

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Coram**

1. Shri R.Krishnamoorthy, Member
2. Shri S.Jayaraman, Member
3. Shri V.S.Verma, Member

**Petition No.72/2009**

**In the matter of**

Determination of generation tariff in respect of Dulhasti Hydroelectric Project  
(3x 130 MW) for the period 7.4.2007 to 31.3.2009.

**And in the matter of**

NHPC Ltd.

Vs

**...Petitioner**

1. Punjab State Electricity Board, Patiala
2. Haryana Power Generation Corporation Ltd., Panchkula
3. Uttar Pradesh Power Corporation Ltd, Lucknow
4. BSES-Yamuna Power Ltd, New Delhi
5. North Delhi Power Ltd, Delhi
6. BSES-Rajdhani Power Ltd, New Delhi
7. Rajasthan Rajya Vidyut Prasaran Nigam Ltd, Jaipur
8. Jaipur Vidyut Vitaran Nigam Ltd, Jaipur
9. Uttarakhand Power Corporation of Ltd, Dehradun
10. Jodhpur Vidyut Vitaran Nigam Ltd, Jodhpur
11. Ajmer Vidyut Vitaran Nigam Ltd, Ajmer
12. Engineering Deptt, UT Secretariat, Chandigarh
13. Power Development Deptt, Govt of J&K, Srinagar

**...Respondents**

**The following were present:**

1. Shri Prashant Kaul, NHPC
2. Shri M.S.Babu, NHPC
3. Shri S.K.Meena, NHPC
4. Shri Ansuman Roy, NHPC
5. Ms. Ritu Agarwal, NHPC
6. Ms. Reshma Hemarajan, NHPC
7. Shri M.M.Mishra, NHPC
8. Shri N.K.Chadha, NHPC

**ORDER**  
**(DATE OF HEARING: 24.9.2009)**

This petition has been filed by the petitioner, NHPC for determination of generation tariff in respect of Dulhasti HE Project (3x 130 MW) (hereinafter referred to as “the generating station”) for the period 7.4.2007 to 31.3.2009 based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004, (hereinafter referred to as “the 2004 regulations”).

2. The generating station is a peaking type run-of-river with pondage located in the State of Jammu and Kashmir. The generating station comprises of 3 units of 130 MW each with annual design energy of 1907 MUs and 12% of the electricity generated is supplied to the State of J&K as free power. All the three units of the generating station had been declared under commercial operation on 7.4.2007.

3. The Commission by its order dated 20.3.2007 in Petition No.141/2006 had approved the provisional tariff from the date of commercial operation of the generating station on “Back loaded Tariff Model” formulated by the petitioner, as under:

*“5. In view of the general consensus between the petitioner and the respondents, we accept the provisional composite rate of Rs 3 per unit from the date of commercial operation of the generating station. Accordingly, we approve the provisional Annual Fixed Charges of Rs. 497.40 crore up to 31.3.2008, corresponding to saleable design energy of 1658 MUs. The primary energy charge shall be recovered based on primary energy rate derived from the lowest variable charge of Central Sector Thermal Stations of the Northern Region for the year 2006-07 and saleable annual design energy of 1658 MUs. The balance amount shall be recovered as capacity charge.*

*6. In case the commercial operation declaration of the generating units is staggered, the Annual Fixed Charges shall be recoverable on pro-rata basis.*

*7. All the payments made in terms of this order shall be subject to final determination of tariff by the Commission based on a separate petition to be filled by the petitioner after commercial operation of all the three units”.*

4. Subsequently, the Commission by its order dated 28.3.2008 extended the provisional tariff of the generating station up to 31.3.2009, subject to adjustment of final tariff. Hence, the present petition has been filed for determination of final tariff.

5. The details of the fixed charges claimed by the petitioner in the present petition are given hereunder:

Particulars	(Rs in lakh)	
	7.4.2007 to 31.3.2008	2008-09
Depreciation	14428.18	14668.65
Interest on Loan	23873.17	22224.57
Return on Equity	27357.65	27813.61
Advance Against Depreciation	0.00	9087.15
Interest on Working Capital	2235.69	2467.78
O&M Expenses	7565.17	7998.91
<b>Total</b>	<b>75459.86</b>	<b>84260.67</b>

6. The details of working capital claimed by the petitioner are given hereunder:

Period	(Rs in lakh)	
	7.4.2007 to 31.3.2008	2008-09
Spares	5127.51	5435.16
O&M expenses	640.94	666.58
Receivables	12786.25	14043.45
Total Working Capital	18554.70	20145.18
Rate of Interest	12.25%	12.25%
<b>Interest (annualized)</b>	<b>2272.95</b>	<b>2467.78</b>

7. Reply to the petition has been filed by the respondents NDPL, JVVNL, JoVVNL and AVVNL.

#### **Delay in completion of the Project**

8. The original capital cost of the generating station, as approved by the Government of India by its letter dated 12.7.1989 was Rs.126297 lakh including IDC of Rs.9620 lakh, at October 1988 price level with the scheduled date of completion as

March, 2001. The project cost was revised by the Government of India by its letter dated 29.10.1997 to Rs.355977 lakh (RCE-I) including IDC of Rs.97563 lakh, at November 1996 price level with the scheduled date of completion as December 2003. Subsequently, it was further revised to Rs.522849 lakh at March 1997 price level with the scheduled date of completion as March 2007. Thus, there has been a cost over-run of Rs. 396552 lakh and a time over-run of 72 months in the commissioning of the generating station.

9. The petitioner was directed by the Commission during the hearing on 7.7.2009 to submit the reasons for the cost and time over-run in respect of the stage-wise completion of work, up to the date of commercial operation of the generating station. The petitioner by its affidavit dated 19.8.2009 has explained the reasons for the cost and time over-run which are summarized as under:

Sl. NO.	Particulars	Original Approval (12.7.1989) (Price Level Oct.1988)	RCE-I (29.10.1997) (Price Level Nov. 1996)	Difference		RCE -II (22.8.2008) (Price Level March 1997)	Difference		As on date of commercial operation (7.4.2007)	Difference	
				Amount	(%)		Amount	(%)		Amount	(%)
1	Date of approval	July 1989	Oct. 1997			Aug. 2008			April 2007		
2(a)	Completion Schedule	March 2001	Dec. 2003			March 2007					
2(b)	Approved cost	126297	355977	229680	181.86%	5228.49	166872	46.88%	512751	(-) 10098	1.93%
3	Time Overrun										
a)	Actual date of commercial operation										
b)	Actual Time Over Run										
4	<b>Cost Over run</b>										
1	Price level	Oct. 1988	Nov. 1996			March 1997					
2(a)	Hard cost	116677	258414	141737	121.48%	326615	68201	26.39%	316533	(-)100.82	3.09%
2(b)	Exchange Rate Variation					19355	19355		18614	(-) 7.41	3.83%
2(c)	IDC & FC	962	975.63	87943	914.17%	176879	79316	81.30%	177600	(-) 7.21	0.41%
2(d)	Total	126297	355977	229680	181.86%	522849	166872	46.88%	512751	(-) 101	1.93%

**From March 2001 to December 2003 (Original approval to RCE-I):**

**(A) Cost over-run**

10. As stated above, the original project cost of Rs.126297 lakh, including IDC of Rs.9620 lakh was sanctioned by the Govt. of India by its letter dated 12.7.1989 which was subsequently revised to Rs.355977 lakh including IDC of Rs.97563 lakh by the Govt. of India by its letter dated 29.10.1997. The element wise variation between the original project cost and the Revised Cost Estimate (RCE-I) is as under:

(Rs in lakh)

Sl. No.	Head of Works	As per GOI approval dtd 12/07/89 (PL_Oct.88)	As per GOI approval dtd 29/10/97 (PL_Nov 96)	Variation	
		1	2	3=(2-1)	%
i	Planning/Design	3852	7998	4146	107.63
ii	Civil works including equipments	70775	127961	57186	80.80
iii	HEM works	23071	56835	33764	146.35
v	Duties/Taxes	10479	20528	10049	95.90
vi	NHPC expenditure.	8500	42412	33912	398.96
vii	Other additional liabilities (electronics charges)	-	2680	2680	
a)	<b>Total Hard Cost (excluding ERV)</b>	<b>116677</b>	<b>258414</b>	<b>141737</b>	<b>121.48</b>
	ERV on loans	-	-	-	
b)	<b>Total Hard cost (including ERV)</b>	<b>116677</b>	<b>258414</b>	<b>141737</b>	<b>121.48</b>
	IDC	9620	97563	87943	914.17
	<b>Total Cost</b>	<b>126297</b>	<b>355977</b>	<b>229680</b>	<b>181.86</b>

11. The major reasons for the cost over-run are as under:

(a) **Exchange Rate Variation (ERV):** An increase of an amount of Rs.40259 lakh since the Oct 1988 price level was on account of appreciation of the foreign currency estimates. The variation in the exchange rates over the years, are as under:

Currency	At the time of offer (11/96 PL)	Revised Cost Estimate (10/88 PL)
1 Franc	Rs 2.4570	7.010
1 Yen	Rs 0.1182	0.3147

(b) **Price Escalation:** An increase of an amount of Rs.5560 lakh was on account of price escalation, comprising of Rs 4401 lakh in respect of the consortia works and the balance amount of Rs.1159 lakh in respect of other works of the generating station.

(c) **Statutory compliances:** There has been an increase of Rs. 10049 lakh on account of statutory compliances, such as Rs. 5624 lakh on account of duties on equipments and material etc, Rs. 3277 lakh on account of income tax on expatriates, corporate tax and Rs. 1148 lakh and on account of J&K taxes, on works.

(d) **Other reasons:**

(i) **Change in scope:** There has been an increase of Rs.6092 lakh on account of accommodation for CISF, CISF establishment expenditure, electrical substation equipments / installation for construction power, other miscellaneous works taken up departmentally after the suspension / rescission of main civil works by M/s DSB.

(ii) **Addition / Deletion:** An increase of an amount Rs.50785 lakh on account of extra payment liabilities for the planning and design works, electrical and mechanical works, civil works, land development works, internal roads etc and other miscellaneous works.

(iii) **Under/Over-estimation:** An increase of an amount of Rs. 28664 lakh on account of the construction of main and subsidiary log booms, reservoir rim treatment works, construction of residential and non-residential accommodation, widening/improvement of National Highway-IB and other project roads.

(iv) Increase of Rs. 327 lakh on percentage basis.

(e) **Interest During Construction (IDC):** An amount of Rs. 87943 lakh towards IDC was on account of the increase in loan due to the exchange rate variation for off-shore component, the high rate of interest on loans borrowed from market and the extension of the construction period of the project.

**(B) Time over-run**

12. The major reasons for time over-run of about 33 months are as under:

(a) Treatment of geological hurdles in head race tunnel;

(i) Tunneling of HRT (upstream side) has been done with TBM from RD 1683m to RD 2468m and during tunneling some of the sections encountered severe geological hurdles. For tunneling, treatment of location was done which resulted in the delay of 8 months and 8 days.

(b) Rock collapse / burst ahead of tunnel boring machine (TBM) leading to blocking of tunnel and the rest of the works had to be completed through drill blasting method (9 months);

(i) Rock collapse occurred ahead of TBM at RD 2863m on 29.6.1999 resulting in a cavity formation. The cavity formation was treated with the help of foreign experts from France, Romania and Belgium. Despite the treatment, rock burst took place ahead of TBM on 21.2.2000 and buried the TBM. Balance tunneling was undertaken by Drill Blast Method (DBM) from both upstream and downstream side after bypassing the TBM, which resulted in the delay of 9 months.

(c) Frequent breakdown of the tunnel boring machine;

- (i) TBM which was inducted by the French contractor in the year 1989 was handed over by the petitioner to M/s JSA (JV) on "as is where is" basis. The refurbishment of TBM was done on the advice of international experts to improve performance. Boring of upstream of head race tunnel with TBM was a contractual and its frequent breakdown resulted in the delay of 7 months and 22 days.

(d) Problems in the HRT downstream, related to seepage and ingress of water;

(e) Other reasons (8 months)

- (i) Killings and kidnappings by militants and cross firing with security forces;
- (ii) Law and order problems and night curfews leading to road blockages;
- (iii) Adverse weather conditions (rainfall and snowfall); and
- (iv) Transporters and labour strike; and
- (v) Power failure.

**(C) Standing Committee Report**

13. A Standing Committee was constituted by the Govt. of India, MoP vide Office Memo No. G-35011 / 20 / 98-Fin dated 7.9.1998 for fixing responsibility for the time and cost overrun involved in the generating station which was subsequently re-constituted in accordance with the Office Memo No. G-35011/20/98-Fin dated 28.1.2000. The report of the Standing Committee was circulated by the Govt. of India vide Letter No. 28012/7/2002-Fin dated 18.11.2002. The Committee, in para no.7 of the report had observed as under:

*"7. Finding & Recommendations*

*7.1 The time overrun of 33 months has been basically due to adverse geological conditions at the project site, compounded by the adverse security environment, poor road conditions and transport delays.*

*7.2 Approximately 77% of the cost overrun is due to price escalation, statutory levies, exchange rate variation and increase in IDC. The balance cost increase is due to additional payment to contractors of supply and erection contracts to continue their obligations till completion of project packages, Change*



over from TBM to DBM for 4.018 km of balance HRT, and increase in establishment charges during the extended period of the project.

7.3 The Committee suggests that NHPC should provide monthly targets for critical activities of Dulhasti Project, which should be monitored every month to ensure that there is no further slippage beyond December, 2003.

7.4 The Committee is of the opinion that the reasons for time & cost overrun were beyond the control of NHPC and as such, NHPC or any of its employee cannot be held responsible for the same.”

**From January 2004 to March 2007 (RCE-I to RCE-II):**

**(A) Cost over-run**

14. As stated above, the Revised Cost Estimate (RCE-I) amounting to Rs.355977 lakh including IDC of Rs.97563 lakh was revised to Rs.522849 lakh including IDC of Rs.176879 lakh by the Govt. of India by its letter dated 22.8.2008. The element wise variation between the RCE-I and RCE-II is as under:

(Rs in lakh)

Sl. No.	Head of Works	As per GOI approval dated 29.10.1997 (PL_Nov'96)	As per GOI approval dated 22.8.2008 (PL_Mar '07)	Variation with respect to GOI approval at PL November 1996	
					%
i	Planning/Design	7998	8326	328	4.10%
ii	Civil works incl. equipments	127961	134670	6709	5.24%
iii	HEM works	56835	76435	19600	34.49%
v	Duties/Taxes	20528	23999	3.71	16.91%
vi	NHPC expenditure.	42412	83185	40773	96.13%
vii	Other additional liabilities (electronics charges)	2680	-	(-) 2680	100.00%
a)	Total hard cost (excluding ERV)	258414	326615	68201	26.39%
	ERV on loans	-	19355	19355	
b)	Total hard cost (including ERV)	258414	345970	87556	33.88%
	IDC	97563	176879	79316	81.30%
	<b>Total Cost</b>	<b>355977</b>	<b>522849</b>	<b>166872</b>	<b>46.88%</b>

15. The major reasons for the cost over-run are as under:

**Reasons for increase in cost from Rs.355977 lakh (Nov 1996 price level) to Rs.422792 lakh (Nov 2001 price level)**

- (a) **Exchange Rate Variation (ERV):** An increase of an amount of Rs.4049 lakh since the November 1996 price level was on account of the appreciation of foreign currency estimates, such as Franc (French), Yen (Japan) and Dollar (US).
- (b) **Price escalation:** The escalation in price was on account of the increase in the cost of the construction materials, construction equipments, and labour charges etc. The price escalation has been worked out on the basis of formula specified in the contract which had taken into account the Wholesale Price Index (WPI) and the All India Consumer Price Index. The total increase on account of price escalation works out to Rs.15496 lakh against the Revised Cost Estimate at the November, 1996 price level.
- (c) **Statutory duties and taxes:** There has been an increase of an amount of Rs.4526 lakh on account of statutory compliances such as the payment of custom duties on the equipments of M/s DSB, sales tax liabilities on the equipments received from M/s DSB, income tax on expatriates', salaries and corporate taxes etc.
- (d) **Additional expenditure on account of the extension of supply and erection contract, security and establishment charges, dewatering etc.**
- (a) An increase of Rs.10401 lakh against the November, 1996 price level was attributable to the additional payment on account of the extension of supply and erection contracts, additional payments to contractors in order to continue the works till the completion of the

project, additional provision for lifts, water supply schemes for the project township and for improvement of kishtwar-dul road etc;

(b) An increase of Rs.15923 lakh against the November, 1996 price level was attributable to the effect of the change in methodology of tunneling, on account of the CISF security arrangements, establishment charges on account of the extension of the period of the project, and the construction of log boom, reservoir rim treatment etc;

(c) A reduction of Rs.11072 lakh against the November, 1996 price level was attributable to the payments made to M/s DSB on account of assets taken over from JSA-JV, electricity charges etc.

(e) **Interest During Construction (IDC):** There has been an increase in the IDC amounting to Rs.27492 lakh with respect to the November, 1996 price level on account of further extension of the construction period of the project.

**Reasons for the increase in cost from Rs.422792 lakh (Nov 2001 price level) to Rs 522849 lakh (March 2007 price level)**

(a) **Exchange Rate Variation (ERV):** An increase of an amount of Rs. 19855 lakh since the November 2001 price level was on account of the appreciation of foreign currency such as Franc (French), Yen (Japan) and Dollar (US).

(b) **Price escalation:** The escalation in price was on account of the increase in the cost of construction materials, construction equipments, labour charges etc. The price escalation has been worked out on the basis of formula specified in the contract which had taken into account the Wholesale Price

Index (WPI) and the All India Consumer Price Index. The total increase towards price escalation works out to Rs.4012 lakh against the Revised Cost Estimate at November, 2001, price level.

(c) **Statutory duties and taxes:** There has been a decrease of Rs.1055 lakh against the Revised Cost Estimate of Nov.2001 PL, as the sales tax liabilities on M/s DSB had been removed.

(d) **Additional expenditure due to extension of supply and erection contract, security and establishment charges, dewatering etc:** An increase of an amount of Rs.25420 lakh against the November, 2001 price level was attributable to the additional payments made on account of the extension of the supply and erection contracts, for the preservation of equipments and to continue the works till the completion of project, costs on account of providing CISF security during the extended period of contract, the establishment charges during the extended period of the project and the increase in the concreting and dewatering etc.

(e) **Interest During Construction (IDC):** There has been an increase in IDC amounting to Rs.51824 lakh with respect to the November 2001 price level on account of the extension of the period construction period of the project.

**(B) Time overrun**

16. The major reasons for the time over-run of 39 months are as under:

(a) Delays on account of poor geological conditions on the downstream side of the HRT during excavation by drill and blast method (DBM) (20 months 22 days);

- (i) Seven major cavities and shear zones were encountered between RD 4710m and 6305m after March 2001 which took 478 days to negotiate successfully. The geological conditions of the shear zone encountered from downstream side were severe as most of the shear zones were charged with water which delayed the project by 20 months and 22 days.
- (b) Road blockages;
- (c) Adverse weather conditions;
- (d) Disruption of power supply and completion of works like dam filling adversely affecting the progress of the construction work (4 months);
- (e) Adverse law and order condition; and
- (f) Strikes and labour problems for 19 months.

**(C) Standing Committee Report**

17. A Standing Committee was constituted by the Govt. of India vide Office Memo No. 35011/20/98-Fin dated 1.6.2005 for fixing the responsibility for the time and cost over-run. The report of the Standing Committee's was circulated by the Govt. of India vide Letter No. 2/3/2005-DO (NHPC) dated 4.8.2005. The Committee, in para no.7 of its report had observed as under:

*"7.0 Findings and Recommendations.*

*7.1.1 The rock and groundwater conditions encountered were much more severe than what was anticipated after burial of TBM. Variation in rock characteristics, existence of cavities/shear zones charged under high water pressure filled with crushed material, acute ventilation problem resulted in achievement of less than anticipated progress and many times the progress was stopped / hampered due to presence of cavities/sheer zones. Due to the above and coupled with the ventilation problem, hindrance in activities, labour problems, the targets mentioned in the ATR could not be achieved.*

*7.1.2 The time over run of 39 months has been basically due to adverse geological conditions at the project site compounded by adverse security environment, poor road condition and labour problems.*

*7.1.3 Approximately 75.31% of the cost over- run is due to price escalation, statutory levies, exchange rate variation and increase in IDC. The balance cost increase is due to additional payment to contractors of supply and erection contracts to continue their obligations till completion of project packages, increase in establishment charges, cost of security during the extension period of the project.*

*7.1.4 The Committee is of the opinion that the reasons for time and cost over-run were beyond the control of NHPC and as such NHPC or its employees cannot be held responsible for the same."*

18. Keeping in view the reports of the Standing Committee and the Revised Cost Estimates (I &II) approved by the Govt. of India, and the justification submitted by the

petitioner, as above, we are of the view that the time taken and the costs incurred for the completion of the generating station was on account of circumstances which were beyond the control of the petitioner for which the petitioner could not be made responsible. Hence, accepted.

### Capital cost on the date of commercial operation

19. Clause 33 of the 2004 Regulations provides as under:

*"Subject to prudence check by the Commission, the actual expenditure incurred on completion of the project shall form the basis for determination of final tariff. The final tariff shall be determined based on the admitted capital expenditure actually incurred up to the date of commercial operation of the generating station and shall include initial capital spares subject to a ceiling norm of 1.5% of the original project cost as on the cut off date. Provided further that where the power purchase agreement entered into between the generating company and the beneficiaries provides a ceiling of actual expenditure, the capital expenditure shall not exceed such ceiling for determination of tariff.*

*In case of existing generating stations, the project cost admitted by the Commission prior to 1.4.2004 shall form the basis for determination of tariff."*

20. The date of commercial operation of the generating station is 7.4.2007 and the actual project cost as on the date of commercial operation of the generating station is Rs.512751 lakh. The element wise variation between the project cost as on 6.4.2007 and Revised Cost Estimate (RCE-II) is as under:

(Rs in lakh)					
Sl. No.	Head of Works	As per GOI approval dated 22.8.2008 (PL_Mar 2007)	Cost on date of commercial operation	Variation with respect to GOI approval at Mar 2007 PL	
i	Planning/Design	8326	8388	62	0.74%
ii	Civil works incl. equipments	134670	134869	199	0.15%
iii	HEM works	76435	75503	(-) 932	(-) 1.22%
v	Duties/Taxes	23999	15890	(-) 8109	(-) 33.79%
vi	NHPC expenses.	83185	81883	(-) 1302	(-) 1.56%
vii	Other additional liabilities (Electronics charges)	-	-	-	
a)	Total Hard cost (excluding ERV)	326615	316533	(-) 10082	(-) 3.09%
	ERV on loans	19355	8614	(-) 741	(-) 3.83%
b)	Total Hard cost (including ERV)	345970	335147	(-) 10823	(-) 3.13%
	IDC	176879	177600	721	0.41%
	<b>Total Cost</b>	<b>522849</b>	<b>512751</b>	<b>(-) 10098</b>	<b>(-) 1.93%</b>

**Initial spares**

21. As per the Regulation 33 of the 2004 regulations, final tariff of a generating station shall be determined based on the admitted capital expenditure incurred up to COD of the station and shall include initial capital spares subject to ceiling norm of 1.5% of the original project cost as on cut off date.

22. The petitioner has not furnished the details indicating the cost of initial spares included in the capital cost as on the date of commercial operation. Hence, not considered.

**Infirm power**

23. The petitioner by its affidavit dated 19.8.2009 has submitted that an amount of Rs 435 lakh earned from the sale of infirm power had been deducted from the books of accounts in order to arrive at the gross block of Rs.512751 lakh. This has been considered.

**FERV**

24. The petitioner has submitted that the capital cost of Rs.512750.64 lakh includes an amount of Rs.18614.40 lakh on account of FERV. This is found to be in order and hence considered.

**IDC and Financing charges**

25. The capital cost of Rs.512750.64 lakh includes an amount of Rs.163175.21 lakh incurred on account of interest during construction and Rs.14429.26 lakh towards loan financing charges. Thus, the total expenditure incurred on the payment of interest during construction and financing charges amounts to Rs.177604.47 lakh.

The petitioner has deployed equity of more than 30% during the construction period and on prudence check, is found to be in order.

### Capital Cost

26. In view of our decision in the preceding paragraphs, we allow the following capital cost as on 7.4.2007 for the purpose of tariff:

	<b>Amount (Rs in lakh)</b>	
Total hard cost		<b>316531.77</b>
FERV		18614.40
Total hard cost including FERV		335146.17
IDC	163175.21	
FC	14429.26	177604.47
<b>Total capital cost including FERV, IDC and FC</b>		<b>512750.64</b>

### Un-discharged Liabilities

27. The petitioner, in Annexure to Form-I of the petition has submitted that there is an un-discharged liability of Rs.4901.27 lakh as on the date of commercial operation of the generating station. Accordingly, the capital cost considered for the purpose of tariff, as on 7.4.2007, is as under:

(Rs. in lakh)	
<b>Particulars</b>	<b>Amount</b>
Capital cost (prior to adjustment of un-discharged liability)	512750.64
Un-discharged liability as on date of commercial operation	4901.27
<b>Capital Cost</b> (after adjustment of un-discharged liability)	<b>507849.37</b>

### Debt Equity Ratio

28. Clause 2 of Regulation 36 of the Tariff Regulations, 2004, as amended, provides as follows:

*“(2) In case of the generating stations for which investment approval was accorded prior to 1.4.2004 and which are likely to be declared under commercial operation during the period 1.4.2004 to 31.3.2009, debt and equity in the ratio of 70:30 shall be considered:*



*Provided that where equity actually employed to finance the project is less than 30%, the actual debt and equity shall be considered for determination of tariff:*

*Provided further that the Commission may in appropriate cases consider equity higher than 30% for determination of tariff, where the generating company is able to establish to the satisfaction of the Commission that deployment of equity higher than 30% was in the interest of general public".*

29. The original project cost approved by the Govt. of India, in July, 1989 was Rs.126297 lakh including IDC of Rs.9620 lakh and the project was to be executed with external bilateral assistance on a turn-key basis. Subsequently, the project cost was revised to Rs.355977 lakh including IDC of Rs.97563 lakh by Govt of India, during October, 1997 (RCE-I). The expenditure incurred by the petitioner was partly through the budgetary support of the Govt. of India in the form of equity not exceeding 50% of the project cost, and partly through government loans/market borrowings, thereby causing a debt-equity ratio of 50:50. The revised cost estimate (RCE-II) approved by Govt. of India during August 2008, was Rs.522849 lakh including IDC of Rs.176879 lakh and the equity amount was frozen to Rs.198669 lakh, which works out to 38% of the RCE-II.

30. The approved financing pattern as per RCE-II is as under:

S. No	Source	Amount (Rs. in lakh)	Ratio
1	Equity	198669	38%
2	Debt		
a	Bonds	32000	
b	Term loans	239967	
c	Foreign Loan	52213	
d	Total Debt	324180	62%
3	Total cost	522849	100%

31. The petitioner, in Form-6 of the petition, has submitted the financing pattern as on the date of commercial operation, as under:

Sl. no	Source	Amount (Rs. in lakh)
1	<b>Debt</b>	
a	Bonds	32000.00
b	Domestic loans	206000.00
c	Foreign Loan	53809.88
		<b>291809.88</b>
2	<b>Equity</b>	<b>198668.67</b>
3	<b>IR</b>	
a	Misc.	270.82
b	For LIC loan	17100.00
		<b>17370.82</b>
	<b>Total</b>	<b>507849.37</b>
4	Undischarged liability	4901.27
	<b>Total Cost</b>	<b>512750.64</b>

32. The petitioner has considered the approved equity of Rs.198669 lakh in its calculation for the purpose of tariff. The petitioner has also submitted that the work of the generating station had often suffered set-backs on account of worst geological conditions and militant activities and that some of the foreign contractors had abandoned the work of the generating station on account of its engineers being kidnapped. It was submitted that the investors were not willing to invest in the form of loan and hence in the interest of the consumers and the nation as a whole, the Govt. of India and the petitioner had to make huge investments in the form of equity to complete the project.

30. The respondents NDPL and JOVVNL have objected to the claim of the petitioner and submitted that the debt-equity ratio of 70:30 should be considered as per the 2004 regulations.

31. The details of the capital deployed in respect of the generating station is as under:

	Debt		Equity		Total Capital
	Total Debt	Debt (%)	Equity	Equity (%)	
1982-83		0%	4	100%	4.00
1983-84		0%	13	100%	13.00
1984-85		0%	26.8	100%	26.80
1985-86		0%	45.38	100%	45.38
1986-87		0%	59.46	100%	59.46
1987-88	6.95	9%	70.19	91%	77.14
1988-89	14.27	15%	80.86	85%	95.13
1989-90	80.27	29%	200.86	71%	281.13
1990-91	80.27	18%	372.56	82%	452.83
1991-92	134.74	23%	447.56	77%	582.30
1992-93	237.05	30%	542.56	70%	779.61
1993-94	345.23	38%	564.06	62%	909.29
1994-95	355.11	37%	598.96	63%	954.07
1995-96	553.00	48%	598.96	52%	1151.96
1996-97	810.76	57%	613.96	43%	1424.72
1997-98	842.37	47%	936.96	53%	1779.33
1998-99	933.33	43%	1225.22	57%	2158.55
1999-00	1135.80	43%	1488.52	57%	2624.32
2000-01	1161.57	40%	1749.52	60%	2911.09
2001-02	1320.16	40%	1978.18	60%	3298.34
2002-03	1909.34	49%	1986.69	51%	3896.03
2003-04	2472.64	55%	1986.69	45%	4459.33
2004-05	2333.28	54%	1986.69	46%	4319.97
2005-06	2836.15	59%	1986.69	41%	4822.84
2006-07	2925.50	60%	1986.69	40%	4912.19
2007-08	2918.10	59%	1986.69	41%	4904.79

32. Proviso to clause (2) of Regulation 36 of the 2004 regulations provides that the Commission in appropriate cases could consider equity higher than 30% if the generating station is able to establish to the satisfaction of the Commission that the deployment of equity higher than 30% was in the interest of general public.

33. It is observed from the above table that during the years from 1982 to 1987, 100% of the capital employed in the generating station has been in the form of equity, and during the years 1987 to 1995 more than 60% of the capital employed has been in the form of equity. During the years 1995 to 2003 more than 50% of the capital employed has been in the form of equity. Thus huge savings in the form of interest during construction has brought about reduction in the capital cost of the generating station thereby benefitting the respondent consumers. In view of the above, the equity amount of Rs.198668.67 lakh as on the date of commercial operation of the generating station is considered for the purpose of tariff. The debt-equity ratio, as approved in RCE-II works out to 68:32 corresponding to the capital cost of Rs. 522849.00 lakh with equity frozen at Rs. 198668.67 lakh.

34. The amount of debt and equity as on 7.4.2007, considered for the purpose of tariff, is as under:

(Rs in lakh)	
Debt	309180.70
Equity	198668.67
Total	507849.37

### **Return on Equity**

35. As per clause (iii) of Regulation 38 of the 2004 regulations, return on equity shall be computed on the equity base determined in accordance with regulation 36 @ 14% per annum. Equity invested in foreign currency is to be allowed a return in the same currency and the payment on this account is made in Indian Rupees based on the exchange rate prevailing on the due date of billing.

36. Return on equity is calculated @ 14% as under:

(Rs in lakh)

<b>Return on Equity</b>	<b>7.4.2007 to 31.3.2008</b>	<b>2008-09</b>
Opening Equity	198668.67	198668.67
Additions due to additional capitalization	0.00	0.00
Closing equity	198668.67	198668.67
Average equity	198668.67	198668.67
<b>Return on Equity</b>	<b>27357.65</b>	<b>27813.61</b>

## Interest on Loan

35. Clause (i) of Regulation 38 of the 2004 regulations provides as under:

- (a) *Interest on loan capital shall be computed loan wise on the loans arrived at in the manner indicated in Regulation 36;*
- (b) *The loan outstanding as on 1.4.2004 shall be worked out as the gross loan in accordance with Regulation 36 minus cumulative repayment as admitted by the Commission or any other authority having power to do so, up to 31.3.2004. The repayment for the period 2004-09 shall be worked out on a normative basis;*
- (c) *The generating company shall make every effort to re-finance the loan as long as it results in net benefit to the beneficiaries. The costs associated with such re-financing shall be borne by the beneficiaries;*
- (d) *The changes to the loan terms and conditions shall be reflected from the date of such re-financing and benefit passed on to the beneficiaries;*
- (e) *In case of dispute, any of the parties may approach the Commission with proper application. However, the beneficiaries shall not withhold any payment ordered by the Commission to the generating company during pendency of any dispute relating to re-financing of loan;*
- (f) *In case any moratorium period is availed of by the generating company, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly;*
- (g) *The generating company shall not make any profit on account of re-financing of loan and interest on loan;*
- (h) *The generating company may, at its discretion, swap loans having floating rate of interest with loans having fixed rate of interest, or vice-versa, at its own cost, and gains or losses as a result of such swapping shall accrue to the generating company;*

*Provided that the beneficiaries shall be liable to pay interest for the loans initially contracted, whether on floating or fixed rate of interest.*

36. The interest on loan has been calculated out as per details given below:

- (i) The loan outstanding as on 7.4.2007 amounting to Rs. 314866.61 lakh has been worked out as the gross loan in accordance with Regulation 36.

(ii) The financing charges against foreign loans have been considered in the calculation of weighted average rate of interest.

(iii) On the basis of actual rate of interest considered on the yearly average loan, the weighted rate of interest on average loan has been worked out and applied on the normative average loan during the year.

37. The necessary calculations in support of weighted average rate of interest on loan are as under:

Particulars	(Rs in lakh)		
	2007-08 (1.4.2007 to 6.4.2007)	2007-08 (7.4.2007 to 31.3.2008)	2008-09
<b>O-Series #</b>			
Gross loan - Opening	32000	32000	32000
Cumulative repayments of loans upto previous year	0	0	0
Net loan - Opening	32000	32000	32000
Add: Drawl(s) during the Year	0	0	19532.59
Adjusted due to ERV			
Less: Repayment (s) of Loans during the year	0	0	5153.259
Net loan - Closing	32000	32000	46379
Average Net Loan	32000	32000	39189.67
Rate of Interest on Loan	7.70%	7.70%	7.70%
Interest on loan	40.62	2423.38	2805.12
Financing Charges	-	-	-
<b>Indian Bank</b>			
Gross loan - Opening	10000.00	10000.00	10000.00
Cumulative repayments of loans upto previous year	0.00	0.00	0.00
Net loan - Opening	10000.00	10000.00	10000.00
Add: Drawl(s) during the Year	0.00	0.00	0.00
Adjusted due to ERV			
Less: Repayment (s) of loans during the year	0.00	0.00	0.00
Net loan - Closing	10000.00	10000.00	10000.00
Average Net Loan	10000.00	10000.00	10000.00
Rate of Interest on loan	7.70%	7.70%	7.70%
Interest on loan	12.66	759.45	770.00
Financing Charges	-	-	-
<b>Canara Bank</b>			

Gross loan - Opening	20000.00	20000.00	20000.00
Cumulative repayments of loans upto previous year	0.00	0.00	2000.00
Net loan - Opening	20000.00	20000.00	18000.00
Add: Drawl(s) during the Year	0.00	0.00	0.00
Adjusted due to ERV			
Less: Repayment (s) of loans during the year	0.00	2000.00	2000.00
Net loan - Closing	20000.00	18000.00	16000.00
Average Net Loan	20000.00	19000.00	17000.00
Rate of Interest on Loan	6.86%	6.86%	6.86%
Interest on loan	22.55	1299.08	1181.42
Financing Charges	-	-	-
<b>Oriental Bank of Commerce</b>			
Gross loan - Opening	20000	20000	20000
Cumulative repayments of loans upto previous year	0	0	0
Net loan - Opening	20000	20000	20000
Add: Drawl(s) during the Year	0	0	0
Adjusted due to ERV			
Less: Repayment (s) of Loans during the year	0	0	2000
Net loan - Closing	20000	20000	18000
Average Net Loan	20000	20000	19000
Rate of Interest on Loan	6.86%	6.86%	6.86%
Interest on loan	22.55	1353.21	1234.80
Financing Charges	-	-	-
<b>Syndicate Bank</b>			
Gross loan - Opening	18300	18300	18300
Cumulative repayments of Loans upto previous year	0	0	1830
Net loan - Opening	18300	18300	16470
Add: Drawl(s) during the Year	0	0	0
Adjusted due to ERV			
Less: Repayment (s) of Loans during the year	0	1830	1830
Net loan - Closing	18300	16470	14640
Average Net Loan	18300	17385	15555
Rate of Interest on Loan	6.86%	6.86%	6.86%
Interest on loan	20.64	1225.11	1117.12
Financing Charges	-	-	-
<b>Oriental Bank of Commerce</b>			
Gross loan - Opening	10000	10000	10000
Cumulative repayments of Loans upto previous year	0	0	0
Net loan - Opening	10000	10000	10000
Add: Drawl(s) during the Year	0	0	0
Adjusted due to ERV			

Less: Repayment (s) of Loans during the year	0	0	0
Net loan - Closing	10000	10000	10000
Average Net Loan	10000	10000	10000
Rate of Interest on Loan	6.86%	6.86%	6.86%
Interest on loan	11.28	676.60	686
Financing Charges	-	-	-
<b>Canara Bank</b>			
Gross loan - Opening	8500	8500	8500
Cumulative repayments of Loans upto previous year	0	0	0
Net loan - Opening	8500	8500	8500
Add: Drawl(s) during the Year	0	0	0
Adjusted due to ERV			
Less: Repayment (s) of Loans during the year	0	0	1700
Net loan - Closing	8500	8500	6800
Average Net Loan	8500	8500	7650
Rate of Interest on Loan	6.75%	6.75%	6.75%
Interest on loan	9.43	565.89	554.57
Financing Charges	-	-	-
<b>LIC *</b>			
Gross loan - Opening	108700	108700	125800
Cumulative repayments of Loans upto previous year	0	0	0
Net loan - Opening	108700	108700	125800
Add: Drawl(s) during the Year	0	17100	0
Adjusted due to ERV			
Less: Repayment (s) of Loans during the year	0	0	0
Net loan - Closing	108700	125800	125800
Average Net Loan	108700	117250	125800
Rate of Interest on Loan	8.115%	8.639%	8.099%
Interest on loan	145.00	9990.51	10189
Financing Charges	-	-	-
<b>IOB</b>			
Gross loan - Opening	5000.00	5000.00	5000.00
Cumulative repayments of Loans upto previous year	0.00	0.00	0.00
Net loan - Opening	5000.00	5000.00	5000.00
Add: Drawl(s) during the Year	0.00	0.00	0.00
Adjusted due to ERV			
Less: Repayment (s) of Loans during the year	0.00	0.00	1250.00
Net loan - Closing	5000.00	5000.00	3750.00
Average Net Loan	5000.00	5000.00	4375.00
Rate of Interest on Loan	9.50%	9.50%	9.50%
Interest on loan	7.81	468.49	437.26



Financing Charges	-	-	-
<b>STATE BANK OF PATIALA</b>			
Gross loan - Opening	4000.00	4000.00	4000.00
Cumulative repayments of Loans upto previous year	0.00	0.00	400.00
Net loan - Opening	4000.00	4000.00	3600.00
Add: Drawl(s) during the Year	0.00	0.00	0.00
Adjusted due to ERV			
Less: Repayment (s) of Loans during the year	0.00	400.00	400.00
Net loan - Closing	4000.00	3600.00	3200.00
Average Net Loan	4000.00	3800.00	3400.00
Rate of Interest on Loan	6.90%	6.90%	6.90%
Interest on loan	4.54	258.99	235.24
Financing Charges	-	-	-
<b>Canara Bank</b>			
Gross loan - Opening	1500.00	1500.00	1500.00
Cumulative repayments of Loans upto previous year	0.00	0.00	0.00
Net loan - Opening	1500.00	1500.00	1500.00
Add: Drawl(s) during the Year	0.00	0.00	0.00
Adjusted due to ERV			
Less: Repayment (s) of Loans during the year	0.00	0.00	0.00
Net loan - Closing	1500.00	1500.00	1500.00
Average Net Loan	1500.00	1500.00	1500.00
Rate of Interest on Loan	10.25%	10.25%	10.25%
Interest on loan	2.53	151.64	153.75
Financing Charges	-	-	-
<b>CCF Loan</b>			
Gross Loan -Opening	80937.43	34277.29	34277.29
Cumulative repayments of loans upto previous year	46299.20	0.00	9793.64
Net loan opening	34638.23	34277.29	24483.65
Add: Drawl during the year	0.00	0.00	0.00
Adjusted due to ERV	-360.94	0.00	0.00
Less: Repayment of loans during the year	0.00	9793.64	9793.64
Net loan closing	34277.29	24483.65	14690.01
Average Net Loan	34457.76	29380.47	19586.83
Rate of interest on loan	8.96%	8.96%	8.96%
<b>Interest on loan</b>	51.46	2625.18	1780.58
Financing Charges(Guarantee fee)	6.83	408.82	293.80
<b>Barclays Loan ** #</b>			
Gross Loan -Opening	19912.23	19532.59	19532.59
Cumulative repayments of loans upto previous year	0.00	0.00	0.00
Net loan opening	19912.23	19532.59	19532.59

Add: Drawl during the year	0.00	0.00	-19532.59
Adjusted due to ERV	-379.64	0	0
Less: Repayment of loans during the year	0.00	0.00	0.00
Net loan closing	19532.59	19532.59	0.00

# Barclays Bank loan amounting to Rs. 19532.59 has been replaced with "O" series Bonds on 9.1.2009 .Therefore addition of "O" series Bond and deduction of Barclays Bank has been shown through column of drawl during the year.

\*\* The Interest rate of JPY loan has been hedged with 6 months USD libor minus 1.16%, which actually being paid by NHPC on USD 50 Million and the above interest calculated according to hedging settlement.

38. The interest on notional loan by applying the weighted average rate of interest has been computed as under:

(Rs in lakh)		
Interest on Loan	7.4.2007 to 31.3.2008	2008-09
Gross Opening loan	309180.70	309180.70
Cumulative repayment up to previous year	0.00	14898.13
Net Loan-opening	309180.70	294282.57
Repayment during the year	14898.13	24077.51
Add: Additional capitalization	0.00	0.00
Net loan-closing	294282.57	270205.06
Average loan	301731.64	282243.82
Weighted Average Rate of Interest on loan	7.90%	7.85%
<b>Interest</b>	<b>23839.11</b>	<b>22159.64</b>

## Depreciation

39. Sub-clause (a) of clause (ii) of Regulation 38 of the 2004 regulations provides for computation of depreciation in the following manner, namely:

(i) The value base for the purpose of depreciation shall be the historical cost of the asset.

(ii) Depreciation shall be calculated annually based on straight line method over the useful life of the asset and at the rates prescribed in Appendix II to these regulations. The residual value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the historical capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded from the capital cost while computing 90% of the historical cost of the asset. The historical capital cost of the asset shall include additional capitalization on account of Foreign Exchange Rate Variation up to 31.3.2004 already allowed by the Central Government /Commission.

(iv) On repayment of entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset.

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

40. The petitioner has claimed depreciation at the weighted average rate of depreciation of 2.86% on the capital expenditure claimed by it. The depreciation rate

of 6% claimed by the petitioner on other assets has not been considered and in terms of the regulation the depreciation rate of 3.6% has been considered.

41. Accordingly, depreciation of the generating station has been worked out as under:

	(Rs in lakh)	
	<b>7.4.2007 to 31.3.2008</b>	<b>2008-09</b>
Opening Gross block	507849.37	507849.37
Add: Additional capitalization	0.00	0.00
Closing Gross block	507849.37	507849.37
<b>Average Gross block</b>	<b>507849.37</b>	<b>507849.37</b>
Rate of depreciation	2.86%	2.86%
Depreciable value	457064.43	457064.43
Remaining depreciable value	457064.43	442166.30
<b>Depreciation</b>	<b>14288.98</b>	<b>14527.13</b>

### **Advance Against Depreciation**

42. Sub-clause (b) of clause (ii) of Regulation 38 of the 2004 regulations, provides as under:

*“Advance Against Depreciation*

*In addition to allowable depreciation, the generating company shall be entitled to Advance Against Depreciation, computed in the manner given hereunder:*

*AAD = Loan repayment amount as per regulation 38 (i) subject to a ceiling of 1/10th of loan amount as per regulation 36 minus depreciation as per schedule.*

*Provided that Advance Against Depreciation shall be permitted only if the cumulative repayment up to a particular year exceeds the cumulative depreciation up to that year;*

*Provided further that Advance Against Depreciation in a year shall be restricted to the extent of difference between cumulative repayment and cumulative depreciation up to that year”*

43. Advance Against Depreciation has been worked as under:

	(Rs in lakh)	
<b>Advance against Depreciation</b>	<b>7.4.2007 to 31.3.2008</b>	<b>2008-09</b>
1/10th of Gross Loan(s)	30918.07	30918.07
Repayment of the Loan	14898.13	24077.51
Minimum of the above	14898.13	24077.51
Depreciation during the year	14288.98	14527.13
(A) Difference	609.15	9550.38
Cumulative Repayment of the loan	14898.13	38975.64
Cumulative Depreciation/ Advance against	14288.98	29425.25

Depreciation		
<b>Advance against Depreciation Minimum of (A) and (B)</b>	<b>609.15</b>	<b>9550.38</b>

### O & M Expenses

44. Clause (iv)(c) of regulation 38 of the 2004 regulations, pertaining to O & M expenses of hydro stations states as under:

*“ In case of hydro electric generating stations declared under commercial operation on or after 1.4.2004, the base operation and maintenance expenses shall be fixed at 1.5% of the actual capital cost as admitted by the Commission, in the year of commissioning and shall be subject to an annual escalation of 4% per annum for the subsequent years.”*

45. The petitioner has claimed the following O&M expenses:

Particulars	(Rs in lakh)	
	7.4.2007 to 31.3.2008	2008-2009
<b>O&amp;M expenses</b>	7565.17	7998.91

46. We observe that the petitioner has claimed the O&M expenses @ 1.5% of the admitted capital cost as on the date of commercial operation as per the 2004 regulations. However for the year 2008-09, the O&M expenses have been escalated @ 4% for the full year instead of considering pro rata escalation after completion of one year of date of commercial operation. After considering pro rata escalation during 2008-09, the O&M expenses allowed for calculation of tariff for the tariff period are as under:

Particulars	(Rs in lakh)	
	7.4.2007 to 31.3.2008	2008-2009
<b>O&amp;M expenses</b>	7492.52	7922.45

### Interest on Working Capital

47. In accordance with clause (v) of Regulation 38 of the 2004 regulations, working capital in case of hydro generating stations shall cover:

- (i) Operation and Maintenance expenses for one month;
- (ii) Maintenance spares @ 1% of the historical cost escalated @ 6% per annum from the date of commercial operation; and

(iii) Receivables equivalent to two months of fixed charges for sale of electricity, calculated on normative capacity index.

48. The 2004 regulations further provides that the rate of interest on working capital shall be on a normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on 1.4.2004 or on 1st April of the year in which the generating station or a unit thereof is declared under commercial operation, whichever is later. Interest on working capital shall be payable on normative basis notwithstanding that the generating company has not taken working capital loan from any outside agency.

49. Working capital has been calculated considering the following elements:

(a) **Maintenance Spares:** The petitioner has claimed maintenance spares for calculation of Interest on Working Capital as under:

Particulars	(Rs. in lakh)	
	7.4.2007 to 31.3.2008	2008-2009
Maintenance spares	5043.22	5435.16

As per the methodology specified in the 2004 regulations, the petitioner has claimed the maintenance spares @ 1% of admitted capital cost on date of commercial operation. However, for the year 2008-09, maintenance spares have been escalated by the petitioner @6% for the full year instead of considering pro rata escalation after one year of DOCO. Considering the pro rata escalation during 2008-09, the cost of maintenance spares allowed for the tariff period 2004-09 is as under:

Particulars	(Rs. in lakh)	
	7.4.2007 to 31.3.2008	2008-2009
Maintenance spares	4995.24	5383.20

(b) **O&M Expenses:** O&M expenses for working capital have been worked out for 1 month of O&M expenses approved above and are considered in working capital of the respective year in accordance with Regulation 38(v)(a)(i) of the 2004 regulations.

(c) **Receivables:** The receivables have been worked out on the basis of two months of the annual fixed charges.

50. The average SBI PLR of 12.25% as on the 1<sup>st</sup> of April of the year of commercial operation of the station (1.4.2007) has been considered as the rate of interest on working capital during the tariff period in accordance with the provisions of Regulation 38(v)(b) of the 2004 regulations.

51. The necessary details in support of calculation of interest on working capital are given below:

	(Rs in lakh)	
	<b>7.4.2007 to 31.3.2008</b>	<b>2008-2009</b>
Maintenance Spares	4995.24	5383.20
O & M expenses	624.40	660.20
Receivables	12637.37	14072.91
Total	<b>18257.02</b>	<b>20116.32</b>
Interest @ 12.25%	12.25%	12.25%
Interest on Working capital	<b>2236.48</b>	<b>2464.25</b>

#### **ANNUAL FIXED CHARGES**

52. The annual fixed charges from the date of commercial operation to 31.3.2009 allowed in this order are summed up in the table below:

(Rs in lakh)

	<b>7.4.2007 to 31.3.2008</b>	<b>2008-09</b>
Depreciation	14288.98	14527.13
Interest on Loan	23839.11	22159.64
Return on Equity	27357.65	27813.61
Advance against Depreciation	609.15	9550.38
Interest on Working Capital	2236.48	2464.25
O & M Expenses	7492.86	7922.45
<b>Total</b>	<b>75824.23</b>	<b>84437.47</b>

53. In addition to the charges approved above, the petitioner is entitled to recover other charges also like the claim for reimbursement of income tax, other taxes, cess etc, levied by statutory authorities and other charges, in accordance with the 2004 regulations.

54. The petitioner is already billing the respondents on provisional basis in accordance with the orders dated 20.3.2007 and 28.3.2008 in Petition No.141/2006. The provisional billing of tariff shall be adjusted in the light of the final tariff now approved by us.

55. This order disposes of Petition No. 72/2009.

Sd/-  
**(V.S.VERMA)**  
**MEMBER**

New Delhi dated the 30<sup>th</sup> November, 2009

Sd/-  
**(S.JAYARAMAN)**  
**MEMBER**

Sd/-  
**(R.KISHNAMOORTHY)**  
**(MEMBER)**