

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram:

1. **Shri Ashok Basu, Chairman**
2. **Shri K.N.Sinha, Member**
3. **Shri Bhanu Bhushan, Member**
4. **Shri A. H. Jung, Member**

Petition No 185/2004

In the matter of

Approval of tariff in respect of Chamera Hydroelectric Project Stage II for the period from 2.11.2003 to 31.3.2004.

And in the matter of

National Hydroelectric Power Corporation Ltd.

.... **Petitioner**

Vs

1. Punjab State Electricity Board, Patiala
2. Haryana Vidyut Prasaran Nigam Ltd., Panchkula
3. Delhi Transco Ltd, New Delhi
4. Uttar Pradesh Power Corporation Ltd., Lucknow
5. BSES Rajdhani Power Ltd., New Delhi
6. Rajasthan Rajya Vidyut Prasaran Nigam Ltd., Jaipur
7. BSES Yamuna Power Ltd., New Delhi
8. North Delhi Power Ltd., Delhi
9. Jaipur Vidyut Vitaran Nigam Ltd., Jaipur
10. Power Transmission Corporation of Uttaranchal Ltd., Dehradun
11. Jodhpur Vidyut Vitaran Nigam Ltd., Jodhpur
12. Himachal Pradesh State Electricity Board, Shimla
13. Ajmer Vidyut Vitaran Nigam Ltd., Jaipur
14. Engineering Deptt. Chandigarh
15. Power Development Deptt., Govt. of J&K, Jammu

.... **Respondents**

The following were present:

1. Er. P. Kumar, Dy. Mgr, NHPC
2. Shri P. Kaul, Chief Engineer (Comml.), NHPC
3. Shri S.D. Tripathi, ED(Comml.), NHPC
4. Shri S.K. Meena, Engineer (E), NHPC
5. Shri Ansuman Ray, Engineer (E), NHPC
6. Shri R.S. Batra, SM(F), NHPC
7. Shri T.N. Gopalakrishnan, GM(F), NHPC
8. Shri R.K. Taneja, GM(F), NHPC
9. Shri Vijay Ranjan, AM, NHPC
10. Shri Naveen Samriya, NHPC
11. Shri R.K.Arora, XEN/T, HVPN

ORDER
(DATE OF HEARING 5.4.2005)

This petition has been filed by the petitioner, National Hydroelectric Power Corporation Ltd (NHPC), a generating company owned by the Central Government, for approval of tariff in respect of Chamera Hydroelectric Project Stage II (hereinafter referred to as "Chamera II HEP ") for the period from 2.11.2003 to 31.3.2004, based on terms and conditions of tariff contained in the Commission's notification dated 26.3.2001 (hereinafter referred to as "the notification dated 26.3.2001").

2. Chamera II HEP comprising of three units of 100 MW each is a run-of -river scheme with diurnal pondage located in the State of Himachal Pradesh for providing four hours of minimum peaking. The generating station has an annual design energy of 1499.89 MUs in a 90% dependable year. Himachal Pradesh as the home state is entitled to 12% free power from the generating station in accordance with the policy of the Central Government.

3. Different units of Chamera II HEP were declared under commercial operation from the dates given below:

Unit-I:	2.11.2003
Unit-II:	1.1.2004
Unit-III:	31.3.2004

4. Chamera II HEP was approved vide Government of India, Ministry of Power letter dated 1.6.1999 in the Central Sector with ICHC offer (Indo Canadian Hydro

Consortium) with a mixed credit option at the cost of Rs. 1684.02 crore, including IDC of Rs. 216.97 crore (August 1998 price level and FE Rate 1US \$ =42.86 INR and 1CDN\$ = 28.3 INR as on 14.9.98). In addition, there was a provision of contingency of 13% on major civil works cost and also escalation as per bid specification.

5. The petitioner has sought approval of tariff in the following terms from the date of commercial operation, that is, 2.11.2003:

(Rs. in lakh)

Fixed Charges	2.11.2003 to 31.12.2003	1.1.2004 to 30.3.2004	31.3.2004
Interest on Loan	636.00	1836.00	29.00
Interest on Working Capital	40.00	120.00	2.00
Depreciation	291.00	880.00	15.00
Advance Against Depreciation	0.00	0.00	0.00
Return on Equity	529.00	1552.00	26.00
O & M Expenses	158.00	476.00	8.00
TOTAL	1654.00	4864.00	80.00

6. The details of working capital furnished by the petitioner in support of its claims for interest thereon are extracted below:

(Rs. in lakh)

	2.11.2003 to 31.12.2003	1.1.2004 to 30.3.2004	31.3.2004
Spares	641.00	1291.00	1956.00
O & M expenses	80.00	161.00	245.00
Receivables	1682.00	3296.00	4879.00
Total Working Capital	2403.00	4748.00	7080.00
Interest Rate	10.25%	10.25%	10.25%
Interest On Working Capital	246.31	486.67	725.70
Proportionate interest	40.38	119.67	1.98

Capital Cost

7. In accordance with the notification dated 26.3.2001, the capital expenditure of the project is financed as per the approved financial package set out in the techno-economic

clearance of CEA. The project cost is to include capitalized initial spares. The approved project cost for this purpose means the cost which has been specified in the techno-economic clearance of CEA. The actual capital expenditure incurred on completion of the project is to be the criterion for the fixation of tariff. Where the actual expenditure exceeds the approved project cost, the excess expenditure as approved by CEA is deemed to be the actual capital expenditure for the purpose of determining the tariff, provided that such excess expenditure is not attributable to the Generating Company or its supplier or contractors.

8. After accounting for the provisions of contingency on main civil work @ 13% in capital cost approved by the Central Government, escalation as per bid specification and exchange rate variation as applicable, the petitioner has calculated the total sanctioned cost of the project as on 31.3.2004 as Rs. 1959.99 crore, as per details given below :

Description	Approved cost (Rs. in crore)
(i) Project Cost (including IDC but excluding contingency & escalation)	1684.02
(ii) Contingency (13% of main civil work costs Rs.473.51)	61.56
(iii) Escalation	104.13
Total Project Cost excluding ERV (i + ii + iii)	1849.71
(iv) Exchange rate variation (ERV)	110.28
TOTAL PROJECT COST	<u>1959.99</u>

9. The apportioned capital cost claimed by the petitioner on the date of commercial operation of Unit I, II and III and the gross block as on 31.3.2004 are as under:

(Rs. in Crore)			
	Unit I	Unit I & Unit II	Unit I, Unit II & Unit III
Capital Cost claimed	641.21	1290.78	1956.06
Gross Block as on 31.3.2004	–	–	1944.05

10. It is seen that the gross block as per certified accounts of the generating station as on 31.3.2004 is Rs. 1944.05 crore as against the capital cost of Rs.1956.06 crore including ERV, Contingency and Escalation claimed for tariff as on 31.3.2004. The petitioner has submitted that this difference of Rs.12.01 crore (Rs.1956.06 crore – Rs.1944.05 crore = Rs. 12.01 crore) is due to the fact that in certified accounts common facilities have been capitalised on the basis of their use as on 1.11.2003, whereas in the petition, capitalisation has been shown on MW basis resulting into additional IDC of Rs.12.01 crore. This has resulted in increase in capital cost for tariff purpose to Rs. 1956.06 crore as on 31.3.2004 as against Rs.1944.05 crore, as per books of accounts.

11. The Commission in its order dated 22.2.2005 directed the petitioner to submit detailed calculation of IDC to explain the difference of Rs.12.01 crore in the capital cost as per certified accounts as on 31.3.2004 and the capital cost claimed for tariff purpose. The petitioner vide affidavit dated 9.3.2005 submitted the detailed IDC calculations year-wise to substantiate its claim. Based on the information submitted, the difference of Rs.12.01 crore claimed has been found to be in order. Also the Commission is satisfied

that apportioning the cost of various common works between Units I & II protects the consumer interest as compared to full capitalization of those works. Thus, the capital cost of Rs. 1956.06 crore as on 31.3.2004 has been considered for tariff purpose.

Contingency Expenditure

12. In the capital cost of Rs. 1684.02 crore approved by Govt. of India vide letter dated 1.6.1999 for the execution of Chamera II HEP, there is a provision for “Contingencies” of 13% of main civil works cost over and above the sanctioned cost of the project. The petitioner had claimed an amount of Rs.61.56 crore as the contingency expenditure on the main civil works. Since the petitioner had not provided any details of the expenditure incurred and justification therefore under various items of the main civil works for which the contingency amount of Rs.61.56 crore have been claimed, the Commission vide order dated 22.2.2005 directed the petitioner to submit the necessary details of expenditure item-wise, under the head “Contingency”.

13. The petitioner under its affidavit dated 9.3.2005 has submitted expenditure on various items of works claimed under the head “Contingency”. These include works, such as Dam and associated works, Intake up to power tunnel up to surge shaft, Desilting chambers, Machine hall with draft tubes ,Tail race system etc. However, it was observed that no proper justification is provided to explain that expenditure on such works was under normal circumstances or required special treatment under the provision of contingency.

14. In the subsequent hearing held on 5.4.2005, the Commission directed the petitioner to furnish reasons to justify the contingency expenditure to bring more clarity on the matter. The petitioner vide affidavit dated 11.4.2005 has furnished the reasons justifying the expenditure incurred under contingency conditions. The petitioner has submitted that as per Ministry of Power sanction dated 1.6.1999 for execution of Chamera II HEP , there was a provision for “contingency” of 13% of main civil works cost over and above the original sanctioned cost of the project. Accordingly, a provision for the contingencies has been kept under Clause 10 of the contract award for Chamera II HEP for main civil works to cover the payments for “Additional Quantities” and for “Substituted and Extra items of Works” actually executed by the contractor with the approval of the owner and as per drawings approved by the owner for the main civil works. The petitioner has filed an “Abstract of cost” along with the “Bill of Quantities” for various works as covered under the head “main civil works” forming part of the contract award.

15. The petitioner has submitted that the bill of quantities indicated in the contract award were based on estimated quantities against various items of works as worked out at the stage of award of contract. However, during actual execution stage, there was a scope of variation based on the quantities actually executed as per the detailed construction drawings as approved by the owner finally. Further, there were also possibilities of variations in quantities due to changes in geological strata as actually encountered at site during execution of works. Besides this, possibility of substituted and

extra items also could not be ruled out due to changes/modifications in design and layout etc. as per site requirements.

16. The petitioner has furnished the item-wise details of works and reasons for payments of contingencies amounting to Rs.62.54 crore against each item of works indicating item-wise actual quantities executed vis-à-vis that of bill of quantities (as per contract award) which give a detailed account of additional and substituted extra items of works for the main civil works. The petitioner has reiterated that these variations have occurred due to the quantities actually executed by the contractor based on the detailed construction drawings approved by the owner during the execution of works and due to any minor modifications/changes in the design and lay out drawings, etc. as per site conditions and due to changes in geological strata as actually encountered during the execution of the project. All these variations forming part of the contingencies are within the approved provisions of the contract and with the approval of the owner. The petitioner has further submitted in the affidavit dated 11.4.2005 that all the payments out of "contingencies" pursuant to the contract provisions have been kept within the overall ceiling of 13% of the contract price for the main civil works.

17. On careful consideration of the detailed reasons furnished by the petitioner, the amount of Rs.61.56 crore claimed under contingencies is found to be in order and has been allowed.

Escalation

18. The petitioner has claimed Rs.104.13 crore towards escalation. The Commission vide order dated 22.2.2005 directed the petitioner to furnish the details of escalation cost. The petitioner under affidavit dated 9.3.2005 has submitted details of escalation cost as claimed on infrastructural works and main civil works, indigenous construction plant & machinery, hydro-mechanical works, logistical services and others as provided in the contract agreement. On scrutiny of the details, the escalation amount of Rs.104.13 crore claimed by the petitioner has been found to be in order and has been allowed.

Capital cost admitted for Tariff

19. Based on the above discussion, the apportioned audited capital cost claimed by the petitioner on the date of commercial operation of Unit I , II & III has been found to be in order and is being admitted for tariff as under:

(Rs. in crore)			
Period of tariff & Units	From 2.11.2003 to 31.12.2003 (60 days) for Unit I	From 1.01.2004 to 30.03.2004 (90 days) for Unit I & Unit II	For 31.03.2004 (1 day) for Unit I, Unit II & Unit III
Admitted Capital Cost	641.21	1290.78	1956.06

Debt – Equity Ratio

20. The petitioner has not submitted copy of the TEC along with the petition. However, in Ministry of Power approval dated 1.6.1999 it was provided that the Ministry would release equity first, to the extent of total of Rs.600.00 crore during construction period. In view of this, the equity component is apportioned with reference to the date of

commercial operation of each unit on *pro rata* basis. The loan component is calculated by deducting the equity portion from the approved capital cost and the debt:-equity ratio is worked out accordingly. Based on this principle, the debt-equity ratio works out as under for respective unit for calculation of Annual Fixed Charges:

		Debt: Equity
Unit I	:	68.89:31.11
Unit I & II	:	68.83:31.17
Unit I, II & III	:	69.34:30.66

Two-part Tariff

21. As specified in the notification dated 26.3.2001, the two-part tariff for sale of electricity from a hydro generating station comprises the recovery of Annual Capacity Charges and Primary Energy Charges. The Annual Capacity Charges are computed on the following basis:

Capacity Charges = Annual Fixed Costs – Primary Energy Charge,

Where,

Annual Fixed Costs comprise of interest on loan capital, depreciation and Advance Against Depreciation, return on equity, operation and maintenance expenses and interest on working capital.

22. In the notification dated 26.3.2001, the normative capacity index of 85% is specified for recovery of full capacity charges.

23. We now proceed to consider the different elements of the tariff based on the specified parameters.

Interest on Loan

24. As provided in the notification dated 26.3.2001, interest on loan capital is to be computed on the outstanding loan, duly taking into account the schedule of repayment as per the financial package approved by CEA or an appropriate independent agency, as the case may be.

25. The following methodology has been followed for computation of interest on loan:
- (a) The gross deemed loan amount has been worked out on the basis of Debt-Equity ratio as mentioned in para 2 above.
 - (b) As the capital cost is considered up to the date of commercial operation of the respective unit, *pro rata* loan drawl and cumulative repayment is considered to calculate the interest on loan and the repayment for the respective period has been worked out as follows:

actual repayment during the period

or

as worked out as per the following formula:

Actual repayment during the period x normative net loan at the beginning of the period/ actual net loan at the beginning of the period,

whichever is higher.
 - (c) On the basis of actual rate of interest on actual loans, considering repayment as per schedule, the weighted rate of interest on average loan is worked out and the same is applied on the deemed average loan during the year to arrive at the interest on loan.

(d) Exposure fees, Commitment fees claimed as financing charges are not allowed.
Guarantee fees is not allowed as it is charged to IDC.

26. Most of the loans contracted by the petitioner for this project bear floating interest rate which varies between 8% to 12%, except the foreign loan borrowed from EDC, which bears 6.01% interest rate. Though the petitioner had not done refinancing, the annualised weighted average interest rate varies between 8.83% to 9.23% for the period under consideration and is below prevailing Prime Lending Rate. The weighted average rates of interest which have been considered for working out interest liability in the tariff are 9.23%, 8.83% and 8.53%.

27. Based on the above, the petitioner is entitled to the following amounts on account of interest on loan:

(Rs. in lakh)

	2.11.2003 to 31.12.2003	1.1.2004 to 30.3.2004	31.3.2004
Deemed Outstanding Loan	44283.07	88348.44	135714.15
Adjustment due to difference in Capital Cost & Means of Financing(Undischarged Liabilities)	1621.61	3430.46	6354.97
Adjustment due to FERV	223.29	-990.54	163.85
Additions due to addl. Capital expenditure	0.00	0.00	0.00
Opening Balance after adjustment	42884.75	83927.44	129523.03
Cumulative repayment of deemed loan up to previous year	2232.67	4465.33	6698.00
Opening Balance	40652.08	79462.11	122825.03
Additions	0.00	0.00	0.00
Repayments	0.00	0.00	0.00
Closing Balance	40652.08	79462.11	122825.03
Average Loan	40652.08	79462.11	122825.03
Wt. Average Rate of Interest	1.52%	2.27%	0.02%
Interest on Loan	619.00	1803.04	29.62

28. The necessary calculations in support of weighted average rate of interest are appended below

(Rs. in lakh)

	2.11.2003 to 31.12.2003 (From COD- Unit-I to Unit-II)	1.1.2004 to 30.3.2004 (From COD- Unit-II to Unit-III)	31.03.2004
Days in the Year	366	366	366
Period (days)	60	90	1
D-SERIES			
Gross Loan -Opening	297	297	297
Cumulative Repayment upto Previous Period	297	297	297
Opening Balance	0	0	0
Addition	0	0	0
Repayment	0	0	0
Net Loan-Closing	0	0	0
Average loan	0	0	0
Rate of Interest	0.00%	0.00%	0.00%
Interest	0	0	0
Repayment Schedule	Bullet payment on 27.9.1999		
E-SERIES			
Gross Loan -Opening	203	203	203
Cumulative Repayment upto Previous Period	203	203	203
Opening Balance	0	0	0
Addition	0	0	0
Repayment	0	0	0
Net Loan-Closing	0	0	0
Average loan	0	0	0
Rate of Interest	0.00%	0.00%	0.00%
Interest	0	0	0
Repayment Schedule	Bullet payment on 9.2.2000		
I-SERIES			
Gross Loan -Opening	198	198	198
Cumulative Repayment upto Previous Period	198	198	198
Opening Balance	0		0
Addition	0	0	0
Repayment	0	0	0
Net Loan-Closing	0	0	0
Average loan	0	0	0
Rate of Interest	0.00%	0.00%	0.00%

Interest	0	0	0
Repayment Schedule	Bullet payment in March 2001		
VYASA BANK			
Gross Loan -Opening	6000	6000	6000
Cumulative Repayment upto Previous Period	6000	6000	6000
Opening Balance	0	0	0
Addition	0	0	0
Repayment	0	0	0
Net Loan-Closing	0	0	0
Average loan	0	0	0
Rate of Interest	0.00%	0.00%	0.00%
Interest	0	0	0
Repayment Schedule	Bullet payment on 19.9.2001		
SBI			
Gross Loan -Opening	15000	15000	15000
Cumulative Repayment upto Previous Period	0	0	0
Opening Balance	15000	15000	15000
Addition	0	0	0
Repayment	0	0	0
Net Loan-Closing	15000	15000	15000
Average loan	15000	15000	15000
Rate of Interest (Floating)	10.85%	10.75%	10.75%
Interest	267	397	4
Repayment Schedule	Half yearly payments for 7 years from 18.9.2006		
PNB			
Gross Loan -Opening	13200	15000	15000
Cumulative Repayment upto Previous Period	0	0	0
Opening Balance	13200	15000	15000
Addition	1800	0	0
Repayment	0	0	0
Net Loan-Closing	15000	15000	15000
Average loan	14100	15000	15000
Rate of Interest (Floating)	11.39%	9.84%	8.00%
Interest	263	363	3
Repayment Schedule	Half yearly payments for 10 years from 26.10.2004		
PSB			
Gross Loan -Opening	10000	10000	10000

Cumulative Repayment upto Previous Period	0	0	0
Opening Balance	10000	10000	10000
Addition	0	0	0
Repayment	0	0	0
Net Loan-Closing	10000	10000	10000
Average loan	10000	10000	10000
Rate of Interest (Floating)	11.50%	11.50%	11.50%
Interest	189	283	3
Repayment Schedule	Quarterly payments for 10 years from 24.10.2006		
SBH			
Gross Loan -Opening	5000	5000	5000
Cumulative Repayment upto Previous Period	0	0	0
Opening Balance	5000	5000	5000
Addition	0	0	0
Repayment	0	0	0
Net Loan-Closing	5000	5000	5000
Average loan	5000	5000	5000
Rate of Interest (Floating)/ Fixed @ 8.00% from 1.3.2004	11.14%	9.93%	8.00%
Interest	91	122	1
Repayment Schedule	Half yearly payments for 7 years from 7.1.2007		
BOI			
Gross Loan -Opening	10000	10000	10000
Cumulative Repayment upto Previous Period	0	0	0
Opening Balance	10000	10000	10000
Addition	0	0	0
Repayment	0	0	0
Net Loan-Closing	10000	10000	10000
Average loan	10000	10000	10000
Rate of Interest (Floating)	10.74%	10.50%	10.50%
Interest	176	258	3
Repayment Schedule	Quarterly payments for 10 years from 24.12.2006		
CENTRAL BANK OF INDIA			
Gross Loan -Opening	10000	10000	10000
Cumulative Repayment upto Previous Period	0	0	0
Opening Balance	10000	10000	10000
Addition	0	0	0
Repayment	0	0	0

Net Loan-Closing	10000	10000	10000
Average loan	10000	10000	10000
Rate of Interest (Floating)	11.39%	10.75%	10.75%
Interest	187	264	3
Repayment Schedule	Half yearly payments for 10 years from 2.5.2004		
SBP			
Gross Loan -Opening	5000	5000	5000
Cumulative Repayment upto Previous Period	0	0	0
Opening Balance	5000	5000	5000
Addition	0	0	0
Repayment	0	0	0
Net Loan-Closing	5000	5000	5000
Average loan	5000	5000	5000
Rate of Interest (Floating)	10.90%	9.00%	9.00%
Interest	89	111	1
Repayment Schedule	Half yearly payments for 7 years from 30.1.2007		
HDFC LTD.			
Gross Loan -Opening	10000	10000	10000
Cumulative Repayment upto Previous Period	0	0	0
Opening Balance	10000	10000	10000
Addition	0	0	0
Repayment	0	0	0
Net Loan-Closing	10000	10000	10000
Average loan	10000	10000	10000
Rate of Interest (Floating)	11.00%	10.75%	10.75%
Interest	180	264	3
Repayment Schedule	Half yearly payments for 7 years from 13.2.2007		
EDC			
Gross Loan -Opening	46130	47103	46912
Cumulative Repayment upto Previous Period	0	0	0
Opening Balance	46130	47103	46912
Addition	0	1968	0
Repayment	0	0	0
Net Loan-Closing	47103	46912	47148
Average loan	46617	47007	47030
Rate of Interest	6.01%	6.01%	6.01%
Interest	459	695	8
ERV	972	-2159	236
Repayment Schedule	Half yearly payments for 12 years from 15.9.2004		

Total Loan			
Gross Loan -Opening	131028	133801	133610
Cumulative Repayment upto Previous Period	6698	6698	6698
Net Loan-Opening	124330	127103	126912
Additions	1800	1968	0
Repayments	0	0	0
Net Loan-Closing	127103	126912	127148
Average Loan	125717	127007	127030
Wt.Average Rate of Interest	1.51%	2.17%	0.02%
Interest	1901.72	2756.69	29.61
Annualised weighted interest rate	9.23%	8.83%	8.53%
Weighted interest rate for respective period	2.27%	0.02%	

29. The difference in interest on loan as per petition and as worked out is primarily due to downward correction applied to loan component as adjustment due to difference in capital cost and means of financing adjustment.

Depreciation

30. The notification dated 26.3.2001 further provides that the depreciation has to be calculated as per the straight-line method in accordance with depreciation rates prescribed in the said notification. Further, the total depreciation to be recovered in the tariff during the life of the project shall not exceed 90% of the approved project cost, which shall include additional capitalisation.

31. Depreciation in tariff has been computed in accordance with the following methodology:

(a) Weighted average depreciation rate has been calculated by taking the individual assets of gross block as per the petition, and applying the respective depreciation rates

(b) Depreciation has been allowed @ 2.77%.

(c) The effect of un-discharged liabilities is not considered for calculation of depreciation.

(d) In Annexure to Form 6 of the petition, the petitioner has considered rate of depreciation as 2.86% for an asset under head "Land Unclassified". It is stated by the petitioner that land is taken for use from the State Government (without transfer of title) and expenses on relief and rehabilitation as also on creation of alternate facilities for land evacuees or in lieu of existing facilities coming under submergence and where construction of such alternate facilities is a specific precondition for the acquisition of the land for the purpose of the project, are accounted for as land-unclassified, to be amortised over the useful life of the project, which is taken as 35 years from the date of commercial operation of the project . In this case complete asset value is considered for depreciation purpose. If 90% of asset value would have been considered the depreciation rate would have been 2.57%. The assets covered under head "Construction equipment" are depreciated at the rate of 2.57% by the petitioner.

32. The petitioner's entitlement to depreciation has been calculated as shown below:

(Rs. in lakh)

	2.11.2003 to 31.12.2003	1.1.2004 to 30.3.2004	31.3.2004
Capital Cost			
Opening Balance (A)	64121.00	129078.00	195606.00
Increase/ Decrease due to FERV(B)	324.14	-1439.12	236.30
Increase/Decrease due to Additional Capitalisation (C)	0.00	0.00	0.00
Closing Balance	64445.14	127638.88	195842.30
Average Capital Cost (For Depreciation Calculations)	64283.07	128358.44	195724.15
Less:			
Un-discharged Liabilities (D)	2354.00	4984.00	9165.00
Corrected Capital cost (A+B+C-D) (For O&M calculations)	62091.14	122654.88	186677.30
Corrected Average Capital cost (For O&M calculations)	63106.07	125866.44	191141.65
Rate Of Depreciation	2.77%	2.77%	2.77%
Depreciation recovered	292.02	874.95	14.84

Advance Against Depreciation

33. The notification dated 26.3.2001 has made a provision for Advance Against Depreciation, in addition to allowable depreciation. Advance Against Depreciation is permitted wherever original scheduled loan repayment exceeds the depreciation allowable. The amount of Advance Against Depreciation is to be worked out by applying the ceiling of 1/12th of the original loan amount less depreciation allowed. For working out Advance Against Depreciation, repayment considered for calculation of interest on loan has been considered. Advance Against Depreciation for different years of the tariff period in this case has been worked out as under:

34. The petitioner has not claimed Advance Against Depreciation. For working out Advance Against Depreciation, 1/12th of the loan has been worked out with reference to corrected gross loan, while repayment of loan during the year has been worked out as

per methodology stated above under the head "Interest on Loan". The petitioner is not entitled to Advance Against Depreciation

Return on Equity (ROE)

35. As per the notification dated 26.3.2001 issued by the Commission on terms and conditions of tariff, return on equity is to be computed on the paid up and subscribed capital at the rate of 16%.

36. The equity amount has been worked out *pro rata* on the capital cost, as on the date of commercial operation of the respective unit. A downward correction has been applied to equity component as adjustment due to difference in capital cost and means of financing adjustment for working out the return on equity for the period from 2.11.2003 to 31.12.2003, from 1.1.2004 to 30.3.2004 and for 31.3.2004. Accordingly, return on equity works out as under:

	(Rs. in lakh)		
	2.11.2003 to 31.12.2003	1.1.2004 to 30.3.2004	31.3.2004
Deemed Equity			
Opening Balance	20000.00	40010.00	60010.00
Adjustment due to difference in Capital Cost & Means of Financing (Un-discharged Liabilities)	732.39	1553.54	2810.03
Adjustment due to FERV	100.85	-448.58	72.45
Additions due to addl. Capital expenditure	0.00	0.00	0.00
Closing Balance	19368.46	38007.88	57272.41
Average Equity	19684.23	39008.94	58641.21
Rate of Return on Equity	16.00%	16.00%	16.00%
Return on Equity	516.31	1534.78	25.64

O&M Expenses

37. The notification dated 26.3.2001 lays down that in case of new hydro stations belonging to the petitioner, which have not been in existence for a period of five years as

on 1.4.2001, the base O&M expenses are to be fixed at 1.5 per cent of the actual capital cost and escalated @ 10% per annum for the subsequent years to arrive at O&M expenses for the base year 1999-2000. The base O&M expenses are to be further escalated at the rate of 6 per cent per annum to arrive at permissible O&M expenses for the relevant year. O&M charges have been worked out in accordance with the methodologies prescribed in the notification.

38. The petitioner has claimed following O&M expenses @ 1.5% of the capital cost for tariff on the date of commercial operation of respective unit on *pro rata* basis:

(Rs. in crore)			
	Unit I	Unit I & Unit II	Unit I, Unit II & Unit III
Capital Cost	641.21	1290.78	1956.06
O&M Expenses	1.58	4.76	0.08

39. Chamera II HEP was declared under commercial operation during the year 2003-04 and hence the Base O&M expenses in the year of commissioning shall be fixed at 1.5% of capital cost on *pro rata* basis. Thus, the methodology adapted by the petitioner for calculating O&M expenses is found to be in order. Accordingly, O&M expenses of Chamera II HEP, for the period from 2.11.2003 to 31.3.2004 in the year 2003-04 are allowed as claimed.

Interest on Working Capital

40. As per the notification dated 26.3.2001, interest on working capital covers the following :

- (a) Operation and Maintenance expenses for one month;

- (b) Maintenance spares at actuals but not exceeding one year's requirements less value of one fifth of initial spares already capitalized for the first five years;
- (c) Receivables equivalent to two months of average billing for sale of electricity.
- (d) The interest rate for this purpose as specified in the notification dated 26.3.2001 is to be the cash-credit rates prevailing at the time of tariff filing.

41. The following have been taken into consideration while computing interest on working capital:

- (a) O&M expenses for one month worked out on the basis of O&M expenses calculated above.
- (b) The cost of maintenance spares has been considered as 'nil'.
- (c) Receivables of two months have been worked out on the basis of total capacity and energy charges calculated in the manner indicated above.
- (d) Rate of interest on working capital is taken as the annual average SBI PLR of 10.25% as applicable during 2003-04 has been considered, though the petitioner has claimed interest on working capital @ 11.65% during this period.

42. The interest on working capital to be recovered from the respondents is as per the following details:

(Rs. in lakh)

	2.11.2003 to 31.12.2003	1.1.2004 to 30.3.2004	31.3.2004
Spares for Working Capital	0.00	0.00	0.00
O & M expenses	78.88	157.33	238.93
Receivables	1638.22	3227.81	4840.33
Total Working Capital	1717.10	3385.14	5079.26
Interest Rate	10.25%	10.25%	10.25%
Proportionate Interest Working Capital	28.85	85.32	1.42

43. The amount of interest on working capital allowed is on the lower side as compared to the amount claimed by the petitioner. This is primarily for the reason that the petitioner had claimed higher rate of interest than that allowed.

44. The tariff payable by the respondents to the petitioner is as under:

Annual Fixed Charges

(Rs. in lakh)

Particulars	2.11.2003 to 31.12.2003	1.1.2004 to 30.3.2004	31.3.2004
Interest on Loan	619.00	1803.04	29.62
Interest on Working Capital	28.85	85.32	1.42
Depreciation	292.02	874.95	14.84
Advance Against Depreciation	0.00	0.00	0.00
Return on Equity	516.31	1534.78	25.64
O&M Expenses	155.18	464.26	7.83
Total	1611.36	4762.35	79.35

45. In accordance with the notification dated 26.3.2001, the annual fixed charges are to be divided into capacity charge and primary energy charge. The annual fixed charges are indicated in the preceding paragraph. The primary energy charge is to be computed in accordance with clause 3.5.3 of the notification dated 26.3.2001.

Primary Energy Charges

46. As per the notification dated 26.3.2001, the primary energy charges are to be worked out on the basis of paise per kWh rate ex-bus and energy scheduled to be sent

out from the generating station after adjusting for the free power delivered to the home state.

47. Rate of primary energy is to be taken as 90% of the lowest variable charges of the central sector thermal power station of the Northern region. The primary energy charge are computed based on the primary energy rate and saleable energy of the project. This rate is also the rate to be used in merit order despatch of the plants. Secondary energy rates are to be equal to primary energy rate.

48. The lowest variable charge of Central Sector Thermal Stations of Northern Region was found to be varying on a month-to-month basis. The petitioner has calculated the primary energy rate of the hydro stations as 90% of average of preceding 12 months (i.e. the year 2002-03) lowest variable charge of Central Sector Thermal Power Stations of Northern Region. We agree with the methodology adopted by the petitioner for calculation of the rate of primary energy which is reproduced below. The lowest variable charge for the year 2002-2003 has been worked out to 66.32 paise per kWh. The primary energy rate applicable during 2003-2004 for the energy supplied from Chamera II HEP shall be 59.69 paise per kWh (90% of 66.32 paise per kWh). The details in support of primary energy rate arrived at are given in the Table below:

TABLE

VARIABLE CHARGES OF THE CENTRAL SECTOR THERMAL POWER STATIONS OF NORTHERN REGION FOR THE YEAR 2002-03 (Paise/Kwh)													
STATION	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV	DEC	JAN	FEB	MAR.	Avg. Rate for the Year
SINGRAULI	68.59	71.27	69.59	68.31	71.08	65.22	74.91	69.12	71.39	67.82	71.57	63.48	62.76
RIHAND	66.02	64.99	65.72	64.58	69.29	68.83	69.36	66.32	66.19	67.73	66.98	65.97	61.21
FGUPTS	111.10	106.48	104.45	101.41	102.68	104.39	105.97	148.08	103.62	103.76	105.22	103.13	97.10
NCTPS	143.66	147.76	140.56	134.90	134.26	134.93	133.23	133.50	128.58	142.64	147.37	152.99	139.53
ANTA GPS	93.42	93.87	93.85	93.30	93.30	93.30	92.87	92.87	92.87	93.40	93.40	93.54	93.33
AURAIYA GPS	96.51	96.86	97.10	96.15	96.15	96.12	95.62	95.63	95.61	96.26	96.28	96.27	96.21
DADRI GAS	95.48	95.94	95.71	95.01	95.01	95.01	94.48	94.48	94.48	94.14	95.14	95.14	95.00
FGUPTS-II	217.94	216.36	213.99	215.96	219.73	221.67	218.6	212.92	218.08	219.98	220.63	222.77	218.22
Average Lowest Rate for the year (Paise/kWh)= (68.02 + 64.99+65.72 + 64.58 + 69.29 + 65.22 + 69.36 + 66.32+68.19 + 58.08 + 61.54+ 65.67) = 727.88 / 12 = 60.66 Paise/kWh													
90% of Average lowest rate for the year 2000-01 = 54.59 Paise/kWh													

Secondary Energy

49. Secondary energy relates to the quantum of energy generated in excess of the design energy on an annual basis in the station. For the computation of monthly secondary energy and secondary energy charge, month-wise details of design energy are indicated in the table given below:

MONTHWISE DESIGN ENERGY

Month	Design Energy (Gwh)
April	188.65
May	212.04
June	149.31
July	212.04
August	212.04
September	152.23
October	69.95
November	48.98
December	39.55
January	39.29
February	56.43
March	119.38
Total	1499.89

50. The rate of secondary energy shall be the same as rate of primary energy in the respective years.

Filing Fee

51. The petitioner has remitted a sum of Rs.10 lakh on account of filing fee. The petitioner has prayed that the filing fee be made a “pass through” in the tariff. The respondents have submitted that the filing fee should not be made a “pass through” in tariff but should be borne by the petitioner itself. We have considered the submissions made on behalf of the parties. We are satisfied that the filing fee is an obligatory

statutory expense on the petitioner and is to be made “pass through” in the tariff, like other taxes, duties, cess and levies. We have also considered the implications of allowing filing fee in O&M expenses. We feel that filing fee should be allowed to be reimbursed as a separate item and not made a part of O&M expenses since by including the filing fee in O&M expenses will put additional burden on the consumers for a longer term. We, therefore, direct that filing fee shall be recovered by the petitioner in 10 monthly installments in the tariff. We make it clear that all other charges like advocate's fee or filing fee for interlocutory applications shall not be allowed as “pass through” and these expenses shall be borne by the petitioner itself.

52. In addition to the above charges, the petitioner shall be entitled to incentive/disincentive, tax on income etc. as prescribed in the notification dated 26.3.2001.

53. The matters not specifically covered in this order, but for which provisions are made in the Commission's notification dated 26.3.2001, shall be governed by the notification dated 26.3.2001. This is, however, subject to the directions, if any, of the superior courts on these matters.

54. The tariff approved by us shall be shared by the respondents as per the notification dated 26.3.2001.

55. The petitioner is already charging provisional tariff of Rs.2.28/kWh as approved by the Commission vide its order dated 14.8.2003. The provisional tariff will be adjusted against the tariff now approved by us.

56. This order disposes of petition No. 185/2004.

Sd/-
(A. H. JUNG)
MEMBER

Sd/-
(BHANU BHUSHAN)
MEMBER

Sd/-
(K.N. SINHA)
MEMBER

Sd/-
(ASHOK BASU)
CHAIRMAN

New Delhi dated the 15th September 2005