CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Coram
1. Shri Bhanu Bhushan, Member
2. Shri R.Krishnamoorthy, Member

Petition No. 47/2007

And in the matter of

Approval of revised fixed charges after considering the impact of additional capital expenditure incurred during 2004-05 and 2005-06 for Tanda Thermal Power Station (440 MW).

And in the matter of

NTPC Limited, New Delhi **...Petitioner**
Vs
Uttar Pradesh Power Corporation Ltd., Lucknow **…..Respondent**

The following were present:

1. Shri S.N.Goel, NTPC
2. Shri S.Saran, NTPC

ORDER
(DATE OF HEARING: 23.10.2007)

The petitioner, NTPC Limited has made this application for approval of revised fixed charges in respect of Tanda Thermal Power Station (440 MW) (hereinafter referred to as “the generating station”) after accounting for the impact of additional capital expenditure incurred during 2004-05 and 2005-06, based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004 (hereinafter referred to as “the 2004 regulations”). The petitioner has made the following specific prayers:

"(i) Approve the impact on fixed charges due to tariff revision on account of additional capital expenditure as per details given in Annexure-I for the period 1.4.2004 to 31.3.2009.

. *(ii) allow the servicing of the capital expenditure from the year the same is incurred.*

(iii) approve recovery of filing fees of this petition from respondents

(iv) allow the petitioner to approach the Hon'ble Commission for another revision of fixed charges before 31.3.2009 and one revision after the end of tariff period i.e after 31.3.2009 when the accounts of 2008-09 are finalized.

(v) pass any other orders in this regard as the Hon'ble Commission may find appropriate in the circumstances pleaded above".

2. Briefly, the background of the case is that the erstwhile Uttar Pradesh State Electricity Board (the predecessor of the respondent herein) constructed the generating station with a total installed capacity of 440 MW. The first unit was commissioned in the year 1987-88 and the last unit in the year 1997-98. The generating station was transferred to the petitioner on 14.1.2000 under the Uttar Pradesh Electricity Reforms (Transfer of Tanda Undertaking) Scheme, 2000 for a total consideration of Rs.1000 crore. The power generated from the generating station is supplied exclusively to the respondent based on the Power Purchase Agreement dated 7.1.2000, entered into by the petitioner and the erstwhile Uttar Pradesh State Electricity Board, valid for a period of 25 years from 14.1.2000 i.e. the date of vesting of the generating station in the petitioner. The tariff for the generating station for the period up to 31.3.2004 was approved by the

Commission vide its order dated 28.6.2002 in Petition No. 77/2001. The Commission further revised the fixed charges vide order dated 9.4.2003 in Review Petition No.2/2003. The Commission vide order dated 24.10.2005 in Petition 8/2005 approved the revised fixed charges of the generating station after allowing additional capital expenditure on R&M of Rs.17747 lakh for the period 14.1.2000 to 31.3.2004.

3. The Commission by its order dated 30.11.2006 in Petition No.163/2004 approved the tariff for the generating station for the period from 1.4.2004 to 31.3.2009, based on admitted cost of Rs.78447 lakh as under:

(Rs. in lakh)

Particulars	**2004-05**	**2005-06**	**2006-07**	**2007-08**	**2008-09**
Interest on Loan	2718	2215	1712	1209	708
Interest on Working Capital	1440	1443	1447	1455	1458
Depreciation	2780	2780	2780	2780	2780
Advance against Depreciation	0	0	0	0	0
Return on Equity	3295	3295	3295	3295	3295
O & M Expenses	7348	7642	7947	8265	8596
TOTAL	**17580**	**17374**	**17181**	**17004**	**16836**

4. The respondent UPPCL has filed its reply to the petition.

5. The Commission by its order dated 9.4.2008 revised the tariff for the period 14.1.2000 to 31.3.2004 in Petition No.8/2005 based on the Appellate Tribunal's judgment dated 6.6.2007 in Appeal Nos. 205/2005 and 9/2007, (filed by the respondent) and recalculated the capital cost of the generating station after taking into account the adjusted gross block and the additional capitalization admitted as under:

(Rs. in lakh)

Particulars	1999-00	2000-01	2001-02	2002-03	2003-04
Opening Gross Block	57436	57436	61516	66151	72175
Additional capitalization allowed		4080	4636	6024	2643
Closing capital cost	**57436**	**61516**	**66153**	**72175**	**74818**

6. The petitioner filed Review Petition No. 9/2007 against the Commission's order dated 30.11.2006 in Petition No. 163/2004 and the Commission by its order dated 15.12.2008 decided revision of interest on loan, exclusion of payment of *ex gratia* from O&M expenses, consideration of LDO as secondary fuel and computation of maintenance spares for the purpose of interest on working capital and directed revision of annual fixed charges for the generating station as under:

> *"36. Petition No. 47/2007 for approval of revised fixed charges for the period 2004-09 based on additional capital expenditure during 2004-05 and 2005-06 is presently pending for order. The decisions arrived at in the preceding paras shall be taken note of while revising the annual fixed charges in the said petition. In the light of our decision to consider LDO as the secondary fuel oil, energy charges as also interest on working capital in keeping with base energy charge so arrived, shall also be revised."*

7. Accordingly, we proceed to revise the annual fixed charges for the period 1.4.2004 to 31.3.2009 based on the order dated 15.12.2008 after accounting for additional capital expenditure, as discussed in subsequent paragraphs.

Additional Capitalization

8. Regulation 18 of the 2004 regulations provides for considering the additional capital expenditure for tariff after the cut-off date as under:

> *"18. (1)………….*
>
> *(2) Subject to the provisions of clause (3) of this regulation, the capital expenditure of the following nature actually incurred after cut off date may be admitted by the commission, subject to prudence check:*
>
> *(i) Deferred liabilities relating to works/services with in the original scope of work;*
> *(ii) Liabilities to meet award of arbitration or for compliance of the order or decree of a court;*

(iii) On account of change in law;
(iv) Any additional works/services which have become necessary for efficient and successful operation of the generating station, but not included in the original project cost; and
(v) Deferred works relating to ash pond or ash handling system in the original scope of work.
(3) Any expenditure on minor items/assets like normal tools and tackles,personal computers, furniture, air-conditioners, voltage stabilizers, refrigerators,fans, coolers, TV, washing machine, heat-convectors, carpets, mattresses .brought after the cut off date shall not be considered for additional capitalization for determination of tariff with effect from 1.4.2004.
(4) Impact of additional capitalization in tariff revision may be considered by the Commission twice in a tariff period, including revision of tariff after the cut off date.

Note 2
Any expenditure on replacement of old assets shall be considered after writing off the gross value of the original assets from the original project cost, except such items as are listed in clause (3) of this regulation."

Note 4
Any expenditure admitted by the Commission for determination of tariff on renovation and modernization and life extension shall be serviced on normative debt equity ratio specified in regulation 20 after writing off the original amount of the replaced assets from the original project cost."

9. The year-wise details of the additional capital expenditure claimed as per books of accounts are as under:

(Rs in lakh)

	2004-05	**2005-06**	**Total**
Total additional expenditure as per books of accounts (A)	2386	2585	4971
Exclusions for additional capitalization vis-à-vis Books of Accounts (B)	(-) 52	4	(-) 48
Expenditure under approved R&M charged to revenue accounts (C)	79	33	112
Total (A-B+C)	2517	2614	5132

10***.*** The summary of exclusions from the books of accounts claimed is as under***:***

(Rs.in lakh)

	2004-05	2005-06	Total
a) Inter-unit transfers	(-) 51.69	4.20	(-) 47.49
b) Decapitalised assets now effective in Books of Accounts	(-) 0.76	(-) 0.45	(-) 1.21
Total	(-) 52.45	3.74	**(-) 48.70**

Exclusions

11. The submission of the petitioner and our decision thereon in the matter of exclusions are as under:

(a) Inter-unit transfers: An amount of Rs.47.49 lakh {(-) Rs.51.69 lakh in 2004-05 and Rs.4.20 lakh in 2005-06)} has been excluded under this head on account of temporary transfer of certain assets to other generating stations of the petitioner. The petitioner has submitted that the Commission in the past had permitted exclusion of such temporary transfers for tariff purposes and allowed it to be retained in the capital base of the originating station. Accordingly, the petitioner has excluded the amounts as per the entries in the books of accounts for its claim for additional capitalization. The Commission while dealing with applications for additional capitalization in respect of other generating stations of the petitioner has decided that both positive and negative entries arising out of inter-unit transfers of temporary nature shall be ignored for the purposes of tariff. In consideration of the said decisions, the exclusion of the amount of Rs.47.49 lakh on account of inter-unit transfer of equipment is allowed.

(b) Decapitalisation of assets in Books of Accounts: The Commission by its order dated 24.10.2005 in Petition No.8/2005, while determining the additional capitalization of the generating station for the period 2000-04 had allowed de-capitalisation of certain unserviceable items at gross value. The petitioner by way of negative entries has now excluded an amount of ((-) Rs.0.76 lakh for the year 2004-05 and (-)Rs 0.45)} for the year 2005-06 in the books of accounts as the expenditure has been de-capitalised. Thus, a total amount Rs.1.21 lakh is allowed to be excluded.

12. The Commission vide its order dated 25.7.2007 directed the petitioner to furnish the detailed categorization and consolidation for each asset under different clauses of Regulation 18 of the 2004 regulations for which capitalization had been claimed, with proper justification. The petitioner by its affidavit dated 17.6.2008 submitted details of capitalization of items under different clauses of Regulation 18 of the 2004 regulations. The year-wise and category-wise break-up of the additional expenditure given by petitioner is as under:

(Rs. in lakh)

		Category	2004-05	2005-06	Total
1	Balance payment	182(i)	23.33	(-) 0.35	**22.99**
2	Works/services which have become necessary for efficient and successful operation of station				
	i) Inter unit transfer	182(iv)	0.65	0.70	1.35
	ii) Capitalisation under R&M schemes	182(iv)	2107.97	2436.03	4544.01
	iii) R&M expenditure charged to Revenue Account	182(iv)	79.00	33.42	112.42
	iv) Capital spares	182(iv)	306.23	145.13	451.36
	Sub-total(2)		2493.85	2615.28	5109.13
	Total		**2517.18**	**2614.94**	**5132.12**

Un-discharged liability

13. The petitioner vide affidavit dated 23.8.2007 has submitted that undischarged liability of Rs.5.88 lakh as on 1.4.2005 and Rs. 1.15 lakh as on 1.4.2006 has been included in the claim for additional capitalization.

14. After examining the asset-wise details and justification for additional capitalisation/ decapitalisation claimed by the petitioner, under various categories and by applying prudence check, the admissibility of additional capitalisation is discussed in the subsequent paragraphs.

Expenditure on balance payment against works admitted by the Commission – Regulation 18(2)(i)

15. The petitioner has claimed capital expenditure of Rs.22.99 lakh (Rs. 23.33 lakh for the year 2004-05 and (-) Rs.0.35 lakh for the year 2005-06) on account of balance payment against civil works already admitted by the Commission during the previous tariff period. These deferred liabilities/adjustments include mainly civil works such as works in residential colony, drainage system, electrification of various buildings etc.

16. Capitalization of an amount of Rs.22.76 lakh after excluding the undischarged liability of Rs.0.22 lakh is allowed under this head.

Works/services necessary for efficient and successful operation of generating station-Regulation-18(2)(iv)

(a) Additional capital expenditure relating to Inter-Unit Transfers

17. The petitioner has claimed capital expenditure of Rs.1.35 lakh on account of inter-unit transfer of certain assets like communication equipment and furniture. These assets which are in the nature of minor works are not admissible for capitalization in terms of clause (3) of Regulation 18 of the 2004 regulations and hence, the claim for capitalization of expenditure on these items is not allowed.

(b) Additional capital expenditure relating to new works under R&M scheme

18. The petitioner has claimed capital expenditure of Rs.4544 lakh (Rs 2108 lakh for the year 2004-05 and Rs.2436 lakh for the year 2005-06) on account of new works under R&M scheme. The petitioner has submitted that the Renovation and Modernization (R&M) programme Phase I, consists of 195 schemes (100 short-term schemes and 95 medium-term schemes) mainly for revival of units. It was also submitted that the original cost of R&M, Phase I as approved by the Board of Directors of the petitioner company was Rs.19300 lakh (including IDC) which was subsequently revised to Rs.19950 lakh. The petitioner has further submitted that the cost estimates of R&M Phase II, amounting to Rs.31600 lakh, (including IDC and contingency) consisting of 44 schemes to resolve the generic problem of the generating station like the inadequate availability of cooling water, poor water quality, environmental norms, system deficiencies and sustenance of performance was approved by the Board of Directors of the petitioner company on 21.4.2004.

19. After prudence check it is found that R&M works carried out by the petitioner in the year 2004-05 and 2005-06 are based on the approval of the Board of Directors of the petitioner company. The petitioner had started the R&M works from the year 1999-2000 and the Commission allowed additional capitalization of Rs.17747.27 lakh (including spares of Rs.717.58 lakh and de-capitalization of replaced assets) for the period 2000-04 in Petition No. 8/2005. Thus, the total expenditure from the year 2000 to 2006 on account of R&M is less

than the estimated cost of Rs.51515 lakh. In response to the Commission's direction in the order dated 25.7.2007, the petitioner to furnish the completion schedule of the balance R&M works, the petitioner vide its affidavit dated 23.8.2007 has submitted that 15 R&M scheme (out of 42) amounting to Rs.14251 lakh out of the long-term estimated approved R&M cost of Rs.29396 lakh has been completed as on 20.8.2007. The petitioner has further submitted that most of the short-term and medium-term R&M schemes have been completed and the balance R&M works are expected to be completed by March, 2009.

20. The respondent by affidavit dated 14.5.2007 has submitted that R&M schemes for revival of units require the approval of CEA in terms of Sections 28 and 29 of the Electricity (Supply) Act, 1948 since they pertained to the period from 2000 to 2003 when the Electricity (Supply) Act was in force.

21. It is pertinent to mention that the respondent in Appeal No. 9/2007 filed the Appellate Tribunal for Electricity against the Commission's order dated 24.10.2006 in Petition No. 8/2005 had raised the same issue and the Appellate Tribunal by its judgment dated 6.6.2007 had observed that "it was not mandatory for NTPC to obtain CEA clearance for the R&M works before approaching the CERC for revision of tariff." In view of the decision of the Appellate Tribunal, the objection of the respondent is overruled.

22. It is observed that the claim amounting to Rs.4544 lakh for the period 2004-06 consists of expenditure on items like furniture, communication equipments, computers & software, ACs, water cooler, water filter, LAN network, cable network, office equipments, guest house facilities, TVs, refrigerator, canteen equipment, fans, microwave, geyser, tools & tackles etc. However, these assets which are in the nature of minor works are not admissible for capitalization in terms of clause (3) of Regulation 18 of the 2004 regulations and hence the claim for capitalization/de-capitalisation of expenditure on these items is not allowed.

23. On scrutiny of the expenditure on R&M works it is observed that the petitioner has not de-capitalised certain assets like online micro processor, switchyard air compressor kit, jacking oil pump, volt meters, Loco, three phase relay, tipper, O&M building, generator rotor, protective relay, online Ph meter and analyzer, silica analyzer, turbovisory system etc. In response to the Commission's directions in order dated 6.11.2007 to furnish the gross value of assets/items to be de-capitalised, the petitioner vide affidavits dated 30.11.2007 and 29.8.2008 has furnished the de-capitalisation of replaced assets.

24. The year-wise details of additional capital expenditure claimed, de-capitalisation of replaced asset and details of undischarged liability are as under:

(Rs.in lakh)

Year	Additional capital expenditure claimed including de-capitalisation	De-capitalisation considered included in the claim	De-capitalisation Considered not included in the claim	Assets not allowed for capitalisation	Undischarged liability not considered	Net additional capital expenditure allowed
2004-05	2107.97	159.34	22.73	145.85	5.10	1934.30
2005-06	2436.03	356.35	105.06	44.12	1.15	2285.70
Total	4544.01	515.69	127.79	189.97	6.25	4220.00

25. In view of the above, capitalization of an amount of Rs.4220.00 lakh on account of R&M scheme under this head is allowed after excluding the undischarged liability of Rs.6.25 lakh.

(c) Expenditure under CEA approved R&M Schemes

26. The petitioner has claimed capital expenditure of Rs.112.42 lakh for the years 2004-05 and 2005-06 which pertain to various R&M works like structural steel painting, electrification of administrative building, renovation of residential quarters, hydrographic survey data collection and topographical survey for the intake pump house etc. The petitioner has submitted that due to the requirement of accounting standard, some portion of the R&M expenditure was booked to Profit & Loss Account and charged to revenue and was not capitalized. After verification, it is observed that the expenditure relates to the R&M scheme approved by the CEA. In our view, capitalization of expenditure forming part of the R&M work, but not of capital nature cannot be considered for capitalization. This is the consistent view of the Commission. In view of this, the claim for capitalization of an amount of Rs.112.42 lakh is not admitted.

(d) Spares capitalized under other than approved cost/RCE

27. The petitioner has claimed capital expenditure amounting to Rs.451.36 lakh (Rs 306.22 lakh for the year 2004-05 and Rs.145.13 lakh for the year 2005-06) on spares for the period 2004-06 which does not form part of the approved cost. The respondent in its reply has submitted that the petitioner's claim for additional capitalization on capital spares should not be allowed as spares purchased after the date of commercial operation should be charged to O&M expenses. In response to the Commission's order dated 25.7.2007, the petitioner by affidavit dated 23.8.2007, has categorized the spares as insurance spares, amounting to Rs.234.50 lakh and maintenance spares amounting to Rs.216.86 lakh. The petitioner vide affidavit dated 16.6.2008 has submitted its claim under sub-section (iv) of section (2) of Regulation 18 of the 2004 regulations and has stated that certain spares not of repetitive or consumptive nature were not available in the inventory at the time of takeover of plant and these critical spares were required to be procured from Original Equipment Manufacturer (OEM) in order to avoid long outages of the units and to maintain stock of the spares in the capital account of the generating station. The petitioner has further submitted that the Commission in its order dated 24.10.2005 in Petition No. 8/2005 had allowed capitalization of these spares, considering the fact that it was a take over generating station.

28. In view of the decision of the Commission to allow capitalization of spares in order dated 24.10.2005 on the ground that they are required for safety against

breakdown, capitalization of spares amounting to Rs.451.36 lakh for the period 2004-06 is allowed.

IDC

29. The petitioner has included claim for IDC amounting to Rs.213.29 lakh and Rs.279.36 lakh for the years 2004-05 and 2005-06 respectively. IDC claimed by the petitioner is based on the FIFO method of repayment of loan. The Commission, in its previous orders has uniformly followed the average method of repayment of loan since FIFO method results in higher IDC in on-going projects under construction and higher AAD in case of the existing generating stations. Accordingly, for the generating station also, IDC has been worked out with average method of loan repayment. Accordingly, adjustment of reduction of IDC is made in the additional capitalisation amount allowed.

Assets not in use as on 1.4.2005 and 1.4.2006

30. The Commission vide order dated 25.7.2007 directed the petitioner to furnish the details of assets which were not in use or were unserviceable. The petitioner vide affidavit dated 23.8.2007 has submitted that all assets as per gross block provided in the balance sheet, including the assets for which additional capitalization has been claimed, were in use as on 1.4.2005 and 1.4.2006.

31. Based on the discussion in the preceding paragraphs, the additional capital expenditure allowed during the years 2004-05 and 2005-06 is as under:

(Rs.in lakh)

Category	Total Amount claimed	Additional capital expenditure allowed		
		2004-05	2005-06	Total
1. Balance payment-18(2(I)	22.99	23.11	(-) 0.35	22.76
2. Works/services which have become necessary for efficient and successful operation of station-18(2)(iv)				
i) Inter-unit transfer	1.35	-	-	-
ii) Capitalization under approved R&M schemes	4544.01	1934.30	2285.70	4220.00
iii) R&M expenditure charged to Revenue Account	112.42	-	-	-
iv) Capital spares	451.36	306.23	145.13	451.36
Subtotal(2**)**		1934.30	2285.70	4220.00
3. Un-discharged liability paid	-	-	5.32	5.32
Total	5132.12	2263.64	2435.80	4699.44
Less: IDC		1.75	8.98	-
Total		**2261.89**	**2426.82**	**4688.71**

Capital cost

32. Based on the decision of the Appellate Tribunal dated 6.6.2007, the capital cost of the generating station was revised to Rs.74818.59 lakh as on 1.4.2004. This has been considered as the base for the purpose of present petition.

33. After taking into account additional capitalization as allowed at para 31 above for the period 2004-06, the capital cost as on 1.4.2005 and 1.4.2006 is worked out as follows:

(Rs.in lakh)

Year	**2004-05**	**2005-06**	**2006-07**	**2007-08**	**2008-09**
Opening capital cost	74818.59	77080.48	79507.30	79507.30	79507.30
Additional capital expenditure	2261.89	2426.82	-	-	-
Closing capital cost	77080.48	79507.30	79507.30	79507.30	79507.30
Average capital cost	75949.54	78293.89	79507.30	79507.30	79507.30

Debt-Equity ratio

34. Clause (1) of Regulation 20 of the 2004 regulations, as amended, provides that:

> *"(1) In case of the existing generating stations, debt-equity ratio considered by the Commission for the period ending 31.3.2004 shall be considered for determination of tariff with effect from 1.4.2004:*
>
> *Provided that in cases where the tariff for the period ending 31.3.2004 has not been determined by the Commission, debt-equity ratio shall be as may be decided by the Commission:*
>
> *Provided further that in case of the existing generating stations where additional capitalisation has been completed on or after 1.4.2004 and admitted by the Commission under Regulation 18, equity in the additional capitalization to be considered shall be,-*
>
> *(a) 30% of the additional capital expenditure admitted by the Commission; or*
> *(b) equity approved by the competent authority in the financial package, for additional capitalization; or*
> *(c) actual equity employed,*
> *Whichever is the least:*
>
> *Provided further that in case of additional capital expenditure admitted under the second proviso, the Commission may consider equity of more than 30% if the generating company is able to satisfy the Commission that deployment of such equity of more than 30% was in the interest of general public".*

35. The petitioner in its affidavit dated 23.8.2007 has stated that the additional capital expenditure of Rs.5132 lakh claimed in the petition had been funded through loan amounting to Rs.3585 lakh out of the total amount Rs.4700 lakh drawn during the period 2004-06 and the balance additional capital expenditure was financed from its internal accruals/resources. Since the equity component of additional capitalization is more than 30%, debt-equity ratio of 70:30 has been considered for additional capitalization in terms of sub-clause (a) of clause (1) of Regulation 20 of the 2004 regulations. Accordingly, notional equity of 30% on account of additional capitalization of Rs.4688.71 lakh approved, works out as under:

(Rs. in lakh)

	2004-05	2005-06
Notional Equity	679	728

Return on Equity

36. Return on equity is allowed @ 14% on the average normative equity after accounting for additional capital expenditure. Also, the closing balance of equity amounting to Rs.22445.58 lakh as on 31.3.2004 has been taken into consideration as opening balance as on 1.4.2004, in this order. Accordingly, the return on equity is worked out as under:

(Rs. in lakh)

		2004-05	2005-06	2006-07	2007-08	2008-09
Opening Equity	**22446**	22446	23124	23852	23852	23852
Addition of Equity due to additional capitalisation		679	728	0	0	0
Equity closing		23124	23852	23852	23852	23852
Average equity		22785	23488	23852	23852	23852
Return on Equity	14%	**3190**	**3288**	**3339**	**3339**	**3339**

Interest on loan

37. Interest on loan has been worked out as mentioned below:

(a) The normative loan outstanding as on 1.4.2004 as per order dated 30.11.2006 was Rs.32557.53 lakh against gross opening loan of Rs.54913 lakh, based on the capital cost of Rs.78447.27 lakh. On account of the change in the capital cost to Rs.74818.59 lakh, the gross opening normative loan works out to Rs.52373.01 lakh. The notional loan arising out of additional capitalization during 2004-05 was Rs.1583.32 lakh and during 2005-06 was Rs.1698.78 lakh.

Hence, the total notional loan outstanding as on 1.4.2005 and 1.4.2006 was Rs.53956 lakh and Rs.55655 lakh respectively.

(b) Repayment of loan has been worked out as per decision arrived at by the Commission in order dated 9.4.2008 as under:

(i) Repayment of notional loan has been considered in terms of the provisions of the PPA

(ii) Repayment of actual loan has been worked out on normative basis as per the formula given below:

$$\text{Normative repayment} = \frac{\text{Actual Repayment x Normative Loan opening}}{\text{Actual Loan}}$$

(c) The total repayment during the year is the sum of notional and normative repayment worked out or depreciation which ever is higher. This is subject to the final decision of the Hon'ble Supreme Court in Civil Appeal No. 5434/2007 and other related appeals preferred by the Commission.

(d) Weighted average interest rate is worked out based on actual loans taken including additional capital expenditure and after accounting for the interest capitalized.

38. Interest on loan has been computed as under:

(Rs in lakh)

Details	Up to 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09
Gross Opening Loan	52373	52373	53956	55655	55655	55655
Cumulative Repayment of Loan upto previous year	21667	21667	26690	31878	36808	42521
Net Loan Opening	30706	30706	27267	23777	18847	13134
(i) Notional loan		20103	16082	12062	8041	4021
(ii) Normative loan		10604	11185	11716	10806	9114
Addition of Loan due to ACE		1583	1699	0	0	0
Repayment of notional loan during the year		4021	4021	4021	4021	4021
Repayment-Based on actual Loan Compnent		1002	1168	910	1692	1692
Total Repayment of loan during the year		5023	5188	4930	5713	5713
Total Repayment of loan considered for tariff during the year		5023	5188	4930	5713	5713
Net Loan Closing		27267	23777	18847	13134	7422
Average Loan		28986	25522	21312	15991	10278
Weighted Average Rate of Interest on Loan		6.40%	5.83%	7.80%	7.74%	7.71%
Interest on Loan		**1854**	**1487**	**1661**	**1238**	**792**

Depreciation

39. The petitioner has calculated the weighted average rate of depreciation as 3.72%. The weighted average rate of depreciation as admitted in order dated 30.11.2006 in Petition No. 163/2004 has been considered for revision of tariff on account of additional capital expenditure for the year 2004-05 and 2005-06 as notional loan is outstanding. The necessary calculations of depreciation are as under:

(Rs in lakh)

	Upto 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09
Opening capital cost	74819	74819	77080	79507	79507	79507
Closing capital cost		77080	79507	79507	79507	79507
Average capital cost		75950	78294	79507	79507	79507
Depreciable value @ 90%	65829	66847	68957	70049	70049	70049
Balance depreciable value	31131	32148	31611	30067	27250	24432
Depreciation		**2692**	**2775**	**2818**	**2818**	**2818**

Advance Against Depreciation

40. The petitioner has not claimed Advance Against Depreciation. Therefore the petitioner's entitlement to Advance Against Depreciation is "nil'

O&M expenses

41. O&M expenses as considered in the order dated 30.11.2006 in Petition No.163/2004 is as under:

(Rs in lakh)

	2004-05	**2005-06**	**2006-07**	**2007-08**	**2008-09**
O&M expenses	7348	7642	7947	8265	8596

42**.** The petitioner filed Review Petition No. 9/2007 against this order, amongst others, for revision of O&M expenses on the following grounds:

(a) Un-recovered depreciation on decapitalised assets;

(b) Loss incurred on the disposal of fixed assets; and

(c) Incentive and *ex gratia* payment made to the personnel of NTPC.

43. As regards grounds (a) and (b) referred above, the Commission by its order dated 15.12.2008, held as under:

"23. Thus, the Commission has already considered the submissions of the petitioner with regard to un-recovered depreciation and the alleged loss on account of disposal of fixed assets in the order dated 30.11.2006. In our view, the petitioner has not brought out any infirmity which could be remedied in review, but has sought to re-agitate the issue on merits.

44. However, as regards incentive and *ex gratia* payment made, it was held in the same order as under:

"25. It is pertinent to mention that the Commission in its order dated 30.11.2006 in the main petition had only deducted the incentive payment from the employee cost as the ex gratia payment was merged under the head "salary, wages and allowances" and separate account for ex gratia was not available at the time of passing the tariff order. During the pendency of the application for review, the petitioner was directed vide order dated 28.2.2007 to furnish the ex gratia payment it had made during the period 2001-02 and 2002-03. The petitioner vide its affidavit dated 11.6.2007 has furnished the required information as under:

(Rs. in lakh)

	2000-01	2001-02	2002-03
Ex gratia	44.58	40.86	33.39

26. Consistent with the Commission's approach to exclude the payment of ex gratia from O&M expenses, we are of the opinion that the above amount be reduced from O&M expenses for the respective years."

45. In terms of the order dated 15.12.2008, the expenditure pertaining to *ex gratia* are deducted from the employee cost in the O&M expenses allowed by the Commission by its order dated 30.11.2006 in Petition No.163/2004 and the permissible O&M expenses for the period 2004-09 works out as under:

(Rs in lakh)

	2004-05	**2005-06**	**2006-07**	**2007-08**	**2008-09**
Revised O&M expenses allowed	7325	7618	7922	8239	8569

Interest on Working capital

46. The interest on working capital allowed by the Commission in its order dated 30.11.2006 is as under:

(Rs in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Coal Stock-2 months	**4696**	**4696**	**4696**	**4709**	4696
Oil Stock-2 months	183	183	183	183	183
O & M expenses	612	637	662	689	716
Maintenance spares	744	789	836	887	940
Receivables	7809	7775	7743	7727	7685
Total Working Capital	14045	14080	14121	14195	14221
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest on Working Capital	**1440**	**1443**	**1447**	**1455**	**1458**

47. In Review Petition No. 9/2007 filed by the petitioner seeking revision of the cost of secondary fuel oil and the maintenance spares included in the working capital, the Commission by its order dated 15.12.20008 decided as under:

Cost of secondary fuel oil

"*30. On perusal of the Petition No. 163/2004, we notice that the Petitioner in Form 19, Part 1 had submitted the information in respect of LDO for computation of energy charge. However, the Commission has considered HFO as the main secondary fuel which is an error apparent on the face of record. It may be true, as contended by the respondent, that fuel price adjustment formula takes care of the variation in prices of fuel. However, as energy charges are considered in the working capital as part of receivables, it is necessary to revise the base energy charge. We accordingly allow the review on this ground and the energy charges payable and working capital requirement be revised taking LDO as the main secondary fuel."*

48. Based on the above, the working capital requirement of secondary fuel oil is revised as under:

(Rs in lakh)

Oil Stock	2004-05	2005-06	2006-07	2007-08	2008-09
Weighted Avg. GCV of Oil-LDO- (kCal/Lit.)	9600	9600	9600	9600	9600
Heat Contribution by Oil (kCal/kwh)	33.6	33.6	33.6	19.2	19.2
Annual Requirement of Oil (ltrs)	8094240	8094240	8094240	6183936	6167040
Oil Stock(2 months) (KL)	1349.04	1349.04	1349.04	1030.66	1027.84
Weighted Avg. Price of Oil (Rs./KL)	16002.8	16002.81	16002.81	30226.09	30226.09
Oil Stock- 2 months- (Rs. in Lakhs)	216	216	216	312	311

49. While dealing with the claim of the petitioner for revision of maintenance spares in working capital, the Commission in its order dated 15.12.2008 held as under:

> *"35. As regards the escalation, the petitioner was aware of the dates of commercial operation of the four units of the generating station, yet it claimed spares on capital cost of Rs.607 crore from the date of takeover. The Commission while determining the tariff of the generating station had also considered the actual project cost of Rs.607 crore as on the date of takeover of the generating station. Thus the date of takeover has been treated as the date of commercial operation instead of the actual date of commercial operation of the generating station. This is contrary to express provisions of the 2004 regulations that escalation is to be allowed from the date of commercial operation. This, in our view, is an error (of law) apparent on the face of record and therefore, review on this ground is permissible. Accordingly, we direct that the maintenance spares @ 1% of the historical cost with escalation @ 6% per annum be computed from the date of commercial operation."*

50. In terms of the above order, the capital cost of Rs.57436 lakh as on the date of commercial operation of the generating station (20.2.1998) is escalated for the purposes of maintenance spares in the working capital. Interest on working capital has been re-worked considering the following:

(a) Revision of fuel (both coal and oil) for the years 2004-05, 2005-06 and 2006-07;

(b) O&M expenses for one month; and

(c) Revision of receivables on account of the additional capital expenditure and reduction of capital cost as on 1.4.2004.

(d) maintenance spares calculated at the rate of 1% of capital cost on the date of commercial operation of the station and escalated @ 6% per annum.

51. Accordingly, interest on working capital works out as under:

(Rs in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Coal Stock- 2 months	4698	4698	4698	7106	7087
Oil stock -2 months	216	216	216	312	311
O & M expenses	610	635	660	687	714
Spares	820	869	921	977	1035
Receivables	7663	7683	7781	10355	10316
Total Working Capital	14008	14101	14277	19436	19463
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Total Interest on Working capital	**1436**	**1445**	**1463**	**1992**	**1995**

52. The revised annual fixed charges for the period from 1.4.2004 to 31.3.2009 are summarized as under:

(Rs. in lakh)

Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Interest on Loan	1854	1487	1661	1238	792
Interest on Working Capital	1436	1445	1463	1992	1995
Depreciation	2692	2775	2818	2818	2818
Advance Against Depreciation	0	0	0	0	0
Return on Equity	3190	3288	3339	3339	3339
O & M Expenses	7325	7618	7922	8239	8569
TOTAL	**16496**	**16613**	**17204**	**17626**	**17513**

53. The target availability of 60% considered by the Commission for the period from 1.4.2004 to 31.3.2007 in the order dated 30.11.2006 remains unchanged. However, for the period from 1.4.2007 to 31.3.2009, the revised target availability norm of 80% has been considered for the purpose of calculation of the revised fixed charges.

54. The petitioner shall claim the revised annual fixed charges from the beneficiaries in three equal monthly installments.

55. As regards the prayer of the petitioner in clause(iii) of the petition as extracted in para 1 of this order for reimbursement of filing fees from the respondent, the decision of the Commission in order dated 11.9.2008 in Petition No. 129/2005 *(suo motu)* pertaining to reimbursement of application fees shall be applicable.

56. So far as the petitioner's prayer in clause (iv) of the petition as extracted in para 1 of this order is concerned, this stands disposed of in terms of the decision of the Commission in para 46 of the order dated 29.9.2008 in Petition No. 27/2007 (pertaining to revision of fixed charges based on impact of additional capital expenditure in respect of Kahalgaon Super Thermal Power Station, Stage-I).

57. Petition No.47/2007 stands disposed of in terms of the above.

Sd/-	**Sd/-**
(R. KRISHNAMOORTHY)	**(BHANU BHUSHAN)**
MEMBER	**MEMBER**

New Delhi dated the 23rd January, 2009