00/unit without incurring commensurate expenditure towards purchase of bagasse. If done so, the generators would earn undue profit, in addition to RoE allowed in Tariff, the burden of which has to be borne by the consumers of the State, and therefore the Commission considers that such approach is not in public interest.
- (viii) The Commission while considering the approach adopted by the CERC can adopt a price determination methodology depending on local factors including State's consumer interest.
- (ix) The price arrived for bagasse by the Dr. C. Rangarajan Committee, is for a different purpose (fixing the price of sugarcane) and that such price cannot be adopted for determining tariff for power generated by the cogeneration plants.
- (x) The proposal of stakeholders to link the fuel cost to market value of bagasse, based on TERI's Report [published in 2010] would not be relevant when the country is moving towards a power surplus situation and the cost of RE power has come down substantially.
- (xi) The APTEL in its order in Appeal No.148/2010 has not outrightly rejected the observation of the Commission that there is no expenditure actually incurred for in-house bagasse from accounting point of view as it is available during the season, free of cost. It has only stated that ignoring the fuel price for in-house bagasse (in tariff determination) is against

commercial principles. Thus, Commission is of the view that, the final cost determined should be reasonable and just, balancing the interest of the generators and end consumers.

- (xii) Therefore, it is considered that it would be just and proper to consider the cost at the production point or ex-factory price of bagasse for the purpose of tariff determination and for arriving at such cost, the price paid towards purchase of sugar can be made use of. As per the data obtained from the Office of the Commissioner for Cane Development and Director of Sugar, Karnataka, the average Fair and Remunerative price for sugar cane payable by the sugar factories in the State is Rs.2817 per tonne (It ranges from Rs.2550 to Rs.3260 per tonne) for 2017-18. Considering that one tonne of sugarcane on crushing yields about 30% of bagasse, the price component of bagasse in sugarcane price (pre-production cost) can be taken at Rs.819 per tonne for 2017-18 and with an annual escalation of 5.72%, it works out to Rs.865.85 per tonne for 2018-19.
- (xiii) From the available literature, the cost of production of sugar from sugarcane ranges from 20% to 30%. Considering that bagasse gets generated immediately after crushing of sugar cane, the cost of production of bagasse can be taken at 20% and thereby, the cost of bagasse works out to Rs.1039.00 for 2018-19. With annual escalation of 5.72%, it works to Rs.1098.44 per tonne for 2019-20 and Rs.1161.28 per tonne for 2020-21. The above fuel cost is approved for the control period 2018-2021.



55. It is seen from the reasoning of the above order that the tariff fixed for the co-gen plants already have ROE fixed on their fixed costs which is 14%, hence, the co-gen plants will, in any case, earn a return on their investments. As bagasse is a by-product of the sugar factory there is no additional expenditure for the procurement of fuel. Moreover, the price of sugar-cane including the price of bagasse has already been compensated in the price of sugar determined by the cane commissioner. Hence, the 'fuel cost' for bagasse of these sugar plants will be additional earnings of the co-gen plants over and above the 14% ROE. Further, the tariff of power generated from the bagasse-based co-gen plants will have to be seen in comparison to the tariff of wind and solar power which are much lower than the power generated from bagasse-based co-gen plants. The consumers should get the benefit of lower tariff. Given the surplus power scenario in the country there is also no requirement to give a promotional tariff anymore to bagasse-based co-gen plants in the State which is anyway getting a high rate of return.
56. In any case, the Control Period of 1st April, 2018 to 31st March, 2021 is over that it has not been the contention of the Appellant's that any loss has been suffered by the co-gen plants because of lower fuel cost determined by the Commission; if at all, there may be loss of profits over and above the 14% margin because of the lower fuel cost when compared to previous years.
57. The State Commission has not followed the equivalent heat value method followed by the CERC in its earlier orders (but has discontinued the practice from the year 2017). It is submitted that, in any case, a methodology followed by the CERC in determination of

fuel cost would not make it a mandate of law for the State Commissions to follow it, thereby taking away their powers or discretion under S. 86 of the Electricity Act, 2003.

58. Under S. 61 of the 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* (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 are conducted on commercial principles; (c) the factors that would *encourage competition, efficiency, economical use of 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*; (g) the *tariff progressively reflects the cost of supply of electricity*; (h) *the promotion of co-generation and generation of electricity from renewable sources of energy*.
59. Thus, it is seen that though the State Commission is required to be “guided by” the *principles and methodologies specified by the Central Commission* it has also has to be guided by various other considerations. The Commission has to be mindful of the factors that would *encourage competition, efficiency, economical use of resources*. The State Commission has to balance *safeguarding consumer's interest* with the *recovery of the cost of electricity in a reasonable manner*. The *tariff progressively reflects the cost of supply of electricity*. The *promotion of co-generation and generation of electricity from renewable sources of energy*.As the State

Commission has to keep various factors in mind if a particular methodology followed by CERC is not followed it would not make the order of the State Commission illegal.

60. It may be relevant to point out here that the fuel cost considered by Uttar Pradesh Electricity Regulatory Commission's Regulations 2019, dated 25.7.2019 is Rs.1010/MT with the escalation of 5% (2019- 20). As per the Regulations the variable cost considered for FY 2019-20 to FY 23-24 is as below:

Financial year	Variable cost per unit
2019-20	1.77
2020-21	1.85
2021-22	1.95
2022-23	2.04
2023-24	2.15

Variable cost determined by KERC in the order dated 14.5.2018 is as below:

Financial year	Variable cost per unit
2018-19	1.82
2019-20	1.92
2020-21	2.03

It is seen from above that the State of Uttar Pradesh, which is a large sugar-cane producing state and which also has a large number of bagasse-based co-generation plants, the variable cost determined by

the State Commission of Uttar Pradesh is lesser than the rate determined by the State Commission of Karnataka.

61. It has been contended that the State Commission has deviated from the orders passed by the Tribunal and the State Commission itself. The contention seems to be based on the presumption that if a particular approach or methodology was followed earlier then the same approach/methodology should be followed for all times to come. There is no such requirement of the State Commission while exercising its powers for tariff determination. There are various factors to be considered by the Commission while determining tariff and if the Commission is of the view that over a period of time there is a change in the circumstances, which warrants a change in approach in determining tariff, that discretion and judgement is available to the statutory authority in determining tariff. The Commission cannot be faulted for some fresh thinking which it has justified with some cogent reasoning.

#### **Submissions of Intervenors in IA Nos. 113 and 114 of 2021**

62. Prior to passing the Impugned Order, the KERC had issued a notification dated 19.12.2017 inviting comments from public / stakeholders on its proposed parameters for determination of tariff. Accordingly, Nirani Sugars Limited ("Nirani Sugars") submitted its comments dated 10.01.2018 to the KERC,.Nirani Sugars submitted its comments on three issues i) Fuel Cost (bagasse price); ii) Specific Fuel Consumption; and iii) Auxiliary Consumption.

63. However, the KERC while passing the Impugned Order has failed to consider the comments made by Nirani Sugars, without any basis and, in violation of Section 61(a) of the Electricity Act, 2003 (“Electricity Act”) wherein, the KERC is guided by the settled principles and methodologies adopted by the Central Commission.

I. Reduction of tariff - the KERC has erred in deviating from its own tariff orders dated 22.01.2015 and 11.04.2017:

64. The KERC *vide* its generic order dated 22.01.2015 had revised the tariff for the existing bagasse-based cogeneration plants. On 11.04.2017, the KERC has determined the tariff rates applicable to those projects which have been developed and commissioned without a PPA in any of the Control Periods and to which the generic orders were not applicable. It is submitted that in the above said orders the variable cost determined by the KERC is more than the variable cost determined in the Impugned Order. In the order dated 11.04.2017, the KERC expressly observed that *“In the case of Renewable Energy Projects, except for the Solar Projects, the Project Cost has been on an increasing trend from one Control Period to another Control Period.”*. However, on the contrary and wrongly so, the variable cost determined in the impugned order is significantly lower. The below table shows a comparison of the variable costs determined by the KERC in various orders for bagasse based projects:

Year	Variable Cost as per Order dated 22.01.2015 (with PPA signed as 2005 order)	Variable Cost as per Order dated 11.04.2017	Variable Cost as per the Impugned Order dated 14.05.2018 [
FY-15	2.81		
FY16	2.97		
FY-17-17	3.14	3.14	
FY-18	3.32	3.32	
FY-19		3.51	1.82
FY-20		3.71	1.92
FY-21		3.92	2.03

65. It is submitted that a mere perusal of the above order demonstrates that the variable costs have been increasing on a year-to-year basis. However, the variable costs in the Impugned Order have been significantly reduced without any basis or have been reduced based on an arithmetic error. Consequently, there is a sharp reduction in the tariff rates as determined in the Impugned Order compared to earlier tariff orders. As a result, the day-to-day business of both Nirani Sugars and Sai Priya Sugars has been severally hit. It has also been difficult to make payments to creditors and farmers and several representations have been made by both Nirani Sugars and Sai Priya Sugars to the Deputy Commissioner for release of payments from HESCOM.

66. It is submitted that, both Nirani Sugars and Sai Priya Sugars Limited would suffer a loss of Rs.3,90,03,229/- and Rs.20,06,80,680/-

respectively, due to reduced tariff rates. It is thus submitted that such unjustifiable reduction in tariff has paralyzed the business operations of the Applicant herein. Moreover, due to current stay on the Impugned Order, HESCOM has also wrongly denied the Applicant its legitimate pending dues.

- II. The KERC has not followed the transparency requirement as mandated under Section 86(3) of the Electricity Act, 2003.

67. Section 86(3) of the Act states that *“The State Commission shall ensure transparency while exercising its powers and discharging its functions.”* The Act does not define the term ‘transparency’ however, the same has been subject to judicial interpretations from time to time. In *M/s DB Power Ltd. vs Rajasthan Electricity Regulatory Commission and Ors.*, this Tribunal has held in para 17.4 that:

- i. *“the State Commission is mandated to ensure transparency while exercising its power and discharging its functions under Section 86 (3) of the Act. The concept of transparency and principle of natural justice mandates that the State Commission should grant opportunity to other party and take into account their logical concerns before passing any order detrimental to the said party.”*

68. In *Anil Sood vs. DERC*, the Central Information Commission while interpreting the term in the context of right to information has categorically held that Section 86(3) of the Act gives right to information to the people as to the complete facts and circumstances forming basis for exercising powers and discharging its functions.

69. Further, a reference can be made to Section 13(4) of the Airports Economic Regulatory Authority of India Act, 2008 ("AERA Act") for the definition of the term 'transparency':

Section 13. Functions of Authority:

- ii. *"(4) Authority shall ensure transparency while exercising its powers and discharging its functions, inter alia,—*
  - (a) by holding due consultations with all stakeholders with the airport;*
  - (b) by allowing all stakeholders to make their submissions to the authority; and*
  - (c) by making all decisions of the authority fully documented and explained."*

70. The Hon'ble Supreme Court in Cellular Operators Association of India and Ors. vs. Telecom Regulatory Authority of India and Ors. ("Cellular Operators, 2016") while referring to Section 13(4) of the AERA Act, observed at para 81, that this definition of "transparency" provides a good working test of 'transparency' referred to in Section 11(4) of the TRAI Act. Further, Section 11(4) of the TRAI Act is *parimateria* to Section 86(3) of the Act, therefore, the definition as provided under AERA Act can also be imported for the purposes of Section 86(3) of the Act.

71. In Cellular Operators, 2016 a reference is also made to a ratio of a Judgment of the Court of Appeal, England at para 81 and the same is reproduced hereunder:

- iii. *"108. It is common ground that, whether or not consultation of interested parties and the public is a legal requirement, if it is embarked upon it must be carried out properly. To be proper, consultation must be undertaken*



*at a time when proposals are still at a formative stage; it must include sufficient reasons for particular proposals to allow those consulted to give intelligent consideration and an intelligent response; adequate time must be given for this purpose; and the product of consultation must be conscientiously taken into account when the ultimate decision is taken.”*

72. Further, at para 92 of *Cellular Operators*, 2016, the Hon’ble Court observed as follows:

iv. “ ... we would exhort Parliament to take up this issue and frame a legislation along the lines of the U.S. Administrative Procedure Act (with certain well defined exceptions) by which all subordinate legislation is subject to a transparent process by which due consultations with all stakeholders are held, and the Rule or Regulation making power is exercised after due consideration of all stakeholders' submissions, together with an explanatory memorandum which broadly takes into account what they have said and the reasons for agreeing or disagreeing with them. Not only would such legislation reduce arbitrariness in subordinate legislation making, but it would also conduce to openness in governance.”

73. Applying the above decisions to the facts of the instant appeal, it is submitted that by non-consideration of the comments / suggestions submitted by the Applicant during the public hearing, the KERC has failed to ensure transparency as required under the Act read with the standard of transparency set out in *Cellular Operators*, 2016. Tellingly.

III. The impugned order is liable to be set aside for being manifestly arbitrary and for non-application of mind.

74. In State of U.P. and Ors. Vs. Renusagar Power Co. and Ors., the Hon'ble Supreme Court has expressly held that if any power has been exercised on a non-consideration or non-application of mind to the relevant factors the exercise of power would be regarded as manifestly erroneous. The relevant portion of the judgment is reproduced hereunder:

*a. "The exercise of power whether legislative or administrative will be set aside if there is manifest error in the exercise of such power or the exercise of the power is manifestly arbitrary. Similarly, if the power has been exercised on a non-consideration or non-application of mind to relevant factors the exercise of power will be regarded as manifestly erroneous. If a power (whether legislative or administrative) is exercised on the basis of facts which do not exist and which are patently erroneous, such exercise of power will stand vitiated".*

75. As mentioned above, the determination of tariff in the Impugned Order suffers from both non-consideration of the suggestions submitted by the Applicant as well as non-application of mind to relevant factors such as prevalent earlier tariff rates, CERC Regulations, local factors such as transportation costs etc. The Applicant in its suggestions has stated that Specific Fuel Consumption varies from plant to plant therefore, it should be considered between 1.9 kg/kWh to 2.0 kg/kWh similarly, auxiliary consumption with different pressure configurations varies from 9 to

10%. However, it may be noted that the KERC while determining the above issues, simply without any application of mind held that “no comments in this regard have been received” this is manifestly arbitrary and contrary to the record.

76. In A.P. Electricity Regulatory Commission and Ors. vs. Central Power Distribution Company of A.P. Ltd. and Ors., the Hon’ble High Court of Judicature at Hyderabad, has very succinctly held that *the true position, therefore, is that any act of the repository of power, whether legislative or administrative or quasi-judicial, is open to challenge if it is in conflict with the Constitution or the governing Act or the general principles of the law of the land or it is so arbitrary or unreasonable that no fair minded authority could ever have made it.*”

77. The KERC in its Impugned Order, exercising its quasi-judicial function, has significantly reduced the variable costs as determined in its earlier orders viz. dated 22.01.2015 and 11.04.2017. Moreover, it may be noted that as per Regulation 49 of the CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2017 (“2017 Regulations”) the price of bagasse fixed for Karnataka for 2017-18 is Rs.1964.71/- per MT however, the Impugned Order has, without any basis fixed the price of bagasse at Rs.819/- per tonne for 2017-18. The same is arbitrary, unreasonable and no fair-minded authority could ever have fixed such a price. Thus, the Impugned Order suffers from serious and glaring errors which needs to be rectified for being perverse and arbitrary.

78. Moreover, the impugned order has at times proceeded on a price fixing exercise on the basis of reasons which are contrary to the record. Some of these instances are brought out below:

- a. With respect to Fuel Cost the KERC has failed to record the submission made by the Applicant that the cost of Bagasse should be measured considering the price of cane on as per the “cost of gate cane” as fixed by the State Government.
- b. With respect to Auxiliary Consumption the KERC records in the impugned order that stakeholders have not objected to the suggestion in the consultation paper to fix it at 8.5% on the basis of figures adopted by the CERC and some state Commissions. This is contrary to the record as the instant Applicant has suggested a higher rate of auxiliary consumption of between 9%-10%. Pertinently, on this finding the KERC is willing to abide by the recommendations of the CERC whereas, in relation to fuel cost, the KERC claims that approach adopted by the CERC is not binding.
- c. With respect to Specific Fuel Consumption the KERC has recorded that no comments have been received on the proposal to continue with the existing specific fuel consumption rate of 1.60 Kg/Kwh. This is contrary to the record as the instant Applicant has made a submission proposing specific fuel consumption at a rate between 1.9 – 2.0 kg/Kwh. Further, in the consultation paper released by the KERC it has recorded that in Tamil Nadu the State Commission has adopted a specific fuel cost of 1.41 kg/kWh. Without prejudice to the averment of the instant applicant that specific fuel cost should be fixed at 1.9-2.0 kg/kWh, no reason is provided in the impugned order as to why a specific fuel cost

approved by a neighbouring state commission should not be adopted by the KERC.

79. All of the above demonstrate clearly a non-application of mind and, given that the KERC is performing a quasi-judicial function, do not fulfil the criteria of a judgment as illustrated in the concurring judgment delivered by Hon'ble Mr. Justice S.B. Sinha in Cellular Operators Association of India & Ors. V. Union of India & Ors, (2003) 3 SCC 186 ("Cellular Operators, 2003"):

*"21. We need not go into the aforementioned question in view of the order proposed to be passed by us. In our opinion the learned Tribunal failed to assign sufficient or cogent reasons in support of its findings. In relation to some issues, no reasons have been assigned. Some issues although noticed have not been adverted to. Some issues have not even been noticed. The impugned order of TDSAT, therefore, does not fulfil the criteria of a judgment".*

IV. Fuel Cost (bagasse price):

- i. Impugned order has erroneously calculated the Bagasse Price (Fuel Cost)
80. In the impugned order the KERC notes that the average Fair and Remunerative Price ("FRP") of sugarcane per tonne, as per Sugarcane Commissioner for Cane Development & Director of Sugar is Rs.2817/-. It further notes that one tonne of sugarcane on crushing yields about 30% of bagasse *i.e.* 300 Kg. The price component of bagasse in one tonne of sugarcane is Rs.845 ( $2817 \times 30\% = 845$ ) however, the KERC has erroneously considered the price component

of bagasse in one tonne of sugarcane to Rs.819. This calculation has been made for the price “per tonne” instead of price per “300 Kg bagasse”. Thus, the KERC has:

- i) wrongly calculated 30% of the cost of one tonne of sugarcane (i.e. Rs 2817) to be Rs. 819 instead of Rs.845; and
- ii) considered Rs. 819 as price of one tonne of sugarcane (*i.e.* 1000Kg) when this actually only indicates the price of 300 Kg of sugarcane.

81. Further, even if the cost of 300 Kg of bagasse is taken as Rs.819 (and not Rs.845 as has been considered under the Impugned Order), one tonne of bagasse would cost Rs.2730 ( $819 \times 100/30 = 2730/-$ ). Thereafter, with an escalation of 5.72%, the same would be Rs.2886.16 for 2018-19. The cost of production of bagasse (if taken as 20% - as has been considered by the KERC) and after adding the same, the cost of per tonne of bagasse works out to Rs. 3449.56/- using the following method:

- iii) Production Cost, *i.e.* 20% of FRP (*i.e.*2817) = Rs. 563.4/-;
- iv) Cost of one tonne of bagasse (Rs. 2886.16) + Production Cost (Rs. 563.4) = 3449.56/- for 2018-19.

82. However, for the year 2018-19, the Impugned Order wrongly calculates the price of one tonne of bagasse as Rs.1039.00 for 2018-19.

83. Comparisons of the Fuel Cost per tonne of bagasse with annual escalation of 5.72% from 2018 to 2021 is shown in the below table with corrections for the arithmetic error:

Year	Fuel Cost per tonne if Rs.819 is taken for 300 Kg bagasse	Fuel Cost per tonne if Rs.845 is taken for 300 Kg bagasse	Fuel Cost “Per tonne” as per the Impugned Order (However the same is only for 300Kg bagasse)
2018-19	3449.56/-	3541.17/-	1039.00/-
2019-20	3646.87/-	3743.72/-	1098.44/-
2020-21	3855.47/-	3957.86/-	1161.28/-

84. It is submitted that the components of variable cost include Fuel Cost, Specific Fuel Consumption and Auxiliary Consumption, therefore, the determination of tariff rate is directly related to the fuel cost arrived at. The KERC has erred in considering the price of 300 kg of bagasse as the price of 1000 kg *i.e.* per tonne of bagasse and consequently, the tariff rate as determined by the KERC is also reflective of 300 kg of bagasse.

85. Thus, it is submitted that Tribunal may set aside the findings on Fuel Cost in the Impugned Order for being wrong and without any basis. It is further submitted that the Tribunal may kindly direct that the Fuel Cost per tonne of Bagasse be calculated at a rate of Rs. 845/- per 300 kg. In the alternative the fuel cost per tonne of Bagasse may be directed to be calculated at the rate of Rs. 819/- per 300 kg and not “per tonne” (as reflected in column one of the above table).

ii. Impugned Order has failed to consider the Fuel Cost determined by CERC

86. It is also submitted that the KERC has not adhered to the fuel cost determined by the Central Commission in the CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2017 (2017 Regulations). Regulation 49 prescribes that the price of bagasse for FY 2017-18 for Karnataka is Rs.1964.71/- per MT. However, the KERC in the Impugned Order has arbitrarily considered the price of bagasse as Rs.819/- per tonne for 2017-18. Hence, this Tribunal may kindly set aside the findings on fuel cost in the Impugned Order to the extent as challenged herein above.

iii. Whether the realization made from the sale of by-product i.e. bagasse is included in determining the FRP of Sugarcane?

87. It is submitted that Section 2(ea) of the Karnataka Sugarcane (Regulation of Purchase And Supply) Act, 2013 ("Karnataka Sugarcane Act") defines FRP as price fixed by the Central Government under Clause 3 of the Sugarcane Control Order 1966 ("Sugarcane Control Order"). The FRP is determined by such a Sugarcane Control Order as amended from time to time. Sugarcane Control Orders are issued by the Central Government pursuant to the powers conferred by Section 3 of the Essential Commodities Act, 1955. Clause 3 of the Sugarcane Control Order states that the Central Government may fix the FRP of Sugarcane having regard to *inter alia* the realization made from sale of by products such as bagasse. The relevant part of the Sugarcane Control Order is extracted and reproduced hereunder:

*"3. Fair and remunerative price of Sugarcane payable by producer of sugar"*



*(1) The central government may, after consultation with such authorities, bodies or associations as it may deem fit, by notification in the Official Gazette, from time to time, fix the fair and remunerative price of Sugarcane to be paid by producers of sugar or their agents from the Sugarcane purchased by them, having regard to –*

*...*

*(f) the realization made from sale of by products viz. molasses, bagasse and press mud or their imputed value.”*

88. Further, it is submitted that Section 4D of the Karnataka Sugarcane Act also states that the revenue realized from sugarcane crushed during the year shall include actual production of sugar and its by-products such as bagasse. The relevant part is extracted and reproduced hereunder:

*“4D. Factors to be taken into consideration by the Board for deciding additional Sugarcane Price.- The Board while deciding the additional Sugarcane price shall take following factors into consideration, namely:-*

*(1) The recorded weight of the sugarcane delivered, actual revenue realized from sugarcane crushed and production of sugar and its by- products namely bagasse, molasses, press-mud; and sugarcane juice directly utilised for production of any other produce;*

*Explanation.- For the purpose of this clause, revenue realised from sugarcane crushed during the year shall include actual production of sugar and its by-products viz., bagasse, molasses, press-mud; and sugarcane juice directly utilised for production of any other produce, if any, which are suitably*

*valued considering the sales, opening and the closing stock though they may not have been sold.” (Emphasis Supplied)*

89. The above demonstrates that the FRP includes the realization made from sale of bagasse. It is pertinent to mention that the intention of the legislature here appears to be providing a fair and remunerative price of Sugarcane to farmers by taking into consideration the realization made from by products as well. Therefore, the benefit that may accrue to the Applicants herein from utilisation of sugarcane by-products is also passed on to farmers/sugarcane cultivators. Further, the above-mentioned provisions establish; (i) the fact that bagasse despite being a by-product has an economic value of its own and therefore; and (ii) that the Sugarcane Order contemplates the realization made from bagasse therefore, price component of bagasse in the price of Sugarcane can always be determined.

iv. Fuel Cost determined in the generic tariff order dated 22.01.2015.

90. The KERC in its 2015 Order keeping in view the price of Rs.1500/MT suggested by BESCOM, CERC's price of Rs.1879/MT and SISMA's estimate of 1674/MT based on cane price, decided to allow Rs.1600/MT as the Fuel cost for bagasse. It is submitted that in case the corrected method of fuel cost calculation (as provided in Section V(i) of these submissions, above is not considered then, in the alternative, the KERC should be directed to consider the bagasse price determined in the 2015 order i.e. 1600/MT for 2015-16 with escalation of 5.72% for the control period 2018 to 2021 and the same works out as follows:

Year	Rs. Per MT of Bagasse
2015-16	1600.00/-
2016-17	1691.52/-
2017-18	1788.27/-
2018-19	1890.56/-
2019-20	1998.70/-
2020-21	2113.03/-

v. Equivalent Heat Value method for determination of Fuel Cost

91. The KERC has rejected the equivalent heat value method on the ground that the same is based on CERC's 2009 regulations and is not followed thereafter. It further observed that that the CERC in its latest Regulations dated 18.04.2017 has done away with the indexation mechanism. It is submitted that the CERC has not dispensed with the equivalent heat value method but only dispensed with the earlier indexation method that formed a part of the equivalent heat value method. Therefore, the KERC has wrongly held that the method is not to be applied based on an erroneous understanding of the CERC Regulations. The Applicant herein adopts and supports the stance taken by SISMA in this regard.

92. The Commission in its consultation paper had proposed to link the fuel cost to the cost of domestic pit head unwashed coal cost. Whereas Nirani Sugars/Applicant in its comments has specifically stated that consideration of pit head coal cost is not suitable since bagasse is generated after extraction of juice, and cane which is to be cultivated at field and cane yield vary from soil to soil. It also suggested that cultivation also includes cost of harvesting and

transportation therefore, when applying the equivalent heat value method it is the landed cost of coal which is to be considered for determination and not the pit head coal cost. The Impugned Order has failed to take into consideration the comments made by Nirani Sugars/Applicant. In case the corrected method of fuel cost calculation (as provided in Section V(i) of these submissions, above) is not considered then the equivalent heat value method, as described above should be adopted.

vi. Fuel Cost as per the market price of bagasse

93. It is submitted, Nirani Sugars in its comments provided the KERC with the sales and quantity of Bagasse billed that was not used for energy production. Those bills makes it demonstrably clear that the market price of bagasse is much higher than the fuel cost of Rs. 1039/- which KERC has arrived at in the impugned order. The bills show that the bagasse price ranges from Rs.1800/- to Rs.3000/- per MT.. The KERC in the impugned order has not just failed to take the same into consideration but also did not even acknowledge the suggestions given by Nirani Sugars in this regard. It shows that the Impugned Order suffers from non-application of mind and is arbitrary. Therefore, it is submitted that in the alternative to any other method, KERC should be directed to consider the market price of bagasse for determination of the bagasse price.

V. Specific fuel consumption:

94. The Impugned Order decided to continue with the existing specific fuel consumption of 1.60 Kg/Kwh in order to calculate the applicable tariff. This was done on the ground that no suggestions/objections

were received in this regard. The same is untenable as Nirani Sugars, in its comments issued to the KERC on 10.01.2018, expressly submitted that:

- i) Specific fuel consumption varies from plant to plant; and
- ii) That Karnataka State has a total installed cogeneration capacity at 987.2 MW and the overall specific fuel consumption varies from 1.9 kg/kWh to 2.0 kg/kWh

95. Despite these suggestions, the KERC has held that no suggestions were received in this regard. Thus, the determination of 1.6Kg/Kwh is arbitrary and without any basis.

96. Moreover, Regulation 74 of the 2017 Regulations prescribes 3kg/kWh as the rate for Specific Fuel Consumption and the Impugned Order has failed to take the same into consideration.

#### VI. Auxiliary consumption:

97. The KERC in its discussion paper had proposed to reduce auxiliary consumption from the existing 9% to 8.5% while referring to auxiliary consumption of some of the other State Commissions. The KERC in the Impugned Order noted that since none of the stakeholder had objected to the above proposal, it has decided to reduce the rate to 8.5%

98. However, Nirani Sugars in its comments (issued to the KERC on 10.01.2018) submitted that the auxiliary consumption of a plant with different pressure configuration and temperature varies from 9% to 10%. It was also submitted that Nirani Sugars, having 66ata use and 87ata 515°C pressure configuration cogeneration, the auxiliary power

consumption for 66ata, 485°C is 10% and 87ata 515°C pressure configuration is 9.5%.

99. Therefore, despite objections submitted by Nirani Sugars to the proposal of the KERC and despite the suggestion from Nirani Sugars that the auxiliary consumption should be considered at 9.5% to 10%, the KERC failed to take the same into account on the ground that no comments have been received. Moreover, the KERC has erred in blindly following the auxiliary consumption of other states and not the actual prevailing rate in Karnataka. The said finding needs to be set aside for being arbitrary and without any basis.

- VII. The tariff determined in the impugned order is confiscatory in nature and the same if liable to be set aside.

100. The concept of 'confiscatory tariff' has firmly evolved itself in the United States' Jurisprudence. As early as 1896 the U.S. Supreme Court in *Covington & Lexington Turnpike Road Co. v. Sanford* has observed that "*In short each case must depend upon its special facts; and when a court, without assuming itself to prescribe rates is required to determine whether the rates prescribed by the legislature for a corporation controlling a public highway are, as an entirety so unjust as to destroy the value of [the] property for all the purposes for which it was acquired, its duty is to take into consideration the interest both of the public and of the owner of the property together with all other circumstances that are fairly to be considered in determining whether the legislature has under the guise of regulating rates exceeded its constitutional authority, and practically deprived the owner of property without due process of law*". In *Duquesne Light Company and Pennsylvania Power Company v David M. BARASCH*,

etc., et al, the U.S. Supreme Court has observed that *“The guiding principle has been that the Constitution protects utilities from being limited to a charge for their property serving the public which is so ‘unjust’ as to be confiscatory.”* Further, it was also noted that *“By long standing usage in the field of rate regulation, the ‘lowest reasonable rate’ is one which is not confiscatory in the constitutional sense”*.

101. In *Wilcox et al., Constituting the Public Service Commission of New York, v. Consolidated Gas Company*, it was further observed that *“The question arising is as to the validity of the acts limiting the rates for gas to the prices therein stated. The rule by which to determine the question is pretty well established in this court. The rates must be plainly unreasonable to the extent that their enforcement would be equivalent to the taking of property for public use without such compensation as under the circumstances is just both to the owner and the public. There must be a fair return upon the reasonable value of the property at the time it is being used for the public.”*

### **Submissions of Intervenors in IA Nos. 1163 TO 1171 OF 2020**

102. The present appeal has been filed under Section 111 of the Electricity Act, 2003 (hereinafter the “Electricity Act”) against Order dated 14.05.2018 (“Impugned Order”) passed by the Karnataka Electricity Regulatory Commission (“Respondent Commission”) determining the tariff for Mini-Hydel Projects, Bagasse-based co-generation power plants and Rankine cycle-based biomass renewable energy power projects, to be commissioned between 01.04.2018 and 31.03.2021 and for which PPAs have not been executed as on

31.03.2018. The Respondent Commission has also revised the variable component of tariff for existing plants on account of proposed revision in fuel costs. It is submitted that the Impugned Order merits to be set aside on account of being arbitrary and illogical. It will also cause severe financial prejudice to the Applicant and other similarly placed bagasse- based cogenerations plants.

103. At the outset it is submitted that the Impugned Order merits to be remanded back to the Respondent Commission for de novo consideration as the same has been passed in violation of principles of natural justice. The Respondent Commission has disregarded all the submissions made by the Appellant and other co-generators without giving any reason. The Impugned Order is unreasoned and suffers from serious infirmities.

104. It is pertinent to mention that the Applicants are only challenging the fuel cost/ variable cost determined by the Respondent Commission for bagasse-based cogeneration plant in the Impugned Order. The members of the Appellant Association along with the Applicants have set-up sugar mills/factories along with bagasse-based cogeneration plants in the State of Karnataka and are selling power to the ESCOMS of Karnataka. The co-generators buy sugarcane, at State determined price, which includes price of bagasse, for use in their sugar factories, and use the bagasse produced from such sugarcane for generation of electricity. By the Impugned Order, the Respondent Commission has reduced the fuel cost from INR 3.16/unit for FY 2017-2018 to INR 1.82/unit for FY 2018-19 causing tariff shock to bagasse-based co-generators.



105. Consequently, the Applicants have challenged the Impugned Order on the following grounds:

- a. Impugned Order has been passed in violation of principles of natural justice;
- b. Impugned Order is arbitrary and unreasonable

**A. Violation of principles of natural justice**

106. It is submitted that the Impugned Order has been passed in violation of principles of natural justice and provisions of Electricity Act. The Respondent Commission on 19.12.2017 notified consultation paper titled “Determining the generic tariff for electricity generated from select RE sources, to be commissioned during the control period between 01.04.2018 to 31.03.2021” and invited comments and suggestions from stakeholders. Accordingly, the Appellant and various other co-generators filed detailed submissions on how the fuel cost for bagasse -based co-generation plants should be determined. The Respondent Commission, however, instead of analysing the said submissions incorrectly recorded in the Impugned Order that no submissions were made by bagasse-based co-generators. It is submitted that having notified the “consultation paper” and invited comments from the stakeholders the Respondent Commission was obligated to analyse the submissions made by the stakeholders. The Respondent Commission cannot simply ignore the submissions, made by stakeholders, and then incorrectly record that no submissions have been made.

107. Secondly, the Impugned Order is also contrary to Section 86(3) of Electricity Act which directs the State Commission to ensure

transparency while exercising its functions and discharging its functions. The discussion paper, notified by the Respondent Commission, mentioned two methods to be followed for determining fuel cost of bagasse. In the Impugned Order, however, the Respondent Commission has not followed either of the two proposals. Instead, the Respondent Commission has used some other method which was never shown to the stakeholders, it also failed to demonstrate the methodology adopted by it in arriving at the fuel cost. Thus, adequate opportunity was not given to the stakeholders to make address the methodology used by the Respondent Commission. It is submitted that it is a settled principle of law that the opportunity of being heard should be real, reasonable and effective. The same should not be for namesake and a mere formality. The Hon'ble Supreme Court in *Swadeshi Cotton Mills v. Union of India* [(1981) 1 SCC 664] held that affected person must have a reasonable opportunity of being heard and that such hearing must be a genuine hearing and not an empty public relations exercise. The relevant extracts of the judgment are as under:

“27. But two fundamental maxims of natural justice have now become deeply and indelibly ingrained in the common consciousness of mankind, as pre-eminently necessary to ensure that the law is applied impartially, objectively and fairly. Described in the form of latin tags these twin principles are: (i) *audi alteram partem* and (ii) *nemo judex in re sua*. For the purpose of the question posed above, we are primarily concerned with the first. This principle was well-recognised even in the ancient world. Seneca, the philosopher, is said to have referred in *Medea* that it is unjust to reach decision without a full

hearing. In Maneka Gandhi's case Bhagwati, J. emphasised that audi alteram partem is a highly effective rule devised by the Courts to ensure that a statutory authority arrives at a just decision and it is calculated to act as a healthy check on the abuse or misuse of power. Hence its reach should not be narrowed and its applicability circumscribed.

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32. The maxim audi alteram partem has many facets. Two of them are: (a) notice of the case to be met; and (b) opportunity to explain. This rule is universally respected and duty to afford a fair hearing in Lord Loreburn's oft-quoted language, is "a duty lying upon every one who decides something", in the exercise of legal power. The rule cannot be sacrificed at the altar of administrative convenience or celerity; for, "convenience and justice"-as Lord Atkin felicitously put it-"are often not on speaking terms" General Council of Medical Education v. Spackman (1943) AC 627 at p. 638."

108. The impugned order also suffers from the irregularity of maintaining a transparency and following the due process of law while arriving at the conclusions drawn in the impugned order so far as fuel cost of bagasse is concerned. In this respect, it is pertinent to refer to the observations made by the Hon'ble Supreme Court of India, in Cellular Operators Association of India and Ors. v. TRAI and Ors., reported in (2016) 7 SCC 703, has noted that "transparency" in exercise of functions, by an authority, would mean holding due consultations with

all the stake holders; allowing all stakeholders to make their submissions to the authority and by making all its decisions fully documented and explained. The relevant extract is as under:

“74. We find that, subject to certain well defined exceptions, it would be a healthy functioning of our democracy if all subordinate legislation were to be “transparent” in the manner pointed out above. Since it is beyond the scope of this judgment to deal with subordinate legislation generally, and in particular with statutes which provide for rule making and regulation making without any added requirement of transparency, we would exhort Parliament to take up this issue and frame a legislation along the lines of the U.S. Administrative Procedure Act (with certain well defined exceptions) by which all subordinate legislation is subject to a transparent process by which due consultations with all stakeholders are held, and the rule or regulation making power is exercised after due consideration of all stakeholders’ submissions, together with an explanatory memorandum which broadly takes into account what they have said and the reasons for agreeing or disagreeing with them. Not only would such legislation reduce arbitrariness in subordinate legislation making, but it would also conduce to openness in governance. It would also ensure the redressal, partial or otherwise, of grievances of the concerned stakeholders prior to the making of subordinate legislation. This would obviate, in many cases, the need for persons to approach courts to strike down

subordinate legislation on the ground of such legislation being manifestly arbitrary or unreasonable.”

(Underline supplied)

The Impugned Order, thus, merits to be set aside and remanded back to the Respondent Commission with the direction to pass a fresh order, after de-novo consideration and analysis of the submissions made by co-generators.

**B. Failure of Respondent Commission in ascertaining the fuel price of bagasse**

109. It is submitted that the Respondent Commission has failed to understand the process by which sugarcane prices are determined in the country and the price paid by co-generators for procuring bagasse. The Commission for Agricultural Costs and Prices, Ministry of Agriculture, (hereinafter “CACP”) formulates the price policy for sugarcane as mandated under the Sugarcane (Control) Order, 1966. Prior to 2009-10 sugar season, the Central Government was fixing the Statutory Minimum Price (SMP) of sugarcane and farmers were also entitled to share profits of a sugar mill on 50:50 basis. However, it remained virtually unimplemented mainly on account of delays in the announcement of profits by the mills. The Sugarcane (Control) Order, 1966 was, thus, amended vide notification dated 22.10.2009 and the concept of SMP was replaced by the Fair and Remunerative Price (FRP) of sugarcane. For the purpose of working out FRP, a new item ‘reasonable margins for growers of sugarcane on account of risk and profits’ was inserted in Clause 3(1) vide notification dated 22.10.2009 and made effective from 2009-10 season. Clause 5A relating to sharing of profits between sugar factories and farmers was

thus deleted. Clause 3(1) of the Sugarcane (Control) Order, 1966 reads as under:

“The Central Government may, after consultation with the authorities, bodies or associations as it may deem fit, by notification in the official Gazette, from time to time, fix the Fair and Remunerative Price of sugarcane to be paid by producers of sugar or their agents for the sugarcane purchased by them, having regard to –

(a) the cost of production of sugarcane;

(b) the return to the grower from alternative crops and the general trend of prices of agricultural commodities;

(c) the availability of sugar to the consumers at a fair price;

(d) the price at which sugar produced from sugarcane is sold by producers of sugar;

(e) the recovery of sugar from sugarcane;

(f) the realization made from sale of by-products viz. molasses, bagasse and press mud or their imputed value (inserted on 29.12.2008)

(g) reasonable margins for growers of sugarcane on account of risk and profits (inserted on 22.10.2009)”

(Underline Supplied)

110. The CACP while determining FRP for sugarcane, thus, takes into account not only the recovery and pricing of sugar but also its by-products such as molasses, bagasse and press mud. The relevant extracts from the CACP's "Price Policy for Sugarcane for 2014-15" and "Price Policy for Sugarcane for 2020-21" are as under:

"2014-15

2.8 It is, therefore, essential that an appropriate pricing formula is devised so as to ensure a fair sharing of the value created in the cane-sugar value chain by protecting the interest of both farmers and millers. To bring in greater certainty, stability and transparency into the sugar industry, and to rationalize the pricing of sugarcane, Rangarajan Committee has recommended for sharing the revenue pot of value created in the sugarcane value chain between the farmers and millers in the ratio of their relative costs and has suggested that 70 percent of the value of sugar and each of its three major by-products, namely bagasse, molasses and press mud (all ex-mill), be fixed as the cane dues payable to the farmer. Loading the value of by-products on sugar value, this amounts to roughly 75 per cent of the ex-mill value of sugar alone produced from a quintal of cane.

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4.1 For pricing of sugarcane, i.e., in arriving at a fair and remunerative price (FRP), the Commission considers not only the cost of production but also the demand

supply situation of both sugarcane and sugar, trends in market prices of sugar in domestic as well as in international markets, and the price realized from sale of sugar and its by-products, viz., molasses, bagasse and press-mud produced from a quintal of sugarcane. Apart from these factors, allowance is made for profit and risk margins in arriving at FRP as per the mandate given under Sugarcane (Control) Order, 1966.

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6.3 Accordingly, the Commission is required to pay due regard to the statutory factors listed in the Control Order. It may be worth emphasizing that this includes taking into account not only the recovery and pricing of sugar, but also its by-products namely molasses, bagasse and press mud. Thus, revenue sharing of sugar factories is expected to be reflected in sugarcane pricing.

### 2020-21

S.3 The Commission also recommends that the Government should implement the Revenue Sharing Formula (RSF) recommended by Dr. Rangarajan Committee, which is composed of revenue sharing principle based on revenue generated from sugar and three major by-products, namely, molasses, bagasse and press mud with the Fair and Remunerative Price (FRP) as the minimum to be paid up-front.

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## **Cogeneration**



1.20 One of the most economically viable options for sugar industry is to diversify into cogeneration of electricity using bagasse. According to the World Alliance for Decentralized Energy, the potential for cogeneration from bagasse is estimated at 135,029 GWh per year globally. As per Energy Statistics 2019, Ministry of Statistics and Programme Implementation, Government of India, total potential for power generation from bagasse-based cogeneration in sugar mills in the country as on 31st March 2018 was estimated at 5000 MW. However, as per industry sources, total potential is estimated at 7000-8000 MW. The national programme on Promotion of Biomass Power/Bagasse Based Cogeneration was launched in 1992. In May 2018, Government of India implemented a Scheme to Support Promotion of Biomass Based Cogeneration in Sugar Mills and other Industries in the Country (up to March 2020) for grant of Central Financial Assistance at the rate of `25 lakh per MW for bagasse cogeneration projects with total outgo of `170 crores for biomass based cogeneration projects and a physical target of 740 MW for the period from 2017- 18 to 2019-20. As per Ministry of New and Renewable Energy data, there are 359 bagasse based co-generation power plant units in India with a total installed capacity of about 7380.5 MW as on 30th September 2019.

1.21 Over the last few years, bagasse cogeneration faced a varied set of barriers. For example, tariffs fixed

by the State Electricity Regulatory Commissions (SERCs) for bagasse-based power supplied by sugar mills have fallen due to competition in market and delay in payments for power sold to transmission and distribution companies has also been an issue. In some States, Government has imposed electricity duty. There is a need to address these issues to improve long-term viability and sustainability of the sugar industry.

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Considerations and Recommendations for Price Policy  
The Commission considers various factors such as the cost of production of sugarcane, current situation and outlook for demand, supply and prices of sugar in domestic and global markets, inter-crop price parity, recovery of sugar from sugarcane, realization made from sale of by-products, viz., molasses, bagasse and press mud, reasonable margins for the growers of sugarcane on account of risk and profits, etc. in making recommendations of Fair and Remunerative Price (FRP) of sugarcane.

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#### Revenue Sharing Formula

6.5 In order to make Indian sugar industry globally competitive and efficient in the long-run, rationalization of cane pricing policy by linking sugarcane price to the value of sugar and the by-products, viz., value of bagasse, molasses and press mud as recommended by

Dr. Rangarajan Committee should be implemented by all States.”

(Underline Supplied)

From a bare perusal of the above extracts, it is evident that co-generators have to pay to purchase bagasse, while procuring sugarcane, and that the same is not available to them free of cost. The Respondent's contention that bagasse is available free of cost to co-generators is, thus, completely incorrect and merits to be set aside.

111. The C. Rangarajan Committee Report, titled “Report of the Committee on the Regulation of Sugar Sector in India: The Way Forward” clearly states that market for by-products such as bagasse are tightly regulated because of which true market value of the same is not realized by the mills, leading to loss of potential revenue. The Committee has suggested that value of sugar and its by products should be fixed as dues payable by the farmers for the sugarcane supplied by them.

“5. There is general agreement that there is a need to rationalize the pricing of sugarcane. It is also generally agreed that there should be a sharing of the revenues/value created in the sugarcane value chain between the farmers and the millers in a fair and equitable manner. The question that needs to be answered is the exact level and manner of arriving at the cane dues. It would be fair to share the revenue pot of value created in the sugarcane value chain between the farmers and millers in the ratio of their relative costs. An

analysis of the costs incurred by sugarcane farmers and those incurred by sugar mills suggests that this ratio between farmers and millers, taking a recovery rate of 10.31 per cent, works out as 69:31 which, rounded off, can be taken as 70:30. This value-sharing ratio should apply not only for the revenue generated from sugar but also to that generated from saleable primary by-products produced in the process of sugar production. Therefore, it is suggested that 70% of the value of sugar and each of its three major by-products, namely bagasse, molasses and press mud (all ex-mill), be fixed as the cane dues payable to the farmer for the sugarcane supplied. (Based on an analysis of the data available for the by-products, and if by-products are loaded on the value of sugar, the value-sharing ratio for farmers is estimated to amount to roughly 75 per cent of the ex-mill value of sugar alone). However, farmers will in all circumstances be paid the Fair and Remunerative Price (FRP) as the minimum, and this will be paid upfront.

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3.6 Over and above this share of sugar value, the same value-sharing ratio should also apply to the value/revenue generated from saleable primary by-products of sugar production. Therefore, it is suggested that 70% of the value of all three major primary by products, namely bagasse, molasses and press mud (all at ex-mill price) including the imputed value of molasses

for an integrated distillery and of bagasse for cogeneration, be fixed as cane payment due to the farmer for the sugarcane supplied.”

112. It is stated that sugar producers cannot setup sugar-mills without setting up cogeneration plant to ensure that the bagasse, produced from the sugarcane, is used for generation of electricity and not burnt. It is a condition precedent of most leading banks, including IREDA, that the sugar producers must show documentary proof of installing a corresponding co-generation plant to avail loan for setting up sugar-mill. Thus, it is incorrect to treat bagasse as a free by-product that co-generators get. It is reiterated that the co-generators pay for bagasse along with sugarcane while purchasing the latter and also have to necessarily set up cogeneration plants to set up sugar mills.

113. The Ministry of Consumer Affairs, Food and Public Distribution, vide its Notification dated 26.08.2020 stated that the FRP of sugarcane, payable by Sugar Mills for 2020-21, is INR 285/ quintal for a basic recovery rate of 10%. Further, for sugar mills having recovery of 9.5% or less, FRP will be fixed at INR 270.75/quintal. It is relevant to note that when the raw material is costing around Rs. 28.50 for production of 1 kg of sugar which is sold at a price of around Rs. 31 in the open market, no industry can sustain at such ratio between the raw material and the final product. Therefore, the intrinsic value of bagasse for which amount is already been paid to the sugar cane growers, are to be recognized and ascertainment of fuel cost is required to be undertaken by the Respondent Commission either on its own or through the help of an independent agency.

114. The National Sugar Institute vide its letter dated 15.04.2021 informed the Appellant that in case of bagasse-based co-gen plants the overall efficiency ranges between 15-20%. If the average is considered 17% then SHR for KWH will be 5058 Kcal. Further, if GCV of bagasse is 2250 Kcal/kg then ratio is 5058/2250 which is 2.25 kg/KWH. Thus, clearly the bagasse consumption per unit is 2.25 kg as opposed to 1.6 kg considered by the Respondent Commission in para 2(b) of the impugned order. It is submitted that had the Respondent Commission correctly considered that consumption of bagasse per unit then the fuel cost would be INR 4.4/unit.

115. It is pertinent to mention that the Maharashtra Electricity Regulatory Commission ("MERC") in its Order dated 01.04.2021 decided to continue with the variable cost, of INR 4.38/kWh, determined for the co-generation plants vide Order dated 30.04.2019, passed in Case No. 52 of 2019. The relevant extract of Order dated 30.04.2019 are as under:

"6.3. Variable charge for bagasse-based co-generation power projects commissioned prior to 1 August, 2018

As per Regulation 52.2, the fuel-related aspects specified in Regulations 59 to 66 shall be applicable to existing Non-Fossil Fuel-based Co-Generation Projects, except for the SHR and Auxiliary Consumption norms which shall be as stipulated in the respective RE Tariff Orders referred to in Regulation 3.2. Accordingly, the norms with respect of Fuel Price of 2506.81/MT. SHR as 3600 kCal/kWh and GCV of 2250 kCal/kg shall be applicable to existing Projects as per Regulations 59, 60

and 61. The Auxiliary Consumption Factor for existing Projects commissioned prior to 1 August, 2018 shall be as stipulated in the respective Tariff Orders (i.e., 8.5%). Based on these parameters, the variable cost of the Projects commissioned prior to 1 August, 2018 works out to Rs. 4.38/kWh."

(Underline supplied)

116. It is submitted that pricing of sugarcane is an extremely sensitive concept in India. Successive governments have set up committees to give the right price to sugarcane farmers to ensure that they get a fair value for their labour. Accordingly, the sugarcane sold in India takes into account even the prices of the by-products that will be produced while manufacturing sugar. Thus, the farmers are not only paid for the sugarcane but also for any by-product that may result from any processing of sugarcane. The Respondent Commission has however, completely ignored this reality. It has blindly and without any logic decided that bagasse is available for free to co-generators, which is clearly incorrect. The Respondent Commission has thus, failed in its duty of supporting the sugarcane farmers by not determining correct fuel price for bagasse-based co-generators. It is thus, prayed that the Impugned Order merits to be set aside and the matter needs to be remanded back to the Respondent Commission with the direction to undertake de-novo consideration.

117. A perusal of the Policy Documents, sugar control order as well as the Rangarajan Committee Report, it is the industry as a whole whose sustainability is in question and that very factum is required to be taken into consideration by the Respondent Commission while

arriving at a fuel cost. The very issue of sugar as an essential commodity, has been very sensitive as a matter of political issue or even policies. The sustainability of the entire industry which takes care of fair price to the farmers for purchase of sugar cane, sustainability of the sugar manufacturers and the interest of the consumers at large. For the very sustainability of the sugar manufacturers, the byproducts or the waste generated from the sugar industry are to be efficaciously utilized for the purpose of infusing feasibility into the sector as a whole, otherwise the raw material cost of Rs. 28.50 is not sustainable for selling the finish product at Rs. 31 after putting the raw material to industrial process which is both capital as well as labour intensive. Hence, the Respondent Commission shall have to adopt an integrated approach whereby the fixation of fuel cost for bagasse based co-generation plant are not considered from an independent point of view rather while determining the fuel cost, the sustainability and feasibility of the entire industry as a whole to be kept in mind.

C. **Incorrect deviation from the norms set in the CERC Regulations**

118. It is submitted that the Respondent Commission is factually incorrect when it submits that the Central Commission has followed the equivalent heat value method in only CERC Regulations, 2009. It is pertinent to mention that in the CERC Regulations, 2017, the Central Commission has only dispensed with the option of earlier indexation method and instead adopted the straight 5% annual escalation on bagasse cost. The relevant extract of the CERC Regulations, 2017 is as under:



***“Analysis and Decision:***

*The Commission has analyzed 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 cogeneration plants as Bagasse is a byproduct 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.”*

119. Further, Regulation 54 of the CERC (Terms and Conditions for determination of the Tariff for RE Sources) Regulations, 2009 provides an equation for determination of bagasse price. This equation clearly states that the bagasse price should include cost of bagasse, factors representing handling cost, transportation cost and annual inflation rate, etc. Further, the Central Commission in the SOR to CERC Regulations, 2017 has recorded table of calorific value of

various bio-mass with moisture content, as produced by Indian Bio-mass Power Association. It is evident from the said table, that only fully dried palm wastes have net calorific value of 1890 kcal/kg and the average GCV of fully dried Biomass is 2900 kcal/kg. Also, as per notification of Coal Controller and Ministry of Coal, last graded coal i.e., G14 has GCV of 3101 to 344 kcal/kg. There is also no mention of non-coking coal having GCV less than 3000 kcal/kg. The Respondent Commission has without giving any cogent reasons refused to follow the norms set by the Central Commission.

120. It is pertinent to mention that this Hon'ble Tribunal in Order dated 04.09.2013, passed in Appeal No. 199 of 2012, has categorically held that the State Commission should have considered the equivalent heat value method, as it is bound by the principles and methodologies, adopted by the Central Commission. The relevant extracts of Judgment dated 04.09.2013, passed in Appeal No. 199 of 2012 is as under:

"53. The State Commission is bound to be guided by the Central Commissions principles and methodology having regard to the local conditions 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.

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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.”

Evidently, the fuel price has to be determined on the basis of equivalent heat value method, with coal as available to the generator or on the basis of market price of bagasse. The Respondent Commission has instead followed some other methodology to drastically reduce the tariff causing grave financial prejudice to the members of the Appellant and other bagasse-based co-generators.

**D. Past Practise of the Respondent Commission:**

121. The Respondent Commission has deviated from its own previous findings, in its Orders dated 01.01.2015, 11.04.2017 and 14.05.2018, without giving any reason for such deviation.

122. The Respondent Commission in its Order dated 01.01.2015 considered the Central Commission determined price, of INR 1879/MT, to arrive at the fuel cost of INR 1600/MT. The Respondent

Commission has thus, in the past considered the price determined by the Central Commission to compute the fuel cost on commercial principles. This order having never been challenged has attained finality.

123. Further, the Respondent Commission vide its Order dated 11.04.2017, passed for OP Nos. 38 to 68/2016 determined the fixed cost and variable cost payable to bagasse-based co-generators for the period of FY 2017-18 to FY 2021-22. The Respondent Commission considered the variable cost, fixed in Order dated 01.01.2015 based on Central Commission norms, as the rate for base year and thereafter applied annual escalation of 5.72% to determine fuel cost as under:

Year	Fuel Cost (Rupee/ unit)
FY 17	3.14
FY 18	3.32
FY 19	3.51
FY 20	3.71
FY 21	3.92

124. The Respondent Commission also noted that the fuel cost for cogeneration plants remains the same in any year even if they have been commissioned in different years. The aforesaid order, having never been challenged has attained finality and is thus, binding on the Respondent Commission.

125. The Respondent Commission by the Impugned Order has however deviated from its Order dated 11.04.2017, by drastically reducing the fuel cost, without giving any justifications. It is submitted that such

arbitrary deviation from a final order in teeth of Article 14 of the Constitution of India.

126. In Order dated 14.05.2018, the Respondent Commission while refusing to levy wheeling charges on Biomass and cogeneration plants noted that such plants have to bear high speed fuel cost, in addition to their fixed costs, due to which their cost of energy per unit is INR 5/unit. The relevant extract of Order dated 14.05.2018 is as under:

“The Biomass and Cogeneration Power Projects have to bear the high fuel cost, apart from their Fixed Costs, therefore, the cost of energy per unit, for the present, would be more than Rs.5.00 per unit. Therefore, these Projects may not be saddled with the proposed Wheeling Charges and line loss, and such Projects may be levied the existing Wheeling Charges, in kind, out of the net energy injected.”

(Underline supplied)

It is important to note that despite being passed on the same day the findings, in the aforementioned Order and the Impugned Order, are dramatically opposite. The Respondent Commission has not given any reason for diverting from its finding of cost of energy for cogeneration plants being more than INR 5/unit. Evidently, the Impugned Order suffers from non-application of mind and thus, merits to be set aside.

127. The Respondent Commission vide the Impugned Order has brought the fuel cost to the one determined for FY 2014. It is inconceivable

that fuel would cost the same seven years later, i.e., in 2021. This point of further strengthened by the annually increasing sugar cane prices, notified by the Cane Commissioner. In such a scenario, it makes no sense for the Respondent Commission to reduce the fuel cost as it has.

128. In view of the aforesaid facts and submissions, it is most respectfully prayed that this Tribunal may graciously be pleased to allow the present appeal.

### **Finding and analysis**

129. We have heard the Appellant, the Respondents, the interveners, have gone through the appeal/written submissions filed by all the parties and our opinion on the various issues raised in the appeal are as under:

#### **Issue regarding the Fuel Cost (Bagasse price)**

130. The State Commission in the impugned order dated 14.05.2018 has discussed in detail regarding the determination of the price of bagasse which is used as a fuel by the co-generation plants for generation of electricity by sugar mills. The Commission has taken into consideration the comments furnished by various stakeholders including the Appellant. The relevant extract as given in the impugned order under the heading “*Commission’s Views and Decision*” reads as under:

*“Commission’s Views and Decision:*

(1) The Commission, in its Consultation Paper had proposed the following options for determination of fuel cost for the internally generated bagasse:

(a) The Commission had proposed a fuel cost of Rs.600/tonne, considering the fuel cost of Rs.1600/tonne allowed in 2015 Tariff Order, escalating it by 5.72% per annum and deducting the transportation cost of Rs. 1300/tonne. **The Commission considers that the approach adopted by the CERC is not binding and that the Commission can adopt a price determination methodology depending on local factors including State's consumers' interest.**

(b) On the alternative proposal of the Commission to link the fuel cost to the domestic pit head unwashed coal cost with GCV of 2250 kcal/kg, on calorific value basis, which varies from Rs.470 to RS.560/MT, **the stakeholders have suggested that 'equivalent heat value' of landed cost of coal as per the CERC methodology should be adopted.** As noted earlier, the approach adopted by the CERC is not binding on the State Commission. The CERC, in its SoR for 2009 Regulations, had clarified that, to compute the fuel price of bagasse for respective States, the CERC has adopted 'equivalent heat value' approach for landed cost of coal for thermal Stations for the respective States. For this purpose, the CERC had considered the landed cost and calorific values of coal as approved by the respective State Electricity Regulatory Commissions while determining the generation tariff of the respective State Utility. The bagasse prices so derived had been escalated based on fuel price indexation mechanism stipulated under the Regulations to derive fuel prices during subsequent control periods, till the completion of the current Control period. Nevertheless, the Commission notes that the CERC, in its latest Regulations dated 18.04.2017, has done away with indexation mechanism and has adopted a base price with annual escalation of 5%.

*Further, in the statement of reasons, the CERC has noted that:*

*a. Indian Sugar Mills Association and NFCSFL have proposed that Fuel Price Indexation Mechanism is not sufficient to arrive at a logical price of bagasse.*

*b. TSMA has strongly recommended that the Bagasse price and its year on year escalation should be linked to Sugarcane price itself instead of linkage to fossil fuels. Thus, the Commission notes that only in the year 2009, the bagasse price was determined by the CERC based on 'equivalent heat value' method, which is not relevant, considering the changes in the pricing mechanism of coal today. Thus, the Commission does not find acceptable, the suggestion of stakeholders to adopt the CERC's 'equivalent heat value' method, which is based on the CERC's 2009 Regulations.*

*(c) The other alternative proposal of the Commission was to link the fuel cost to administered price of sugarcane and consider 30% of such price as bagasse cost, as every tonne of sugarcane crushed produces 30% of bagasse. Based on this, considering that the administered price for FY18 is fixed at Rs.255/quintal, the proposed bagasse price worked out to Rs.765/MT.*

*The Stakeholders, referring to Dr C. Rangarajan Committee Report, have stated that bagasse though generated internally has a value and the proposal to consider 30% of administered price of sugarcane as the price of bagasse as every tonne of sugarcane crushed produces 30% bagasse, is arbitrary. That the price for bagasse considered by the Expert Committee for FY17 is Rs.1670/tonne, which is notified by the Cane Commissioner. That the CERC in its 2009 Regulations, has provided that bagasse price should be linked to indexation formula or alternatively be escalated at 5% per annum. The Commission notes that the price arrived for bagasse by the Expert Committee, is for a different purpose (fixing the price*



*of sugarcane) and that such price cannot be adopted for determining tariff for power generated by the cogeneration plants. If the value of bagasse is also taken into consideration for the fixation of the price of sugarcane, there is no bar for considering for such fixation, the value of bagasse as fixed by this Commission for the purpose of determination of tariff for the power generated by the cogeneration plants. If for the internally generated bagasse, the price of Rs.1850/tonne proposed by SISMA, based on bagasse price fixed by the Cane Commissioner is considered, then the generators would earn about Rs.3.00/unit without incurring commensurate expenditure towards purchase of bagasse. If done so, the generators would earn undue profit, in addition to RoE allowed in Tariff, the burden of which has to be borne by the consumers of the State, and therefore the Commission considers that such approach is not in public interest. Thus, the Commission keeping in view the interest of the consumers, decides not to adopt the bagasse price fixed by the Cane Commissioner for internally generated bagasse, for the purpose of determining tariff for power generated by the Co-generation plants.*

*(2) The proposal of stakeholders to link the fuel cost to market value of bagasse, based on TERI's Report [published in 2010] would not be relevant when the country is moving towards a power surplus situation and the cost of RE power has come down substantially. It is noted that the CERC has also not considered the above approach. Further, the stakeholders present during the public hearing, have stated that though bagasse has alternative use in Paper Industry, at present no paper mill is purchasing bagasse in the State. It is also a fact that no sugar factory in the State is either selling bagasse or purchasing bagasse. Perusal of the crushing capacities of the sugar factories with Co-generation power plants in the State indicates that they generate internally sufficient quantity of bagasse required to run their power plants. In the*

*circumstances, the Commission decides not to link the bagasse price to a notional market value.*

*(3) The Commission also notes that stakeholders have relied upon Hon'ble APTEL's Order in Appeal No.148/2010. The Hon'ble APTEL in the said order has not outrightly rejected the observation of the Commission that there is no expenditure actually incurred for in-house bagasse from accounting point of view as it is available during the season, free of cost. It has only stated that ignoring the fuel price for in-house bagasse (in tariff determination) is against commercial principles. Thus, Commission is of the view that, the final cost determined should be reasonable and just, balancing the interest of the generators and end consumers.*

*(4) The Commission notes that, the rationale for setting up co-generation plant as an integral part of a sugar factory is for optimal utilisation of the scarce energy sources readily available for mutual benefit of both the generator and all other stakeholders including the grid. Cogeneration plant gives an optimal solution for easy, safe and profitable disposal of bagasse, helps the sugar factory to attain self-sufficiency in power required to run its operations and also derive revenue from sale of surplus power to the grid.*

*(5) The Commission, in all its earlier Orders has determined promotional tariff for RE sources, the process of which involved fixing of prices of fuel like bagasse, with the objective of encouraging rapid capacity addition to tide over the ever power deficit situation adversely affecting the economy and living standards of the citizens and also to reduce dependence on environmentally harmful fossil fuel based power plants. This policy has led to substantial capacity addition easing the power supply constraints and at the same time resulted in significant reduction in capital cost of RE plants like Solar power plants because of economies of scale, competition, advancement in technology and production process, cheaper*

*funds etc. making it possible for the Commission to successively lower the generic tariff. This positive development has enabled the States' power procurement agencies/ESCOMS to float reverse bidding tenders for development of solar projects in the States for which bids have been received at rates far lower than the generic tariff determined by the Commissions. Similar impact is seen even in wind power projects whose capital cost and thereby the generic tariff had seen periodical upward revision, so far. Recognising this development, the latest Tariff Policy envisages future procurement of Solar and Wind power only through reverse bidding process. With the State along with other States moving towards energy surplus situation and with substantial capacity addition of solar and wind Power, that too with tariff/rates lower than conventional sources, it is imperative for co-generation power plants to compete with wind and solar in terms of tariff, by reducing their capital and operational costs by improving their overall efficiency. With the distribution licensees and other obligated entities being able to purchase cheap power from other RE sources to meet their RPO targets, there would be no justifiable reasons for making them purchase power from co-generation plants at higher tariffs. As noted earlier, other than placing reliance on an old report of TERI and redundant provisions of the CERC Regulations, no material has been placed on record to indicate the commercial value that the sugar factories in the State could have derived from disposal of internally generated bagasse in the market. Therefore, it is considered that it would be just and proper to consider the cost at the production point or ex-factory price of bagasse for the purpose of tariff determination and for arriving at such cost, the price paid towards purchase of sugar can be made use of. As per the data obtained from the Office of the Commissioner for Cane Development and Director of Sugar, Karnataka, the average Fair and Remunerative price for sugar cane payable by the sugar factories in the State is Rs.2817 per tonne (It ranges from Rs.2550 to Rs.3260 per tonne) for 2017-18. Considering*

*that one tonne of sugarcane on crushing yields about 30% of bagasse, the price component of bagasse in sugarcane price (pre-production cost) can be taken at Rs.819 per tonne for 2017-18 and with an annual escalation of 5.72%, it works out to Rs.865.85 per tonne for 2018-19.*

*From the available literature, the cost of production of sugar from sugarcane ranges from 20% to 30%. Considering that bagasse gets generated immediately after crushing of sugar cane, the cost of production of bagasse can be taken at 20% and thereby, the cost of bagasse works out to Rs.1039.00 for 2018-19. With annual escalation of 5.72%, it works out to Rs.1098.44 per tonne for 2019-20 and Rs.1161.28 per tonne for 2020-21. The above fuel cost is approved for the control period.”*

131. The State Commission in the impugned order has recorded that as per the data obtained from the Office of the Commissioner for Cane Development and Director of Sugar, Karnataka, the average Fair and Remunerative price for sugar cane payable by the sugar factories in the State is Rs.2817 per tonne (It ranges from Rs.2550 to Rs.3260 per tonne) for 2017-18. Considering that one tonne of sugarcane on crushing yields about 30% of bagasse, the price component of bagasse in sugarcane price (pre-production cost) can be taken at Rs.819 per tonne for 2017-18 and with an annual escalation of 5.72%, it works out to Rs.865.85 per tonne for 2018-19. The State Commission has recorded that on the basis of available literature the cost of production of sugar from sugarcane ranges from 20% to 30%. Considering that bagasse gets generated immediately after crushing of sugar cane, the cost of production of bagasse can be taken at 20% and thereby, the cost of bagasse works out to Rs.1039.00 for 2018-19. With annual escalation of

5.72%, it works to Rs.1098.44 per tonne for 2019-20 and Rs.1161.28 per tonne for 2020-21. The State Commission has accordingly approved the fuel cost for the control period.

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;*
- (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;*
- 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 by 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 Regulation 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 analyzed 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 byproduct 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 the State Commission should have been guided by the same while determining the price of bagasse.

139. The State Commission had proposed the Capital Cost of Rs. 4.75 Crores/MW including the power evacuation infrastructure cost and has adopted a capital cost of Rs. 4.70 Crores/MW without any indexation. The relevant part of the Impugned Order reads as follows –

*“The Commission notes that the capital cost adopted by some of the Commissions referred in the Consultation Paper is in the range of Rs.4.36 Crs./MW to 5.20 Crs./MW.*

*Further, in the 2015 Order, the Capital Cost approved by this Commission is Rs.4.75 Crs./MW including evacuation cost. Further, as per the information furnished by SISMA, it is noted that most of the new plants are adopting boiler pressure of 105 to 110 kgs/cm<sup>2</sup> as per NFCSFL norms and as per the Department of Food and PD of the GoI, the revised normative cost of Cogen plants, for the boiler pressure of 87-109 ATA is Rs.442 Lakhs. In case any developer of cogeneration plant adopts pressure higher than 110kgs/cm<sup>2</sup>, the increase in capital cost would be more or less set-off by the increase in operational efficiency, which would result in lower specific fuel consumption, thereby saving the fuel cost. Since the Commission is retaining the specific fuel consumption at 1.60 kg/unit for the power plants adopting more than 110 kgs/cm<sup>2</sup> pressure also, the Commission decides to adopt the same capital cost, irrespective of boiler pressure adopted. The Commission had proposed a capital cost of Rs.4.75 Crs./MW without considering the capital subsidy granted by MNRE/KREDL. As per the information obtained from KREDL, for Cogeneration plants, the MNRE is extending subsidy of Rs. 15 Lakh x (Capacity in MW) <sup>0.646</sup>. Most of the Co-gen plants in the State have installed Capacity in the range 20MW to 40 MW and therefore, for the purpose of determining capital subsidy, the Commission has considered a capacity of 30MW. Thus, the Capital subsidy/MW works out to  $15 \times (30^{0.646}) / 30 =$  Rs. 4.50 Lakhs /MW. For the reasons stated earlier, after deducting the capital subsidy, the Capital Cost/MW would be Rs 4.71 Crores/MW. Thus, Rs.4.70 Crs./ MW would be a reasonable Capital Cost, including evacuation cost and the applicable GST, for the new control period 2019-2021. Therefore, the Commission decides to adopt a Capital cost of Rs.4.70 Crs./MW including infrastructure cost of evacuation, for the entire control period, without any indexation.”*

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 Cooperative 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/cm<sup>2</sup> 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.*

*.....  
Analysis and Decision:*

*The Commission has analyzed the comments and observations 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 analyzed 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 FY 2017-18. 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.

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.

143. In view of the above the impugned order dated 14.05.2018 is set aside to the extent as indicated above. The State Commission is hereby directed to consider the matter afresh and pass consequential order keeping in view the opinion expressed in this judgment in accordance with law within three months from the date of pronouncement of this judgment.

144. The appeal and pending applications stand disposed of in above terms. No order as to costs.

**PRONOUNCED IN THE VIRTUAL COURT THROUGH VIDEO  
CONFERENCING ON THIS 2<sup>nd</sup> DAY OF AUGUST, 2021.**

**(Ravindra Kumar Verma)**  
**Technical Member**

**(Justice Smt. Manjula Chellur)**  
**Chairperson**

√  
**REPORTABLE/NON-REPORTABLE**  
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