

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Coram:**

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

**Petition No.75/2005**

In the matter of

Approval of revised fixed charges on account of additional capital expenditure for the period 1.4.2001 to 31.3.2004 in respect of Bairasiul Hydroelectric Project

**And in the matter of**

National Hydroelectric Power Corporation Ltd..

... Petitioner

V/s

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 Vitran Nigam Ltd., Jaipur
10. Power Transmission Corporation of Uttaranchal Ltd., Dehradun
11. Jodhpur Vidyut Vitran Nigam Ltd., Jaipur
12. Himachal Pradesh State Electricity Board., Shimla
13. Ajmer Vidyut Vitran Nigam Ltd., Jaipur
14. Power Development Department, Chandigarh
15. Power Development Department, Govt.of J&K, Srinagar

**The following were present:**

1. Er. P. Kaul, CE, NHPC
2. Er. P. Kumar, Dy. Manager, NHPC
3. Shri Ajay K. Arora, NHPC
4. Shri V.C. Gupta, Consultant, PSEB
5. Shri T.K. Mittal, Add. SE(ISP), RVPN
6. Shri B.K. Paliwal, Asst. Manager, DTL
7. Shri R.K. Arora, XEN, HPGC

**ORDER  
(DATE OF HEARING: 13.9.2005)**

Through this petition, the petitioner seeks approval for the revised fixed charges in respect of Bairasiul Hydroelectric Project (3X66 MW) (Bairasiul HEP) for the period

1.4.2001 to 31.3. 2004 after considering the impact of additional capital expenditure incurred during the period.

2. Bairasiul HEP comprising of three units of 66 MW each was commissioned on 1.4.1982.

3. The revised investment approval for execution of Bairasiul HEP was accorded by Ministry of Power vide its letter dated 14.5.1999 at a cost of Rs.148.08 crore, including IDC of Rs. 13.87 crore. Ministry of Power conveyed further approval for renovation and moderanisation of the project at a cost of Rs. 19.96 crore, including IDC of Rs. 2.21 crore vide its letter dated 20.5.1999. Thus, the approved cost of the project is Rs.168.04 crore, including IDC.

4. The terms and conditions for determination of tariff for the period 1.4.2001 to 31.3.2004 were notified by the Commission on 26.3.2001 in terms of the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2001 (hereinafter referred to as "the notification dated 26.3.2001"). A petition (No. 65/2001) was filed by the petitioner for approval of tariff for the period from 1.4.2001 to 31.3.2004, the basis for which was the notification dated 26.3.2001. The tariff was approved by the Commission by its order dated 1.11.2002. For the purposes of tariff, the capital cost of Rs. 178.66 Crore (including FERV), as on 1.4.2001, was considered. The additional capitalisation for the period 1.4.2001 to 31.3.2004 was not considered while approving tariff for the period ending 31.3.2004.

5. The year-wise details of additional capitalisation on works (excluding FERV) claimed by the petitioner are as follows:

(Rs. in lakh)				
Additional Capital expenditure claimed	2001-02	2002-03	2003-04	Total
1. Works within the scope of approved cost - Balance payments	0.00	0.00	0.00	0.00
2. Works not within the scope of approved cost				
(i) Welfare measures	0.00	0.87	0.40	1.27
(ii) Replacement of obsolete/ worn out equipment	76.19	4.80	5.19	86.18
(viii) Improvement in efficiency & performance	35.25	30.42	78.90	144.57
(iv) Misc. assets incl. Minor assets (less than Rs. 5000/-)	3.05	49.33	48.92	101.30
Sub-Total (1+2)	114.49	85.42	133.41	333.32
3. Capital spares	0.00	166.81	8.20	175.01
4. Deletions	0.00	9.26	27.30	36.56
<b>Net additions(1+2+3-4)</b>	<b>114.49</b>	<b>242.97</b>	<b>114.31</b>	<b>471.77</b>

6. Based on the above, the petitioner has claimed the revised fixed charges.

7. The petitioner's claim for additional capitalisation and the revised fixed charges is based on Clause 1.10 of the notification dated 26.3.2001, reproduced hereunder:

“1.10 Tariff revisions during the tariff period on account of capital expenditure within the approved project cost incurred during the tariff period may be entertained by the Commission only if such expenditure exceeds 20% of the approved cost. In all cases, where such expenditure is less than 20%, tariff revision shall be considered in the next tariff period.”

### **ADDITIONAL CAPITALISATION**

8. In the first instance we consider the admissibility of additional capital expenditure claimed in the present petition.

### **WORKS WITHIN THE SCOPE OF APPROVED CAPITAL COST**

9. The generating station is 23 years old, and as such there are no left over works/balance of payments within the scope of approved cost.

## **WORKS NOT WITHIN THE SCOPE OF APPROVED CAPITAL COST- NEW WORKS UNDERTAKEN**

### **Welfare Measures**

10. The petitioner has claimed Rs. 1.27 lakh for purchase of equipment like table tennis tables, multigym etc. for recreation facilities of the project employees. These gadgets are purchased as a welfare measure for the physical fitness and recreation of the employees located at a far off place, and therefore, capitalization of Rs. 1.27 lakh has been allowed.

### **Replacement of obsolete / worn out equipment**

11. The petitioner has claimed capitalization of an amount of Rs 86.18 lakh during the period 2001-04 (Rs.76.19 lakh in 2001-02, Rs.4.80 lakh in 2002-03 and Rs.5.19 lakh in 2003-04) on replacement of obsolete/worn out equipment. The assets/equipment claimed against replacement include crawling dozer, high pressure pump, vehicles like buses, trucks, cars & jeeps, etc.

12. On perusal, it has been observed that while the new assets have been capitalized in 2001-02, 2002-03 & 2003-04, as per the submission of the petitioner, the old assets are to be surveyed off and most of these old assets have been proposed to be decapitalized in 2004-05 or 2005-06. Thus, the petitioner may get benefit in gross block for new as well as replaced assets/equipment for 2 to 3 years. The respondents Ajmer Vidyut Vitran Nigam Ltd., Jaipur Vidyut Vitran Nigam Ltd and RRVNL have objected to this and have pleaded that the replaced assets may be decapitalised in the year of capitalization itself.

13. The Commission has in other cases taken a view that de-capitalization of the obsolete/ worn out assets should be simultaneous with the capitalization of new assets. Accordingly, the replaced assets need to be de-capitalized in the year of capitalization itself.

14. The petitioner has de-capitalised certain equipment and other assets acquired for construction of Bairasiul HEP. While explaining the methodology adopted for de-capitalisation of construction equipment and other similar assets acquired during the construction period, the petitioner has placed reliance on Note 2 below regulation 34 of the Commission's notification dated 26.3.2004, which stipulates that any expenditure on replacement in case of old asset is to be considered after writing off the gross value of the original assets from the capital cost, except such items as are listed in clause (3) of this regulation.

15. The petitioner has explained that mostly these assets in the nature of automobile, transport equipment, construction equipment, furniture & fixtures and office equipment etc. were acquired during construction period to facilitate construction of different components of the project. In stead of acquiring, the assets could be taken on hire or lease and in that case hire or lease charges would have been capitalized as incidental expenses during construction. Similarly, the assets acquired during construction used for construction of main components of the project, get depreciated during construction period and the depreciation constitutes 'indirect cost' of the project, like any other indirect cost, including hire charges if assets are taken on hire/lease. The petitioner has stated that in compliance of the accounting norms, such assets are depicted in the balance sheet and has illustrated by taking hypothetical figures as under:

<u>Balance Sheet</u>	(Rs. in crore)
Gross Value	100
Less provision for Depreciation	30
Net Block	70
Incidental Expenditure during construction (IEDC) Depreciation	30

16. It has been stated that depreciation of Rs. 30 crore appearing in IEDC along with other expenditure during construction period is capitalized along with the cost of main components of the project. Depreciation being the 'indirect cost' of construction period is added to the cost of main component on the date of commercial operation, as a compensating adjustment provision for depreciation relating to such assets is adjusted against the gross value of such assets, otherwise gross block of the project as a whole will get increased by the amount of depreciation charged during construction.

17. In view of above, at the time of replacement of the old asset with a new asset, only Rs. 70 crore (as per above illustration) has been de-capitalised. The petitioner has substantiated his submission by the opinion given by an Expert Advisory Committee of the Institute of Chartered Accountants of India on the issue endorsing the methodology adopted a copy of which has been placed on record.

18. The explanation of the petitioner has been accepted and is being kept in view. The assets acquired during construction have been de-capitalised after allowing depreciation up to the date of commercial operation. However, the assets acquired after the date of commercial operation and replaced have been de-capitalised at the gross value.

19. The justification given by the petitioner for replacement of obsolete/worn out equipment is generally satisfactory and has been accepted.

20. Year-wise details of additional capital expenditure claimed by the petitioner and net ACE allowed after considering de-capitalization of the replaced old/ worn out assets is given in the following table:-

(Rs.in lakh)

Year	ACE claimed	De-capitalisation of replaced assets	Net ACE allowed
2001-02	76.19	14.39	61.80
2002-03	4.80	0.00	4.80
2003-04	5.19	0.00	5.19
<b>Total</b>	<b>86.18</b>	<b>14.39</b>	<b>71.79</b>

#### **New works/equipment for improving efficiency and performance**

21. Bairasiul HEP was commissioned in April 1982 and is about 23 years old. The petitioner has claimed total additional capital expenditure of Rs. 144.57 lakh during 2001-04 (Rs. 35.25 lakh in 2001-02, Rs.30.42 lakh in 2002-03 and Rs.78.90 lakh in 2003-04) on procurement of new equipment and undertaking new works.

22. We have carried out prudence check from the point of view of necessity of various assets under this category for normal plant operation. Among the type of assets/equipment which have been added include air compressors to feed high pressure air supply for the operation of oil pressure units (OPU) of turbine & spherical valve, addition of pump motor, control panel for high speed lubrication system, latest technology type Thrust bearing pads for uniform load distribution, LP air compressor to increase compressed air supply for generator braking system, induction motors to strengthen the existing cooling water pumping system, Automatic Voltage Regulator for DG set installed at dam site for illumination & operation of gates, vibro test meter to

monitor the vibration of generating units at different loads, V-SAT system to meet facility of broadband internet, new Air conditioners against replacement of old AC system to maintain temp. and humidity requirement of static equipment and relays at control room of PH, disturbance recorder for digitally logging of events helpful for detection of faults, event logger for recording the parameters during fault for analysis of detection of faults, newly purchased computers, printers, UPS for computerization and local area network, long distance satellite telephone to improve existing communication system with NRLDC, time synchronizers for keeping synchronized time of the grid as per NRLDC requirement under ABT regime etc.

23. The justification given by the petitioner for addition of these assets for reliable and efficient operation of the generating station is found to be in order.

24. After carrying out the prudence check of the assets capitalized under this category considering de-capitalization of old asset for an amount of Rs.3.60 lakh, total additional capital expenditure of Rs. 154.97 lakh has been considered necessary for reliable plant operation, which is also in the interest of beneficiaries of the plant. The year-wise break up of expenditure claimed for capitalization/de-capitalisation and that allowed is as follows:-

(Rs. in lakh)			
Year	ACE claimed	De-capitalisation allowed	Net ACE allowed
2001-02	35.25	0.00	35.25
2002-03	30.42	0.00	30.42
2003-04	78.90	3.60	89.30*
<b>Total</b>	<b>144.57</b>	<b>3.60</b>	<b>154.97</b>

(\*) It includes an amount of (-) Rs. 14 lakh in respect of deletion of crawler dozer whose de-capitalization has already been made in the year 2001-02 to allow addition of new dozer, hence deletion has not been considered during 2003-04.

**Miscellaneous Assets including minor assets, costing less than Rs.5000/-**

25. The petitioner has claimed an aggregate amount of Rs. 93.25 lakh (Rs 3.05 lakh in 2001-02, Rs 49.33 lakh in 2002-03 and Rs. 40.87 lakh in 2003-04) during 2001-04 on account of addition of miscellaneous assets (including minor assets costing less than Rs. 5000/-). The miscellaneous assets claimed for capitalization include addition of new furniture in lieu of old furniture which has outlived its life, ECG machine, Cardiac monitor & Lab Incubator for the project hospital, VCD, Decoders, cordless telephones, construction of new consumers store building, water tanks for regular water supply to employees colony, moulded furniture for computers, dining tables, vacuum cleaner, industrial lockers, almirahs, refrigerators, water coolers, inverters, construction of new field hostel for bachelors accommodation & visiting personnel etc. Further, there is long list of minor assets costing less than Rs. 5000/- added during the period 2001-04 which include chairs, ceiling & exhaust fans, mattresses, storage water heaters, telephone sets, cordless telephones, room heaters, hear convectors, office almirahs, racks, TV trolleys, CD writers, Shamiyana & kanats, voltage stabilizers etc.

26. The respondents Ajmer Vidyut Vitran Nigam Ltd., Jaipur Vidyut Vitran Nigam Ltd, UPPCL and RRVNL have objected to capitalization of these items as, according to them, the expenditure is of regular nature, having been incurred every year during 2001-04.

27. The generating station has been in operation for the last 23 years. The petitioner has added new furniture items such as chairs, tables, almirahs, racks etc. in lieu of old furniture which has outlived its life. However, no de-capitalization has been provided for the old furniture. In case of other items, the petitioner has not given specific location, adequate justification or necessity of adding most of the assets under this head. As such,

we will not be justified to allow addition of this to the capital base for the purpose of tariff. In cases where specific location and adequate justification has been furnished or otherwise considered necessary, capitalisation of the assets has been allowed.

28. The additional capitalisation amount claimed, additional capitalisation disallowed and that allowed for the miscellaneous and minor assets during the period 2001-04 is given in the following table:

(Rs.in lakh)			
Year	ACE claimed	ACE dis-allowed	ACE allowed
2001-02	3.05	2.03	1.02
2002-03	49.33	25.61	23.72
2003-04	48.92	3.31	45.61
<b>Total</b>	<b>101.30</b>	<b>30.95</b>	<b>70.35</b>

#### **CAPITALIZATION OF SPARES**

29. The petitioner has claimed an amount of Rs.175.01 lakh (Rs.166.81 lakh in 2002-03 and Rs.8.20 lakh in 2003-04) towards capitalization of spares, as per its accounting policy and based on Accounting Standard-2 of the Institute of Chartered Accountants of India. The capitalization of additional spares is over and above the reasonable spares already capitalized as initial spares within the approved capital cost. The generating station has been in operation for 23 years. Capitalization of spares claimed by the petitioner cannot be allowed at this stage. However, the spares to the extent actually consumed for repairs & maintenance works during the years 2002-03 and 2003-04 may be considered as part of O&M expenses.

#### **DELETIONS**

30. The petitioner has claimed de-capitalisation of an amount of Rs.36.56 lakh on account of construction machinery. Bairasiul HEP was completed in the year 1982. The

heavy construction machinery such as excavators, dumpers, dozers, tippers, compactors, tunneling equipment, cranes etc. acquired for construction has been de-capitalized by the petitioner during the years 2001-04.

31. De-capitalisation of an amount of Rs. 36.56 lakh (depreciated value) for the construction equipment has been allowed during the period 2001-04. Year-wise break up of de-capitalized amount is as follows:

(Rs. in lakh)		
Year	De-capitalization claimed	Amount De-capitalized
2001-02	0.00	0.00
2002-03	9.26	9.26
2003-04	27.30	27.30
<b>Total</b>	<b>36.56</b>	<b>36.56</b>

32. Based on discussions in the preceding paragraphs, the following additional capital expenditure has been allowed:

(Rs. in lakh)					
Addl. Capital expenditure	ACE claimed	Additional capital expenditure allowed			
		2001-02	2002-03	2003-04	Total
<b>1. Works within the scope of approved cost</b>	0.00	0.00	0.00	0.00	0.00
<b>2. Works not within the scope of approved cost</b>					
(i) Welfare measures	1.27	0.00	0.87	0.40	1.27
(ii) Replacement of obsolete/ worn out equipment	86.18	61.80	4.80	5.19	71.79
(iii) Improvement in efficiency & performance	144.57	35.25	30.42	89.30	154.97
(iv) Misc. including minor assets	101.30	1.02	23.72	45.61	70.35
<b>Sub-total (1+ 2)</b>	<b>333.32</b>	<b>98.07</b>	<b>59.81</b>	<b>140.50</b>	<b>298.38</b>
<b>3. Capital spares</b>	<b>175.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>4. Deletions (De- capitalization)</b>	<b>36.56</b>	<b>0.00</b>	<b>9.26</b>	<b>27.30</b>	<b>36.56</b>
<b>5. Net additions (1+2+3-4)</b>	<b>471.77</b>	<b>98.07</b>	<b>50.55</b>	<b>113.20</b>	<b>261.82</b>

### **ASSETS NOT IN USE**

33. At the hearing, the petitioner was directed to submit list of assets (including construction machinery & equipment) not in use as on 1.4.2004. The petitioner has submitted the details of 21 assets/ equipment such as pump, diesel engine, air compressors, drilling equipment, crawlers, excavators, loader which are not in use as on

1.4.2004 for an aggregate amount of Rs. 15.80 lakh. The amount has been deducted to arrive at the capital base for the tariff period 2004-09.

#### **CAPITAL COST AS ON 1.4.2004**

34. After taking into account additional capitalization considered above for the period 2001-04, the capital cost as on 1.4.2004 (excluding FERV) is worked out as follows-

(Rs. in crore)	
Capital cost as on 1.4.2001	178.66
Additional capitalization for 2001-02	0.98
Capital cost as on 1.4.2002	179.64
Additional capitalization for 2002-03	0.51
Capital cost as on 1.4.2003	180.15
Additional capitalization for 2003-04	1.13
Capital cost as on 1.4.2004	181.28
Assets not in use	(-) 0.16
Net Capital cost as on 1.4.2004	181.12

35. The opening capital cost for the purpose of tariff for the period 2004-09 as on 1.4.2004 shall be Rs.181.12 Crore.

#### **REVISION OF FIXED CHARGES**

36. Next arises the question of revision of fixed charges for the period 1.4.2001 to 31.3.2004. In the order dated 31.3.2005 in petition no. 139/2004, (NTPC V/s UPPCL & others), the Commission has held that the additional capital expenditure during the tariff period, not exceeding 20% of the approved capital cost does not qualify for revision of tariff for this period. In the present case, the additional capital expenditure is less than 20% of the approved cost. For the reasons given in the said order dated 31.3.2005, the revision of fixed charges for the period 1.4.2001 to 31.3.2004 is not warranted. However, cost of servicing of investment on this additional expenditure is to be reimbursed to the petitioner during tariff for 2004-09. Therefore, as per the decision in Petition No.139/2004, the impact of de-capitalisation of expenditure on return on equity and interest on loan for

the period 1.4.2001 to 31.3.2004 will be worked out while approving tariff for Bairasiul HEP for the period 1.4.2004 to 31.3.2009.

37. With the above observations the petition stands disposed of.

**Sd/-**  
**(A. H. JUNG)**  
**Member**

**Sd/-**  
**(BHANU BHUSHAN)**  
**Member**

**Sd/-**  
**(K.N. SINHA)**  
**Member**

**Sd/-**  
**(ASHOK BASU)**  
**Chairperson**

New Delhi, dated 3<sup>rd</sup> February, 2006