

**In the Appellate Tribunal for Electricity at New Delhi
(Appellate Jurisdiction)**

Appeal No. 211 of 2015

Dated: 4th May, 2016

**Present: Hon'ble Justice Mr. Surendra Kumar, Judicial Member
Hon'ble Mr.T Munikrishnaiah, Technical Member**

IN THE MATTER OF:

1. M.P. Biomass Energy Developers Association

Regd. Address:

H.No: 6/4, Saket Nagar
Bhopal - 24, Madhya Pradesh

Address for Correspondence:

7th Floor, Minerva Complex
94, S.D. Road, Secunderabad – 500 003

2. M/s Orient Green Power Company Limited

Project Address:

Sookri (V), Gadarwara (T)
Narsinghpur (D)
Madhya Pradesh

Address for Correspondence:

Sigappi Achi Building – 4th Floor
No. 18/3, Rukmani Lakshmipathi Road (Marshalls Road)
Egmore, Chennai – 600 008

3. M/s Arya Energy Limited

Project Address:

Arya Energy Limited
Reula Road, Goundhra Kotma (T), Annuppur (D)
Madhya Pradesh – 484334

Address for Correspondence:

Third Floor, E-14
Shyam Plaza, Pandri
Raipur – 492 001

4. M/s Shalivahana Green Energy Limited

Project Address:

Nimidha (V)
Chhindwara (Tehsil and
District), Madhya Pradesh

Address for Correspondence

7th Floor, Minerva Complex
94, S.D. Road, Secunderabad – 500 003

..Appellant(s)/Petitioner(s)

VERSUS

1. Madhya Pradesh Electricity Regulatory Commission
5th floor, Metro Plaza,E-5, Bittan Market
Bhopal – 462023
2. Madhya Pradesh Power Management Co. Ltd.
Shakti Bhawan, Vidyut Nagar
Rampur, Jabalpur
Madhya Pradesh – 482007
3. Madhya Pradesh New & Renewable Energy Department
Main Road No. 2, Urja Bhawan, Near 5 No. Bus Stop
Shivaji Nagar, Bhopal, Madhya Pradesh-426016

.....Respondents (s)

VERSUS

Counsel for the Appellant(s) : Mr. Anand K. Ganesan
Mrs. Swapna Seshadri
Mr. Sandeep Rajpurohit
Mr. Ishaan Mukherjee
Ms. Akshi Seem

Counsel for the Respondent(s): Mr. C.K. Rai
Mr. Paramhans for R-1
Mr. Manoj Dubey for R-2

JUDGMENT

Per Hon'ble T. Munikrishnaiah, Technical Member

1. The present Appeal has been filed by M.P. Biomass Energy Developers Association and Ors. against the Order dated 13.08.2015 passed by the Madhya Pradesh Electricity Regulatory Commission (hereinafter called the '**State Commission**') passed in so called compliance of the Judgment dated 29.05.2014 passed by this Tribunal in Appeal No. 144 of 2013.

In the Impugned Order, the State Commission failed to implement the directions of the Tribunal passed in the Judgment dated 29.05.2014 regarding Gross Calorific Value (GCV) and Station Heat Rate (SHR).

2. The Appellants are Association of Biomass Energy Developers. The State Commission is the Respondent No. 1. The Respondent No. 2 is Madhya Pradesh Power Management Co. Ltd. and Respondent No. 3 is Madhya Pradesh New & Renewable Energy Department.

3. Brief Facts of the Case

- 3.1 The State Commission passed the Tariff Order dated 02.03.2012 determining the tariff for procurement of power by the Distribution Licensees from the biomass based projects for the control period 2012-14.
- 3.2 The Tariff Order dated 02.03.2012 was challenged before this Tribunal in Appeal No. 93 of 2012 by Biomass Project Developers. By judgment dated 18.02.2013, the Tribunal allowed the Appeal and remanded the matter back to the State Commission for re-determination of tariff as per the directions given in the judgment.
- 3.3 Pursuant to above, the State Commission issued public notice and also issued Explanatory Memorandum on the aspect of proposed variable/fuel cost. After public hearing, the State Commission passed the Impugned Order dated 03.05.2013 re-determining the tariff of biomass based projects for the control period 2012-14.
- 3.4 Aggrieved by the Impugned Order dated 03.05.2013 passed by the MPERC, the Appellants have filed Appeal No. 144 of 2013 before this Tribunal.

- 3.5 This Tribunal passed an Order in Appeal No. 144 of 2013 dated 29.05.2014 remanded the matter back to the State Commission and directed to re-determine the norms for Gross Calorific Value (GCV) of the fuel and Station Heat Rate (SHR) and also directed in the interim period till re-determination of GCV and SHR, the Distribution Licensee has to pay the generators at the tariff decided by the State Commission in the Impugned Order subject to adjustment on the final determination by the State Commission.
- 3.6 The State Commission as per the directions of the Tribunal's Order dated 29.05.2014 issued a public notice and also directed to determine of new and renewable energy of the Government of Madhya Pradesh to furnish a report regarding Gross Calorific Value and Station Heat Rate of the available Biomass fuels in the state of Madhya Pradesh.
- 3.7 The State Commission after receiving the report from the Deputy Commissioner, NRED, Bhopal regarding biomass fuel available in the state of Madhya Pradesh regarding Gross Calorific Value and Station Heat Rate, the State Commission considered GCV for the biomass fuel 3600 KCal/kg as fixed in

the Impugned Order and also Station Heat Rate of 3800 KCal/KWh.

3.8 Aggrieved by the Order passed by the State Commission dated 13.08.2015, the Appellant M.P. Biomass Energy Developers Association and Ors. filed this Appeal No. 211 of 2015 and prayed for the following reliefs:

- (a) Allow the appeal and set aside the Order dated 13.08.2015 passed by the State Commission to the extent challenged in the present appeal.
- (b) Determine the Station Heat Rate and Gross Calorific Value applicable to the biomass generators in the State based on the evidence available on record;
- (c) Pass such other Order(s) and this Hon'ble Tribunal may deem just and proper.

4. We have heard Mrs. Swapna Seshadri, Learned Counsel for the Appellants, and Mr. C.K. Rai, Learned Counsel for the State Commission and Mr. Manoj Dubey, Learned Counsel for Respondent No. 2. After going through the Impugned Order and submissions made by the rival parties and the material submitted by the rival parties, the following questions would arise for our consideration:

Issue No. 1: Whether the State Commission erred in considering the same Gross Calorific Value (GCV) at 3600 KCal/kg?

Issue No. 2: Whether the State Commission has erred in maintaining the Station Heat Rate at 3800 KCal/KWh which had been specifically set aside by the Tribunal in the Judgment dated 18.02.2013?

5. **Issue No. 1 and Issue No. 2 are inter-related and hence we will take up both the issues together for consideration.**

6. **The following are the submissions made by the Learned Counsel of the Appellants:**

6.1 that the State Commission erred in maintaining the Gross Calorific Value at 3600 KCal/kg which is almost the same as 3612 KCal/kg as fixed by the State Commission in the Tariff Order dated 02.03.2012 and 03.05.2013 and which had been specifically set aside by this Tribunal.

6.2 that the State Commission erred in ignoring the test reports dated 8.9.2014 and 10.7.2015 placed by the Office of the Commissioner, New and Renewable Energy before the State Commission on the vague basis that weighted average GCVs are not available. It is not understood as to why the State Commission could not compute the weighted average GCVs based on the data submitted before it.

6.3 that the State Commission failed to appreciate that 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.

6.4 that the State Commission failed to appreciate that 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.

6.5 that the State Commission failed to even take note of the fact that on an average, the Biomass plants are operated with the minimum moisture content of 25 % to 30 % which affects the GCV further. On as feed basis, the GCV usually varies between 2600 to 2900 kCal/kg. The GCV of Juliflora based plant is around 2800 kCal/kg, which has been also captured in the independent survey of state government. Therefore,

assumption of any higher GCV than actuals is unrealistic and adds to the problems of the developers.

6.6 that the State Commission erred in maintaining the Station Heat Rate at 3800 kCal/KWh which had been specifically set aside by the Tribunal in the Judgments dated 18.2.2015 and 29.05.2014.

6.7 that the State Commission failed to appreciate that this Tribunal set aside the Orders dated 02.03.2012 and 03.05.2013 of the State Commission twice over which had fixed the station heat rate at 3800 kCal/KWh.

6.8 that the State Commission erred in ignoring the test reports dated 23.03.2015 placed by the Office of the Commissioner, New and Renewable Energy before the State Commission on the vague basis that many plants may run on multiple fuels. It is not understood as to why the State Commission could not compute the correct Station Heat Rate when the studies had placed 5 different scenarios before the State Commission and even if an average of all five it taken, the Station Heat Rate works out to be more than 4500 kCal/kWh.

6.9 that the State Commission failed to appreciate that the 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.

6.10 that the State Commission, as a statutory authority cannot ignore the ground realities and go on fixing whimsical norms and parameters for tariff determination.

7. Per Contra, the following are the submissions made by the Learned Counsel of the Respondents, State Commission:

7.1 that the Gross Caloric Value for determination of tariff depends upon the mix of biomass fuel available in any particular state. Due to variation in the quantum of different fuels available in various parts of the State, simple average GCV for the fuel mix throughout the State cannot be considered for determination of tariff applicable for all projects. Since there was no established ground to determine the weighted average Gross Calorific Value of the

fuel for the Madhya Pradesh and in absence of the weighted average GCVs, the State Commission found it difficult to arrive at the reasonable GCV for the purpose of determination of tariff for the State.

7.2 that the reasons for retaining the GCV of 3600 KCal/kg are as follows:

- i) It is admitted fact that the normative value of GCV has to be decided based on the types of biomass fuels used in the State.
- ii) But, due to variation in the quantum of different fuels available in various parts of the State the exact type of biomass fuel used in the State could not be ascertained.
- iii) There is no established ground to determine the weighted average GCV.
- iv) That the Appellants have not furnished proper data giving the proportion of different biomass fuels used by them.
- v) The State agency namely Department of New and Renewable Energy of the Government of Madhya Pradesh also did not submit weighted average GCV despite request to that aspect made by the State Commission.

7.3 that in the above circumstances the State Commission is left with no other alternative but to continue with the GCV at 3600 KCal/kg till a detailed study is carried out by an

independent agency or the Department of New and Renewable Energy, Madhya Pradesh.

7.4 that Station Heat Rate depends on several factors such as plant capacity, plant design and configuration, technology (type of boiler and pressure level etc.), plant operation and maintenance practices, quality of fuel and operation performance over varying load conditions. The NRED had submitted before the State Commission that:

- a) That have analyzed the operating performance of the biomass power plants of the Madhya Pradesh.
- b) As per SLDC data, one of the better performing biomass power plants viz. M/s Arya biomass project of 10 MW operated at Plant Load Factor (PLF) of 60% for the period from June, 2014 to December, 2014 and other biomass power plants are operating at less than 50% PLF.
- c) The Station Heat Rate (SHR) is a function of Specific Fuel Consumption (SFC) and the Gross Calorific Values (GCVs) of the fuels used. In its order dated 18.03.2014, the CERC accepted the SFC suggested by the Technical Committee at 1.5-1.8 Kg./kWh. Based on the aforesaid benchmark, the SHR for the biomass power plants works out to in the range of 4229 to 4586 KCal/kWh.

7.5 that various SERCs had considered different SHRs and other than the norms specified by the CERC for the purpose of tariff determination as under:

Norms	CERC	MERC	GERC	TNERC	RERC	MPERC
SHR (KCal/KWh)	4200	3800	3800*	3840	4200**	3800

** 3950 for air cooled condensers.

** for air cooled condensers.

7.6 that as directed by the APTEL, the Appellants have not furnished information regarding design heat rate, as certified by the manufacturer, factors affecting SHR due to practical consideration and any other data that is relevant to decide to SHR to the State Commission so as to consider the same by the State Commission.

7.7 that for the aforesaid reasons the State Commission was of the view that majority of biomass power plants may not run on single fuel and a mix of fuels shall be used. The biomass power projects were already allowed to use fossil fuel @ 15%. Thus, the Commission does not find any reason to enhance the Station Heat Rate of 3800 kCal./kWh considered in the impugned order for the purpose of tariff determination till a detailed study is carried out by some independent agency or the Department of New and Renewable Energy, Madhya Pradesh.

7.8 that based on the order dated 03.05.2013, the Commission decides to continue the same tariff for the projects commissioned during FY 2014-15 & 2015-16 as determined for the projects commissioned during the FY 2013-14.

8. Our Consideration and Conclusion on both these issues

8.1 This Tribunal in the Judgment dated 29.05.2013 in Appeal No. 144 of 2013 remanded the matter again to the State Commission. The State Commission has failed to give a reasoned finding for Gross Calorific Value of fuel and Station Heat Rate and hence this Tribunal remanded the matter to the State Commission to re-determine the norms. This Tribunal also directed the distribution licensee to pay the generators at the tariff decided by the State Commission in the Impugned Order subject to adjustment on the final determination by the State Commission in the interim period till re-determination of GCV and SHR,

8.2 As per the directions of this Tribunal, the State Commission issued a public notice to the Appellants, Respondents and to the Department of New and Renewable Energy, Government

of Madhya Pradesh (hereinafter referred as “NRED) and hearing was held on 03.07.2014.

8.3 As per the request of the State Commission, the Deputy Commissioner, NRED, Bhopal conducted tests on biomass available in the state of Madhya Pradesh and submitted the GCV test results of two samples of Rice husk, one sample of Wheat husk and Mulberry each.

8.4 Further, the Deputy Commissioner, NRED, Bhopal vide letter No. 2354 dated 23.03.2015 submitted the values of SHR worked out on the basis of the GCVs of various biomass fuels.

8.5 The test reports pertaining to Gross Calorific Value and Station Heat Rate submitted by the Deputy Commissioner, NRED, Bhopal are as under:

Table-I: Gross Calorific Value

Sl.No.	Type of Bio-Mass	G.C.V. (KCal/Kg.)	Remarks
01	Rice Husk Sample –A	3335	Sample as received.
02	Rice Husk Sample –B	2833	Sample as received.
03	Wheat Husk Sample	2763	Sample as received.
04	Mulberry Sample	4011	Sample as received.

1. ***In context of the state of Madhya Pradesh, the Biomass Policy allows the coal to be used as fuel to the extent of 15%. We have built 5 scenarios with different ratio of fuel mix as stated below:***

Fuel Type	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Rice Husk	60%	65%	70%	75%	80%
Wheat Husk	10%	10%	15%	15%	20%
Mulbury	15%	15%	10%	10%	0%
Coal	15%	10%	5%	0%	0%

2. Based on the benchmark of SFC of 1.5 – 1.8 kg/kWh (as per CERC order), the SHR for biomass in the five scenarios works out to be in range of 4,229- 4,586kCal/kWh.
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Table-II: Test Results of Station Heat Rate

Table 1: Station Heat Rate for Biomass Project (Scenario 1)

Fuel	Percentage in total fuel	Specific Fuel Consumption (kg/kWh)	Calorific Value (kCal/kg)	Heat Produced ((KCal)	Station Heat Rate (KCal/kWh)
Rice Husk	60%	0.900	2,833	2,550	4,586
Wheat Husk	10%	0.150	2,763	414	
Mulbury	15%	0.225	4,011	902	
Coal	15%	0.225	3,200	720	

Table 2: Station Heat Rate for Biomass Project (Scenario 2)

Fuel	Percentage in total fuel	Specific Fuel Consumption (kg/kWh)	Calorific Value (kCal/kg)	Heat Produced ((KCal)	Station Heat Rate (KCal/kWh)
Rice Husk	65%	0.975	2,833	2,762	4,558
Wheat Husk	10%	0.150	2,763	414	
Mulbury	15%	0.225	4,011	902	
Coal	10%	0.150	3,200	480	

Table 3: Station Heat Rate for Biomass Project (Scenario 3)

Fuel	Percentage in total fuel	Specific Fuel Consumption (kg/kWh)	Calorific Value (kCal/kg)	Heat Produced ((KCal)	Station Heat Rate (KCal/kWh)
Rice Husk	70%	1.050	2,833	2,975	4,439
Wheat Husk	15%	0.225	2,763	622	
Mulbury	10%	0.150	4,011	602	
Coal	5%	0.075	3,200	420	

Table 4: Station Heat Rate for Biomass Project (Scenario 4)

Fuel	Percentage in total fuel	Specific Fuel Consumption (kg/kWh)	Calorific Value (kCal/kg)	Heat Produced ((KCal)	Station Heat Rate (KCal/kWh)
Rice Husk	75%	1.125	2,833	3,187	4,411
Wheat Husk	15%	0.225	2,763	622	
Mulbury	10%	0.150	4,011	602	
Coal	0%	-	3,200	-	

Table 5: Station Heat Rate for Biomass Project (Scenario 5)

Fuel	Percentage in total fuel	Specific Fuel Consumption (kg/kWh)	Calorific Value (kCal/kg)	Heat Produced ((KCal)	Station Heat Rate (KCal/kWh)
Rice Husk	80%	1.200	2,833	3,400	4,229
Wheat Husk	20%	0.300	2,763	829	
Mulbury	0%	-	4,011	-	
Coal	0%	-	3,200	-	

The Station Heat Rate is therefore worked out in range of 4,229-4,588KCal/KWh and same is submitted for consideration with request for early settlement of matter so that biomass power plants can be taken up for speedy development.

8.6 We have gone through the test results submitted by the Deputy Commissioner, NRED, Bhopal and as per the test results, the GCV of biomass fuel with respect to Rice Husk is 3335 KCal/kg and 2833 KCal/kg, GCV of Wheat Husk Sample is 2763 KCal/kg and Mulbury sample is 4011 KCal/kg.

- 8.7 Further, the Deputy Commissioner, NRED, Bhopal conducted a test on six samples of the mix of Rice Husk, Wheat Husk, Mulbury and Coal with different combinations in five scenarios and conducted test for determination of Station Heat Rate. According to the test report based on the benchmark of SFC of 1.5 – 1.8 kg/kWh (as per CERC order), the SHR for biomass in the five scenarios works out to be in range of 4,229-4,586 KCal/KWh.
- 8.8 It is pertinent to mention here that even though the Deputy Commissioner, NRED, Bhopal submitted the test results pertaining to GCV of biomass fuel available in the State of Madhya Pradesh and also Station Heat Rate, the State Commission considered their earlier values 3600 KCal/kg of Gross Calorific Value and 3800 KCal/KWh of Station Heat Rate. The Commission's views are quoted below:

“Gross Calorific Value (GCV):

“The Commission is of the view that there is no established ground to determine the weighted average Gross Calorific Value of the fuel for the Madhya Pradesh. In the absence of the weighted average GCVs, it would be difficult to arrive at the reasonable GCV for the purpose of determination of tariff for the State. In the Impugned Order, the Commission had considered GCV @ 3600 KCal/kg.

Station Heat Rate (SHR)

The Commission is also of the view that majority of biomass power plants may not run on single fuel and a mix of fuels shall be used. The biomass power projects were already allowed to use fossil fuel @ 15%. Thus, the Commission does not find any reason to enhance the Station Heat Rate of 3800 KCal/KWh considered in the Impugned Order for the purpose of tariff determination till a detailed study is carried out by some independent agency or the Department of New and Renewable Energy, Madhya Pradesh”.

We feel that the State Commission failed to appreciate the test results submitted by the nodal agency of the State of Madhya Pradesh i.e. NRED, Bhopal.

- 8.9 We have gone through the CERC's (terms and conditions for tariff determination from renewable energy sources) Regulations, 2012 which provide for terms and conditions and procedure for determination of tariff of the various renewable energy technologies *inter alia* biomass based rankine cycle power plants. To arrive the technical parameters of the biomass fuel available in the country, the Central Commission constituted a Committee on 11th October, 2012 under the Chairmanship of the Secretary, CERC to undertake a detailed Study on the “Performance/Viability of Biomass based plants operating in

the Country including the prevailing biomass prices". The scope of the work of the Committee was as under:

- i) Assessment and evaluation of technical parameters like: Heat rate, Auxiliary Consumption, through performance assessment biomass plants commissioned in various states of India;
- ii) Fuel analysis (both Proximate and ultimate analysis) of different biomass fuel by taking fuel and ash sample collected from different plants to arrive at representative value of GCV and moisture variation for different fuel;
- iii) Analysis of losses in calorific value of fuel during storage;
- iv) Evaluation of trend in the biomass power plant operation like break-up of fuel consumption (biomass types usage trends), generation v/s specific fuel consumption, PLF v/s Auxiliary Consumption;
- v) Analysis of O &M expenses of the commissioned plants;
- vi) Analysis of the Capital cost of the commissioned plants;
- vii) Surplus biomass available for energy production;
- viii) Study on prevailing Biomass prices and price trend in various states;
- ix) Measures for viability of biomass plants.
- x) Recommendation for removing the present hurdles coming in the sector for promoting the growth of the Biomass sector.

8.10 The Committee deliberated and collected information and data from different stake holders and also visited sites of power developers to understand the issues at stake in different operation of the biomass based power plants.

8.11 The Committee after detailed examination recommended the following normative parameters for consideration of the Commission for determination of generic tariff of biomass plants:

i) **Station Heat Rate (SHR):**

a) 4200 KCal/kWh for station using travelling grate boilers; and

b) 4125 kCal/kWh for stations using AFBC boilers

ii) **Gross Calorific Value (GCV):** 3100 kCal/kg

8.12 The Central Commission after going through the Reports considered the Station Heat Rate as 4000 KCal/KWh and Gross Calorific Value at 3300 KCal/kg for the determination of RE Tariff Regulations 2012 for biomass based rankine cycle power plants with water cooled condenser.

8.13 We have also gone through the Report of the Committee and noticed the MNRE recommendations on SHR which are as follows:

MNRE recommendation on SHR for different Biomass source

Biomass Source	IPP (>5 MW)	Tail End (< 2 MW)
	KCal/KWh	KCal/KWh
Rice Husk	4100	5200
Straw	4400	5500
Others	4150	5200

**National Productivity Council recommendation on SHR
for different Boiler**

Project with Boiler Type	Station Heat Rate KCal/KWh
AFBC	4000-4100
Travelling Grate	4150-4250

8.14 Further, the Expert Committee of Central Electricity Authority (CEA) in its Report of September, 2005 on “Operational Norms for biomass based power plants” recommended specific fuel consumption of 1.36 kg/kWh with average calorific value of fuel as 3300 kCal/kg and implicit assumption of SHR of 4500 kCal/kWh.

8.15 We have also gone through the Study Report of the National Productive Council who has conducted a detailed performance assessment study of the biomass plants and as per the assessment, the average Station Heat Rate for biomass power plants is around 4300 KCal/KWh.

8.16 The Station Heat Rate data based on performance assessment of biomass power plants by National Productivity Council is as under:

Plant	Date	Unit Generation (KWh)	Biomass Consumption (MT)	SFC (kg/KWh)	Average GCV of Fuel fired (KCal/kg)	Station Heat Rate (KCal/KWh)
Shriram Powergen Limited, Dindigul	09.11.10 to 10.11.10	148800	280	1.88	2076	3906.45
	10.11.10 to 11.11.10	144600	275	1.90	2076	3948.13
	11.11.10 to 12.11.10	152900	292	1.91	2076	3964.63
Global Powertech Equipments Limited, Vandavasi	27.09.10 to 28.09.10	179400	309	1.72	2540	4374.92
	28.09.10 to 29.09.10	172200	294	1.71	2568	4384.39
	29.09.10 to 30.09.10	178200	294	1.65	2559	4221.92
Shriram Non-Conventional Energy Limited Pattukottai	26.12.10 to 27.12.10	152400	236.22	1.55	2696	4178.80
	27.12.10 to 28.12.10	154500	243.18	1.57	2696	4243.45
	28.12.10 to 29.12.10	165300	249.04	1.51	2736	4122.11
Orient Green Power Company Limited Pollachi	11.02.12 to 12.02.12	236600	455.91	1.93	2379	4584.15
	12.02.12 to 13.02.12	236100	431.11	1.83	2379	4343.97
	13.02.12 to 14.02.12	236600	433.13	1.83	2379	4355.10
Sanjog Sugars Eco Power Pvt. Limited	07.08.12	227000	281.5	1.24	3495	4334.11
	08.08.12	234400	305.55	1.30	3495	4555.88
	09.08.12	196200	264.87	1.35	3495	4718.25
Average Station Heat Rate						4282.42

8.17 It is to conclude after going through the Study Reports of various agencies such as National Productive Council, Central Electricity Authority, MNRE etc. and we found that the test results submitted by the Deputy Commissioner,

NRED, Bhopal is almost nearer to the value suggested by the agencies specified above.

8.18 Hence, we do not find any justification in the contention of the State Commission regarding consideration of the GCV as 3600 KCal/kg and Station Heat Rate as 3800 KCal/KWh.

8.19 Further, the Central Commission in their RE Tariff Regulations, 2012 considered GCV as 3100 KCal/kg and Station Heat Rate between 4125-4200 KCal/KWh. This Tribunal in the Judgments dated 18-02-2013 in Appeal No. 93 of 2012 and dated 29.05.2014 in Appeal No. 144 of 2013 clearly directed the State Commission and remanded back to work out the Gross Calorific Value of the fuel and Station Heat Rate but the Commission stick onto the parameters of Gross Calorific Value as 3600 KCal/kg and Station Heat Rate as 3800 as KCal/KWh and determined the Tariff.

8.20 In our opinion, the State Commission without considering the test results of Nodal Agency for Renewable Energy Sources in the State of Madhya Pradesh, Bhopal and without considering the Central Commission's Tariff

Regulations, 2012 on Renewable Energy Sources, the State Commission arbitrarily reduced 5% of the SHR considered by Central Commission on 4000 kCal/kWh and considered the SHR value as 3800 kCal/kWh, which is not correct and reasonable.

It is true that the Station Heat Rate of the biomass plants depends upon the design aspects of the plants and GCV of fuel etc. but when there is basis in arriving at the technical parameters of the biomass fuels conducted by various agencies, the State Commission has to consider the reports in arriving at the values towards GCV and SHR.

8.21 We have cautiously and deeply pondered over the issues involved in this Appeal and we have no hesitation in noting down that this is the third round of litigation in Appeal before this Appellate Tribunal only on the same two issues relating to Gross Calorific Value (GCV) and Station Heat Rate (SHR).

We further note without any hesitation that the State Commission every time in the instant matter on remand has been sticking or clinging to its own earlier values on

these issues thereby completely bypassing and ignoring the directions given by this Appellate Tribunal in earlier two rounds while remanding the matter back to the State Commission, namely, Madhya Pradesh State Electricity Regulatory Commission. In the facts and circumstances of this matter, we do not think it proper to remand the matter third time to the State Commission thereby giving absolute power to be misused by the State Commission again. We ourselves are adopting the work of fixing the values of both these things. We after careful and serious analysis and survey of the aforesaid reports given by various agencies decide the Gross Calorific Value (GCV) in question as 3100 kCal/kg and Station Heat Rate (SHR) at 4200 kCal/kWh. In these circumstances, the State Commission is bound to re-determine the tariff considering the GCV and SHR determined by us in this Judgment. Both these issues are hereby decided in favour of the Appellants and thus Appeal is liable to be allowed.

ORDER

The instant Appeal being Appeal No. 211 of 2015 is hereby allowed and the Impugned Order dated 13.08.2015 passed by the State Commission is hereby set aside. The State Commission is directed to re-determine the tariff adopting the Gross Calorific Value (GCV) and Station Heat Rate (SHR) determined by us above within two months from today positively under intimation to this Appellate Tribunal for our perusal. The State Commission is expected to comply with this Judgment in letter and spirit without seeking any excuse of any kind whatsoever. No costs.

Pronounced in open Court on this 4th day of May, 2016.

(T. Munikrishnaiah)
Technical Member

(Justice Surendra Kumar)
Judicial Member

√ REPORTABLE/NON-REPORTABLE