

**APPELLATE TRIBUNAL FOR ELECTRICITY AT NEW DELHI
(APPELLATE JURISDICTION)
APPEAL NO. 170 OF 2016**

Dated : 18th February, 2020

**Present: Hon'ble Mrs. Justice Manjula Chellur, Chairperson
Hon'ble Mr. S.D. Dubey, Technical Member**

IN THE MATTER OF :

Biomass Power Producers Association, Tamil Nadu
Sigapi Achi Building,
4th Floor, 18/3, Rukmani Lakshmipathi Road,
Egmore, Chennai – 600008

...Appellant

VERSUS

1. Tamil Nadu Electricity Regulatory Commission
19-A, Rukmani Lakshmipathy Salai,
Egmore, Chennai – 600008

2. Tamil Nadu Generation and
Distribution Corporation Ltd.
No. 144, Anna Salai
Chennai – 600 002

..Respondents

Counsel for the Appellant (s) :

Mr. Anand K. Ganesan
Mr. Amal Nair
Ms. Swapna Seshadri
Mr. Damodar Solanki

Counsel for the Respondent(s) :

Mr. Sethu Ramalingam for R-1
Mr. S. Vallinayagam for R-2

J U D G M E N T

PER HON'BLE MR. S. D. DUBEY, TECHNICAL MEMBER

1. The present Appeal has been filed by Biomass Power Producers Association, Tamil Nadu (“**Biomass Power**”/ “**Appellant**”) under

Section 111 of the Electricity Act, 2003 (“**Electricity Act**”), challenging the legality, validity and propriety of the Tamil Nadu Electricity Regulatory Commission’s (“**TNERC**”) Order dated 31.03.2016 in Petition No. 5 of 2016 (“**Impugned Order**”), whereby the State Commission has determined the generic tariff for biomass based generating stations in the State of Tamil Nadu. The impugned order with regard to the fixed cost has been made applicable by the State Commission for biomass based generating stations to be commissioned on or after the date of the impugned order. The variable cost has been made applicable to all plants commissioned on or after 15/05/2006 in the State of Tamil Nadu.

1.1 Petition No. 5 of 2016 (“**Petition**”) was filed by Biomass Power before the Respondent No. 1 / TNERC, for seeking tariff revisions for both existing and new plants.

2. **Brief Facts of the Case:-**

2.1 The Appellant is an association of biomass based generating stations for the State of Tamil Nadu and represents the interest of the biomass based generating stations in the State of Tamil Nadu.

2.2 The Respondent No. 1 State Commission is the Electricity Regulatory Commission for the State of Tamil Nadu exercising power and discharging functions under the provisions of the Electricity Act, 2003.

2.3 The Respondent No. 2 is the successor entity of the erstwhile Tamil Nadu Electricity Board. The Respondent No. 2 was formed and vested with the functions of generation, distribution and retail supply of electricity

pursuant to the re-organisation of the erstwhile Tamil Nadu Electricity Board under Section 131, 132 etc. of the Electricity Act, 2003.

- 2.4 In exercise of powers under Section 61 of the Electricity Act, 2003 the State Commission has framed and notified the Power Procurement from New and Renewable Sources of Energy Regulations 2008 (hereinafter called the **Renewable Energy Regulations**).
- 2.5 The State Commission has also issued tariff orders from time to time determining the tariff for the renewable energy generators in the State of Tamil Nadu. In this regard, the State Commission has passed the tariff orders dated 15/05/2006 applicable to all renewable energy generators in the State, Order dated 27/04/2009 and 31/03/2012 specifically applicable for biomass based generating stations in the State of Tamil Nadu.
- 2.6 The last tariff order was passed by the State Commission for biomass generators on 31/03/2012 which was to have a control period of 2 years. However, the State Commission did not pass any fresh order or revise the tariff applicable for biomass generators in the year 2014 when the control period expired. Further, the tariff applicable to biomass based generators has been determined at extremely low rates. From 2014 onwards, no tariff order has been passed even though several biomass projects have been in the pipeline and all costs have risen substantially.
- 2.7 Since the earlier tariff order was to expire on 31/07/2014, even prior to the same, namely on 05/06/2014, the Appellant had filed a petition

seeking tariff revisions from the State Commission both for existing plants as well as determination of tariff for new plants. However, despite pursuing with the State Commission and a meeting with the State Commission's Chairman on 12/09/2014, no decision was taken on the above petition.

- 2.8 On 25/09/2014, the State Commission issued a consultative paper seeking the views of the various stake holders on the aspects of fixation of tariff for biomass generators.
- 2.9 The Appellant Association filed its detailed representations to the consultative paper. These representations were filed on 25/10/2014 and based on the applicable costs on the said date. Even the submissions on the fuel costs aspects were accordingly made. The Appellant also filed further submissions on 27/10/2014.
- 2.10 However, no tariff order came to be issued. Since substantial time had passed, the Appellant filed a letter on 06/10/2015 to the State Commission giving the difficult situation in which the biomass plants were operating in the State and the problems due to the fact that a proper tariff had not been determined.
- 2.11 It now transpires that on 17/03/2016 the State Commission organized a meeting of the State Advisory Committee. Since the Appellant is not a party to the State Advisory Committee, no notice was issued to the Appellant regarding the above meeting. No other hearing or public notice was ever issued.
- 2.12 On 31/03/2016, the State Commission has passed the Impugned Order to be made applicable from 01/04/2016 onwards. By the impugned

order, the State Commission has determined the fixed costs and made applicable the same to plants commissioned on or after 01/04/2016 and to remain valid for a period of 2 years, the variable costs have been made applicable to all plants commissioned on or after 15/05/2006.

2.13 The State Commission based on the representation filed in the year 2014 has passed the Impugned Order on 31/03/2016 and without giving any further hearing or opportunity to the Appellant to place the latest cost data, has decided the tariff parameters.

2.14 The Appellant Association on perusing the Impugned Order realized the gap in the data filed in 2014 and the tariff determined in 2016 made a detailed representation / letter to the State Commission on 25/04/2016.

2.15 However, no action has been taken by the State Commission on the above letter. In the circumstances, aggrieved by the various aspects decided by the State Commission in the Order dated 31/03/2016, the Appellant is filing the present appeal.

3. Questions of Law :

The Appellant has raised following questions of law:

3.1 Whether the tariff determination process followed by the State Commission, namely of passing the tariff order on 31/03/2016 after calling for comments in September / October of 2014 and without holding any hearing at all can be said to be valid and transparent and in accordance with Section 64 and Section 86 (3) of the Electricity Act, 2003 ?

3.2 Whether the State Commission has adopted any realistic tariff parameter when the Order has been passed on 2014 data and simply retaining the

figures decided in the 2012 order when it is being made applicable effective 01/04/2016 onwards?

- 3.3 Whether the State Commission as a statutory authority is not bound to base its decision on actual data in the State and call for proper representation so as to enable it to determine a cost reflective tariff which would ensure the promotion of renewable energy under Section 86 (1) (e) of the Electricity Act, 2003 ?
- 3.4 Whether the Impugned Order is at all sustainable in view of the fact that the State Commission has simply referred to what other Commissions have done and decided to retain most parameters from its earlier orders instead of applying it mind to the realistic parameters and also the judgments of this Hon'ble Tribunal?
- 3.5 Whether there is any logic in the approach of the State Commission in as much as the State Commission has determined only one set of tariff parameters without appreciating that there are two technologies – water cooled condenser & air cooled condenser and differential parameters need to be set for both ?
- 3.6 Whether the State Commission has applied its mind to the report of the CERC Committee based on which CERC had amended its Regulations and also the Judgments of this Tribunal wherein cost reflective tariff parameters have been fixed on all aspects including capital cost, GCV, SHR and O & M Expenses ?

4. Ms Swapna Seshadri, learned counsel appearing for the Appellant has filed the written submissions for our consideration as under:-

4.1 The last tariff order was passed by the State Commission for biomass generators on 31.01.2012. The control period of the said Order expired on 31.07.2014. No tariff order had been passed hence after. Prior to expiry of the previous tariff order and on 05.06.2014, the Appellant had filed a petition seeking tariff revisions for both existing and new plants. On 31.03.2016 the State Commission had passed the Impugned Order to be made applicable from 01.04.2016 onwards and, to remain valid for a period of 2 years, the variable cost have been made applicable to all plants commissioned on or before 15.05.2016.

4.2 The Appellant is aggrieved of the Order dated 31.03.2016 on the following counts –

- (i) Incorrect process followed by the State Commission in passing the tariff order;
- (ii) Determination of capital cost at Rs. 5.50 crores per MW;
- (iii) Gross Calorific Value being fixed at 3200 Kcal / Kg;
- (iv) Station Heat Rate determined at 3840 Kcal / Kwh;
- (v) Operation and Maintenance Expenses @ 4.5% of the Capital cost;

4.3 The State Commission and the Respondent No. 2 – Tamil Nadu Generation and Distribution Company Limited (TANGEDCO) have filed replies to the matter and have sought to justify the above tariff parameters not on the merits but by simply comparing the figures

determined by the State Commission to those determined by other Commissions. This is an incorrect approach and cannot justify the Order passed by the State Commission. The submissions of the Appellant on the above issues are as under –

RE: Incorrect process followed by the State Commission in passing the tariff order;

- 4.4 The only answer by the State Commission to the above aspect is that even though the comments were solicited in 2014, since the Impugned Order refers to subsequent Regulations and Orders passed by various Commissions, this reflects application of mind and the fact that the State Commission took into account subsequent developments.
- 4.5 The State Commission has acted against the principles of Section 86 (1) (e) and 86 (3) of the Electricity Act, 2003 and even if the State Commission has referred to subsequent Regulations and Orders passed by other Commissions, atleast that data ought to have been put to the Appellant to respond.
- 4.6 The only person being affected by the Impugned Order is the Appellant and simply passing a tariff order on old information and then justifying it since there are some references to what other Regulatory Commissions have done is not a correct approach.

RE: Determination of capital cost at Rs. 5.50 crores per MW;

- 4.7 The State Commission has erroneously determined the capital cost of Rs. 5.50 crores per MW by referring to some tariff orders passed by

other Regulatory Commissions but none of these orders are for the year 2016. The Central Commission based on actual data submitted by a Committee which studied the working of actual biomass plants in the country amended its RE Regulations, 2012 in the year 2015 to provide for a higher capital cost as under –

“Rs. 540 Lakh/MW for project (other than rice straw-based project) with water cooled condenser;

Rs. 580 Lakh/MW for Project (other than rice straw-based project) with air cooled condenser;

Rs. 630 Lakh/MW for rice straw-based project with air cooled condenser.

The above capital cost is applicable to projects commissioned in the year 2012-13. For subsequent years the same has to be indexed as per the Regulations.”

- 4.8 The CERC in its Order dated 31.03.2015 passed determining the tariff for biomass plants for FY 2015-16 had determined capital cost as under –

“17. In line with the indexation mechanism specified in Regulation 35 of the RE Tariff Regulations, the normative capital cost for FY 2015-16 for Biomass Projects determined considering capital cost specified in the RE Tariff (First Amendment) Regulations for FY 2013-14 as base year capital cost. Average WPI Steel Index and average Electrical Machinery Index prevalent for calendar year 2014 considered for SI (n-1) and EI (n-1) respectively. Average WPI Steel Index and average WPI Electrical Machinery Index prevalent for year 2012 for SI (0) and EI(0) respectively. Accordingly, the Commission determines normative capital cost for FY 2015-16 for Biomass Projects as under –

Biomass Rankine Cycle Projects	Capital Cost (FY 2015-16) (₹ Lakh/ MW)
Project [other than rice straw and juliflora (plantation) based project] with water cooled condenser	558.705
Project [other than rice straw and Juliflora(plantation) based project] with air cooled condenser	600.091
For rice straw and juliflora (plantation) based project with water cooled condenser	610.437
For rice straw and juliflora (plantation) based project with air cooled condenser	651.822

4.9 Even at the time, the submission on the Appellant that even in October 2014, the capital cost was well above Rs. 6 crores per MW and the Appellant had placed data to show this trend. Instead of indexing the capital cost by inflation for FY 2016-17, the State Commission has given a completely unworkable capital cost of Rs. 5.50 crores per MW.

4.10 Several Commissions such as Gujarat, Rajasthan, Jharkhand, Orissa have determined separate component for projects with Air cooled condenser in water scarce areas. The Installation of Air Cooled Condenser, saves water and requires higher auxiliary power consumption of 12% unlike Water Cooled Condenser, due to higher power requirement for operation of ACC and also due to its lesser efficiency than WCC.

4.11 The State Commission has again sought to justify the capital cost by contending that since as compared to its earlier Order dated 31.07.2012 wherein capital cost had been allowed at R. 4.45 crores per MW, a substantial increase has been given by way of the present Order. This however does not justify that the State Commission has

not taken into account the technology being used and has only determined a common capital cost.

RE:Gross Calorific Value being fixed at 3200 Kcal / Kg:

4.12 The State Commission has erroneously fixed the GCV @ 3200 Kcal / Kg simply adopting this value from its earlier tariff order. The following points have not been considered by the State Commission –

- (a) The most important property of biomass feed stocks is with regard to combustion and to the other thermo-chemical processes is the moisture content, which influences the energy content of the fuel and also the efficiency, fuel consumption and also the viability of the Biomass Power Plant.
- (b) The GCV of fuel is determined based on the moisture, sand and ash content of the Biomass used. For reduction of moisture, the only economical solution is the natural drying. However, even the process of natural drying requires high inventory levels because of the seasonal availability of certain types of biomass and there is almost no way to deal with the seasonal rainfall which makes the fuel wet. Therefore, the GCV of fuel needs to be adjusted taking into account the moisture content which is unavoidable.
- (c) On an average, the Biomass plants are operated with the minimum moisture content of 25% to 30% which affects the GCV further. On as fired basis, the GCV usually varies between 2600 to 2900. Therefore, assumption of any higher GCV than actuals is unrealistic and adds to the problems of the developers.

4.13 This Tribunal in a detailed Judgment dated 04.05.2016 in Appeal No. 211 of 2015 has discussed the issue of GCV at great length. The Tribunal was considering an appeal from the tariff order passed by the Madhya Pradesh Commission and decided the GCV as 3100 Kcal / Kg. The said decision is squarely applicable in the present case.

4.14 Even the CERC in the Amended Regulations as well as the Tariff Orders dated 15.05.2014 and 31.03.2015 has based on the data collected by the Committee provided for Gross Calorific Value as "*The Calorific Value of the biomass fuel used for the purpose of determination of tariff shall be at 3100 kCal/kg.*"

RE: Station Heat Rate determined at 3840 Kcal / Kwh;

4.15 The State Commission has erred in retaining the Station Heat Rate (SHR) of 3840 Kcal / Kwh from its earlier tariff order ignoring the latest data available in the State, the Orders passed by Central Electricity Regulatory Commission (CERC) and the Judgments of this Tribunal.

4.16 Station Heat Rate of the Biomass Power Plant is the major factor which gives the efficiency of operation. The SHR completely depends on the Fuel Characteristics and is affected by factors like sand, moisture and sizing in the fuel. Unlike coal, the multi fuel operation of the Biomass Power Plants is also not possible with variations in the Station Heat Rate most of the days in a year. The seasonal influence is

also there and the variations in the Station Heat Rates are between 4000 Kcal/KWH to 5000 Kcal/KWH.

4.17 The CERC in the Amended Regulations as well as the Tariff Orders dated 15.05.2014 and 31.03.2015 has based on the data collected by the Committee provided for SHR as under –

*"a. 4200 kCal/ kWh for project using travelling grate boilers;
b. 4125 kCal/ kWh for project using AFBC boilers."*

4.18 This Tribunal in a detailed Judgment dated 04/05/2016 in Appeal No. 211 of 2015 has discussed the issue of SHR at great length. The Tribunal was considering an appeal from the tariff order passed by the Madhya Pradesh Commission and decided the GCV as 4200 Kcal / Kwh. The said decision is squarely applicable in the present case.

RE: Operation and Maintenance Expenses @ 4.5% of the Capital cost:

4.19 The State Commission erred in limiting O & M Expenses as 4.5 % of the capital cost instead of normalizing the O & M Expenses as per present data available and the inflation rate. The State Commission has not considered that even for FY 2014-15, the CERC fixed the O & M Expenses as under -

"52. The normative O&M expenses for various RE technologies specified under the relevant provisions of the RE Tariff Regulations are as under:

.....

(c) Biomass: Regulation 39 of RE Tariff (First Amendment) Regulations provides that the normative O&M expenses for biomass based projects for the year 2013-14 shall be `40 Lakh per MW and which shall be escalated at the rate of 5.72% per annum over the

tariff period for determination of the levelled tariff. Accordingly, the Commission has considered O&M cost norm for biomass power as `42.29Lakh/MW for FY 2014-15."

Further for FY 2015-16, the O & M Expenses have been fixed as under –

(c) Biomass: Regulation 39 of RE Tariff (First Amendment) Regulations provides that the normative O& M expenses for biomass based projects for the year 2013-14 shall be ` 40 Lakh per MW and which shall be escalated at the rate of 5.72% per annum over the tariff period for determination of the levelled tariff. Accordingly, the Commission has considered O&M cost norm for biomass power as ` 44.71 Lakh/MW for FY 2015-16.

4.20 The O & M cannot simply be a percentage of the capital cost irrespective of its value and needs to be decided as per the actual costs prevailing including the effect of inflation. The State Commission has erred in determining the O&M expenses without any correlation with the actual expenses to ensure reasonable recovery of costs and expenses.

4.21 Thus the appeals needs to be allowed and the matter needs to be remanded to the State Commission for determination of tariff.

5. Shri Sethu Ramalingam, learned counsel appearing for the Respondent No. 1 /TNREC has filed the written submissions for our consideration as under:-

5.1 The Respondent Commission has filed a detailed reply to this Appeal on 19th Sep 2016. It is prayed that the submissions made hereunder may be

read as part and parcel of the submissions earlier made vide the above mentioned reply.

5.2 The Appellant has assailed the impugned order on the following grounds:

- (a) Consultative paper for the fixation of tariff was issued on 25.09.2014 and the Tariff order was issued on 31.03.2016 i.e. after a lapse of about 18 months. Thus, the impugned order is based on outdated data.
- (b) No public hearing was held before the finalisation of the tariff
- (c) Respondent Commission has not observed the mandate under Section 61 (a) of the Electricity Act, 2003 (hereinafter “the Act”) which requires that the Appropriate Commission shall be guided, inter alia, by the principles and methodologies specified by the Central Commission.
- (d) Some of the parameters for tariff fixation viz. Capital Cost, O&M, SHR, GCV have not been adequately provided in the impugned order.
- (e) Technology specific Tariff has not been provided

5.3 Respondent Commission has addressed all the above contentions of the Appellant in its reply filed on 19th Sep 2016. However, the same are summarised and supplemented hereunder:

(a) As regards the time lapse between the consultative paper and the issue of Tariff order, it may be seen that the impugned order takes into account the up to date data available in the following latest orders available at the time of issue of the impugned order:

(i) CERC order dated 31.03.2015

(ii) Rajasthan Commission's Order dated 08.07.2015

(iii) Maharashtra Commission's Order dated 25.01.2016

Further, the Respondent Commission had also relied upon the deliberations in the State Advisory Committee meeting held on 17.03.2016 barely two weeks prior to the issue of the impugned order.

(b) As regards the allegation that no public hearing was held prior to the issue of the impugned order, the Respondent Commission clarifies that there is no statutory requirement for holding such a public hearing either under the Act or any of the regulations made thereunder. In this connection, it is submitted that section 64 (3) of the Act requires only consideration of all suggestions and

objections from the public. The Regulation 4(1)(b) of Power Procurement from New and Renewable Sources of Energy Regulations, 2008 (hereinafter “the 2008 Regulations”) only mandates the invitation of public response for determination of tariff. Comments received from the Appellant have been considered while finalising the Tariff. Further, clause 4 of the said 2008 Regulations, as it was originally notified had a provision for holding of public hearing in Regulation 4(1)(c). This provision was amended through the amendment regulation No.TNERC/NCES/16-4 dated 27.4.2009 whereby the requirement of public hearing was dispensed with. Thus, the commission has taken a conscious decision by exercise of its legislative power, to dispense with the process of holding public hearings in tariff determination for Power Procurement from New and Renewable Sources of Energy. This amendment is under challenge in W.P.No.312 of 2010 filed by Power Engineers’ Society of Tamil Nadu before the High Court of Madras. As is well known, vires of Regulations can be challenged only under the power of Judicial Review by the High Courts. Fourthly, this Tribunal has settled the issue vide its judgment dated 13-05-2015 in Appeal No.77 of 2014 wherein it has been held as follows:-

“18. The reply to the main contention of the Appellant has made by the Respondent No.2 is that Section 64 of the Electricity Act, 2003 provides that the Appropriate Commission has to consider the suggestions and objections received from the public while considering the tariff petition filed by the utility. There is no requirement specified in the Act for granting an opportunity of hearing to the stakeholders. Hearing as mandated under Section 64 to be given to the applicant in case the Commission decides to reject the tariff application. Hence, the manner of application of the principle of natural justice is already provided in Section 64 of the Act namely, in form of written suggestions/ objections. The Act provides for calling of suggestions and objections from the public and such opportunity of hearing is not required to be given to individual customer for tariff determination. Providing for an opportunity of hearing is only required in case the tariff application is to be rejected and no public hearing is contemplated for determination of tariff. Hence, the Court is not required to go beyond the express provision of the statute namely; Section 64 of the Electricity Act, 2003, dealing with the principle of natural justice”.

“As may be stated from the above, the issue is so larger res integra and there is no mandatory requirement under the Electricity Act to hold a public hearing.”

The Appellant has inadvertently placed on record a copy of the unamended version of the *Power Procurement from New and Renewable Sources of Energy Regulations, 2008*. It is respectfully

prayed that this Tribunal may ignore this Annexure and refer to para 6.1 of the impugned order for the correct version of clause 4 (1) of the 2008 Regulations.

- (c) As regards the Appellant's submission that the impugned order is not in conformity with that of the Central Commission, it is respectfully submitted that the mandate in Section 61 (a) is only "*to be guided by the principles and methodologies specified by the Central Commission....*". The Appellant appears to interpret it to mean 'scrupulously follow' which is not tenable. Per contra, in terms of the mandate of the Hon'ble Supreme Court in PTC India Ltd Vs. Central Electricity Regulatory Commission [2010 (4) SCC 603] the Respondent Commission is required to follow its own regulations. It may be seen from clause 4 of the 2008 Regulations extracted in paras 6 and 7 of the impugned order that principles and methodologies of the Central Commission is only one of the items for guiding the Respondent Commission.
- (d) As regards the allegation regarding inadequate provision under some specific tariff parameters viz. Capital Cost, O&M, SHR, GCV, Respondent Commission craves leave to the submissions already made in paras 5, 6 and 7 of its reply filed on 19th Sep 2016 which

will hold good and are not repeated for sake of brevity. The following gist of the submissions is noteworthy:

- (i) There is an increase of 24% from the Capital Cost provided in the previous Tariff order
- (ii) O&M Charges for machinery has also been increased from 4.5% in the previous tariff order to 5% in the impugned order. Besides, the annual escalation has also increased from 5% to 5.72%.
- (iii) SHR as well as GCV compare well with the prevailing rate in other parts of the country and consistent with the figures in the earlier orders of the Commission. More significantly, the Specific Fuel Consumption which is based on SHR and GCV, adopted in the impugned order is also comparable with what has been adopted by other Commissions, as may be seen from the table in para 8.1.12 of the impugned order
- (e) As regards the Appellant's averment that technology specific tariff has not been addressed, it is submitted that the submissions already made in para 8 of the Respondent Commission's reply filed on 19th Sep 2016 will hold good. Further, it may be seen from the tables in paras 8.1.9, 8.1.10 and 8.1.12 of the impugned order that

there is no uniformity among the States regarding technology specific tariff orders. Only in a few parameters, a distinction has been made based on the technology. Some State Commissions have made Technology specific distinctions in three parameters and some have done so for two parameters.

5.4 It is also noteworthy that the Appellant has not pointed out transgression of any of its statutory rights, nor any rights under equity.

5.5 In view of the foregoing submissions, the Appeal is liable to be dismissed.

6. Shri S. Vallinayagam, learned counsel appearing for the Respondent No. 2 /TNGDCL has filed the written submissions for our consideration as under:-

6.1 The answering respondent denies all contention, allegation and ground raised by the appellant in the present appeal. The questions of law and grounds raised are not tenable on facts and in law.

6.2 The answering respondent states that the facts in issue / dispute set out in the appeal are not relevant. The appellant is raising the same only for the sake of raising it, no prejudice is caused to the appellant by the Tariff Order. No substantive proof is brought on record to show any loss that has occurred to the appellant association pursuant to the passing of Tariff Order. The Commission in the tariff order has dealt

with all contentions of stakeholders. The appellant cannot have any grievance against the order challenged.

6.3 The Commission floated a Consultative Paper to elicit the views of the stakeholders before issuing a generic tariff order and hosted it in the Commission's website, inviting views/suggestions from the stakeholders. The appellant submitted its comments to the consultative paper of the Commission. The view of State Advisory Committee held March 2016 in which the stakeholders also participated is taken in to account. The latest data available was considered to determine the tariff. All allegations made in the appeal are false and are denied.

6.4 The Commission considered the following updated parameters in determining the tariff:

- (a) Capital cost of Rs. 5.5 Cr. was considered as against Rs. 4.45 Cr. which was there in Order No. 8 of 2012 dated 31.07.2012.
- (b) O&M charges of 5% on 85% of Capital cost with annual escalation of 5.72% as against O&M of 4.5% on 85% with annual escalation of 5% were considered.
- (c) Fuel cost of Rs.2892.03/MT against 2270/MT of previous tariff order was considered.
- (d) Receivables which become part of working capital for 2 two months was considered as against 1 month considered in the tariff order of 2012.
- (e) Interest on loan is enhanced from 12.25% to 13%, which is a huge considering the prime lending rates.

In addition to the above, parameters considered and discussed by various other State Commissions and Central Commission were

considered and views of stakeholders was discussed. The appellant and answering respondent were part of the entire proceedings and is witness to the entire process.

The Tariff Order records the steps taken in determining the tariff. The tariff order was passed only after analyzing all relevant parameters keeping in view the facts and circumstances relevant to the tariff order.

In view of the above, the contention of appellant that legal process was not followed, views of stakeholders were not considered and old data was relied upon is factually false.

- 6.5 The answering respondent states that various parameters considered in the latest Regulations of CERC such as fuel cost, interest on working capital, interest on loan and receivables which become the part of working capital are considered in the impugned order. The parameters such as Capital Cost, Station Heat Rate, Calorific Value and Specific Fuel Consumption as considered by other State Commissions are reflected in the tariff order. The tariff order is equitable and rational order passed in public interest.
- 6.6 The answering respondent states that in the comments on depreciation the appellant objected to adopting 85% of project cost and requested to adopt differential depreciation as considered by CERC and most of the State Commissions. The appellant association sought to adopt the parameters considered by Central Commission and other State Commissions. The appellants cannot be aggrieved on the same in the appeal. The demands of the appellant are not at all reasonable.
- 6.7 The answering respondent states that the SHR of 3840 Kcal/Kwhr, Calorific Value of 3200 Kcal/Kg and Specific Fuel Consumption of 1.20 Kg/Kwh as considered in Order No. 2/2009 and Order No. 8/2012 was considered in the present tariff order. The same was in the consultative

paper. The appellants did not dispute the same in the comments filed by it before the State Commission in response to the consultative paper for Tariff Order 5/2016. In the circumstances the appellant cannot be aggrieved of the same in the present appeal.

6.8 The answering respondent states that in all Biomass tariff orders of the State Commission [TNERC] including the present tariff order, generic tariff is determined for all biomass generators. The appellant did not contend either in its comments to the consultative paper or before the Commission to have different tariffs for biomass plants using different technologies and different fuels. This issue was never raised before the Commission at the time of determination of tariff. The appellant cannot be aggrieved of an issue which was neither raised by it nor decided in the tariff determination process.

6.9 The answering respondent states that the appellant never brings on record the profits and gains made by the appellants and Corporate Social Responsibility discharged by the appellant in the entire tariff determination process. The only grievance is the tariff order falls short of the expectations of the appellant. The appellant cannot rely on only section 86 (1) (e) in isolation without considering the other provisions of the Act. The purpose of Tariff determination by the Commission is to balance the cost of generation and its impact on the public exchequer because the entire tariff is a pass through.

The answering respondent relies upon and reiterates the findings of the State Commission in the Tariff Order and craves leave of this Appellate Tribunal to make further submissions at the time of arguments.

In view of the above submissions, the questions of law and grounds raised by the appellant in the appeal are not tenable and the appeal is liable to be dismissed with cost.

7. We have heard learned counsel appearing for the Appellant, learned counsel for the Respondent Commission and learned counsel for the Respondent/TNGDCL at considerable length of time and we have gone through carefully their written submissions/arguments and also taken note of the relevant material available on records during the proceedings. On the basis of the pleadings and submissions available, the issues emerging in the instant Appeal are discussed / decided in the succeeding paragraphs.

8. The learned counsel for the Appellant submitted that the last tariff order was passed by the State Commission for the Biomass Power Plants on 31.01.2012 and the control period of the said order expired on 31.07.2014. Since then no tariff order has been passed by the Commission. However, prior to expiry of the previous tariff order, the Appellant had filed a Petition on 05.06.2014 seeking tariff revision for both the existing and new plants. The State Commission has passed the impugned order on 31.03.2016 applicable from 01.04.2016 onwards and to remain valid for a period of two years. The Appellant herein is aggrieved by the impugned order dated 31.03.2016 on account of

various disallowances/under-allowances of elements pertaining to biomass plants such as capital cost, gross calorific value (GCV), station heat rate (SHR), O&M Expenses, etc. The said issues are dealt with and decided in subsequent paragraphs.

8.1 **Capital Cost**

The learned counsel submitted that the Commission has erroneously determined the capital cost as Rs. 5.50 crores per MW by simply referring to mere tariff orders passed by other State Regulatory Commissions. However, none of these orders pertain to the year 2016. The learned counsel further submitted that the Central Commission, based on factual data submitted by a Committee which studied the working of actual biomass plants in the country, amended its RE Regulation, 2012 in the year 2015 to provide for a higher capital cost as under :

- (i) Rs. 5.40 crores per MW for projects (other than rice, straw based projects) with water-cooled condensers;
- (ii) Rs. 5.80 crores per MW for projects (other than rice, straw based projects) with air-cooled condensers;
- (iii) Rs. 6.30 crores per MW for rice straw based projects with air-cooled condensers.

The above capital cost is applicable to projects commissioned in the year 2012-13 and for subsequent years, the same has to be increased

as per the Regulations. The learned counsel vehemently submitted that the Central Commission in its order dated 31.01.2015 determining the tariff for biomass plants for the F.Y. 2015-16 had determined capital cost as per above-mentioned nomenclature :

- (i) Rs. 5.587 crores per MW;
- (ii) Rs. 6.001 crores per MW
- (iii) Rs. 6.518 per MW.

The learned counsel for the Appellant pointed out that the State Commission instead of indexing the capital cost prevailing in the year 2014 has indicated a very low capital cost of Rs. 5.50 crores per MW. It is pertinent to mention that the other State Commissions such as Gujarat, Rajasthan, Jharkhand and Odisha have determined separate components for projects like air-cooled condensers in water-scarce areas where the installation of air-cooled condensers saves water but requires higher auxiliary consumption of 12% unlike water-cooled condensers. Accordingly, the air-cooled condenser-based plants have lesser efficiency than water-cooled condensers based-plants. The learned counsel contended that the State Commission has again sought to justify the capital cost by stating that since as compared to its earlier order dated 31.07.2012 allowing the capital cost of Rs. 4.40 crores per MW, a substantial increase has been given in the present year. The learned counsel alleged that after a lapse of several years,

the present cost determined by the Commission, however, does not justify the capital cost considering the technology being used and the State Commission has only determined the common capital cost.

Per contra, the learned counsel for Respondents No. 1 & 2 submitted that the impugned order takes into account the up-to-date data available at the time of issue of the order such as CERC order dated 31.03.2015, RERC order dated 08.07.2015 and MERC order dated 25.01.2016. Besides, it also relied upon the deliberations in the State Advisory Committee Meeting held on 17.03.2016 merely two weeks prior to the issue of the impugned order. The learned counsel for Respondents No. 1 & 2 further submitted that there is an increase of 24% from the capital cost provided in the previous tariff order which is considered to be reasonable. As regards the Appellant's averments that technology specific tariff has not been addressed, the learned counsel for the Respondents submitted that there is no uniformity among various States regarding this aspect and accordingly only in a few parameters a distinction has been made based on the technology. Further, the learned counsel for the Respondents contended that the parameters considered and discussed by various other State Commissions and the Central Commission were apart from use of stake-holders. In fact, the Appellant herein and answering Respondents were part of the entire proceedings and are witnesses to

the entire process. Accordingly, the learned counsel for the Respondents reiterated that all the available data on various parameters were taken into account while passing the impugned order and determining the capital cost of Rs. 5.50 crores per MW.

Our Findings :

We have carefully considered the rival submissions of the parties and other relevant material placed on the record. What, thus, transpires is that on one hand, the Appellant considered the decided capital cost of Rs. 5.50 crores per MW as extremely low and on the other hand, the Respondents (State Commissions and Discoms) justified the same on the ground that it is 24% more than the previous order. In this regard, it is relevant to note that the Central Commission in its order dated 31.03.2015 determining the tariff for biomass plants for F.Y. 2015-16 has determined the capital cost for various categories of biomass plants as detailed in above-mentioned paras, under which, for plants using rice straw and Juliflora (Plantation) based projects with water-cooled condensers, a capital cost of Rs. 6.104 crores per MW has been specified. For such plants using air-cooled condensers, the Central Commission has allowed a capital cost of Rs. 6.518 crores per MW. It is further noticed that the Central Commission has based its determination of capital cost for various technology-based biomass

plants based on the actual data submitted by a committee which studied the working of the actual biomass plants in the country and it further indexed the above capital cost for the year 2015-16. We are not inclined to accept the arguments of learned counsel for the Respondents that the State Commission has to follow its own regulations and data base for arriving at various parameters to be allowed to the biomass plants. In fact, the determination of tariff has to be undertaken by the State Commissions as per its own regulations but the various parameters influencing the capital cost have to be based on certain realistic data and its due analysis. Pending such collection of data and prudent analysis, the State Commission could make reference to the data and analysis of the central Commission, which is referred to by almost all State Regulatory Commissions. It is further relevant to note that in view of the considerable difference in efficiency of various technology-based power plants, a distinction has to be made by the State Commission whether the plant is based on the air-cooled condensers or water-cooled condensers. There cannot be a uniform capital cost for all the biomass plants using different technologies.

In view of the above facts, we opine that in the facts and circumstances of the case, the capital cost of Rs. 6.10 crores per MW as determined by the Central Commission for rice straw and juliflora (Plantation) based biomass plants with water-cooled condensers, may also be

considered for the power plant of the Appellant using same technology. Hence, this issue is decided in favour of the Appellant.

8.2 Gross Calorific Value (GCV)

The learned counsel for the Appellant submitted that the State Commission has erroneously fixed the GCV @ 3200 K Cal per Kg simply adopting this value from its earlier tariff order. The learned counsel vehemently submitted that the State Commission has not considered the most important property of biomass feed stocks with regard to the combustion and to the other thermo-chemical processes like moisture-content, which influences the energy content of the fuel and also the efficiency, fuel-consumption, viability of Biomass Power Plant etc. In fact, the GCV of fuel is determined based on the moisture, sand and ash-content of the biomass used. For reduction of moisture, the only economical solution is the natural drying. Even the process of natural drying requires high inventory levels because of the seasonal availability of certain types of biomass. Further, over and above the above aspects, there is almost no way to deal with the seasonal rainfall which makes the fuel wet and keeping all such aspects in view, the GCV of fuel needs to be adjusted taking into account the moisture-content etc which is unavoidable. The learned counsel further submitted that on an average, the biomass plants are operated with the

minimum moisture-content of 25% to 30% which affects the GCV and in actual practice, on as fired basis, the GCV usually varies between 2600 to 2900 K Cal per Kg. Therefore, the assumption of such a higher GCV value of 3200 is unrealistic and adds to the problems of the biomass plant developers. The learned counsel, to substantiate his submissions, relied upon the judgment of this Tribunal dated 04.05.2016 in A. No. 211 of 2015 and after considering all the aspects, this Tribunal decided the GCV of 3100 K Cal per kg.

Per contra, the learned counsel for the Respondents submitted that the GCV determined by the State Commission compares well with the prevailing rates in other parts of the country and consistent with the figures in the earlier orders of the Commission. As brought out in para 8.1.12 of the impugned order, the specific fuel consumption adopted in the impugned order is also comparable with those adopted by the other Commissions and hence the GCV allowed by the State Commission does not need any review. The learned counsel for Respondents contended that the value of GCV adopted by the Commission was reflected in the consultation paper and the appellant did not dispute the same in the comments filed by it before the State Commission. As such, the Appellant cannot now be aggrieved of the same in the present Appeal.

Our Findings :

We have critically analysed the submissions of the learned counsel for the Appellant and the learned counsel for the Respondents and note that the GCV as determined by the State Commission is primarily based on the figures presumably adopted by it in its previous Orders. The State Commission has neither considered the figures adopted by the Central Commission as well as that decided by this Tribunal in its Judgment dated 04.05.2016 in A. No. 211 of 2015. In both these documents, the issue of GCV and associated problems like moisture-content etc has been discussed at great length before recommending/deciding a figure of 3100 K Cal per Kg. In view of these facts, we are of the opinion that the GCV of 3200 K Cal per Kg adopted by the State Commission is quite high and accordingly it appears justified to take into account the figures analysed and decided by the Central Commission as well as this Tribunal as 3100 K Cal per Kg. Accordingly, this issue is decided in favour of the Appellant.

8.3 Station Heat Rate (SHR) :

The learned counsel for the Appellant has submitted that the State Commission has erred in retaining the SHR as 3840 K Cal/KWH from its earlier tariff orders ignoring the latest data available in the State, Orders passed by the Central Commission and the Judgments of this

Tribunal. The learned counsel vehemently submitted that the SHR of the biomass power plant is a major factor which gives the efficiency of operation and entirely depends upon the fuel characteristic which is affected by factors like sand, moisture and sizing in the fuel etc. Unlike coal, the multi fuel operation of the biomass power plants is also not possible with variations in the SHR most of the days in a year. While taking into account the seasonal influence, the variation in SHR ranges between 4000 to 5000 K Cal Per KWH. The learned counsel was quick to point out that the Central Commission in its amended Regulations as well as Tariff orders of May, 2014 and March, 2015 has decided the SHR based on the relevant data collected by the Committee as under :

- "(i) 4200 kCal/ kWh for project using travelling grate boilers;
- (ii) 4125 kCal/ kWh for project using AFBC boilers."

The learned counsel places reliance on the Judgment of this Tribunal dated 04.05.2016 in A. No. 211 of 2015 to emphasise that GCV should be considered as 4200 Kcal/Kwh as decided by this Tribunal.

Per contra, the learned counsel for the Respondents contended that as reflected in the impugned order, the State Commission has taken note of SHRs being taken into account by various State Commissions and also referred to CERC Orders in this regard. The learned counsel further submitted that the SHR of 3840 Kcal/Kwh as considered in Order No. 2 of 2009 and Order no. 8 of 2012 was considered in present

tariff order which was also reflected in the consultation paper. As pointed out earlier, the Appellant did not dispute the same in their comments filed before the State Commission and accordingly, the Appellant cannot be aggrieved due to the same in the present Appeal.

Our Findings :

While analysing the rival submissions of the parties, we note that the State Commission has simply followed the SHR figure which was considered in its previous orders and also has made a cursory reference to the Orders of other State Commissions and also the CERC. In the facts and circumstances of the case and considering that SHR is dependent upon a number of uncontrollable factors like sand, moisture and ash contents, the State Commission ought to have adopted at least the figure decided by this Tribunal in its Judgment stated supra. Accordingly, we are of the considered opinion that the SHR of 4200 Kcal/Kwh could have been considered by the State Commission as decided by this Tribunal in its Judgment dated 04.05.2016 and the Judgment is squarely applicable to the case in hand. Hence, this issue is also decided in favour of the Appellant.

8.4 **Operation and Maintenance Expenses :**

The learned Counsel alleged that the State Commission has not even considered the Operation and Maintenance Expenses as 4.5% of the Capital cost instead of normalising the O&M Expenses as per present data available and the inflation rate. The learned counsel pointed out that the State Commission has not even considered the O&M expenses as decided by the Central Commission for FY 2014-15. The learned Counsel further contended that the O&M Expenses cannot simply be a percentage of the Capital Cost irrespective of its value and needs to be decided as per the actual cost prevailing including the effect of inflation. The State Commission has, thus, erred in determining the O&M Expenses without any co-relation with the actual expenses to ensure reasonable recovery of cost and expenses.

Per contra, the learned counsel for the Respondents submitted that the O&M Expenses for machinery have been increased from 4.5% in the previous tariff order to 5% in the impugned order. Besides, the annual escalation has also been increased from 5% to 5.72%. In view of such escalation allowed by the State Commission, the grievance of the Appellant in this regard is not at all justified.

Our Findings :

We have perused the relevant portion of the impugned order pertaining to O&M Expenses and note that the State Commission has allowed an O&M Expense of 5% on 85% of the Capital Cost with annual escalation of 5% considered earlier. In view of the inflation in the prices considering O&M Expenses as percentage of the Capital Cost (85%) cannot sustain in long run and the biomass power plants become non-viable due to their frequent break-downs due to inadequate O&M

Expenses. In such a scenario, we are of the opinion that the State Commission ought to have considered the O&M Expenses of a fixed amount per MW basis instead of percentage. While escalation of 5.72% p.a. as considered by the State Commission is fully justified, the base rate of O&M Expenses as 5% is considered inadequate. In other words, if we consider 5% of the capital cost of, say, Rs. 6 crores, then the O&M Expenses as per the State Commission would work out to Rs. 30 lacs per MW which is nowhere comparable with the figures decided by the Central Commission as Rs. 40 lacs per MW for FY 2014-15 and Rs. 44.71 lacs per MW for FY 2015-16.

In view of these facts, we opine that for FY 2015-16, the State Commission ought to have decided the O&M Expenses in the range of same as fixed by the Central Commission, if not allowing the exact figure. Accordingly, the State Commission is required to analyse the same afresh and decide the O&M Expenses considering the figures decided by the Central Commission stated above.

9. Summary of Findings :

- 9.1 In view of the deliberations and our findings given in the above-mentioned paras, we are of the considered opinion that while the methodology for deciding various parameters associated with the biomass power plants such as Capital Cost, GCV, SHR, O&M Expenses etc., are in resonance with the methodology of the Central Commission, however, the data and its analysis recommended by a Committee has not at all been considered by the State Commission. Further, the State Commission has also ignored the findings of this Tribunal in its previous Judgment as far as GCV and SHR are concerned. All these facts clubbed together have resulted in

determination of various parameters by the State Commission as inadequate and hence, the same are to be looked into afresh by the State Commission in view of our analysis and findings stated supra.

ORDER

In the light of the above, we are of the considered view that the issues raised in the instant Appeal No. 170 of 2016 have merit and hence the Appeal is allowed.

The impugned order dated 31.03.2016 passed by the TNERC in P. No. 5 of 2016 is hereby set aside to the extent challenged in the Appeal. The State Commission is directed to pass an appropriate order in view of our findings and directions given in para 9 above, as expeditiously as possible, within a period of three months from the date of receipt of a copy of this Judgment/Order.

No order as to costs.

Pronounced in the Open Court on this **18th day of February, 2020.**

(S.D. Dubey)
Technical Member

(Justice Manjula Chellur)
Chairperson

REPORTABLE / ~~NON-REPORTABLE~~

Bn