

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No 250/2010**

**Coram  
Shri Gireesh B. Pradhan, Chairperson  
Shri M.Deena Dayalan, Member  
Shri A.K.Singhal, Member**

**Date of Order: 5.6.2014**

**In the matter of**

Revision of tariff of Tehri Hydroelectric Power Project (1000 MW) for the period from 22.9.2006 to 31.3.2009.

**And**

**In the matter of**

Commission's order dated 7.1.2014 in Review Petition (7/RP/2013) pertaining to approval of generation tariff of Tehri Hydroelectric Power Project (1000 MW) for the period from 22.9.2006 to 31.3.2009 in order dated 16.4.2013 in Petition No. 250/2010-Implementation thereof.

**And in the matter of**

THDC India Ltd  
Bhagirath Puram,  
Rishikesh-249001  
Uttarakhand

**.....Petitioner**

**Vs**

1. Punjab State Power Corporation Ltd,  
The Mall, Patiala-147001
2. (a) Dakshin Haryana Bijili Vitaran Nigam Ltd,  
(b) Uttar Haryana Bijili Vitaran Nigam Ltd  
Shakti Bhawan, Sector – 6  
Panchkula – 134 109(Haryana)
3. Uttar Pradesh Power Corporation Ltd  
Shakti Bhavan, 14, Ashok Marg,  
Lucknow – 226001(Uttar Pradesh)
4. Delhi Transco Ltd,  
Shakthi Sadan, Kotla Road,  
New Delhi-110002



5. BSES-Rajdhani Power Ltd  
BSES Bhawan, Nehru Place,  
New Delhi – 110019

6. BSES-Yamuna Power Ltd.,  
Shakti Kiran Building,  
Karkardooma, Delhi- 110072

7. Tata Power Delhi Distribution Ltd.,  
Hudson Lines, Kingsway Camp,  
Delhi-110009

8. Engineering Department,  
Chandigarh Administration  
1st Floor, UT Secretariat, Sector, 9-D  
Chandigarh-160009

9. Uttarakhand Power Corporation Ltd,  
Urja Bhawan, Kanwali Road,  
Dehradun-248001(Uttarakhand)

10. Himachal Pradesh State Electricity Board,  
Vidut Bhavan, Kumar House  
Shimla-171004 (Himachal Pradesh)

11. Jaipur Vidyut Vitaran Nigam Ltd.,  
Vidut Bhavan, Janpath,  
Jyoti Nagar, Jaipur-302005(Rajasthan)  
12. Jodhpur Vidyut Vitaran Nigam Ltd.,  
New Power House,  
Industrial Area, Jodhpur-342003

13. Ajmer Vidyut Vitaran Nigam Ltd.,  
Vidut Bhavan, Janpath,  
Jyoti Nagar, Jaipur-302005(Rajasthan)

14. Power Development Department,  
Government of J& K,  
Civil Secretariat, -180001 (J&K)

**...Respondents**

### **ORDER**

Petition No. 250/2010 was filed by the petitioner for approval of tariff of Tehri Hydroelectric Power Project ('the generating station') for the period from 22.9.2006 to 31.3.2009 in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004 ('the 2004 Tariff

Regulations') and the Commission by its order dated 16.4.2013 approved the annual fixed charges of the generating station as under:

	(' in lakh)		
	2006-07	2007-08	2008-09
Depreciation	3456.41	13737.24	15115.72
Interest on Loan	8498.38	33701.09	37192.56
Return on Equity	7932.54	31421.89	33615.55
Advance against Depreciation	1651.14	9574.17	11664.26
Interest on Working Capital	592.61	2880.03	3190.63
O & M Expenses	2283.00	9045.00	10064.00
<b>Total</b>	<b>24414.07</b>	<b>100359.42</b>	<b>110842.71</b>

2. Aggrieved by the said order, the petitioner filed review application (R.P. No. 7/2013) on the following issues:

- (a) Debt-equity ratio,
- (b) Condonation of time overrun of 3 months,
- (c) Capital cost of the shared assets, and
- (d) Secondary energy benefits.

3. The Commission after hearing the parties, disposed of the said review application by order dated 7.1.2014. The findings of the Commission on the issues raised by the petitioner as above are summarised as under:

**(a) Debt - Equity Ratio**

"9.....Since the capital cost of a project is determined as on the date of commercial operation, it is appropriate that the debt equity ratio as on the COD is taken into consideration which is in conformity with clause (2) of Regulation 36 of the 2004 Tariff Regulations. Accordingly, in rectification of our order dated 16.4.2013, we allow the debt equity ratio of 60.70:39.30 to be considered as on COD of the generating station (9.7.2007) in terms of clause (2) of Regulation 36 of the 2004 Tariff Regulations read with the second proviso there under.

10. Secondly, the petitioner has submitted that the reference to additional capitalisation would necessarily imply all capital cost after the commercial operation date as per provisions of Regulation 34 of the 2004 Tariff Regulations. It has added that the capital cost upto the date of commercial operation is considered in Regulation 4 read with Regulation 33 of the 2004 Tariff Regulations and anything after the commercial operation is considered as additional capitalisation.....

11. We have decided in this order that the debt equity ratio of 60.70:39.30 as on COD would be applicable for apportioning the capital cost between debt and equity as on the COD. It follows as a natural corollary that any expenditure incurred after COD shall be considered as additional capital expenditure. As regards the servicing of the additional capital expenditure through debt or equity, we are of the view that the entire amount of additional capitalisation should be treated as loan so as to bring overall debt equity ratio closer to the debt equity of 70:30 during the period 2004-09. This is in line with the methodology adopted in respect of tariff orders pertaining to some of the hydro generating stations of NHPC for the period 2004-09. We order accordingly."

**(b) Condonation of Time Overrun of 3 months**

"17. ....We are of the view that the time lag between the date of commissioning and the date of commercial operation is for the reasons beyond the control of the petitioner. In consideration of the fact that the delay from the date of commissioning (19.3.2007) to the date of Commercial operation (9.7.2007) of Unit-I is for reasons beyond the control of the petitioner, we allow the prayer of the petitioner to condone the time overrun of 23 months and allow IDC upto the said date. We order accordingly."

**(c) Cost of Shared Assets**

"21. ....During the course of hearing held on 27.8.2013, the petitioner submitted that the methodology of apportioning the capital expenditure on common facilities like dam, spillways, etc. as adopted by the Commission was acceptable to it. According to the petitioner, however, upward revision of IDC is called for as IDC claimed in the petition had been worked out on the basis of capitalisation of expenditure on common facilities on the date of commercial operation of Unit No 1. The petitioner vide affidavit dated 18.9.2013 has submitted that the impact on IDC of such apportioning of the capital cost between the units, works out to `10409 lakh, but without submitting the details of calculation in support of its claim of increase in IDC. The petitioner's claim for upward revision of IDC cannot be taken as a ground for review of the impugned order."

**(d) Secondary Energy Benefits**

"25.....In line with the tariff regulations, the petitioner is entitled to Secondary Energy Charges for generation in excess of the design energy. The Commission has relaxed the design energies corresponding to level of reservoir filling i.e 815 m and 820 m approved by the State Government to enable the petitioner to recover energy charges/AFC. However, considering the fact that higher inflows than normal may allow generation of higher energy as compared to modified design energies, the secondary energy benefits/incentives were allowed only beyond the CEA approved design energy of 2797 MUs to provide relief to the beneficiaries who are already at disadvantageous position in terms of lower generation due to restricted level of reservoir filling. The view taken was a conscious decision. Therefore, the prayer of the petitioner for review of the impugned order is outside the scope of review."

4. Based on the above findings, the Commission in the said order dated 7.1.2014 observed as under:

"26. Accordingly, review petition is disposed of in terms of the above. Based on the directions contained in this order, the tariff of the generating station for the period from 22.9.2006 to 31.3.2009 shall be revised by a separate order."

5. Accordingly, in compliance with directions of the Commission in order dated 7.1.2014, the tariff for the generating station for the period from 22.9.2006 to 31.3.2009 is revised by this order as stated in the subsequent paragraphs:

**Revision of Capital Cost on account of IDC**

6. The Commission in its order dated 7.1.2014 had allowed the prayer of the petitioner for condonation of time overrun of 23 months and had accordingly allowed IDC. Based on this, IDC amounting to `1186.05 lakh from the date of commissioning (19.3.2007) to the date of Commercial operation (9.7.2007) of the generating station, which was earlier disallowed in order dated 16.4.2013 has been allowed up to the

date of commercial operation (9.7.2007). However, the same has been apportioned to the four units of the generating station. Based on this, the capital cost as on 9.7.2007 has been revised and allowed as detailed below:

(` in crore)

S.No.	Project Cost	Unit-IV	Unit-III	Unit-II	Unit-I
		22-9-2006	9-11-2006	30-3-2007	9-7-2007
<b>1</b>	<b>Hard Cost</b>				
a	Infrastructure Works	62.56	125.12	187.67	250.23
b	Major Civil Works	803.63	1607.27	2410.90	3214.53
c	Hydro Mechanical Equipments				
d	Plant & Equipment	309.38	524.72	740.01	911.45
e	Taxes and Duties	40.71	81.42	122.13	162.84
f	Construction & Pre-commissioning expenses	19.20	38.41	57.61	76.81
g	Overheads	545.36	1090.72	1636.08	2181.44
<b>2</b>	<b>Interest during construction (IDC)</b>				
a	IDC	296.51	593.03	889.54	1186.05
<b>3</b>	Less: Net off of balance (unadjusted advances and liabilities)	(-) 21.51	(-) 43.02	(-) 64.53	-86.04
<b>4</b>	<b>Total cost (1+2+3)</b>	2055.85	4017.65	5979.41	7897.31
<b>5</b>	<b>Irrigation Component</b>	346.78	693.56	1040.34	1387.12
<b>6</b>	<b>Total cost (Power Component) (4-5)</b>	1709.07	3324.09	4939.07	6510.19

7. Accordingly, the normative debt and equity is revised as under:

(` in lakh)

	As on COD (9.7.2007)
Debt	395168.53
Equity	255850.47
Total	651019.00

8. As on the date of commercial operation the normative equity considering the debt equity ratio of 60.70:39.30 works out to `255850.47 lakh as against the actual equity deployment of `255863.00 lakh as on COD. However, with the reduction of share capital, on account of transfer of transmission system to PGCIL for `278.00 lakh as on 31.3.2009, the actual equity shall be reduced to `255585.00 lakh as against the normative equity of `255850.47 lakh. Thus, the normative equity of `255850.47 lakh has been restricted to `255585.00 lakh as on 31.3.2009 with reduction in capital cost

### Debt Equity Ratio

9. As stated, the Commission in order dated 7.1.2014 had allowed the debt equity ratio of 60.70:39.30 as on COD in terms of clause (2) of Regulation 36 of the 2004 Tariff Regulations read with the second

proviso there under. Accordingly the normative debt and equity as on COD of each unit of the generating station has been computed as follows:

(` in lakh)

	Unit-IV	Unit-III	Unit-II	Unit-I
	22.9.2006	9.11.2006	30.3.2007	9.7.2007
Debt	103740.25	201772.26	299801.25	395168.53
Equity	67166.25	130636.74	194105.25	255850.47
<b>Total</b>	<b>170906.50</b>	<b>332409.00</b>	<b>493906.50</b>	<b>651019.00</b>

10. As regards the servicing of additional capital expenditure, the Commission in its order dated 7.1.2014 had observed that in line with the methodology adopted in respect of tariff orders pertaining to some of the hydro generating stations of NHPC for the period 2004-09, the entire amount of additional capitalisation should be treated as loan in order to bring overall debt equity ratio closer to the debt equity of 70:30 during the period 2004-09. In accordance with this finding, there is no change in the debt equity ratio in respect of the servicing of additional loan so far as Debt Equity Ratio on add cap is concerned.

### **Annual Fixed Charges**

11. In the above circumstances, the components of annual fixed charges as approved in order dated is revised as follows:

#### **(a) Depreciation**

(` in lakh)

	2006-07	2007-08	2008-09
Opening Gross block	493906.50	651019.00	656564.62
Add: Additional Capitalisation	0.00	5545.62	30184.42
Less: Adjustment due to Equity Restriction	0.00	0.00	265.48
Closing Gross block	493906.50	656564.62	686483.57
Average Gross block	493906.50	653791.81	671524.10
Value of Land	986.28	1315.04	1315.04
Rate of Depreciation	2.27%	2.27%	2.27%
Depreciable Value	443628.20	587229.09	603188.15
Remaining Depreciable Value at the beginning	438645.19	554160.94	601463.88
<b>Depreciation</b>	<b>3487.27</b>	<b>13862.27</b>	<b>15246.80</b>

#### **(b) Interest on Loan**

(` in lakh)

	2006-07	2007-08	2008-09
Gross Opening Loan	299801.25	395168.53	400714.15
Cumulative Repayment up to previous year	0.00	4983.01	27728.42
Net Loan-Opening	299801.25	390185.52	372985.73

Repayment during the year	4983.01	22745.41	26138.55
Add: Additional Capitalisation/drawal	0.00	5545.62	30184.42
Net Loan-Closing	294818.24	372985.73	377031.61
Average Loan	297309.74	381585.63	375008.67
Weighted Average Rate of Interest on Loan	9.00%	9.41%	9.69%
<b>Interest on loan</b>	<b>8290.19</b>	<b>32886.79</b>	<b>36337.71</b>

(c) **Return on Equity**

(` in lakh)

	2006-07	2007-08	2008-09
Opening Equity	194105.25	255850.47	255850.47
Add: Additional Capitalisation	0.00	0.00	0.00
Less: Adjustment due to Equity Restriction	0.00	0.00	265.47
Closing Equity	194105.25	255850.47	255850.00
Average Equity	194105.25	255850.47	255717.73
<b>Rate of Return on Equity</b>	<b>14%</b>	<b>14%</b>	<b>14%</b>
<b>Return on Equity</b>	<b>8450.62</b>	<b>33480.85</b>	<b>35800.48</b>

(d) **Advance against Depreciation**

(` in lakh)

	2006-07	2007-08	2008-09
1/10th of Gross Loan(s)	29980.12	39516.85	40071.42
Repayment of the Loan	4983.01	22745.41	26138.55
Minimum of the above	4983.01	22745.41	26138.55
Depreciation during the year	3487.27	13862.27	15246.80
(A) Difference	1495.74	8883.15	10891.75
Cumulative Repayment of the Loan	4983.01	27728.42	53866.97
Cumulative Depreciation	3487.27	18845.27	42975.22
(B) Difference	1495.74	8883.15	10891.75
<b>Advance against Depreciation Minimum of (A) and (B)</b>	<b>1495.74</b>	<b>8883.15</b>	<b>10891.75</b>

(e) **Interest on Working Capital**

(` in lakh)

	2006-07	2007-08	2008-09
Maintenance Spares	1535.92	6085.21	6795.14
O & M expenses	191.99	760.65	846.32
Receivables	4104.25	16857.42	18608.03
Total	5832.16	23703.28	26249.50
Rate of Interest on Working Capital	10.25%	12.25%	12.25%
<b>Interest on Working Capital</b>	<b>597.80</b>	<b>2903.65</b>	<b>3215.56</b>

(f) **O & M Expenses**

(` in lakh)

	2006-07	2007-08	2008-09
O & M Expenses	2303.88	9127.82	10155.90

## Annual Fixed Charges

12. Based on the above, the annual fixed charges of the generating station for the period from 22.9.2006 to 31.3.2009 is revised as under:

(` in lakh)

	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Depreciation	3487.27	13862.27	15246.80
Interest on Loan	8290.19	32886.79	36337.71
Return on Equity	8450.62	33480.85	35800.48
Advance against Depreciation	1495.74	8883.15	10891.75
Interest on Working Capital	597.80	2903.65	3215.56
O & M Expenses	2303.88	9127.82	10155.90
<b>Total</b>	<b>24625.49</b>	<b>101144.52</b>	<b>111648.20</b>

13. The petitioner shall claim the difference between the fixed charges approved vide order dated 25.3.2013 and this order, from the beneficiaries in three equal monthly instalments. The annual fixed charges determined by this order are however subject to the final decision of the Appellate Tribunal for Electricity in Appeal No. 103/2014 filed by the petitioner.

Sd/-  
**[A.K.Singhal]**  
Member

Sd/-  
**[M. Deena Dayalan]**  
Member

Sd/-  
**[Gireesh B.Pradhan]**  
Chairperson