Appellate Tribunal for Electricity
(Appellate Jurisdiction)

Appeal No. 182 of 2010

Dated: 15th December, 2011

Present: Hon'ble Mr. Rakesh Nath, Technical Member
Hon'ble Mr. Justice P.S. Datta, Judicial Member

In the matter of

M/s. Raj West Power Limited,
308-31, Geetanjaili Towers,
Ajmer Road,
Jaipur-302 006 ... Appellant

Versus

1. **Rajasthan Electricity Regulatory Commission,**
Vidyut Bhawan, Jyoti Nagar,
Jaipur-302 005.

2. **Jaipur Vidyut Vitran Nigam Limited,**
Vidyut Bhawan, Janpath,
Jaipur-302 055.

3. **Ajmer Vidyut Vitran Nigam Limited,**
Old Power House, Hathi Bhata,
Jaipur Road, Ajmer-305 001.

4. **Jodhpur Vidyut Vitran Nigam Limited,**
New Power House, Industrial Estate,
Jodhpur-342003, Rajasthan

5. **Mr. G.L. Sharma,**
3552, Rasta Govind Rajiyon Ka,
Near Kabir Bhawan, Purani Basti,
Jaipur-302 001.

6. **Dr. K.L. Jasin,**
Secretary General,
Rajasthan Chamber of Commerce & Industry,
Chamber Bhawan, MI Road
Jaipur-302 003.

7. Mr. P.C. Jain,
101, Lavkush Nagar-1, Tonk Phatak,
Jaipur-302 015.

8. Mr. Subodh Kumar Bhatnagar,
B-82/308, Rama Golden Cottage,
Raman Marg, Tilak Nagar,
Jaipur-302 004.

9. Mr. B.M. Sanadhya,
Director, Samta Power,
54/144, Madhyam Marg,
Mansarovar, Jaipur-302 020. ... Respondents

Counsel for the Appellant : Mr. M.G. Ramachandran,
Mr. Anand K. Ganesan
Ms. Swapna Seshdari
Ms. Sneha Venkataramani
Mr. V.K. Gupta, Consultant

Counsel for the Respondents : Mr. R.K. Aggarwal, Sr. Advocate
Mr. Alok Chaturvedi for R-2 to 4
Mr. R.K. Mehta, Mr. David A &
Mr. Antaryami Upadhyay for R-1
Mr. G.L. Sharma

JUDGMENT

HON'BLE MR. RAKESH NATH, TECHNICAL MEMBER

This appeal has been filed by M/s. Raj West Power Ltd. against the order dated 13.11.2009 passed by the Rajasthan Electricity Regulatory Commission ('State Commission') in the matter of determination of

provisional tariff for the first two generating units of 135 MW each at the power project being set up by the appellant.

2. The appellant is a generating company which is in the process of establishing a lignite based thermal power project with 8 Units each of 135 MW capacity. The State Commission is the first respondent. The respondent nos. 2 to 4 are the distribution licensees of Rajasthan, who are the buyers of power from the appellant's power project. The respondent nos. 5 to 9 are the consumers/consumer associations of the distribution licensees.

3. The brief facts of the case are as under:

3.1. The appellant is in the process of installing a power project with 8 Units of 135 MW each in District Barmer of Rajasthan. Out of the 8 Units, 2 Units have

been commissioned by the appellant. This Power Project has been established with a view to utilize the lignite resources at Kapurdi and Jalipa Mines in the State of Rajasthan. The technology adopted at the power plant for use of lignite available from the above mines with low calorific value, high moisture content and sulphur content is Circulating Fluidised Bed Combustion technology, hereinafter referred to as 'CFBC technology'.

3.2. On 28.7.2006 the appellant filed a petition before the State Commission for 'in-principle' determination of capital cost of its power project. The State Commission by its orders dated 19.10.2006 and 26.10.2006 approved in-principle capital cost and tariff of the generating project of the appellant and the transfer price of lignite from Kapurdi and Jalipa Mines to the power project.

3.3. On 23.1.2009, the State Commission notified its Tariff Regulations, 2009 providing for the norms for determination of tariff for generation and supply of electricity by the generating companies.

3.4. In February, 2009 the appellant filed a petition being petition no. 183 of 2009 for removal of difficulties on certain aspects of the norms and parameters as applicable to the appellant's generating project.

3.5. The lignite mines in Kapurdi and Jalipa were envisaged to be developed by a Joint Venture Company of the appellant and Rajasthan State Mines and Minerals Ltd., a State Government Undertaking. The Joint Venture Company, hereinafter referred to as 'JV Company' had to proceed with the implementation of the mining project after the land was secured,

transferred and vested in Rajasthan State Mines & Minerals Ltd., by the Government of Rajasthan.

3.6. While the appellant proceeded with the construction of the power project as per schedule, the mining project could not be commenced due to Rajasthan Government/Rajasthan State Mines & Mineral Ltd. not completing the land acquisition process.

3.7. Since the State was facing power shortage, the appellant offered to operate the generating station on alternate fuel viz; imported coal, till such time the local lignite mines were developed by the JV Company. The State Government and the respondent distribution licensees gave their consent for operating the power plant on alternate fuel in the interim period.

3.8. On 17.3.2009, the appellant filed a petition, being Petition no. 184 of 2009, before the State Commission for approval of provisional tariff for the first two units of 135 MW each with operation on the alternate fuel.

3.9. The State Commission heard the petition no. 183 regarding removal of difficulties in the Tariff Regulations and by an order dated 1.5.2009 held that the aspects raised in the said petition would be considered at the time of determination of the provisional tariff in petition no. 184 of 2009 which was pending before the State Commission.

3.10. In petition no. 184 of 2009, the State Commission, after a public hearing, passed an order dated 13.1.2009 determining the provisional tariff for the two units at the power station of the appellant on operation on imported coal.

3.11. Aggrieved by the order dated 13.11.2009 of the State Commission, the appellant has filed this appeal.

4. The appellant has raised the following issues in the appeal:

4.1. Target Availability: The State Commission has incorrectly allowed the Target Availability for the generating station at 80% applicable to coal based station as per the 2009 Tariff Regulations ignoring the fact that the plant was set up as lignite based plant using CFBC technology. The State Commission ought to have adopted the target availability norms as applicable to the Lignite Fired Thermal Power Stations using CFBC technology. The 2009 Regulations provided for special dispensation for four years by way of relaxed target availability norms for power plants

using CFBC technology and designed for use of lignite. CFBC technology is not in extensive use in India and for this purpose the special dispensation was provided for four years for stabilization of the plant to attain optimum performance. The relaxation in plant availability is not for use of the fuel but on account of the use of the CFBC technology. The State Commission also did not consider that the Boiler designed with CFBC technology for lignite with low calorific value and high moisture content can use coal, indigenous or imported with characteristic similar or close to lignite namely low calorific value and high moisture content and not any other type of coal.

4.2. Operation & maintenance expenses: As in the case of plant availability, the State Commission has wrongly applied the O&M expenses applicable to coal based stations on the ground that coal is actually

being used instead of lignite. The O&M expenses as applicable to lignite fired station ought to have been allowed by the State Commission. The plant and machinery installed at the power plant was designed for use of lignite as fuel. The coal to be used should also be of a characteristic similar to that of lignite, namely, high moisture content and low calorific value. Merely because coal was being used as a fuel, the routine maintenance of the plant, employees cost and administrative and general expenses would not get reduced. The O&M expenditure norms provided in the Regulations are based on nature of the plant and not the type of fuel used from time to time.

4.3. Station Heat Rate: The State Commission has not correctly applied the provisions of the 2009 Tariff Regulations in regard to the Station Heat Rate for the generation station. The State Commission has not

given effect to the proviso regarding computation of unit design heat rate for plant where unit heat rate is not guaranteed but turbine cycle heat rate and boiler efficiency are guaranteed separately and for plants based on CFBC technology, as applicable to the appellant's power plant. Further, the correction in Station Heat Rate for high moisture content in coal has also not been allowed.

4.4. Depreciation: The State Commission has not calculated the depreciation correctly in terms of the Regulations. The State Commission has erred in calculating depreciation on 90% of the total capital cost and not on 100% of the capital cost.

4.5. Capital cost allocation: The State Commission has allowed one fourth of the total capital cost of the generating station towards the first two units on the

ground that the capital cost has to be proportionately allocated. Some of the common assets, though to be used for all the units of the generating station, were required for commissioning and operation of the first two units. Accordingly, the appellant had claimed allocation of 30% of the total capital cost to be allocated to the first two units according to the 2009 Tariff Regulations which was not allowed. Postponing the recovery of capital expenditure till the commissioning of the entire generating station is not in the interest of either the appellant or the Respondent distribution licensees and the consumers as the same would be recovered at a later stage with Interest During Construction (IDC).

4.6. Gross Calorific value of imported coal: The State Commission has wrongly disallowed the claim of the appellant for calculation of gross calorific value for the

purpose of variable charges only on the ground that the coal analysis at the loading port had not been furnished. At no point of time during the proceedings before the State Commission, the appellant was ever asked to produce the coal analysis data at the loading port. The appellant filed the data for loading port along with the review petition filed before the State Commission but the State Commission did not deal with the issue in the review order.

4.7. Insurance charges: The State Commission has not allowed the insurance charges at the rate of 0.5% of the capital cost on the ground that no actual insurance premium was paid by the appellant whereas the Regulations permit insurance charges or provision for contingency reserve upto 0.5% of the capital cost.

4.8. Variable cost of fuel: The appellant had prayed before the State Commission for not limiting the variable cost and norms only for imported coal but to also include the indigenous coal and lignite available for other sources. The State Commission in the review order has held that this was a new issue and could be addressed separately on filing of a separate petition. Accordingly, the appellant has craved leave to approach the State Commission by way of separate petition and not press the adjudication on this issue in the present appeal.

5. On the above issues the learned counsel for the appellant presented detailed submission. The learned counsel for the State Commission and for the distribution licensees also made elaborate submissions contesting the contentions of the learned counsel for the appellant and in support of the findings of the

State Commission. We also heard Shri G.L. Sharma, respondent no. 5 herein. He also submitted written submission countering the contentions of the learned counsel for the appellant. We have also considered the comments submitted by Shri Subodh Kumar Bhatnagar, the respondent no. 8 herein.

6. After considering the contentions of the rival parties, the following questions would arise for our consideration:

(i) Has the State Commission erred in allowing the target availability as applicable to coal based station and not adopting the norms as applicable to lignite fired thermal power station using CFBC technology?

(ii) Has the State Commission erred in allowing the operation & maintenance expenditure as applicable to coal based station and not

adopting the norms applicable to lignite fired station?

(iii) Has the State Commission while deciding the Station Heat Rate as per the Regulations erroneously not given effect to the proviso applicable to the appellant regarding computation of unit heat rate where unit heat rate is not guaranteed but turbine cycle heat rate and boiler efficiency are guaranteed and for plants with CFBC technology with correction for moisture content in imported coal?

(iv) Whether the State Commission was correct in calculating the depreciation on 90% of the capital cost instead of 100% of the capital cost?

(v) Whether the State Commission was correct in allowing the capital cost of the two units on a pro-rata basis without considering the cost of common assets which were required to be commissioned for operating the two units?

(vi) Whether the State Commission was correct in rejecting the claim of the appellant for gross calorific value for the purpose of variable charges on the basis that analysis of coal at the port of loading was not submitted?

(vii) Whether the State Commission was correct in rejecting the claim of insurance charges or contingency reserve even though the Regulations permit the same?

The eighth issue regarding the variable cost and norms for indigenous coal and lignite available from alternate sources is not pressed by the

appellant seeking liberty to approach the State Commission by way of a separate petition. Accordingly, the liberty is granted.

7. The first issue is relating to target availability.

7.1. According to learned counsel for the appellant, the relaxed norms for target availability as applicable to lignite fired station with CFBC technology are related to the technology and not to type of fuel used.

7.2. According to learned counsel for the State Commission the relaxed availability norms have not been specified for CFBC technology alone. Separate norms are there only for lignite fired power station using CFBC technology, thus making use of lignite necessary for getting benefit of these norms. The Regulation for plant availability and PLF norm clearly stipulate that for the purpose of claiming the relaxed

norms both CFBC technology as well as use of lignite is necessary. In the instant case, although CFBC technology has been adopted imported coal has been used as a fuel and the requirement of regulation with regard to lignite, as a fuel, has not been fulfilled. Accordingly, the Commission has considered the availability as well as PLF at 80% as applicable to coal based thermal power stations as per the Regulation.

7.3. Shri G.L. Sharma, the respondent no. 5 herein while supporting the findings of the State Commission has submitted that the State Commission's in-principle approval of the project cost by its order dated 19.10.2006 indicated that the appellant had accepted the target availability of 80%, as agreed in the draft PPA initialed by the appellant. Further, the documents submitted by the appellant clearly indicated that the equipment installed by the appellant

had a guaranteed availability of 85% by the supplier. Thus the availability of 80% decided by the State Commission was in order. The Regulations only stipulated the ceiling norms and the parties could agree between them the improved norms. When the parties agreed for availability norm of 80%, the same should be applicable.

7.4. We shall first examine the relevant provisions of the 2009 Regulations.

7.5. The relevant Regulation for target availability and target plant load factor for incentive are 46(1)(a) and 46(2)(a) respectively which are reproduced below:

"(1) Target Availability for recovery of full Capacity (Fixed) charges for thermal power stations:

(a) (i) Kota TPS and Suratgarh TPS 82%

(ii) Other coal, lignite and gas based thermal power stations 80%

(iii) Lignite fired thermal power stations using CFBC technology:

For the first year of operation	*70%*
For second year of operation	*72.5%*
For third year of operation	*75.0%*
For fourth year of operation	*77.5%*
Fifth year and onwards	*80.0%*

"(2) Target Plant Load Factor for Incentive:

(a) (i) Kota TPS and Suratgarh TPS 82%

(ii) Other coal, lignite and gas based thermal power stations 80%

(iii) Lignite fired thermal power stations using CFBC technology:

For the first year of operation	*70%*
For second year of operation	*72.5%*
For third year of operation	*75.0%*
For fourth year of operation	*77.5%*
Fifth year and onwards	*80.0%"*

Regulation 46(1)(a)(ii) stipulates target availability of 80% for coal and lignite based thermal power stations, whereas the regulation 46(1)(a)(iii) provide for

relaxed norms for first four years of operation with gradual improvement to 80% from the fifth year and onwards for lignite fired thermal power stations using CFBC technology. Regulation 46(2) has similar provisions in respect of target plant load factor beyond which the incentive is applicable. It is apparent that lignite based thermal power station with technology other than CFBC technology will have the norm of 80% as per sub clause (ii), but with CFBC technology the relaxed norms as given in sub-clause (iii) will be applicable for the first four years of operation. However, from the fifth year onwards the coal/lignite based stations with conventional technology or CFBC technology will have the same target availability of 80%.

7.6. In the present case the thermal power station has boiler with CFBC technology designed for lignite firing but due to non-development of the lignite mines, in the interim period, imported coal is being used. The question that arises here is whether the norms as applicable to lignite fired plant using CFBC technology will be applicable to the appellant or the norms as provided for plants based on coal or lignite using the conventional technology will be applicable. According to the appellant the relaxed norms for the first four years of operation are technology based. On the other hand as per the respondents both the conditions, viz; use of lignite and CFBC technology, have to be fulfilled for application of the relaxed norms.

7.7. The present case is arising out of unforeseen circumstances not stipulated in the Regulations. Therefore, the Regulations cannot be applied

mechanically without understanding the background of the Regulations and the CFBC technology. In order to understand the application of the Regulations, let us first examine the difference between the conventional technology and CFBC technology used in boilers in coal and lignite based thermal power stations. The conventional pulverized coal/lignite plants use coal/lignite ground to the consistency of facial powder and burn it at high temperature in the boiler. In contrast CFBC uses coal/lignite in chunks mixed with limestone and burn it at lower temperature. Air is blown into the boiler to suspend or fluidize the mixture. CFBC is a good choice for firing low grade fuel and where control of sulphur emission is important with a view of mitigating the environmental impact. CFBC is suitable to handle fuel with low heating valve, high moisture, high ash and

with sulphur. Internationally, CFBC is an established technology but in India only a few plants have been established with CFBC technology.

7.8. A boiler is designed to operate within a range of fuel characteristics above and below the design fuel. However, the design efficiency is guaranteed by the supplier at the design fuel. In the present case the lignite expected to be available from the designated mines has low calorific value and high moisture with sulphur content. Accordingly, the appellant's plant is designed for poor quality of fuel. We notice from the documents submitted by the appellant before the State Commission that the design fuel considered by the appellant is for 45% moisture content and 2900 Kcal/kg. i.e. high moisture and low calorific value.

7.9. Lignite is nothing but a low rank coal. However, the plant can operate on alternate fuel in the wide range of fuel quality for which it is designed. The operational parameters are expected to remain unchanged and within the permissible variation from the design values even with the operation on alternate fuel having quality similar to the range of fuel quality for which the boiler is designed.

7.10. In order to go into the background of formation of the Tariff Regulations, let us examine the Statement of Objects and Reasons and considerations of comments/objections/suggestions on Tariff Regulations, 2009 of the State Commission. The

relevant paragraph on norms of operation is reproduced below:

*"**Commission's Ruling:***

The Commission has considered norms specified in existing CERC Regulations, CEA recommendations and past performance of generating stations while specifying the norms in the Draft Regulations. The CERC (Terms and Conditions of Tariff) Regulations 2009 for the next Control Period 2009-2014 have now been notified which provides for project and site specific norms and hence the same principle of project/site specific norms of operation has been applied in the Regulations.

"a) Target Availability

Stakeholder's comments/suggestions:

Raj West Power Limited (RWPL) submitted that under the draft Regulations, the Commission has specified target availability of 80% for all thermal stations and 70% for thermal stations using fuel with sulphur content of more than 4%. On the contrary, while deciding on RWPL's Petition for in-

principle approval of Tariff, the Commission has considered the same to be 80%. Such availability/PLF is difficult to achieve using CFBC technology due to technological constraints. RWPL requested the Commission to consider target availability factor of 70%, till further experience is gained and the Commission may review it while formulating the Regulations for the next Control Period.

Commission's Ruling:

The Commission has considered norms specified in existing CERC Regulations, CEA recommendations and past performance of generating stations while specifying the norms in the Draft Regulations. After considering the submissions made by RWPL, the Commission has specified the trajectory of plant availability for lignite thermal power stations, linking it with the year of operation as done by CERC by specifying 75% & 80% linked to the years of operation in the new Regulations".

7.11. Thus, the State Commission has considered the norms specified in the Central Commission's Tariff

Regulations, 2009 and CEA recommendations while specifying the norms. On the issue raised by the appellant regarding difficulty in achieving the availability of 80% using CFBC technology before the State Commission during the proceeding on the Tariff Regulations, the State Commission held that the Commission has specified the trajectory of plant availability for lignite thermal power stations linking to the year of operation as per the Central Commission's Regulations.

7.12. Let us now examine the Statement of Objects and Reasons for Central Commission's Regulations, 2009 on the basis of which the State Commission formulated its Regulations. The relevant paragraphs on norms of operation are reproduced as under:

"27. Norms of Operation (Regulations 25)

27.1 .....The Commission intended to review the existing norms for the new and existing stations including specifying of norms for the coal based plants on super critical boiler technology and for the Lignite Based Plants based on Circulating fluidized bed combustion (CFBC) boiler technology..... "

28.6 .....With regard to lignite fired stations using CFBC technology are concerned, we found that the availability in initial years was of the order of 76% in case of surat lignite fired station and gradually picked up thereafter. In view of this we are providing for a norm of 75% during first three years of COD and thereafter, retaining a norm of 80%. In respect of the new lignite power stations with PF Boilers, availability norms have been combined with the coal power fire stations at 85%".

Thus, while the Central Commission decided an availability norm of 85% for new lignite based Pulverized Fuel Boilers or conventional boilers, it

decided relaxed norm of 75% for first three years of operation and thereafter 80% for lignite fired stations using CFBC technology. It is clear from the above that the relaxation in availability norm was for the CFBC technology only.

7.13. In State Commission's Regulation 46(1), the target availability of a lignite fired thermal power station on conventional technology is 80% from the first year of operation while the lignite fired thermal power station using CFBC technology is also given target availability of 80% from fifth year onwards. The relaxation in target availability norm provided for first four years of operation for lignite fired station using CFBC technology is clearly for the stabilization of the plant with consideration of the CFBC technology.

7.14. The appellant's power plant based on CFBC technology is designed for lignite firing but in the interim period is being operated on imported coal, to utilize the available capacity in view of the prevailing situation of power shortage in the state. In this regard, we reproduce below the observation of the State Commission in its order dated 28.8.2009 during the hearing of the petition as under:

> *"10. ……. The Commission recognizes the difficulties experienced by the petitioner and efforts made for arranging alternate fuel indigenously and that the necessity to import fuel has arisen for which distribution companies have indicated agreement and the State Government has already allowed procurement of imported coal"*
>
> *11. The Commission, therefore, feels that charges for infirm power may be worked out with alternate fuel till main fuel is available in pursuance of regulation 47 of the RERC Tariff Regulations, 2009. In the changed and unprecedented circumstances*

*as they exist today and in case of this project a relook on issues such as (a) Date of commissioning (b) modular Commissioning (c) Commissioning of the project (d) Fuel to be used, (e) Determination of 1st year tariff, (f) Sanctity of the in-principle tariff decided by the Commission in its order dated 29.10.2006, as defined in the various agreements reached by the generator and in the RERC tariff regulations 2009 has become inevitable. The Commission takes note of the fact that the State as well as the entire Country are facing severe power supply deficit with considerable adverse implications for the citizens and the economy and idling of generation capacity would be against the public as well as national interest, more so when the option of running the plant on alternate fuel is being supported by the State Government and the distribution licen*sees".

7.15. Thus, the operation of the appellant's power plant on the alternate fuel has been under changed and unforeseen circumstances not envisaged when the

Regulations were framed. It would, therefore, not be correct to apply the norms applicable to the coal based thermal power station based on conventional technology mechanically on the appellant's power plant based on CFBC technology during the interim period. It is for this reason that we have gone into the background of the Regulations and technicality of operation of the plant based on CFBC technology.

7.16. In our opinion, the relaxed and gradually improving norms provided in the Regulations for four year period have been for stabilization of the plant with CFBC technology. The availability target cannot be considered fuel based as for lignite and coal based power station using conventional Pulverised Fuel firing technology the availability norm as per the Regulation is 80%. It is true that lignite is not being used in the initial period. However, when the power plant with

CFBC technology is designed for lignite which was expected to be available from the local mines, imported coal to be used in the plant as alternate fuel has to be of quality similar or close to the fuel for which it is designed i.e. high moisture and low calorific value. Once the plant is designed and constructed based on the design fuel, the characteristics of the plant will not change with the change in fuel i.e. lignite to coal with low calorific value and high moisture with sulphur content.

7.17. According to the respondents, the performance guarantee provided by the equipment supplier is for 85% availability. We notice that the supplier has provided performance guarantee for availability of 85% for the warranty period of one year of operation. Any shortfall in availability is subjected to liquidate damages. However, in our opinion, the contractual agreement between the appellant and its

equipment supplier is a commercial arrangement between them and can not prevail over the Regulations for tariff determination. The tariff has to be determined as per the Tariff Regulations only.

7.18. According to Shri G.L. Sharma the norms as specified in the Regulations are the ceiling norms and as the appellant and the respondent distribution licensee had agreed for the norms of 80% and the same was approved in the 'in-principle' approval order dated 19.10.2006, the same should be applicable. We feel that the State Commission has determined the tariff according to the 2009 Tariff Regulations and, therefore, the operational parameters considered in the 'in-principle approval' will not be relevant. Further, the appellant has sought Station Heat Rate as adopted in the 'in principle order' which has not been accepted by the State Commission in the impugned order and

determined the tariff as per the 2009 Regulations. It will not be correct to do cherry picking of the operational norms from the 'in-principle' order and the 2009 Regulations. The tariff has to be determined as per the 2009 Regulations. The appellant has also not agreed for adoption of target availability of 80% from the first year of operation and, therefore, we do not find any force in the contention of Shri G.L. Sharma that the lower norms as mutually agreed between the parties could be adopted.

7.19. In view of above, we hold that the target availability norms as stipulated in regulation 46(1)(a)(iii) will be applicable to the appellant. Accordingly, this issue is decided in favour of the appellant.

8. The second issue is regarding operation & maintenance expenses.

8.1. According to the appellant the Operation & Maintenance ('O&M') expenses as applicable to lignite based generating station should be made applicable in the interim period when imported coal is being used.

8.2. According to the learned counsel for the State Commission, the O&M norms are based on utilization of primary fuel i.e. coal and lignite and not on the basis of technology. Since the appellant is using coal as primary fuel, the O&M expenses have been allowed accordingly. Further, the O&M expenses norms have been specified keeping in view the fuel being used, because two major components of O&M expenditure i.e. employees cost and Administrative & General ('A&G') expenses would remain the same whether a

plant is using coal or lignite. The effect of fuel is reflected in Repair and Maintenance ('R&M') expenses of the plant. The plant operating on coal is not expected to experience the problems as would be experienced if lignite is used at the plant. Thus, the R&M expenses on coal firing are expected to be lower compared to lignite firing.

8.3. Shri G.L. Sharma in his written submissions has also supported the arguments of the learned counsel for the State Commission and the findings of the State Commission in the impugned order dated 13.11.2009 and the review order dated 17.5.2010.

8.4. Let us examine the Tariff Regulations regarding the O&M expenses. The relevant regulations are 48(a) and 48(b) which are reproduced below:

"48. Operation and maintenance expenses

(a) For coal based generating stations:

i. 110 MW and above and upto 250 MW Unit size – Rs. 12.17 lakh per MW for 2009-10

ii. Above 250 MW Unit size – Rs. 10.95 lakh per MW for 2009-10"

(b) For lignite based generating stations: Rs. 16.00 lakh per MW for FY 2009-10.

"Provided that in case the process water is required to be transported over a distance of more than 50 km. then appropriate special O&M expenses, subject to the prudent check by the Commission, shall be allowed, in addition to the above O&M expenses. It shall include O&M expenses related to pipe line beyond 50 km. and water pumping station operation cost, and additional power consumption for such Stations".

Thus, the O&M expenses are stipulated for coal based and lignite based plants and are not linked to the technology used. In contrast to the Regulations for Target Availability where different norms have been

provided for first four years for lignite based station using CFBC technology, same O&M norms have been provided for lignite based generating units irrespective of technology.

8.5. The relevant extracts of the impugned order dated 13.11.2009 (paragraph 5.4.8) is also reproduced below:

> *"The Commission in its MYT Regulations has specified the differential O&M norms based on utilization of primary fuel i.e. coal or lignite and is independent of technology. As the provisional tariff in this Order is determined with coal as primary fuel, the Commission has considered the base O&M expenses of Rs. 12.17 lakh/MW in accordance with the Regulations and in addition as discussed at para 2.9.4 above, the Commission has considered special O&M expenses of Rs. 0.81 lakh/MW for FY 2009-10. Further, for projecting the O&M expenses for FY 2010-11, the Commission has considered the escalation rate of 5.72% per annum*

in accordance with the escalation factor principles stipulated under Regulation 25 of RERC Tariff Regulations, 2009.

"5.4.9. In accordance with the provisions of Regulations, the Commission approves the O&M expenses of Rs. 8.76 Crore and Rs.37.10 Crore for FY 2009-10 and FY 2010-11 respectively. The Commission may consider the variation in actual O&M expenses with respect to approved O&M expenses while truing up the tariff based on actual capital cost subject to prudent check".

Thus, the State Commission has considered the O&M expenses as applicable to coal based generating station in the Tariff Regulations but has also decided to consider the variation in actual O&M expenses with respect to the approved O&M expenses while truing up the tariff based on actual capital cost, subject to prudence check.

8.6. The Central Commission in its Statement of Objects and Reasons for Tariff Regulations, 2009 has also observed that in respect of operation & maintenance expenses of CFBC technology they do not have any credible data and, therefore, decided to allow the same norms as of conventional coal/lignite based stations.

8.7. We are in agreement with the findings of the State Commission on the issue of O&M charges. However, the appellant is at liberty to claim the variation in O&M expenses during the interim period of operation on alternate fuel at the time of true-up as per the order of the State Commission.

8.8. Regarding special O&M expenses allowed to the appellant for transportation of water for more than 50 km., the appellant has submitted that on account

of immediate non-availability of water from the specified source, the appellant was procuring water from Giral Thermal Power Station on a temporary basis on returnable basis. However, the State Commission in its review order dated 17.5.2010, has decided to deal with the issue when the final tariff is determined. In view of this, we do not want to go into the matter of special O&M charges.

8.9. Accordingly, this issue is decided against the appellant.

9. The third issue is regarding Station Heat Rate.

9.1. According to learned counsel for the appellant the Station Heat Rate should have been calculated taking into account the turbine cycle heat rate and boiler efficiency as per the second proviso to Regulation 48(4) and should have been increased on account of

adjustment for moisture content of the fuel used as per fourth proviso to Appendix-2 of the Regulations. Accordingly, the Station Heat Rate should have been considered at 2663.49 Kcal/kWh instead of 2449.50 Kcal/kWh as approved by the State Commission.

9.2. According to learned counsel for the State Commission, the multiplying factor on account of moisture content is applicable for lignite fired generating stations. Since the generating units of appellant are using coal as primary fuel, the correction factor cannot be applied, as the same would be contrary to the Regulations. Further, the Design Heat Rate in any case has not to exceed 2300 Kcal/kWh as provided in the Appendix-2 of the Regulations. The State Commission has accordingly considered the maximum value of 2300 Kcal/kWh and after applying

formula specified in Regulation 46(4), fixed the Station Heat Rate as 2449.50 Kcal/kWh.

9.3. According to learned counsel for the Respondents 2 to 4, the Regulation stipulates the ceiling value of maximum design heat rate of 2300 Kcal/kWh and accordingly the State Commission has correctly determined the Station Heat Rate. Shri G.L. Sharma has contended that the State Commission should have considered the design rate of 2197 Kcal/kWh for imported coal as against 2300 Kcal/kWh. Accordingly, the Station Heat Rate should be revised to 2339.805 Kcal/kWh instead of 2449.5 Kcal/kWh as allowed by the State Commission.

9.4. Let us first examine the Regulations. The relevant Regulation 46(4)(a) is reproduced below:

"(4) Gross Station Heat Rate- For new Generating stations,

(a) Coal and lignite based thermal power generating stations

= 1.065xDesign Heat Rate (kCal/kWh)

Where the Design Heat Rate of a unit means the unit heat rate guaranteed by the supplier at conditions of 100% MCR, zero percent make up, design coal and design cooling water temperature/back pressure.

Provided that the Design Heat Rate shall not exceed the limit as specified under Regulation 26(ii) (B) (a) of CERC (Terms and Conditions of Tariff) Regulations, 2009 including amendments thereof shall be applicable (Appendix-2)".

Thus, the Gross Station Heat Rate will be 1.065 times the Design Heat Rate. However, the Design Heat Rate shall not exceed the limit as specified in Regulation

26(ii)(B)(a) of the Central Commission's Tariff Regulations, 2009.

9.5. The relevant portion of the Regulation 26(ii)(B) (a) of the Central Commission's Tariff Regulations, 2009 as copied in Appendix-2 of the State Commission's Tariff Regulations is reproduced below:

Pressure Rating Kg/cm2	*150*
SHT/RHT °C	*535/535*
Type of BFP	*Electrical Driven*
Max Turbine Cycle Heat Rate (Kcal/kWh)	*1955*
Min. Boiler Efficiency	
Sub-Bituminous Indian Coal	*0.85*
Bituminous Imported Coal	*0.89*
Max. Design Unit Heat Rate (Kcal/kWh)	

Sub-Bituminous Indian Coal	*2300*
Bituminous Imported Coal	*2197*

"Provided also that where unit heat rate has not been guaranteed but turbine-cycle heat rate and boiler efficiency are guaranteed separately by the same supplier or different suppliers, the unit design heat rate shall be arrived at by using guaranteed turbine cycle heat rate and boiler efficiency:

Provided also that in case of lignite-fired generating stations (including stations based on CFBC technology), maximum design heat rates shall be increased using factor for moisture content given in Regulation 46(3)(b)".

The second proviso describes the method for calculation of Design Heat Rate where unit heat rate has not been guaranteed but turbine cycle heat rate

and boiler efficiency have been guaranteed separately. However, in our opinion the Design Heat Rate is subject to the maximum limit as indicated in the Central Commission's Regulation as per proviso under Regulation 46(4)(a). The maximum limit of Design Heat Rate as per the Central Commission's Regulation is 2300 Kcal/Kwh for sub-bituminous India coal which has been correctly decided by the State Commission.

9.6. According to the appellant, the Design Turbine Heat Rate of the power station is 2008 Kcal/Kwh and boiler efficiency at 36% total moisture of fuel received is 80.29%. Accordingly, the Design Heat Rate should be 2500.9 Kcal/Kwh and the Station Heat Rate as per the formula given in the Regulation 46(4)(a) should be 2663.49 Kcal/Kwh. Further, the second proviso to Appendix-2 is a total exception to the ceiling limit provided in the main part. Another issue raised by the

learned counsel for the appellant is that the decision on plant and machinery were taken by the appellant in the year 2007 much before the coming into force of Tariff Regulations, 2009. The appellant had negotiated and finalized the machinery with certain design parameters which included the manufacturer specifying guaranteed Turbine Cycle Heat Rate and Boiler efficiency, etc., based on Station Heat Rate as per the State Commission's order dated 19.10.2006 at the time of in-principle approval i.e. base Station Heat Rate of 2500 Kcal/Kwh and with moisture content of 40% as 2675 Kcal/Kwh.

9.7. We do not agree with the contention of the appellant that the proviso to Appendix-2 will have overriding effect on proviso to Regulation 46(4)(a) and values of maximum design heat rate given in the table in Appendix-2. In our opinion, the second proviso to

Appendix-2 will be applicable for calculating the unit heat rate where the same has not been guaranteed but turbine cycle heat rate and boiler efficiency are guaranteed. If the computed unit heat rate is less than the maximum design unit heat rate then the computed unit heat rate or maximum design unit Heat Rate whichever is lower has to be considered for determining the Gross Station Heat Rate. It is difficult to imagine that if a generating station has procured turbine generator and boiler from different suppliers or if the main supplier has not guaranteed the unit design Heat Rate then that generating company could be treated as exception and get concession for Design Heat Rate over and above the ceiling norm provided in the Regulations.

9.8. We also do not accept the contention of the appellant that the Station Heat Rate as determined in

the in-principle approval order dated 19.10.2006 should be adopted. The tariff has been determined by the State Commission according to the Regulations. We also do not find a sunset clause in the Regulations for application of the operational norms. The stand of the appellant that certain parameters such as target availability should be determined as per the Regulations and some parameters such as Station Heat Rate should be as per the in-principle order does not seem to be logical.

9.9. Now the question that remains to be answered is whether the correction factor for the moisture content in fuel is required to be applied for use of imported coal or not? We notice that the CFBC boiler at the power plant is designed for the characteristic of lignite available from Jalipa and Kapurdi Mines with high total moisture content and low calorific value.

According to learned counsel for the appellant the alternate fuel used at the power plant during the interim period has to be akin to the quality of lignite for which the plant has been designed. Once the plant has been designed for low calorific value and high moisture fuel, the appellant cannot use fuel of superior quality whether indigenous or imported. We agree with the contention of the learned counsel for the appellant. The imported coal arranged by the appellant is reported to be having total moisture in the range of 30 to 40%. When the moisture content of the coal is high, technically the correction for moisture content has to be allowed according to Regulation 46(3)(b) as per fourth proviso to Appendix-2.

9.10. Similar issue was considered by the Central Commission while framing the 2009 Tariff Regulations. The issue considered by the Central Commission was

regarding minimum boiler efficiency to be considered for thermal power stations using sub-bituminous Indian coal as well as imported coal. The findings of the Central Commission on this issue as recorded in the Statement of Objects & Reasons for Tariff Regulations, 2009 under paragraph 29 are reproduced below:

> *"(d) It can be seen that the CEA had provided for ceiling of minimum boiler efficiency for imported coal as well. All the existing stations were designed for domestic sub-bituminous Indian coals. But due to deteriorating quality and shortage of coal, NTPC has started blending imported coal with domestic coal in some of its power stations. This is with a view of move towards design coal. As such, there should not be any confusion regarding use of imported coal for the blending with domestic coal in the existing stations. Since such, blending is unlikely to improve the guaranteed boiler efficiency which is given for a designed coal. We shall therefore, be guided by the design coal for which*

guarantees have been given by the supplier while adopting the efficiency parameters for the domestic coal or the imported coal as the case may be".

The State Commission has adopted the Central Commission's Regulations for maximum design efficiency and Station Heat Rate. Thus, the above findings should also be applicable to the State Commission's Tariff Regulations, 2009. In the above findings the Central Commission has taken a view that they will be guided by the design coal for which guarantee has been given by the supplier. We are in agreement with the findings of the Central Commission. The same finding would be applicable to the present case where alternate fuel has been used in the interim period when the designated fuel is not available. On the same principle, the contention of Shri G.L. Sharma for adopting the Maximum Design

Unit Heat Rate for bituminous imported coal would also be unsustainable. Moreover, if coal of superior quality with low moisture content is used the price of coal will also increase.

9.11. The State Commission has applied the Regulations mechanically by not allowing correction for moisture in the imported coal on the ground that the Regulations provide for correction only for lignite fired units. The present case is arising out of an unforeseen situation where a lignite based plant with CFBC technology using imported coal having the high moisture content similar to the design fuel in the interim period. Such unusual situation is not covered in the Regulations. In our opinion, the Regulations cannot be applied mechanically under the unforeseen and unusual operating conditions. The State Commission should have been guided by the design

fuel for which guarantees have been given by the supplier while adopting the efficiency parameters.

9.12. Accordingly, this issue is decided in favour of the appellant only to the extent of application of correction factor for moisture content in the alternate fuel to be applied as per Regulation 46(3)(b).

10. The fourth issue is regarding depreciation.

10.1. According to the learned counsel for the appellant the State Commission has not calculated and allowed the depreciation in terms of the Regulations.

10.2. According to the learned counsel for the State Commission in the absence of details of completed cost, separate value of assets for non depreciable and lower depreciable rates, interest

during construction and finance charges etc., the State Commission has consciously taken 90% of the presently assumed pro-rata capital cost on ad-hoc basis for calculating depreciation, instead of applying lower depreciation rate for civil works and nil rate for land. This is subject to adjustment at the time of COD of the project.

10.3. According to Shri G.L. Sharma, as per Regulation 44(4) read with Regulation 18(3) the approved capital cost should be considered for tariff determination. Since no other approved capital cost other than approved under 'in-principle' approval was available, the State Commission has correctly considered the same for determining the cost of Units 1 & 2 on pro-rata basis. The 'in-principle' capital cost included the cost of land and water pipeline which has

not been completed so far, hence no depreciation could be allowed on the same. On civil works and plant & machinery different depreciation values at 3.34% and 5.28% respectively are applicable and in the absence of such details, the Commission has taken a considered view allowing depreciation rate of 5.28% on 90% of cost of assets.

10.4. According to learned counsel for the respondents 2 to 4, in the absence of details of item-wise completed cost and in view of non-commissioning of water conductor system the State Commission has rightly considered on ad-hoc basis 90% of the capital cost for determination of depreciation.

10.5. Let us now examine the Regulations for determination of capital cost and depreciation. The

relevant Regulation 18 for capital cost is reproduced below:

"18. Capital Cost and capital structure

(1) In case of a generating company, transmission or distribution licensee, investments made prior to 1.4.2009 shall be accepted on the basis of audited accounts, and on the basis of the principles specified in these Regulations.

(2) Petition for …….. a separate petition……..

Provided that where the Commission has given an 'in principle' approval to the estimated capital cost and financing plan, this be the guiding factor for applying prudent check on the actual capital expenditure".

(3) The actual expenditure as on COD for the original scope of work based on audited accounts of the company limited to original cost may be considered subject to prudence check by the Commission".

"23. Depreciation

(1) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission.

(2) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed upto maximum of 90% of the capital cost of the asset".

(3) Depreciation shall be calculated annually based on Straight Line Method (SLM) and at rates specified in Appendix-1 to these regulations for the assets of the generating station, transmission system and distribution system".

"44. Petition for determination of generation tariff (thermal)

(1)……

(2)……

(4) Where the tariff is being determined for stage or Unit of a generating station, the Generating Company shall adopt a reasonable basis for allocation of capital cost relating to common facilities and allocation of joint and common costs across all stages or Units, as the case may be:

Provided that the Generating Company shall maintain an Allocation Statement providing the basis for allocation of such costs, and submit such statement to the Commission alongwith the application for determination of tariff.

(4) A generating company may make petition for determination of provisional tariff in advance of the anticipated date of commissioning of Unit or Stage or Generating Station as a whole, as the case may be, based on the capital expenditure actually incurred upto the date of making the petition or a date

prior to making of the petition, duly audited and certified by the statutory auditors and the provisional tariff shall be charged from the date of commercial operation of such Unit or Stage or Generating Station, as the case may be".

10.6. The above Regulations stipulate the following:

(i) the generating company could obtain in-principle approval of capital cost from the State Commission, which will be a guiding factor for determining the actual capital expenditure. The actual capital expenditure based on audited accounts limited to original cost would be considered as a original capital expenditure subject to prudence check by the State Commission;

(ii) the depreciation shall be calculated on the capital cost of the asset as admitted by the State

Commission and will be determined based on Straight Line Method upto 90% of the capital cost of the asset;

(iii) the provisional tariff shall be determined based on capital expenditure actually incurred upto the date of making the petition duly audited and certified by the statutory auditors.

10.7. Let us now examine the petition filed by the appellant before the State Commission for determination of provisional tariff. Even though the appellant has submitted the expenditure upto 31.3.2008, they have claimed the capital cost on the basis of 'in principle' approved cost per MW apportioning about 30% of the total cost to first two units.

10.8. The State Commission in the impugned order allowed the capital cost on the basis of per MW capital

cost as given in the 'in principle' order dated 19.10.2006 and decided the capital cost of two units on pro-rata basis i.e. 25% of the total cost of 8 units of 135 MW each. The State Commission has recorded the following in regard to determination of depreciation charges:

> *"5.4.6. In context to depreciation charges, RERC Tariff Regulations, 2009 stipulates differential depreciation rate of 5.28% for first 12 years from date of commissioning and remaining to be spread over useful life of the asset, subject to the total depreciation upto 90% of book value of asset. The Commission has thus considered the depreciation rate of 5.28% for working out the depreciation charges for FY 2009-10 (on pro-rata basis for the period of operation) and FY 2010-11".*

The State Commission allowed depreciation on 90% of the capital cost provisionally admitted by the State Commission even though this has not been indicated

in the main order. The Review Order dated 17.5.2010, the State Commission has held as under:

> *"22. The Commission, while working out depreciation in absence of details of completed cost, separate value of assets for non-depreciable and lower-depreciable rates, interest during construction and finance charges etc., has considered 90 percent of the presently assumed pro-rata cost on ad-hoc basis, which in any case is subject to adjustment at the time of CoD of the project. The view taken by the Commission in the matter of working out depreciation by applying uniform rate of 5.28% for depreciation on 90% of the apportioned cost instead of taking lower rate for civil works and NIL rate for land, etc. was a conscious view as the project cost, which is being considered for the provisional tariff under this order is also provisional and is not an error apparent on the face of record nor constitute any other reason for review and, thus is not a subject matter for review".*

10.9. The State Commission has given the provisional tariff for the two units based on the in-principle capital cost of the project approved earlier. The approved break-up of the in-principle capital cost is also available in the earlier order of the State Commission dated 19.10.2006. That be the case, the State Commission should have determined the depreciation on the basis of the provisionally approved capital cost. Accordingly, this issue is decided in favour of the appellant.

11. The fifth issue is regarding capital cost allocation.

11.1. According to the learned counsel for the appellant, higher cost allocation of 30% of the capital cost claimed on account of the fact that many assets

though to be used for all the units of the generation stations were required to be established and commissioned at the time of commissioning of the first two units itself.

11.2. According to learned counsel for the State Commission, since the appellant had sought Provisional Tariff, based on per MW Capital cost already approved by the State Commission and COD was still not in sight, the State Commission has not undertaken detailed scrutiny of the capital cost.

11.3. Let us now examine the Regulations. Regulation 44(3) stipulates that where the tariff is being determined for stage or Unit of a generating station, the Generating Company shall adopt a reasonable basis for allocation of capital cost relating to common facilities and allocation of joint and

common costs across all stages of Units. The Generating Company has also to maintain an Allocation Statement providing the basis of allocation of such costs, and submit such statement to the State Commission at the time of application for determination of tariff. However, in this case the appellant had only claimed 30% of the capital cost for the first two units without giving any basis for the same. We feel that the claim of the appellant is on *ad hoc* basis without any supporting documents. Therefore, we do not find any fault with the findings of the State Commission in apportioning the capital cost for two units on pro-rata basis. However, the entire capital cost of the common systems will be determined by the State Commission at the time of final determination of capital cost on the basis of the audited accounts.

12. The sixth issue is regarding gross calorific value of imported coal.

12.1. According to the learned counsel for the appellant while calculating the gross calorific value for the purposes of computing the variable cost, the State Commission has disallowed the claim of the appellant only on the ground that coal analysis at the loading port had not been furnished. The State Commission at no point of time during the proceedings had ever asked to produce the coal analysis data at the loading port. The appellant had produced the data at the port of entry. Subsequently, the appellant filed the data of coal analysis at the loading port alongwith the review petition. However, the State Commission has not dealt with the issue in the review order. Further calorific value was arrived at by the State Commission by

considering the lowest value of moisture content range while the State Commission has considered mean values of the range for other parameter like calorific value.

12.2. According to the learned counsel for the State Commission the coal analysis at loading port was not provided by the appellant. As per coal analysis provided by the appellant, the Gross Calorific Value ('GCV') was in the range of 4800-5400 Kcal/kg., on air dried basis and inherent moisture content of 16 to 20% with total moisture content of 30 to 40%. Accordingly, the State Commission considered the mean value of GCV at 5100 Kcal/kg. on air dried basis, inherent moisture content of 18% and minimum value of total moisture content of 30%, for arriving at GCV, which worked out to 4353.66 Kcal/kg. Further since the high moisture content has an adverse impact

on tariff, it is the responsibility of the appellant to use better quality of coal.

12.3. According to the appellant, the payment of coal has to be effected based on the quantity and quality of coal at the loading port as such the quality for port of loading will have to be considered. The certificate at any other point say port of entry or power house will have to take into account the variation in moisture content on GCV as well as weight or considering price of coal on the basis of heat content say per 1000 Kcal.

12.4. The State Commission in the review order dated 17.5.2010 has held that the adjustment of rate of energy charges is subject to adjustment on quarterly basis. We do not agree with the contention of the learned counsel for the State Commission that since

moisture content in coal had an adverse impact on tariff then the appellant should use better quality of coal. As held earlier the power plant is designed for poor quality of fuel with high moisture content and low calorific value. Moreover, better quality of coal will also cost more. The State Commission in its order has determined the variable charges based on the assumed quality of coal i.e. GCV of 5100 Kcal/kg. on air dried basis, inherent moisture of 18% and total moisture of 30% for arriving at the GCV. The GCV has to be trued up based on the actual quality of imported coal. Accordingly, the State Commission is directed to true up the variable charges based on the actual quality data of the imported coal.

13. The seventh issue is regarding insurance charges.

13.1. According to the learned counsel for the appellant, the premium is paid after commercial

operations date while provisional tariff was determined earlier. Therefore, it would be prudent to allow the insurance charges before or at the time of incurring the expenditure rather than postponing the recovery to a later stage.

13.2. According to the learned counsel for the State Commission, the appellant has neither produced any document in support of actual payment of any premium towards insurance nor informed about formation of a contingency reserve, as provided in Regulation 27 of Tariff Regulations. There was, thus, no basis for allowing such claim.

13.3. According to Regulation 27, the Commission could consider allowing actual insurance charges or provision for contingency reserve upto 0.25% to 0.50% of the approved capital cost considered for O&M

expenses. The Generation Company has also to submit documentary proof of investment of the amount allowed towards contingency reserve, if any, in any Government approved securities under the Indian Trusts Act, and in case the documentary proof of investment is not submitted, the contingency reserve allowed in previous year shall be reduced as a part of truing up and the Commission may also disallow contingency reserve for the ensuing year.

13.4. The appellant has neither submitted any account of actual insurance charges incurred nor about creation of contingency reserve as per the Regulations. Thus, we are in agreement with the findings of the State Commission in this regard. Accordingly, this issue is decided against the appellant.

Summary of our findings

14. The present case involved unforeseen and changed circumstances under which imported coal was utilized at the appellant's power plant based on CFBC technology instead of the designated fuel viz. lignite for which the power plant was designed. The Regulations did not envisage the operation of the Plant designed with CFBC technology on lignite available from local mines on imported coal. In our opinion for determination of provisional tariff during the interim period, the Regulations cannot be applied mechanically. Accordingly, we have gone into the features of the CFBC technology and the background of formation of the Regulations before coming to a conclusion. Our findings on the various issues are as under:

(i) Target Availability: The target availability norms as provided in Regulation 46 (1)(c) (iii) for the use of CFBC technology will be applicable to the appellant during the interim period.

(ii) Operation and Maintenance expenditure: The O&M expenses as decided by the State Commission for coal fired station will be applicable. However, the appellant could approach the State Commission in case of variation in actual O&M expenses with respect of the approved O&M expenses which the State Commission could consider while truing up the tariff based on actual capital cost, subject to prudence check, as per the decision of the State Commission in the impugned order.

(iii) Station Heat Rate: We are in agreement with the findings of the State Commission that the Design Heat Rate is subject to the ceiling of 2300 Kcal/Kwh as specified under Regulation 26(ii)(B)(a) of the Central Commission's Regulation, 2009. However, the Station Heat Rate has to be corrected for moisture content in coal according to Regulation 43(3)(b) as per the fourth proviso to Appendix 2.

(iv) Depreciation: Depreciation has to be allowed on the applicable rate on the total capital cost and not on 90% of the capital cost.

(v) Capital Cost Allocation: In the absence of detailed break up of actual cost and supporting documents, the appellant's claim for apportioning of cost @ 30% of the total

cost on *ad-hoc* basis for the first two units cannot be accepted. Accordingly, the State Commission's finding for apportioning the capital cost on pro-rata basis is upheld.

(vi) Variable cost of fuel: The State Commission is directed to true up the rate of energy charges based on the actual quality data of coal relating to GCV on air dried basis, inherent moisture and total moisture.

(vii) Insurance charges/contingency reserve: In view of the non-submission of any documentary proof for incurring of insurance charges/creation of contingency reserve, the contention of the appellant is rejected.

Conclusion:

15. In view of the above, the Appeal is allowed in part as indicated above. The State Commission is directed to give effect to the findings of this Tribunal. No order as to cost.

16. Pronounced in the open court on this **15th day of December, 2011.**

(Justice P.S. Datta)
Judicial Member

(Rakesh Nath)
Technical Member

REPORTABLE / NON-REPORTABLE

vs