

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram:

1. Shri D.P. Sinha, Member
2. Shri G.S. Rajamani, Member
3. Shri K.N. Sinha, Member

Petition No. 59/2001

In the matter of

Approval of Generation Tariff of Loktak HE Project

And in the matter of

National Hydroelectric Power Corporation Ltd.

Petitioner

Vs

1. Assam State Electricity Board, Guwahati
2. Meghalaya State Electricity Board, Shillong
3. Department of Power, Govt of Arunchal Pradesh, Itanagar,
4. Electricity Department, Govt. of Manipur, Imphal
5. Electricity Department., Govt. of Mizoram, Aizawal
6. Electricity Department., Govt. of Nagaland, Kohima
7. Electricity Department., Govt. of Tripura, Agartala

Respondents

The following were present:

1. Shri B. Dutta, Sr. Advocate for NHPC
2. Shri Sachin Datta, Advocate, NHPC
3. Shri S.K. Gupta, Chief Engineer, NHPC
4. Shri SK Meena TE (Electrical), NHPC
5. Shri S.K. Agarwal, CE (T), NHPC
6. Shri VK Kanjalia, Executive Director, NHPC
7. Shri Prashant Kaul, Sr Manager, NHPC
8. Shri Nain Singh CE (O&M), NHPC
9. Shri KS Raman, M (F&A), NHPC
10. Shri NG Chanda MeSEB
11. Shri CD Saio, MeSEB
12. Shri MK Adhikary, ASEB

**ORDER
(DATE OF HEARING 13.2.2002)**

National Hydroelectric Power Corporation Ltd. has filed the petition for approval of tariff for Loktak Hydroelectric Project Stage-I (Loktak HEP) (3 x 35 MW=105 MW) for the period from 1.4.2001 to 31.3.2004 based on terms and conditions of tariff notified by the Commission on 26.3.2001.

2. The revised investment approval for execution of Loktak HEP (3 x 35 MW) which has been under commercial operation since 1.6.1983, was accorded by Ministry of Energy, Department of Power vide its letter dated 23.1.1984 at a cost of Rs.110.22 crores (Net) excluding IDC of Rs. 19.76 crores, but including a component of cost (Rs. 3.27 crores) chargeable to Irrigation. Thus, the net approved cost of the project is Rs. 126.72 crores, including IDC.

3. Presently, Loktak HEP is supplying power on single part tariff of 57 paise/kWh, which is charged on the basis of Bulk Power Supply Agreement, signed between the petitioner and the respondents. The petitioner was permitted to continue billing the beneficiaries at a provisional tariff of 57 paise/kWh vide the Commission's order dated 29.2.2000 in Petition No. 19/1999.

4. Consequent to notification of terms and conditions of tariff by the Commission on 26.3.2001, applicable with effect from 1.4.2001, the petitioner filed this petition for approval of tariff in respect of Loktak HEP for the period from 1.4.2001 to 31.3.2004 based on the terms and conditions of tariff contained in the said notification dated 26.3.2001.

CAPITAL COST

5. The beneficiaries in North-Eastern Region are paying single part tariff @ 57 paise/kWh as per the Bulk Power Supply Agreement. The petitioner has furnished the details in support of the agreed tariff of 57 paise/kWh, which is based on capital cost of Rs.136.06 crores as on 31.3.1997. However, as per the details of capital cost furnished by the petitioner in the petition, the capital cost of Loktak HEP works out to Rs. 135.61 crores. Therefore, the capital cost of Rs. 135.61 crores as on 31-3-1997 has been considered to arrive at gross block as on 31.3.2001 for the purpose of computation of tariff in the present petition.

ADDITIONAL CAPITALISATION

6. In the tariff proposal submitted by the petitioner, it has taken into account additional capitalisation since 1984-85. However, as we are taking the gross block as on 31.3.1997 as the base for arriving at the gross block as on 31.3.2001, we have considered the petitioner's claim for additional capitalisation from 1997-98 to 2000-2001 only. The details regarding additional capitalisation claimed by the petitioner during this period and those allowed and disallowed are given below:

(Rs. in crores)

Year	Additional Capitalisation claimed	Additional Capitalisation allowed	Additional Capitalisation disallowed
1997-98	(-)1.61	(-)1.61	0.00
1998-99	0.10	0.10	0.00
1999-2000	1.25	1.25	0.00
2000-2001	1.15	0.85	0.30
Total	0.89	0.59	0.30

7. Accordingly, for the purpose of tariff, gross block of Rs 136.20 crores as on 31.3.2001 has been considered.

DEBT-EQUITY RATIO

8. In accordance with the terms and conditions of tariff notified by the Commission on 26.3.2001, the capital expenditure of the project should be financed as per the approved financial package set out in the techno-economic clearance of CEA or as approved by an appropriate independent agency. As has been noticed above, the respondents are presently paying single part tariff based on capital cost of Rs.135.61 crores as on 31.3.1997. In means of financing of this capital cost, original debt, additions and repayments up to 1996-97 have been considered as furnished by the petitioner in the petition while equity has been taken as the balancing figure. The additional capitalization of Rs 0.59 crores allowed by us for the period from 1997-98 to 2000-2001 has been taken into consideration for the purpose of tariff. Financing of additional capital expenditure during the respective years has been considered from addition of Government of India loan during corresponding years as per the information available in the petition and the remaining amount has been considered as equity for the purpose of determination of tariff. The year-wise break up of debt and equity considered for tariff is Rs. 72.27 crores and Rs. 63.93 crores respectively.

REPAYMENT OF LOAN AND INTEREST ON LOAN

9. As provided in the Commission's 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. The interest on loan has been

computed based on loan amount, repayment schedule, adjustments, if any, of various loans up to 2003-2004 and actual interest rate indicated by the petitioner in the petition.

10. The interest on additional capitalisation has also been worked out for the loan taken. The cumulative repayment of loan up to the year 2000-2001 adds up to Rs. 72.13 crores. The balance of loan of Rs. 0.14 crores gets repaid during the year 2001-2002. Thus the entire loan gets repaid during 2001-2002. Accordingly, the year-wise interest on loan payable by the respondents for various years is as under:-

(Rs. in crores)	
2001-2002	0.02
2002-2003	0.00
2003-2004	0.00

DEPRECIATION

11. As per the terms and conditions of tariff notified by the Commission, the rate base for the purpose of depreciation is the historical cost of the asset. The depreciation is to be calculated as per the straight line method. Further, the total depreciation to be recovered in tariff during the life of the project should not exceed 90% of the approved original cost, which shall include additional capitalisation allowed by the Commission. As the entire amount of loan gets repaid during the year 2001-2002, the depreciation for the remaining period has been worked out afresh by spreading the depreciable value over the balance useful life of the project, which has been assumed to be 16 years. An amount of Rs. 44.76 crores of depreciation recovered in tariff up to the year 2000-2001 has been considered as per information furnished by the petitioner in the petition. The weighted average depreciation rate for the tariff period has been calculated by taking the individual assets of gross block as

on 31.3.2001 and by applying the respective depreciation rates as per the Commission notification dated 26.3.2001. The weighted average rate of depreciation considered for the purpose of tariff is 2.67%. Based on the application of above weighted average depreciation rate on the gross-block of Rs.136.02 crores, the depreciation payable for different years has been worked out and is indicated below:

(Rs. in Crores)	
2001-2002	3.64
2002-2003	4.64
2003-2004	4.64

ADVANCE AGAINST DEPRECIATION

12. The Commission in the norms of tariff notified on 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 as provided in the notification-dated 26.3.2001. The petitioner has not claimed the advance against depreciation. Accordingly, no advance against depreciation for different years of the tariff period in this case is being allowed.

RETURN OF EQUITY

13. As per the notification issued by the Commission on terms and conditions of tariff, return on equity is to be computed on the paid up and subscribed capital @ 16%. The year-wise return on equity on amount of Rs. 63.93 crores works out as under:

(Rs. in Crores)	
2001-2002	10.23
2002-2003	10.23
2003-2004	10.23

O&M EXPENSES

14. The Commission has prescribed the procedure for arriving at base O&M expenses for the year 1999-2000 in the notification issued on 26.3.2001. It provides that O&M expenses including insurance for the existing stations belonging to the petitioner, which have been in operation for 5 years or more in the base year of 1999-2000 shall be derived on the basis of actual O&M expenses, excluding abnormal O&M expenses, if any, for the years 1995-96 to 1999-2000, duly certified by the statutory auditors. The average of actual O&M expenses for the years 1995-96 to 1999-2000 are to be considered as O&M expenses for the year 1997-98, which are to be escalated twice @ 10% per annum to arrive at O&M expenses for the base year 1999-2000 in accordance with the given formula. The base O&M expenses for the year 1999-2000 are to be further escalated @ 6% per annum to arrive at permissible O&M expenses for the relevant year. O & M expenses are considered to be abnormal when increase in a particular year is more than 20% over those of the previous year.

15. The details of O&M expenses for the years 1995-96 to 1999-2000 as furnished by the petitioner are as given here under:

Year	O & M expenses (Rs.in crores)	Percentage increase
1995-1996	10.51	-
1996-1997	13.50	28.4%
1997-1998	21.57	59.8%
1998-1999	22.59	4.7%
1999-2000	17.77	(-) 21.3%

16. It is observed that increase in O&M expenses during the years 1996-97 and 1997-98 is abnormal. It has been explained on behalf of the petitioner that increase in O&M expenses during these two years was mainly on account of increase in employee cost and insurance. It is stated by the petitioner that expenditure on account of salaries and wages and staff welfare expenses has increased from Rs.8.5 crores in 1995-96 to Rs.10.7 crores in 1996-97, which further increased to Rs.17.6 crores during the year 1997-98. According to the petitioner, the above increases are consequent to implementation of recommendations of the Fifth Pay Commission in respect of its employees governed under Central DA pattern and also revision of wages of staff with effect from 1.1.1997 in respect of employees governed by Industrial DA pattern. The petitioner has further explained that besides wage revision, increase in liabilities on account of liberalised retirement benefits due to upward revision of gratuity limit to Rs.3.5 lakhs and implementation of medical scheme in the post-retirement period etc. also account for increase in expenditure under the head "employee cost". The reason given by the petitioner in support of increase of expenses under the head "insurance" is on account of policy of insurance, insurance coverage of all fixed assets of the project.

17. The petitioner has furnished the details of staff welfare expenses under the head "employee cost", which includes payments made on account of productivity linked incentive under Section 31A of Payment of Bonus Act, 1965. It was emphasized on behalf of the petitioner that the payments on account of productivity linked incentive accounted for in O & M expenses for the respective year as these are the obligatory statutory expenses. Section 31A of Payment of Bonus Act makes special provision with respect to payment of bonus linked with production or

productivity. It applies where the employees have entered into an agreement or settlement with their employer for payment of annual bonus linked with production or productivity. The minimum statutory bonus payable under Section 10 of Payment of Bonus Act is the obligatory expense that qualifies for inclusion in O&M expenses. Therefore, in our opinion, the payments on account of productivity linked incentive do not qualify to be accounted under O&M expenses. The payment of productivity linked incentive pre-supposes increase in production or productivity. On account of such increases in production or productivity, the petitioner also earns incentive from the beneficiaries, the present respondents. The beneficiaries who pay or are liable to pay incentive on increased production or productivity cannot be saddled with additional burden in the form of O&M expenses. We are of the considered view that payments on account of productivity linked incentive should be made by the petitioner out of the incentive earned by the petitioner company as a result of increase in productivity. On these considerations, we allow O&M expenses for the respective year claimed by the petitioner, except the following payments on account of productivity linked incentive.

(Rs. in Crores)

1995-96	0.45
1996-97	0.27
1997-98	0.32
1998-99	0.50
1999-2000	0.39

18. The following amounts, indicated in O&M charges but not claimed, have also not been allowed:

(Rs. in Crores)

1995-96	0.98
1996-97	1.04
1997-98	1.36
1998-99	1.52

19. In the light of the foregoing O&M expenses for the years 1995-97 to 1999-2000 considered for the purpose of computation of tariff are as under:

(Rs. in Crores)

1995-96	9.04
1996-97	12.14
1997-98	19.85
1998-99	20.54
1999-2000	17.35
Average O&M expenses from 1995-96 to 1999-2000, representing expenses for 1997-98	15.78
O&M expenses for 1999-2000(Base)	19.09

20. Based on the above, O&M expenses for different years of the tariff period allowed by us are given here under:

(Rs. in Crores)

2001-2002	21.45
2002-2003	22.74
2003-2004	24.10

INTEREST ON WORKING CAPITAL

21. As per the Commission's notification 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.

22. The above components have been taken into account for the purpose of calculation of working capital. O&M expenses for one month considered for the purpose are as decided by us in Para 20 above. Spares have been considered as given in the petition and are subject to adjustment, based on actuals, but not exceeding one year's requirement. Receivables for two months have been worked out on the basis of total billing charges calculated based on the different component of tariff decided by us.

23. The details considered in support of calculation of working capital are as under :

(Rs. in crores)

Particulars	2001-02	2002-03	2003-04
O&M expenses for one month	1.79	1.90	2.01
Spares	1.89	2.00	2.12
Receivables for two months	6.08	6.47	6.70
Total	9.76	10.37	10.83

24. The interest rate for the purpose of calculating interest on working capital is the cash-credit rate prevailing at the time of tariff filing. Accordingly, the annual average Prime Lending Rate of State Bank of India of 11.5% as applicable at the beginning of the tariff period, that is, 1.4.2001, has been taken for the purpose of calculating interest on working capital instead of interest @ 16.65% claimed by the petitioner. The interest on working capital to be recovered from the respondents is as per the following details:

(Rs. in crores)

2001-2002	1.12
2002-2003	1.19
2003-2004	1.25

TOTAL FIXED CHARGES

25. The revised fixed charges payable by the respondents to the petitioner year-wise are as under:

(Rs. in crores)			
Particulars	2001-02	2002-03	2003-04
Interest on Loan	0.02	0.00	0.00
Interest on Working Capital	1.12	1.19	1.25
Depreciation	3.64	4.64	4.64
Advance Against Depreciation	0.00	0.00	0.00
Return on Equity	10.23	10.23	10.23
O&M Expenses	21.45	22.74	24.10
Total	36.46	38.80	40.22

26. In accordance with the Commission's notification dated 26.3.2001, the annual fixed charges are to be divided into capacity charges and primary energy charges. The annual fixed charges are indicated in para 25 of this order. The primary energy charges are to be computed in accordance with clause 3.5.3 of the Commission's notification. The capacity charge shall then be computed as indicated below:

$$\text{Capacity Charges} = (\text{Annual fixed charges} - \text{primary energy charges})$$

PRIMARY ENERGY CHARGES

27. 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 energy scheduled to be sent out from the Generating Station after adjusting for the free power delivered to the home state.

28. Rate of Primary Energy, is to be taken as 90% of the lowest variable charges of the central sector thermal power station of the region concerned. The primary energy charges 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 Rate are to be equal to Primary Energy Rate.

29. The Commission in petition No 87/2001 (Generation tariff for Ranganadi Hydroelectric Project) took a view that for computation of Primary Energy Rate, the variable charges of a central sector coal-based thermal power station in the region are to be considered. However, there is no coal-based central sector thermal power station in North-Eastern Region. Therefore, the Commission in its order dated 11.4.2002 in that petition directed that in order to arrive at Primary Energy Rate, transmission charges of Eastern Region shall be added to 90% of the lowest variable cost of central sector thermal generating station in Eastern Region.

30. The petitioner in his affidavit dated 9.5.2002 has contended that merit order operation of Eastern Region and North-Eastern Region is being done separately. Therefore, 90% of the lowest variable charge of central sector thermal power stations, as rate of primary energy for hydroelectric projects should be considered separately for the two regions. Accordingly it has pleaded that variable charges of gas-based central sector thermal power stations in North-Eastern Region should be taken into account for this purpose.

31. We have considered the submission made by the petitioner on this issue. We feel that adoption of variable charges of gas-based central sector thermal power stations in North-Eastern Region for calculation of Primary Energy Rate would give unintended benefit to the petitioner on sale of secondary energy, which is generated without any extra cost and effort on the part of the petitioner. The Commission has

already taken a view that for this purpose, Eastern Region and North-Eastern Region are to be considered as integrated. In the interest of consistency and uniformity in approach, we consider ourselves bound by the earlier decision. Therefore, we reject the contention raised on behalf of the petitioner.

32. The lowest variable charge of Central Sector Thermal Stations of Eastern Region was found to be varying on a month to month basis. The lowest variable charge for the year 2000-01 has been worked out to 39.67 paise per kWh. The Primary Energy Rate applicable during 2001-02 for the energy supplied from Loktak HEP shall be 35.70 paise per kWh (90% of 39.67 paise per kWh). The details in support of Primary Energy Rate arrived at are given in the Table below:

VARIABLE CHARGES OF THE CENTRAL SECTOR THERMAL POWER STATIONS OF EASTERN REGION FOR 2000-01										
STATION	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV	DEC	JAN
	P/Kwh	P/Kwh	P/Kwh	P/Kwh	P/Kwh	P/Kwh	P/Kwh	P/Kwh	P/Kwh	P/Kwh
FSTPP	78.16	85.92	80.65	84.99	84.75	85.59	86.50	84.72	79.11	75.9
KHSTPP	73.79	73.76	75.57	81.50	78.00	83.85	92.49	85.20	81.25	77.1
TSTPP	36.83	40.70	40.60	41.25	42.02	41.22	39.42	39.54	38.65	38.5
Average Lowest Rate for the year (P/Kwh)										
$=36.83+40.7+40.6+41.25+42.02+41.22+39.42+39.54+38.65+38.57+38.59+38.59=475.$ $98/12= 39.67 \text{ p/kwh}$										
90% of Average lowest rate for the year 2000-01 =					35.70	p/kwh				
Primary Energy Rate =		(35.70 p/kwh+ transmission charges of Eastern Region)								

33. The primary energy rate of 35.70 paise per kWh plus transmission charges of Eastern Region which pertains to the year 2001-02 shall remain constant throughout the tariff period for the purpose of payment of incentive/disincentive relating to the capacity index.

SECONDARY ENERGY

34. 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	30.00
May	31.00
June	30.00
July	52.00
August	50.00
September	52.00
October	30.00
November	31.00
December	31.00
January	31.00
February	28.00
March	31.00
Total	448.00

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

36. The primary energy rates for the years 2002-03 and 2003-04 shall be determined based on 90% of average of 12 months' lowest variable charges of Central Sector coal-based Thermal Stations of Eastern Region for the years 2001-02 and 2002-03 respectively to which the transmission charges for Eastern Region shall be added and shall be decided by the petitioner in consultation with the respondents. No petition for this purpose is required to be filed. However, in case the parties are unable to agree to primary energy rates for these years, any one of them may approach the Commission for a decision by filing an appropriate petition.

FILING FEE

37. The petitioner has remitted a sum of Rs.10 lakhs on account filing fee for the present tariff petition. The petitioner has prayed that the filing fee be made a “pass through” in the tariff. 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 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 of the main tariff petition only shall be recovered by the petitioner in 10 monthly installments in the tariff. We make it clear that all other charges, including advocate's fee or filing fee for interlocutory applications before the Commission or any other court shall not be allowed as “pass through” and these expenses shall be borne by the petitioner itself.

38. In addition to the above charges, the petitioner shall be entitled to tax on income etc. as prescribed in the Commission's notification dated 26.3.2001.

39. Incentive and disincentive and any other parameters of the notification dated 26.3.2001 which could not be implemented as such may be brought before the Commission through appropriate petition, to enable the Commission to take an appropriate view on the matter.

40. 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 that notification. This is, however, subject to the directions of the superior courts on these matters.

41. The tariff approved by us shall be borne by the respondents in proportion of primary energy supplied to the beneficiaries from Loktak HEP.

42. This order disposes of petition No.59/2001.

Sd/-
(K.N. SINHA)
MEMBER

Sd/-
(G.S. RAJAMANI)
MEMBER

Sd/-
(D.P. SINHA)
MEMBER

New Delhi dated the 1st November, 2002