CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 156/GT/2013
with
I.A No 1/2013

Coram:

Shri V.S.Verma, Member
Shri M.Deena Dayalan, Member

Date of Hearing: 17.9.2013
Date of Order: 14.2.2014

In the matter of

Approval of generation tariff of Uri–II Hydroelectric Project (4 x 60 MW) of NHPC for the period ending 31.3.2014

And in the matter of

NHPC Ltd,
NHPC Office Complex, Sector 33,
Faridabad – 121 003 .....**Petitioner**

Vs

1. Power Development Department
Government of J&K,
New Secretariat,
Jammu – 180 001

2. Haryana Power Purchase Centre,
Shakti Bhawa, Sector 6,
Panchkula – 134 109

3. Punjab State Power Corporation Ltd
The Mall, Secretariat Complex,
Patiala – 147 001

4. Uttar Pradesh Power Corporation Ltd
Shakti Bhawan,
14, Ashok Road,
Lucknow – 226 001

5. BSES Rajdhani Power Ltd
BSES Bhawan, Nehru Place,
New Delhi – 110 019

6. BSES Yamuna Power Ltd
BSES Bhawan, Nehru Place,
New Delhi – 110 019

7. North Delhi Power Ltd
33 KV Sub-station, Kingsway Camp
Delhi – 110 009

8. Rajasthan Rajya Vidyut Prasaran Nigam Ltd
Vidyut Bhawan, Janpath, Jyoti Nagar,
Jaipur – 302 205

9. Jaipur Vidyut Vitran Nigam Ltd
Vidyut Bhawan, Janpath,
Jaipur – 302 205

10. Jodhpur Vidyut Vitran Nigam Ltd
New Power House, Industrial Area,
Jodhpur – 342 003

11. Ajmer Vidyut Vitran Nigam Ltd
Old Power House,
Hatthi Bhatta, Jaipur Road,
Ajmer – 305 001

12. Uttranchal Power Corporation Ltd
Urja Bhawan, Kanwali Road,
Dehradun – 248 001

13. Engineering Department, Union Territory of Chandigarh,
1st Floor, UT Secretariat, Sector 9D,
Chandigarh – 160 009 ....**Respondents**

Parties present:

For Petitioner: Shri Parag Saxena, NHPC
Shri S.K. Meena, NHPC
Ms Gayatri Devi, NHPC

For Respondent: Shri R.B. Sharma, Advocate, BRPL
Shri Padamjit Singh, PSPCL

ORDER

This petition has been filed by the petitioner, NHPC Ltd, a generating company owned and controlled by the Central Government, for determination of tariff in respect of its Uri–II Hydroelectric Project (4 x 60 MW) (the generating station) from the anticipated date of commercial operation (i.e 1.12.2011) to 31.3.2014 based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (the Tariff Regulations 2009).

2. The generating station is a purely a run-of-the-river type project, with no diurnal pondage for peaking, with provision of 10% overloading on continuous basis. The project was sanctioned by the Central Government on 1.9.2005 at a cost of `172479 lakh including IDC and FC of `6661 lakh at February 2005 price level, with scheduled date of completion in 51 months from the date of approval.

3. The generating station was originally scheduled to be commissioned by November, 2009. The date of commercial operation was however revised to 1.12.2011. The petitioner filed Interlocutory Application on 1.1.2013 (I.A No 1/2013) with revised tariff filing forms based on the revised anticipated date of commercial operation (COD) as 1.2.2013 and has submitted that the generating station could not be declared commercially operational on 1.12.2011 due to occurrence of heavy floods during September, 2011 and local unrest by land oustees during March, 2012 to June, 2012, which delayed the project construction work. It has also submitted that the capital cost of the project as on the anticipated COD is ` 209461 lakh, excluding un-discharged liability of `7795 lakh.

4. The petitioner has filed this petition in compliance with Clauses (1) and (2) of Regulation 5 of the 2009 Tariff Regulations and has published the notice in the newspapers as regards filing of the tariff petition and had served copies of the petition on the beneficiaries. The respondents, AVVNL, JVVNL, JoVVNL, PSPCL, BRPL and UPPCL have filed replies to the petitions. The petition was heard on 17.9.2013 and the Commission reserved its order on the petition.

5. The petitioner has submitted that two units of the generating station (Units I and III) were declared under commercial operation on 11.10.2013, Unit II on 1.12.2013 and Unit-IV is under advanced stage of commissioning. However, in view of the delay in the commissioning of the

generating station, the petitioner has prayed for grant of provisional tariff @ 95% of annual fixed charges claimed in the said IA.

6. Clause (4) of Regulation 5 of the Tariff Regulations, 2009 empowers the Commission to grant provisional tariff upto 95% of the annual fixed cost of the project claimed. The relevant provision is extracted hereunder:

> *"(4) Where application for determination of tariff of an existing or a new project has been filed before the Commission in accordance with clauses (1) and (2) of this regulation, the Commission may consider in its discretion to grant provisional tariff up to 95% of the annual fixed cost of the project claimed in the application subject to adjustment as per proviso to clause (3) of this regulation after the final tariff order has been issued:*
>
> *Provided that recovery of capacity charge and energy charge or transmission charge, as the case may be, in respect of the existing or new project for which provisional tariff has been granted shall be made in accordance with the relevant provisions of these regulations."*

7. Since the petitioner has complied with the provisions of Clauses (1) and (2) of Regulation 5 of 2009 Tariff Regulations, provisional tariff for the generating station for the period from the actual/anticipated date of commercial operation of the units of the generating station till 31.3.2014 is considered as discussed in the subsequent paragraphs

Time & Cost Overrun and Capital Cost

8. In accordance with clause (2) of Regulation 7 of the Tariff Regulations 2009, the capital cost admitted by the Commission after prudence check forms the basis for determination of tariff. Third proviso to clause (2) provides that the Commission may issue guidelines for vetting of capital cost of hydro-electric projects by independent agency or expert and in that event the capital cost as vetted by such agency or expert may be considered by the Commission while determining the tariff for the hydro generating station.

9. The project was accorded CCEA clearance in September, 2005 with the stipulated completion period of 51 months i.e. the scheduled date of commissioning was November, 2009. However, commercial operation of two units has been declared on 11.10.2013, causing time

overrun of about 46 months. The petitioner has submitted that the commissioning of the project has been delayed due to the natural calamities, adverse weather conditions, local socio-political issues and other related problems. The petitioner has further submitted that the capital cost of the generating station is under vetting by the designated agency, M/s Aquagreen Engineering Management Private Ltd., New Delhi who was awarded the work by the petitioner in January, 2013 and the same would be submitted as and when finalized. It has also submitted that the designated agency has submitted the preliminary appraisal report which provides the analysis of the capital cost as given in DPR vis-à-vis cost considered under Techno Economical Appraisal of CEA.

10. The petitioner has submitted that based on the anticipated COD of 1.12.2011, the Revised Cost Estimate (RCE) amounting to `208082 lakh (at September 2011 price level) was submitted to Ministry of Power, Govt. of India in February, 2012 for approval. It has further submitted that MOP, GoI vide its letter dated 9.10.2012 directed the petitioner to submit the updated RCE with the completion cost of the project so that RCE is approved only once and avoid repeated examination. The petitioner has stated that the revised completion cost of the project is anticipated to be `222314 lakh against the sanctioned estimate of`172479 lakh (February, 2005 price level). It has also submitted that the revised cost includes price escalation, exchange rate variation, increase on account of Statutory Levies, IDC, establishment costs and miscellaneous works. The petitioner has further submitted that the RCE based on the above completion cost above is under finalization and is to be submitted to Ministry of Power, Govt. of India for approval.

11. While so, the petitioner by its affidavit dated 4.10.2013 has submitted that the audited capital cost as per books of accounts is `203980.67 lakh as on 30.6.2013, which includes CWIP amounting to `196470 lakh.

12. The respondent PSPCL has submitted that since the process of submitting RCE and its scrutiny/approval by the Govt. is likely to take some time and COD is now expected by end of September 2013, it is proposed that the adhoc tariff may be decided on the basis of 95% of the approved capital cost of `172479 lakh. The respondent, AVVNL, JVVNL and JoVVNL has submitted that in the absence of RCE, the tariff may be determined based on the originally approved cost of `172479 lakh or allow 80% of annual fixed charges worked out in petition.

13. The respondent, BRPL has submitted that since approval of the RCE by the competent authority is going to take some time, the tariff of the generating station may be limited to the approved estimated cost of `172479 lakh including IDC & FC. The respondent has pointed out that the Commission has adopted this principle while determining the tariff of Teesta HE Project Stage-V of the petitioner by limiting its tariff to the sanctioned capital cost in its order dated 5.1.2010 in Petition No.132 of 2009 and the tariff can be trued up subsequently as and when the competent authority approves the RCE for this project. It has further submitted that RCE is under process of approval and such approval is usually accompanied along with the background note on 'Time and Cost Over-run' of the project. The respondent has contended that since details of the Time and Cost Over-run are appraised by PIB and CCEA while according approval to the RCE, the Commission may, wait for determination of the final tariff after having the benefits of such a report on time and cost overrun and the revised cost estimates.

14. In response, the petitioner has stated that the submission of the respondents that adhoc tariff may be decided on the basis of 95% of the approved capital cost of `172479 lakh is not acceptable. The petitioner has clarified that the approved cost of `172479 lakh is based on the February, 2005 price level which would be definitely higher if converted into the present day cost of the project, considering mainly due to increase in material cost, labour cost, taxes and IDC. The petitioner has also submitted that the reasons for time & cost overrun were beyond its

control and it had strived hard to complete the project successfully by optimizing the cost as well as time despite facing daunting adversities.

15. The submissions of the parties have been examined. We notice that in order dated 5.1.2010 in Petition No.132 of 2009 in respect of Teesta HE Project Stage-V, the Commission had considered the actual cost as on the date of commercial operation (10.4.2008) of the generating station as against the original sanctioned cost of `250049.90 lakh (at April 1999 PL) and the RCE of `281208.65 lakh submitted by the petitioner for approval of Govt. of India. Hence, the contention of the respondent, BRPL is not accepted. It is further noticed that in respect of Chutak Hydroelectric Project and Chamera hydroelectric project Stage-III of the petitioner, wherein RCE was yet to be approved by the Central Government and where Time and Cost overrun were involved, the Commission while granting provisional tariff had by its orders dated 1.4.2013 and 13.8.2012 in Petition No.3/GT/2013 and Petition No. 22/GT/2011 respectively, granted provisional tariff based on 85% of the capital expenditure incurred as per audited balance sheet. In view of this, the submissions of the respondents for consideration of approved capital cost of `172479 lakh are not accepted. The petitioner vide affidavit dated 4.10.2013 has submitted the audited capital expenditure of `203980.66 lakh incurred as per books of accounts as on 30.6.2013, which includes CWIP amounting to `196470 lakh. Accordingly, in line with the methodology adopted in the earlier orders of the Commission as stated above, 85% of the capital cost of as on 30.6.2013, as submitted by the petitioner vide affidavit dated 4.10.2013, is allowed for the purpose of provisional tariff.

16. As stated, RCE on completion of the project is yet to be submitted by the petitioner to the Govt. of India for approval. The project involves time overrun of about 46 months (as on COD of two units) and cost overrun of `49835 lakh and the 'Appraisal Report on completion cost of the project' duly vetted by the designated agency is yet to be submitted to the Commission. The petitioner has submitted detailed justification/reasons for time and cost overrun of the project

and the same will be considered at the time of determination of final tariff of the generating station, along with the approved RCE by the Central Government and the appraisal report on the capital cost of the generating station as vetted by the designated independent agency along with its recommendations, to be submitted by the petitioner.

17. Based on the above discussions, the capital cost allowed for the purpose of provisional tariff for the year 2013-14 after adjustment of liabilities, is as under:

(` in lakh)

Capital Cost as per Balance Sheet as on 30.6.2013	203980.66
Less: Liabilities as per Balance Sheet	5358.62
Total Capital Cost (for all 4 units)	**198622.04**
Capital Cost for provisional tariff for 4 units (85% of the total Capital Cost)	**168828.74**
Capital Cost for provisional tariff for 3 units (75% of Capital Cost considered for provisional tariff of 4 units)	**126621.55**
Capital Cost for provisional tariff for 2 units (50% of Capital Cost considered for provisional tariff of 4 units)	**84414.37**

18. Since the capital expenditure as on COD of the different units, is yet to be submitted by the petitioner, the apportioned capital cost as on COD of each unit shall be as under:

(` in lakh)

Apportioned Capital expenditure	COD of Unit-I & Unit-III-11.10.2013 (two units)	COD of Unit-II-1.12.2013 (three units)	COD of Unit-IV-31.3.2012 (anticipated) (all four units)
	84414.37	**126621.55**	**168828.74**

Debt-Equity Ratio

19. In accordance with clause (1) of Regulation 12 of the Tariff Regulations 2009, in case of the generating stations declared under commercial operation on or after 1.4.2009, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% is treated as normative loan. Proviso to clause (1) further provides that where equity actually deployed is less than 30% of the capital cost, the actual equity is to be considered for determination of tariff: Accordingly, the capital cost being considered for award of provisional tariff is being considered in debt-equity ratio of 70:30.

Return on Equity

20. Regulation 15 of the Tariff Regulations 2009 provides as under:

> *"15. **Return on Equity**. (1)Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 12.*
>
> *(2) Return on Equity shall be computed on pre-tax basis at the base rate of 15.5% for thermal generating stations, transmission system and run of the river generating station, and 16.5% for the storage type generating stations including pumped storage hydro generating stations and run of river generating station with pondage and shall be grossed up as per clause (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-II**:*
>
> *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.*
>
> *(3) The rate of return on equity shall be computed by grossing up the base rate with the Minimum Alternate/Corporate Income Tax Rate for the year 2008-09, as per the Income Tax Act, 1961, as applicable to the concerned generating company or the transmission licensee, as the case may be.*
>
> *(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 clause (3) of this regulation.*
>
> *(5) The generating company or the transmission licensee, as the case may be, shall recover the shortfall or refund the excess Annual Fixed Charge on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax Rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission:*
>
> *Provided further that Annual Fixed Charge with respect to the tax rate applicable to the generating company or the transmission licensee, as the case may be, in line with the provisions of the relevant Finance Acts of the respective year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations.*
>
> ***Illustration.-***
> *(i) In case of the generating company or the transmission licensee 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 or the transmission licensee paying normal corporate tax @ 33.99% including surcharge and cess:*
>
> *Rate of return on equity = 15.50/ (1-0.3399) = 23.481%"*

21. The Base Rate of 15.5% for the purpose of calculation of Rate of Return on Equity for the run-of-the-river type is applicable. Accordingly, Return on Equity has been computed by taking the Base Rate of 15.5%. The petitioner is entitled to Return on Equity as under:

(` in lakh)

	2013-14		
	COD of 2 Units	**COD of 3 Units**	**COD of 4 Units**
Gross Notional Equity	25324.31	37986.47	50648.62
Addition due to ACE	-	-	-
Closing Equity	25324.31	37986.47	50648.62
Average Equity	25324.31	37986.47	50648.62
Base Rate of Return on Equity	15.500%	15.500%	15.500%
Tax rate for the year 2008-09 (MAT)	11.330%	11.330%	11.330%
Rate of Return on Equity	17.481%	17.481%	17.481%
Return on Equity	**4426.83**	**6640.24**	**8853.66**

Interest on Loan

22. Regulation 16 of the Tariff Regulations, 2009 provides as under:

*"16. **Interest on loan capital.** (1) The loans arrived at in the manner indicated in regulation 12 shall be considered as gross normative loan for calculation of interest on loan.*

(2) The normative loan outstanding as on 1.4.2009 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2009 from the gross normative loan.

(3) The repayment for the year of the tariff period 2009-14 shall be deemed to be equal to the depreciation allowed for that year:

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed.

(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the project.:

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.

(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.

(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the beneficiaries and

the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.

(8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.

(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute:

Provided that the beneficiary or the transmission customers shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan."

23. The petitioner's entitlement to interest on loan has been worked out in accordance with Regulation 16 *ibid.* The calculations in support of Interest on Loan are as under:

(` in lakh)

	2013-14		
	COD of 2 Units	**COD of 3 Units**	**COD of 4 Units**
Gross Normative Loan	59090.06	88635.09	118180.12
Cumulative Repayment up to Previous Year	-	4248.83	10622.07
Net Loan-Opening	59090.06	84386.26	107558.05
Repayment during the year	4248.83	6373.24	8497.66
Addition due to Additional Capitalization(2009-14)	-	-	-
Net Loan-Closing	54841.23	78013.02	99060.39
Average Loan	56965.64	81199.64	103309.22
Weighted Average Rate of Interest on Loan	10.8600%	10.8600%	10.8600%
Interest	**6186.47**	**8818.28**	**11219.38**

Depreciation

24. The provisions relating to charging of depreciation are contained in Regulation 17 of the Tariff Regulations, 2009, is extracted hereunder:

*"17. **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 up to maximum of 90% of the capital cost of the asset.

Provided that in case of hydro generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation of the site:
Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff.

(3) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

*(4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in **Appendix-III** to these regulations for the assets of the generating station and transmission system:*

Provided that, the remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the assets.

(5) In case of the existing projects, the balance depreciable value as on 1.4.2009 shall be worked out by deducting the cumulative depreciation including Advance against Depreciation] as admitted by the Commission up to 31.3.2009 from the gross depreciable value of the assets.

(6) Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis."

25. The weighted average rate of depreciation of 5.333% calculated in accordance with Regulation 17 has been considered for the calculation of depreciation component of tariff. The petitioner's entitlement to depreciation has been worked out as under:

(` in lakh)

	2013-14		
	COD of 2 Units	**COD of 3 Units**	**COD of 4 Units**
Gross Block as on date of commercial operation	84414.37	126621.55	168828.74
Additional capital			
Closing gross block	84414.37	126621.55	168828.74
Average gross block	84414.37	126621.55	168828.74
Rate of Depreciation	5.333%	5.333%	5.333%
Depreciable Value	75972.93	113959.40	151945.86
Remaining Depreciable Value	75972.93	109710.57	141323.79
Depreciation	**4248.83**	**6373.24**	**8497.66**

O & M Charges

26. Sub-clause (v) of clause (f) of Regulation 19 of the Tariff Regulations, 2009 which makes provisions for the generating company's entitlement to O & M expenses in respect of hydro generating stations declared under commercial operation on or after 1.4.2009 is extracted hereunder:

"(v) In case of the hydro generating stations declared under commercial operation on or after 1.4.2009, operation and maintenance expenses shall be fixed at 2% of the original project

cost (excluding cost of rehabilitation & resettlement works) and shall be subject to annual escalation of 5.72% per annum for the subsequent years."

27. The petitioner has claimed O&M expenses amounting to `4531 lakh for the year 2013-14, assuming that the project will commence commercial operation on 1.12.2011. The R&R cost is considered as 'Nil' in respect of the generating station. Thus, the capital cost for calculation of O&M expenses shall be as under:

(` in lakh)

Capital cost for O&M expenses	**COD of 2 Units**	**COD of 3 Units**	**COD of 4 Units**
	84414.37	126621.55	168828.74

28. O&M expenses at the rate of 2% of the admitted capital cost has been considered. The petitioner's entitlement to O&M expenses works out as under:

(` in lakh)

	2013-14		
O&M expenses (annual basis)	**COD of 2 Units**	**COD of 3 Units**	**COD of 4 Units**
	1688.29	2532.43	3376.57

Interest on Working Capital

29. The petitioner is entitled to claim interest on working capital as per Regulation 18 of the Tariff Regulations 2009. The components of the working capital and the petitioner's entitlement to interest thereon are discussed hereunder.

(i) Receivables

As per Regulation 18(1) (c) (i) of the Tariff Regulations 2009, receivables as a component of working capital will be equivalent to two months' of fixed cost. The petitioner has claimed the receivables on the basis of 2 months' of annual fixed charges claimed in the petition. In the tariff being allowed, receivables have been worked out on the basis of 2 months' fixed charges.

(ii) Maintenance spares

Regulation 18 (1) (c) (ii) of the tariff regulations provides for maintenance spares @ 15% per annum of the O & M expenses as part of the working capital from 1.4.2009. The value of maintenance spares has accordingly been worked out.

(iii) O & M expenses

Regulation 18(1) (c) (iii) of the tariff regulations provides for operation and maintenance expenses for one month to be included in the working capital. The petitioner has claimed O&M expenses for 1 month of the respective year. This has been considered in the working capital.

(iv) Rate of interest on working capital

In accordance with clause (3) of Regulation 18 of the tariff regulations, as amended, rate of interest on working capital shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on 1.4.2009 or on 1st April of the year in which the generating station or a unit thereof is declared under commercial operation, whichever is later plus 350 basis points. In the instant case, SBI PLR on 1.4.2013 was 9.70%. Accordingly, rate of interest of 13.20% has been considered for the purpose of Interest on Working Capital.

30. Necessary computations in support of interest on working capital are appended hereunder:-

(` in lakh)

	2013-14		
	COD of 2 Units	**COD of 3 Units**	**COD of 4 Units**
Maintenance Spares	253.24	379.86	506.49
O & M Expenses	140.69	211.04	281.38
Receivables	2829.31	4165.34	5462.04
Total	3223.25	4756.24	6249.91
Rate of Interest	13.20%	13.20%	13.20%
Interest	**425.47**	**627.82**	**824.99**

Annual Fixed Charges

31. The Annual Fixed Charges approved for the generating station are summarized as under:

(` in lakh)

	2013-14		
	COD of 2 Units	**COD of 3 Units**	**COD of 4 Units**
Return on Equity	4426.83	6640.24	8853.66
Interest on Loan	6186.47	8818.28	11219.38
Depreciation	4248.83	6373.24	8497.66
Interest on Working Capital	425.47	627.82	824.99
O & M Expenses	1688.29	2532.43	3376.57
Total	**16975.88**	**24992.02**	**32772.26**

Design Energy

32. Month wise design energy as approved by CEA corresponding to 90% dependable year is allowed as under:

Month	Period	Design Energy* (MU)
April	I	54.72
	II	54.72
	III	54.72
May	I	54.72
	II	54.72
	III	60.19
June	I	33.92
	II	30.65
	III	39.96
July	I	30.51
	II	27.77
	III	34.32
August	I	40.77
	II	30.88
	III	30.98
September	I	21.25
	II	20.72
	III	20.88
October	I	14.92
	II	13.43
	III	13.26
November	I	23.00
	II	17.58
	III	14.94
December	I	12.87
	II	13.48
	III	14.77
January	I	11.57
	II	20.67
	III	21.24
February	I	17.13
	II	23.65
	III	38.94
March	I	41.02

	II	54.71
	III	60.19
Total		**1123.77**
**As per DPR/TEC of CEA dated 11.2.2004*		

Normative Annual Plant Availability Factor (NAPAF)

33. The petitioner has claimed NAPAF of 55.10%, based on 10 daily design energy approved by CEA and corresponding MW continuous power. Further, the petitioner has claimed relaxation in NAPAF based on sedimentation study on the silt data collected during the period from 1991 to 2010. As regards high silt content likely to be encountered during the operation of the generating station, the petitioner has submitted as under:

> *"The petro graphic analysis of the river water sample shows the presence of quartz having irregular and distorted faces (30%), calcite having nail head crystal (27%), feldspar of angular to sub-rounded shape (15%) along with other constituents, restriction in sediment flushing due to Indus Water Treaty and recommendations of ALSTOM the OEM for limiting the satisfactory operation of machines beyond 500 ppm."*

34. In the above circumstances, the petitioner has prayed that the generating station may be allowed 5% allowance in NAPAF for high silt operating conditions. The respondents have objected to the prayer of the petition for relaxation of NAPAF.

35. The matter has been examined. Regulation 27(i)(2) of the 2009 Tariff Regulations provides that:

> "*A further allowance may be made by the Commission in NAPAF determination under special circumstances, e.g. abnormal silt problem or other operating conditions, and known plant limitations."*

36. On scrutiny, it is noticed that the petitioner has not submitted any justification to establish through data, the detail of the number of days/hours in a year during which the operation of the generating station would be affected due to the high silt conditions as envisaged by the OEM. Under these circumstances, we are not inclined to allow the prayer of the petitioner for 5% allowance in NAPAF of the generating station due to high silt operating conditions. However, the petitioner is at liberty to approach the Commission with the prayer for relaxation in NAPAF due

to high silt conditions and the same would be considered in accordance with law, subject to production of documents containing the details of the number of days/hours in the first year of operation (after declaration of commercial operation) during which the generating station was affected due to high silt conditions and its impact on recovery of annual fixed charges. In view of this, the payer of the petitioner has not been considered in this order. Accordingly, NAPAF of 55% has been allowed for the generating station for the year 2013-14.

37. The provisional annual fixed charges determined above shall be recovered *pro rata* to the number of days in commercial operation during the year of the respective units. The petitioner shall recover the energy charges in accordance with Regulation 22 of the Tariff Regulations 2009.

38. The recovery of the annual fixed charges above shall be subject to adjustment after determination of final tariff for the generating station.

Sd/-	***Sd/-***
(M Deena Dayalan)	**(V. S. Verma)**
Member	**Member**