

**Before the Appellate Tribunal for Electricity
(Appellate Jurisdiction)**

Appeal No. 93 of 2012

Dated: 18th February, 2013

**Present: Hon'ble Mr. Justice M. Karpaga Vinayagam, Chairperson
Hon'ble Mr. Rakesh Nath, Technical Member**

In the matter of:

**M/s. Harvest Energy Private Ltd.
E-7/88, Lala Lajpat Rai Soccity
Arera Colony, Bhopal - 462016**

....Appellant

Vs

**1. Madhya Pradesh Electricity Regulatory
Commission
Metro Plaza, 5th Floor, Bittan Market
E-5, Arera Colony, Bhopal – 462016**

...Respondent(s)

**2. M.P. Power Trading Co. Ltd.
Block No.2, Shakti Bhawan, Rampur
Jabalpur – 482 008**

**Counsel for the Appellant (s) : Mr. G. Umapathy
Mr. R. Mekhala**

**Counsel for the Respondents (s): Mr. Sanjay Sen
Ms. Surbhi Sharma
Mr. Anurag Sharma
Mr. Manoj Dubey**

JUDGMENT

MR. RAKESH NATH, TECHNICAL MEMBER

This Appeal has been filed by M/s. Harvest Energy Pvt. Ltd. against the Tariff Order dated 10.3.2012 passed by Madhya Pradesh Electricity Regulatory Commission (“State Commission”) for procurement of power by the distribution licensees from biomass based power projects for the control period 2012-14.

2. The Appellant is a company engaged in setting up of biomass based power projects in the State of Madhya Pradesh and has proposed to sell the power to be generated from these projects to the distribution licensees or their designated agencies.
3. The State Commission is the 1st Respondent. MP Power Trading Co. Ltd. is the 2nd Respondent.

4. The brief facts of the case are as under:-
 - 4.1 The State Commission passed tariff order for sale of power from biomass based power projects to the State Utilities on 7.8.2007.
 - 4.2 The State Commission by order dated 24.1.2011 in a *suo motu* proceeding revised the tariff on the premise that the tariff decided by its earlier order was applicable for the control period ending on 31.3.2012 and that it would review the tariff only beyond the control period ending 31.3.2012.
 - 4.3 In view of the gestation period involved in the development of a biomass project, the Appellant filed a petition before the State Commission to consider the revision of tariff for the control period from FY 2012-2013 onwards as soon as possible as it would bring clarity and certainty on the financial revenues from the proposed

projects making it possible for the pending projects to attain financial closure so that the projects could commence as per schedule. However, the State Commission on 11.8.2011 dismissed the petition filed by the Appellant as being premature.

4.4 The Appellant filed an Appeal being no. 158 of 2011 before the Tribunal against the above order of the State Commission dated 1.8.2011. The Tribunal vide its order dated 21.10.2011 disposed of the Appeal by directing the State Commission to start the process and finalize the tariff for the period beyond 31.3.2012 so as to complete the process before 31.3.2012. Accordingly, the Appellant filed a detailed representation before the State Commission for revision of tariff for procurement of power from biomass based projects.

4.5 The State Commission by order dated 2.3.2012 determined the tariff for procurement of power from biomass projects. Aggrieved by the expenses allowed

under the various heads in determination of the tariff in order dated 2.3.2012, the Appellant has filed this Appeal.

5. According to the Appellant many components of tariff like Capital Cost, Station Head Rate, Return on Equity, etc., have not been fixed keeping in view the present scenario and ground realities and the Central Commission's Tariff Regulations have also not been considered while fixing the tariff.

6. The Appellant has made the following submissions on the various components of tariff.

6.1 **Capital Cost:** The State Commission fixed the Capital Cost by earlier Tariff Order dated 7.8.2007 at Rs.4.25 crores per MW without any price indexation formula for working out the Capital Cost in the subsequent years of the control period. The Capital Cost in FY 2012-13 based on the cost of Rs. 4.25 crores per MW in FY 2007-08 fixed by the State Commission with cost escalation @ 5%

per annum would work out to around Rs. 5.42 crores per MW. Similarly, the Central Commission has fixed Capital Cost of Rs.4.5 crore per MW for FY 2009-10. Considering CERC's base cost for FY 2009-10 with escalation @ 5%, the Capital Cost for the FY 2012-13 would work out to Rs.5.21 crore per MW. As against this, State Commission has determined the Capital Cost at Rs.4.5 crore per MW for the control period 2012-13 to 2013-14. The State Commission has also not allowed by indexation of the capital cost over the years. On the other hand, State Commission of Rajasthan and Jharkhand have determined the capital cost higher than that determined by the Central Commission. The Capital Cost of various biomass projects commissioned in the State of Madhya Pradesh between 2009-10 and 2010-11 varies from 4.5 crore per MW to Rs. 5.6 crore per MW. Thus, the fixation of capital cost by the State Commission is untenable. The State Commission ought to have fixed the capital cost at Rs. 5.5 crore per MW.

6.2 **Gross Calorific Value:** The State Commission has wrongly retained the Gross Calorific Value ('GCV') of biomass fuel as 3612 kCal/kg as contained in earlier Tariff Order of 2007 without considering the ground realities. The effective available calorific value after accounting for the moisture content at the time of feeding the boiler would be in the range of 2350 to 2650 kCal/kg with average of around 2500 kCal/kg.

6.3 **Station Heat Rate:** The State Commission has erroneously retained the Station Heat Rate ('SHR') of 3800 kCal/kWh as per the earlier Tariff Order of 2007. As against this, the Expert Committee of Central Electricity Authority ('CEA') in its report of September, 2005 on "Operational Norms for biomass based power plants" of September, 2005 recommended specific fuel consumption of 1.36 kg/kWh with average calorific value of fuel as 3300 kCal/kg with implicit assumption of SHR of 4488 kCal/kWh. The Central Commission has also adopted SHR of 4000 kCal/kWh. The Appellant sought

SHR of 4200 kCal/kWh keeping in view the ground realities which was wrongly rejected by the State Commission.

6.4 **Return on Equity:** The State Commission has erroneously fixed the ROE as 16% pre-tax without considering the Central Commission's Regulations which stipulate a pre-tax ROE of 19% for first 10 years and 24% thereafter. At that time the Minimum Alternative Tax ('MAT') was 15% which has subsequently been raised and is currently at around effective rate of 19.89%. If this increase in MAT is factored, the pre-tax return should be 20%.

6.5 **Cost of fuel:** The State Commission has fixed a low fuel price of Rs.2100 per MT ignoring the suggestions of the officer of State Energy Department based on the Report of the Collector, Central Commission's Tariff Regulations and the suggestions of the New and Renewable Energy Department of the State Government.

7. The State Commission has filed written submissions on the above issues supporting the impugned order which we shall be discussing at the appropriate place in this judgment.

8. The Respondent no. 2 also filed reply and written submissions on the above issues supporting the findings of the State Commission in the impugned order.

9. On the above issues, the Ld. Counsel for the parties made detailed submissions. After taking into account the rival contentions of the parties, the following questions would arise for our consideration:
 - i) Whether the State Commission has erred in fixing a low Capital Cost that too without considering the cost indexation due to inflation?

- ii) Whether the State Commission has wrongly fixed the average Gross Calorific Value of biomass fuel?
 - iii) Has the State Commission correctly decided the Station Heat Rate for biomass projects?
 - iv) Whether the State Commission has erred in fixing the pre-tax Return on Equity of 16%?
 - v) Whether the State Commission has fixed an unviable price of the biomass fuel?
10. The first issue is regarding the capital cost.
- 10.1 According to the Appellant, the capital cost ought to have been fixed at Rs.5.5 crores/MW instead of Rs.4.5 crore/MW considering the various submissions made before the State Commission and the inflation factor.

10.2 Ld. Counsel for the State Commission would make the following reply:

“The Capital Cost submitted by the State Commission was insufficient. The Appellant failed to provide the detailed break up of the cost incurred. Further, the data submitted before the State Commission was not audited. Therefore, the Commission could not rely upon the same. In the absence of any detailed reliable data, the Commission has determined the Capital Cost at Rs. 4.5 crore per MW on the basis of the conditions prevailing in the State and the data available on record. However, without prejudice to these submissions, the Appellant can approach the State Commission for determination of Project Specific Tariff under Section 62 of the Electricity Act, 2003 with detailed data”.

10.3 The Respondent no.2 in its reply has submitted that in view of the diverse views and absence of item-wise cost data made available, the State Commission correctly

adopted the Capital Cost as Rs. 4.5 crore per MW, which is a reasonable increase over that of the immediately preceding period.

10.4 Let us now examine the findings of the State Commission regarding the Capital Cost. The relevant extracts of the impugned order are as under:-

- “6.5 The project cost varies on account of various factors including location of the project, rating of the units, total capacity, technology, designed capacity utilization factor etc. and therefore, a reasonable project cost needs to be considered on a uniform basis for tariff determination.*
- 6.6 The Commission had, in its order dated 7.8.2007 considered the capital cost (including cost of infrastructure) of Rs. 4.25 Crores per MW.*
- 6.7 Various stakeholders during the public hearing have pleaded for considering Capital cost of about Rs. 5.50 Cr./MW. The Commission observed that diverse views were expressed by various stakeholders. However, item wise cost data was not submitted by the project developers to substantiate their suggested capital cost. Keeping in view the various data available with the Commission, the Commission is of the view that it would be reasonable to adopt a capital cost of **Rs. 4.50 Crores per MW** for the entire control period including cost associated with power evacuation system from the project site to nearest*

33/11 kV sub-station of distribution licensee for all biomass projects up to 2 MW and to the nearest 132/33 kV sub-station of transmission licensee for the biomass projects of capacity more than 2 MW”.

Thus, the State Commission fixed the Capital Cost of Rs. 4.5 crore/MW including cost associated with power evacuation system for the entire control period of 2012-14, keeping in view the various data available with the Commission. However, the State Commission has not discussed the various data and the basis on which the Capital Cost of Rs. 4.5 crore/MW has been fixed. We find that the impugned order regarding the Capital Cost is not a reasoned order and can not be sustained.

10.5 We find that the Appellant had furnished the break up of capital cost of the project. In the impugned order the State Commission has stated that the item-wise cost data was not furnished by the project developers to substantiate their claim. In the written submissions the State Commission has stated that in the absence of the audited data, the same could not be relied upon.

10.6 The Central Commission's Tariff Regulations, 2009 provide for capital cost of biomass based projects as Rs. 4.5 crores/MW for FY 2009-10 i.e. for the first year of the control period 2009-14 with capital cost indexation mechanism to be applicable over the control period with changes in wholesale price index for steel and electrical machinery. Similar capital cost indexation mechanism has been adopted in the Central Commission's Regulations, 2012 for the control period 2012-13 to 2016-17. However the capital cost for the first year of control period i.e. FY 2012-13 has been fixed at Rs.4.45 crores/MW for water cooled condensers and excluding evacuation infrastructure cost beyond point of connection. The Central Commission in the object and reasons for the Regulations has stated that these are generic norms and may be differentiated based on project specific factors such as technology, fuel type, quality of resources, location, etc. The State Commission may go for different norms to accommodate the above factors.

10.7 In view of above, the Appellant is directed to furnish audited data of capital cost for various components of the project and any other supporting documents sought for by the State Commission. Thereupon, the State Commission shall consider the same along with the Tariff Regulations of the Central Commission, the data relied upon by the Central Commission, data submitted by other stakeholders and any other data that the Commission may call for and then decide the Capital Cost by giving the valid reasons.

10.8 In fact there is force in the argument of the Appellant that the Capital Cost should be determined for the first year of the control period and the cost indexation mechanism should be decided for determination of Capital Cost for the subsequent year of the control period.

10.9 In the present case, the control period is covering two years i.e. 2012-2013 and 2013-2014. The first year of the control period is going to be over shortly and the second year of the control period is going to begin. Therefore, the State Commission could re-determine the capital cost for the FY 2012-13 and FY 2013-14 taking into account the cost indexation mechanism to be devised by the State Commission. The capital cost determined for FY 2012-13 shall be applicable to the projects commissioned during FY 2012-13. Similarly, the capital cost for the FY 2013-14 shall be determined taking into account the capital cost for the previous year and price indexation decided by the State Commission and will be applicable to the projects commissioned during the FY 2013-14.

10.10Ld. Counsel for the Appellant has referred to the judgment of the Tribunal dated 1.3.2011 in Appeal nos. 16 and 117 of 2010 in case of Starwire (India) & Ors. Vs. Haryana Electricity Regulatory Commission & Ors. in

which the Tribunal remanded the matter to the State Commission to redetermine the tariff by passing the reasoned order. We feel that the findings of this Tribunal in the Starwire case will be applicable to the present case as well.

10.11 Accordingly, this matter is remanded to the State Commission to determine the Capital Cost after considering the relevant data and the Commission and to pass the order uninfluenced by the findings already rendered in the impugned order.

11. The second issue is regarding Gross Calorific Value (GCV) of fuel.

11.1 According to the Appellant, the State Commission ought to have adopted GCV of 2500 kCal/kg instead of retaining the value of 3612 kCal/kg.

11.2 According to the Ld. Counsel for the State Commission, the Commission has determined the GCV in terms of the Central Commission's Tariff Regulations of 2009 and the submissions made by the stakeholders.

11.3 Let us now examine the findings of the State Commission in the impugned order.

“Gross Calorific Value

6.36 The CERC in its Regulations dated 16.09.2009 suggested Gross Calorific Value as 3612 kCal/Kg. Earlier, the Commission in its Orders dated 7.8.2007 had considered Gross Calorific Value as 3325 kCal/Kg.

6.37 The Commission had proposed Gross Calorific Value as 3612 kCal/Kg in its approach paper floated in December, 2011. Various stakeholders have suggested Gross Calorific Value ranging from 2500 kCal/Kg to 3300 kCal/Kg.

Commission's views

6.38 The Commission, after duly considering the stakeholders' views during the public hearing, has decided that for all projects Gross Calorific Value be considered as 3612 kCal/Kg.”

11.4 We find that in the Tariff Order of 2007, the State Commission had allowed GCV of 3325 kCal/kg on the basis of GCV of various biomass fuels used and 25% use of coal. The relevant finding of the 2007 order of the State Commission is as under:

“7.27 MPERC expects that the developers of the State are likely to use Rice Husk, Soya Husk, Mustard Husk, Cotton stock, Ground Nut residue & Woody Biomass. The calorific value of these items of biomass is expected to be around 3325 kCal/Kg.

7.28 The Commission proposes the following calorific value :

<i>a) Biomass Fuel A:</i>	<i>3400 kCal/kg), (50%) ---- 1700 kCal./Kg.</i>
<i>b) Supplementary Biomass Fuel B:</i>	<i>2900 kCal/kg), (25%) ---- 725 kCal./Kg.</i>
<i>c) Coal :</i>	<i>3600 kCal/kg), (25%) ---- 900 kCal./Kg.</i>
	<i>-----</i>
	<i>3325 kCal./Kg.</i>
	<i>-----</i>

Gross calorific value adopted by the Commission is, therefore, 3325 kCal./Kg.”

11.5 However, in the impugned order the State Commission after noting down the GCV decided in the Central Commission’s Regulations, 2009, its last Tariff Order of 2007 and suggestions of the various stakeholders decided to adopt GCV of 3612 kCal/kg as against 3325

kCal/kg as decided in the 2007 Tariff Order. However, the State Commission has not given reasons for adopting a higher GCV for the period 2012-14 and comparing with the immediately preceding period. The State Commission has also not carried out an exercise based on the weighted average GCV of various types of biomass fuels mainly utilized in the State by the biomass generators and coal.

11.6 We notice that the State Commission has adopted the GCV at the same level as decided in the 2009 Tariff Regulations of the Central Commission i.e. at 3612 kCal/kg. We find that the Central Commission in the 2009 Tariff Regulations decided the GCV based on the Biomass Atlas prepared and maintained by Indian Institute of Science.

11.7 We notice that in the 2012 Tariff Regulations of the Central Commission, the GCV has been adopted at 3300 kCal/kg for the control period 2012-17. In the statement

of object and reasons of the Tariff Regulations of 2012, the State Commission has stated that the Calorific Value of 3300 kCal/kg has been specified based on the suggestions received from Ministry of New and Renewable Energy, a study carried out by the National Productivity Council, the study carried out by CEA as well as norms specified by other State Commissions.

11.8 The Central Commission in the Explanatory Memorandum to the draft Renewable Energy Regulations which was made available to the stakeholders during the process of public hearing, has given detailed justification for proposal of GCV of 3300 kCal/kg giving suggestions of MNRE, CEA Report of September, 2005, the National Productivity Council study based on the fuel analysis report. It is noticed from the explanatory memo that MNRE has also mentioned that there are losses which are being encountered during the storage and handling of biomass due to land settlement, loss of fuel during sand storm, GCV loss due to decaying of biomass and the

Ministry has recommended for provision of loss of fuel on this account. Even though the 2012 Tariff Regulations of the Central Commission were notified after passing of the impugned order, the reports and data relied upon by the Central Commission was in public domain and was available for consideration.

11.9 We notice that the State Commission has not given a reasoned order for allowing a higher GCV than what was allowed for the period immediately preceding the control period 2012-14. We, therefore, remand the matter to the State Commission to redetermine the GCV taking into account the Central Commission's Tariff Regulations, 2012 which are applicable for the period under consideration in this Appeal and the background material relied upon by the Central Commission in arriving at the GCV and any other material that the State Commission may like to consider and give a reasoned order uninfluenced by its finding in the impugned order.

12. The third issue is regarding the Station Heat Rate ('SHR').

12.1 The Appellant has contended that the State Commission ought to have considered the Central Commission's Regulations, 2012 and the CEA Study Report.

12.2 According to the Ld. Counsel for the State Commission, the Central Commission's Regulations of 2012 were only available at draft stage when the impugned order was passed and, therefore, the State Commission applied its mind and adjusted SHR as per the Central Commission's Regulations of 2009 which were in vogue at the time of passing of the impugned order.

12.3 Let us examine the findings of the State Commission regarding SHR. The relevant extracts of the impugned order are reproduced below:

“(c) Station Heat Rate

6.33 *The CERC in its Regulations dated 16.09.2009 suggested Station Heat Rate as 3800 Kcal/Kwh. Earlier, the Commission in its Orders dated 7.8.2007 had considered Station Heat Rate as 3600 Kcal/Kwh.*

6.34 *The Commission had proposed Station Heat Rate as 3800 Kcal/Kwh in its approach paper floated in December, 2011. Various stakeholders have suggested Station Heat Rate ranges from 3800 Kcal/Kwh to 4500 Kcal/Kwh.*

Commission’s views

6.35 *The Commission, after duly considering the stakeholders’ views during the public hearing, has decided that the Station Heat Rate be considered as 3800 Kcal/Kwh.”*

12.4 We find that the State Commission has not given reasons for adopting SHR of 3800 kCal/kWh.

12.5 The Central Commissions Regulations, 2009 provide for SHR of 3800 kCal/kWh. The Central Commission in the object and reasons of the Tariff Regulations, 2009 has observed that while the design SHR is of the order of 3400-3600 kCal/kWh, the operational efficiency is significantly lower and consequently the SHR is higher

due to several factors such as deterioration in quality of fuel due to storage, O&M practices, etc., and accordingly the Central Commission decided SHR of 3800 kCal/kWh.

12.6 In the 2012 Tariff Regulations, the Central Commission has adopted SHR of 4000 kCal/kWh. In the statement of object and reasons of 2012 Regulations the Central Commission has recorded as under:-

“The Commission is of the view that with biomass power generation projects based on Rankine cycle technology, essentially two types of boilers are being used, viz. travelling grate combustors (stokers) or atmospheric fluidised bed boilers. However, while fluidised boilers offer higher efficiency as compared to travelling grate, there are limitations in use of fluidised bed boilers due to fuel quality and fuel size requirements.

On the other hand, travelling grate type boilers offer flexibility as it can handle variety of type/quality of fuel without significant modifications. Further, it has been observed that biomass project developers, as industry practice have deployed predominantly travelling grate type boilers for biomass based power generation. Considering the same the Commission has decided to retain the norm of Station Head Rate at 4000 kCal/kWh and the same has been reflected in the final regulations.”

12.7 In the Explanatory Memorandum to the Draft Regulations 2012 circulated for public consultation, the Central Commission has dealt with the Report of the CEA Committee, field study carried by the National Productivity Council and the reconditions of Ministry of New and Renewable Energy before suggesting SHR of 4000 kCal/kWh. The Central Commission has given detailed reasoning for adopting the SHR of 4000 kCal/kWh.

12.8 We find that the State Commission has not given proper reasons for fixing the SHR norms. In view of the above, we remand the matter to the State Commission with a direction to determine the SHR also taking into account the Central Commission's Tariff Regulations, 2012 and the background material relied upon by the Central Commission and any other material that the State Commission may like to consider and to give a reasoned order uninfluenced by its findings in the impugned order.

13. The fourth issue is regarding Return of Equity.

13.1 According to the Appellant, the State Commission has erred in fixing the pre-tax ROE of 16% without considering the Central Commission's Regulations. If the MAT is factored, the pre-tax return should have been determined as 20%.

13.2 According to the Ld. Counsel for the State Commission, the State Commission has determined ROE at 16% pre-tax for biomass projects in terms of similar pre-tax return on equity allowed for wind and solar energy developers in the State. However, the State generating company is getting 15.4 % pre-tax ROE and 16% ROE has been given to renewable energy projects to encourage renewable energy projects in the States.

13.3 According to the Respondent no.2, the pre-tax ROE of 16% is reasonable and is well above the prevailing interest rate on fixed deposits with banks and the same

rate is being given to other generators and therefore enhancing the ROE to 20% pre-tax is not reasonable.

13.4 Let us examine the findings of the State Commission regarding ROE in the impugned order:

“6.10 The Commission had proposed return on equity as 16% pre-tax in its approach paper floated in December, 2011. During the public hearing, various stakeholders have suggested Return on Equity ranging from 20 % pre-tax to 24% or as recommended by CERC in its Regulations dated 16.09.2009. The Commission, however, in its earlier order dated 7.8.2007 allowed return on equity (RoE) @ 16% pre-tax.

Commission’s views

The Commission had adopted Return on Equity of 16% pre-tax in its tariff orders on Wind Energy and Solar Energy. The Commission has, therefore, decided to allow Return on Equity @ 16% pre-tax for Biomass projects also.”

13.5 Thus, the State Commission has fixed the ROE of 16% pre-tax as allowed to wind energy and solar energy projects. The State Commission has now stated in the written submissions that pre-tax ROE of only 15.4% has been allowed to State generating company.

13.6 Let us now examine the State Commissions Regulations for generation Tariff, 2009 applicable to conventional generating stations. The relevant extracts are as under:-

“22.1. Return on equity shall be computed in rupee terms, on the paid up equity capital determined in accordance with Regulation 21.

22.2. Return on equity shall be computed on pre-tax basis at the base rate of 15.5% to be grossed up as per Regulation 22.3 of this Regulation:

*Provided that in case of Projects commissioned on or after 1st April, 2009, an additional return of 0.5% shall be allowed if such Projects are completed within the timeline specified in **Appendix-I** :*

Provided further that the additional return of 0.5% shall not be admissible if the Project is not completed within the timeline specified above for reasons whatsoever.

22.3. The rate of return on equity shall be computed by grossing up the base rate with the normal tax rate for the Year 2008-09 applicable to the Generating Company:

Provided that return on equity with respect to the actual tax rate applicable to the Generating Company, in line with the provisions of the relevant Finance Acts of the respective Year during the Tariff period shall be tried up separately.

22.4. *Rate of return on equity shall be rounded off to three decimal points and be computed as per the formula given below:*

*Rate of pre-tax return on equity = Base rate / (1-t)
Where t is the applicable tax rate in accordance with Regulation 22.3 of this Regulation.*

Illustration.-

(i) *In case of Generating Company paying Minimum Alternate Tax*

(MAT) @ 11.33% including surcharge and cess:

Rate of return on equity = 15.50/ (1-0.1133) = 17.481%

(ii) *In case of Generating Company paying normal corporate tax @ 33.99% including surcharge and cess:*

Rate of return on equity = 15.50/ (1-0.3399) = 23.481%

23. Interest and Finance charges on Loan Capital

23.1. *The loans arrived at in the manner indicated in Regulation 21 shall be considered as gross normative loan for calculation of interest on loan”.*

Thus, in the 2009 Regulations, the State Commission has allowed ROE at a base rate of 15.5.% and additional 0.5% for projects completed within the specified timeline which is to be grossed up with the tax rate for the

FY 2008-2009 applicable to the generating company.
These Regulations are applicable till FY 2012-13.

13.7 In the Tariff Regulation of 2012 applicable to control period from FY 2013-2014 to FY 2015-2016, the State Commission has again allowed base rate of ROE 15.5 % which grossed up with the tax rate for the FY 2012-13 applicable to the generating company. Additional return of 0.5% is admissible if the project is completed within the specified timeline. In case generating company is paying minimum alternate tax @ 20.01%, the Return on Equity would be 19.377% and in case the generating company is paying normal corporate tax @ 33.99%, the Return on Equity would be 23.481%.

13.8. We find that the State Commission even for conventional generating stations as grossed up the ROE at 15.5./16% by the applicable tax rate. Therefore, there is no justification for allowing lower ROE to renewable energy projects. The State Commission as per Sections 61(h) and

86(1)(e) of the Electricity Act, 2003 has to promote renewable sources of energy. Allowing lower ROE to the renewable energy sources compared to conventional energy sources will not be in consonance with the provisions of the Act. Accordingly, the State Commission is directed to redetermine the ROE not less than that allowed to the conventional power plants as per its Tariff Regulations.

14. The fifth issue is regarding the price of biomass fuel.

14.1 According to the Appellant, the State Commission has fixed the price of biomass fuel ignoring suggestions of the State Energy Department, Central Commission's Tariff Regulations and the suggestions of the New and Renewable Energy Department of the State Government.

14.2 Ld. Counsel for the State Commission would make the following reply:

“The sale and transportation of biomass is an unorganized sector and the prices are influenced by the various local factors. There is no established mechanism to know the real price of biomass and the generation from biomass is yet to take off in a big way in the State and there is no reliable past data on cost. The State Commission obtained data of biomass cost in various districts in the State through Madhya Pradesh Urja Vikas Nigam Ltd. and Department of New and Renewable Energy of the State. The data varied from Rs. 1000 per MT to 4500 per MT. On the basis of the data available, the State Commission considered the average cost ignoring the higher cost and considered it appropriate to take it as Rs. 2100 per MT for the purpose of determination of tariff. The fuel price determination by the Commission will be valid till 31.3.20012 and the price for the subsequent year shall be determined in the month of March preceding the FY 2013-14”.

14.3 Let us examine the findings of the State Commission on biomass fuel cost in the impugned order. The relevant extracts are reproduced below.

“6.25 Various stakeholders have suggested the price of fuel ranging from Rs. 1507 per MT to Rs. 3200 per MT with escalation @ 5% per year. The Office of the Commissioner, New and Renewable Energy Department suggested the base fuel price @ Rs. 2864 per MT based on the reports of Collectors of various districts of Madhya Pradesh.

Commission’s views

6.26 The Commission, after considering the suggestions from stakeholders and keeping in view the fact that price of biomass varies location wise, has decided that the cost of biomass may be considered @ Rs. 2100 per MT towards cost of fuel including the cost of 15% fossil fuel allowed to be used for the purpose of tariff determination for the period from the date of issue of this tariff order to 31st March, 2013. The Commission has also decided that the fuel cost for the subsequent period on year to year basis shall be determined in each year in the month of March preceding that financial year.”

Thus, the State Commission has fixed the prices at Rs. 2100 per MT without any basis.

14.4 The Central Commission in its 2009 Tariff Regulations fixed the price of biomass for Madhya Pradesh as Rs. 1299 per MT for the FY 2009-10 with fuel price index mechanism or alternatively normative escalation factor of 5% per annum of the projects of the biomass developers. The basis for determination of fuel price is equivalent heat rate for landed cost of domestic coal for grades 'E' and 'F' for thermal stations of the State generating companies for the respective States.

14.5 It is noticed that biomass fuel market is unregulated and unorganized and its price fluctuated depending on the demands and supply position. Besides power generation, biomass fuel is used in various industries for other industrial purposes as a substitute of coal. Therefore, it would be reasonable to consider the landed cost of coal for industrial use in the State on equivalent heat basis while deciding the price of biomass fuel. However, coal from the subsidiaries of Coal India Limited against

linkage granted by the Government of India is available only to the thermal stations and some large industries such as Steel Plants. Most of the industries have to procure coal at market price which is higher than the rate at which coal is available to the State thermal stations through linkage from Coal India Subsidiaries. The biomass fuel is an alternative fuel for some of the industries. Therefore, it may not be correct to fix the price of biomass fuel only on the basis of the equivalent heat value of domestic coal taken by the State owned coal based thermal power stations where coal is procured from coal companies through linkages provided by the Central Government.

14.6 The Central Commission in its 2012 Tariff Regulations has fixed the price of fuel for 'Other States' which includes Madhya Pradesh as Rs. 2476 per MT. In the statement of object and reasons for the 2012 Tariff Regulations, the Central Commission has stated that New and Renewable Energy Department of Madhya

Pradesh submitted the average rate for biomass fuel price in Madhya Pradesh as Rs. 2864 per MT for FY 2012-13 based on the information from the District Collectors and MD, M.P. Urja Vikas Nigam. However, in the absence of any detailed analysis on average biomass price arrived based on district-wise study carried out by the Government, the Commission decided to bring them in the Other States category. The basis used by the Central Commission for the purpose of normative price for biomass fuel for the FY 2012-13 is data for 8 States taking the median value of equivalent heat value approach for landed cost of coal for the thermal power station of respective States, State Commission's specified biomass norms escalated with 5% to bring at FY 2012-2013 as well as the Ministry of New and Renewable Energy recommended prices with Indian Institute of Science suggested weightage of different biomass for different States. For Other States, the average of eight States' norms has been considered. The price decided for

other States which includes Madhya Pradesh is Rs. 2476 per MT.

14.7 We find that in determining the price fuel, the State Commission has not given valid reasons. We therefore deem it fit to remand the matter to the State Commission directing to determine the biomass fuel price keeping in view the 2012 Tariff Regulations of the Central Commission, the background material considered by the Central Commission and other information that the Commission may call for.

15. It is noticed that the State Commission has not yet framed Tariff Regulations specifying the norms for determination of tariff for renewable sources of energy for supply to the distribution licensees. Hence, the State Commission is directed to immediately initiate action to frame the normative tariff Regulations for future.

16. Summary of our findings:

- i) On Capital Cost, Gross Calorific Value, Station Heat Rate and price of biomass fuel, we find that the State Commission has not passed a reasoned order in deciding the normative values. We, therefore, remand the matter to State Commission to decide these norms based on the directions given in this judgment. We want to make it clear that we are not giving any finding on values to be adopted for the above normative parameters.**
- ii) Regarding Return on Equity, we find that the State Commission has allowed a higher ROE to the conventional power plants in its Tariff Regulations. Allowing a lower ROE to biomass based projects which are renewable source of energy is not in consonance with the provisions under Section 61(h) and 86 (1) (e) of the Act. We,**

therefore, direct the State Commission to allow ROE not less than that allowed under its Tariff Regulations as applicable to conventional generating stations.

17. In view of our findings, the Appeal is allowed and the impugned Tariff Order is set aside to the extent indicated above. Consequently, the matter is remanded to the State Commission to redetermine the tariff as per the directions given in this judgment. The State Commission shall pass the consequential order at the earliest. No order as to costs.

18. Pronounced in the open court on this **18th day of February, 2013.**

**(Rakesh Nath)
Technical Member**

**(Justice M. Karpaga Vinayagam)
Chairperson**

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