

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram

1. **Shri K.N.Sinha, Member**
2. **Shri Bhanu Bhushan, Member**

Petition No. 197/2004

In the matter of

Approval of generation tariff of Salal Hydroelectric Project for the period 1.4.2004 to 31.3.2009

And in the matter of

National Hydroelectric Power Corporation Ltd.

...

Petitioner

Vs

1. Punjab State Electricity Board, Patiala
2. Haryana Vidyut Prasaran Nigam Ltd., Panchkula
3. Delhi Vidyut Board, New Delhi
4. Uttar Pradesh Power Corporation Ltd., Lucknow
5. BSES Rajdhani Power Ltd., New Delhi
6. Rajasthan Rajya Vidyut Prasaran Nigam Ltd., Jaipur
7. BSES Yamuna Power Ltd., New Delhi
8. North Delhi Power Ltd., Delhi
9. Jaipur Vidyut Vitaran Nigam Ltd., Jaipur
10. Power Transmission Corporation of Uttaranchal Ltd., Dehradun
11. Jodhpur Vidyut Vitaran Nigam Ltd., Jodhpur
12. Himachal Pradesh State Electricity Board, Shimla
13. Ajmer Vidyut Vitaran Nigam Ltd., Ajmer
14. Chief Engineer & Secy, Engineering Deptt. Chandigarh
15. Power Development Deptt. Govt of Jammu & Kashmir, Jammu

...**Respondents**

The following were present

1. Shri C. Vinod, Engineer, NHPC
 2. Shri Ansuman Ray, NHPC
 3. Shri Nain Singh, NHPC
 4. Er. P. Kumar, Dy Manager, NHPC
 5. Shri Prashant Kaul, NHPC
 6. Shri A.K. Srivastava, NHPC
 7. Shri Jayant Kumar, NHPC
 8. Shri L.N. Bhardwaj, NHPC
 9. Shri Vijay Ranjan, NHPC
 10. Shri S.D. Tripathi, NHPC
 11. Shri Naveen Samriya, NHPC
 12. Shri R.S. Batra, NHPC
 13. Shri T.P.S Bawa, OSD (Comml.), PSEB
 14. Shri V.K. Gupta, Consultant, PSEB
 15. Shri Yeshpal Singh, Jodhpur Discom
 16. Shri R.K. Arora, XEN, HPGCL
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ORDER
(DATE OF HEARING : 17.11.2005)

This petition has been filed by the petitioner, National Hydroelectric Power Corporation Ltd., (NHPC) a generating company owned and controlled by the Central Government, for approval of tariff in respect of Salal Hydroelectric Project Stage I & II (3x115 MW + 3x115 MW) (hereinafter referred to as “the generating station”) for the period from 1.4.2004 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 three units of Stage I of the generating station were commissioned during November 1987. The units of the Stage II of the generating station were commissioned during the period from July 1993 to April 1995.

3. The revised investment approval for Stage I of the generating station was accorded by Ministry of Power vide its letter dated 9.6.1997, according to which the generation portion of the project was completed at Rs.62121 lakh, including IDC of Rs.6476 lakh. Ministry of Power also accorded its approval on 3.6.1999 to the capital investment of Rs.6147 lakh, including IDC of Rs.635 lakh for the renovation and modernization of Stage I of the generating station. The final approval for capital investment for Stage II of the generating station was accorded by Ministry of Power under letter dated 22.10.1997 at a cost of Rs.30768 lakh (net). Thus, the aggregated approved cost of the generating station is Rs. 99036 lakh.

4. The tariff for the generating station for the period ending 31.3.2004 was approved by the Commission vide its order dated 29.10.2004 in Petition No 64/2001

based on capital cost of Rs. 93899 lakh as on 31.3.2001. Subsequently, vide order dated 1.2.2006 in Petition No 85/2005, the Commission approved de-capitalisation of Rs. 2291.35 lakh for the period 1.4.2001 to 31.3.2004, and after a further deduction of Rs.176.70 lakh on account of assets not in use, arrived at the capital base of Rs. 91430.95 lakh (not accounting for impact of FERV) as on 31.3.2004, for the purpose determination of tariff as on 1.4.2004, against the aggregated approved cost of Rs. 99036 lakh. The Commission further ordered that the cost of servicing of investment on the additional expenditure would be reimbursed to the petitioner in tariff for the period 2004-09. The details of the de-capitalisation approved are given hereunder:

(Rs. in lakh)

2001-2002	374.08
2002-2003	1134.67
2003-2004	782.60
Total	2291.35

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

(Rs. in lakh)

Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	2204.16	2204.16	2204.16	1903.56	1903.56
Interest on Loan	495.54	218.49	109.24	0.00	0.00
Return on Equity	6966.75	6966.75	6966.75	6966.75	6966.75
Advance Against Depreciation	1944.76	0.00	83.69	0.00	0.00
Interest on Working Capital	540.79	518.56	535.34	544.84	563.84
O & M Expenses	7573.32	7876.25	8191.30	8518.95	8859.71
TOTAL	19725.32	17784.21	18090.49	17934.10	18293.86

6. The details of working capital furnished by the petitioner and its claim for interest thereon are summarised hereunder:

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance spares	1357.34	1438.78	1525.11	1616.62	1713.62
O & M expenses - 1 month	631.11	656.35	682.61	709.91	738.31
Receivables- 2 months	3287.55	2964.04	3015.08	2989.02	3048.98
Total Working Capital	5276.00	5059.17	5222.80	5315.55	5500.91
Interest Rate	10.25%	10.25%	10.25%	10.25%	10.25%
Interest on Working Capital	540.79	518.56	535.34	544.84	563.84

7. The reply to the petition was filed by Jodhpur Vidyut Vitaran Nigam Ltd., Ajmer Vidyut Vitaran Nigam Ltd., Jaipur Vidyut Vitaran Nigam Ltd., Uttar Pradesh Power Corporation Ltd., The other respondents have not filed their reply. The petitioner has published notices in accordance with the procedure specified by the Commission. However, no objections or suggestions have been received in response to these notices.

8. Before we consider the details of tariff, a general issue regarding treatment of depreciation when it exceeds repayment of loan in a year raised is being considered since this is one of the first orders for the period 1.4.2004 to 31.3.2009 in a petition filed by the present petitioner and this will set precedent for decision in other cases.

9. Before we attempt a detailed analysis of the matter, the relevant provisions of the 2004 regulations need to be taken note of. These regulations, *inter alia*, provide as under:

- (a) In case any moratorium period is availed of by the generating company or the transmission licensee, depreciation provided for in the tariff during the years of moratorium is treated as repayment during those years and interest on loan capital is calculated accordingly.
- (b) Depreciation is calculated annually, based on straight line method over the useful life of the asset and at the rates prescribed in the regulations.

The residual value of the asset is considered as 10% and depreciation is allowed up to maximum of 90% of the historical capital cost of the asset. Land is not a depreciable asset and its cost is excluded from the capital cost while computing 90% of the historical cost

of the asset. The historical capital cost of the asset includes additional capitalization on account of Foreign Exchange Rate Variation up to 31.3.2004 already allowed by the Central Government/Commission.

- (c) On repayment of entire loan the remaining depreciable value is to be spread over to the balance useful life of the asset.
- (d) In addition to allowable depreciation, the generating company or the transmission licensee is 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 $1/10^{\text{th}}$ of loan amount as per regulation 20 minus depreciation as per schedule

Advance Against Depreciation is permitted only if the cumulative repayment up to a particular year exceeds the cumulative depreciation up to that year and Advance Against Depreciation in a year is restricted to the extent of difference between cumulative repayment and cumulative depreciation up to that year.

10. From the above, it is to be seen that the 2004 regulations do not contain any express provision as regards the adjustment of depreciation against repayment of loan when it exceeds the amount of repayment in a year. Some of the State utilities in other petitions have in their replies argued that notwithstanding absence of any specific provision for adjustment of excess depreciation against the repayment of loan, the combined reading of the above-noted provisions of the 2004 regulations, leads to an inference that the excess depreciation has to be taken as repayment of loan.

11. In the first instance, we take notice of the historical background. Prior to 1992, the tariff in respect central power sector utilities was determined through the Power Purchase Agreements signed by such utilities with the State beneficiaries, as single part tariff. The Central Government constituted a Committee under the Chairmanship of Shri K.P. Rao, the then Member CEA to formulate principles and normative parameters for working out tariff for sale of power from NTPC and NHPC generating stations. The Committee in its report, *inter alia*, recommended two-part tariff and merit order operation of the power plant. The Committee recommended that the loans would be progressively reduced to the extent these have been repaid as per repayment schedule and once the loans are totally repaid and reduced to zero, the tariff would not include any interest element and the equity element would remain constant up to that stage. It was further provided in the report that after the loans were reduced to zero, equity component would progressively be reduced to the extent of further depreciation and return on equity would be determined on the basis of the equity component as reduced from year to year. The Central Government vide Department of Power letter dated 5.7.1991 conveyed that the Committee's report should be adopted without any modification with effect from 1.4.1991. Incidentally, till that time there was no specific provision in law under which the Central Government could lay down norms for determination of tariff though as owner of the petitioner and NHPC, it could issue suitable guidelines to these utilities.

12. With effect from 15.10.1991 section 43A was introduced in the Electricity (Supply) Act, 1948, which enabled the Central Government and CEA to prescribe financial and operational norms respectively for determination of tariff. The newly added section 43A (2) also empowered the Central and State Governments to determine the terms, conditions and tariff for sale of electricity in respect of the

generating companies wholly or partly owned by these Governments. Despite the fact that the Central Government had decided to adopt the report without any modification, the particular recommendation regarding reduction of equity was not given effect to either in the general notification dated 30.3.1992 issued under section 43A (2) of the Electricity (Supply) Act, 1948 or the project-specific notifications in respect of NTPC and NHPC generating stations. On the question of interest on loan it was provided in the notifications that interest on loan capital would be computed on the outstanding loans, including the schedule of repayment, as per the financial package approved by CEA. It was further provided that return on equity would be computed on the paid up and subscribed capital. Under the notifications, depreciation was recoverable in tariff based on the rates of depreciation notified by the Central Government from time to time.

13. The terms and conditions prescribed by the Central Government were continued up to 31.3.2001. With effect from 1.4.2001, the terms and conditions for determination of tariff as contained in the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2001 (the 2001 regulations) became applicable. The 2001 regulations provided that interest on loan capital would be computed on the outstanding loans, taking into account the schedule of repayment as per the financial package approved by CEA or an Appropriate Agency. It was provided that return on equity would be computed on the paid up and subscribed capital. It would thus be seen that as regards interest on loan and return on equity, the provisions of the notifications earlier issued by the Central Government were generally retained. However, certain changes were made as regards recovery of depreciation. In the 2001 regulations it was provided that the value base for the purpose of depreciation would be the historical cost of the asset and would be

calculated annually as per straight line method at the specified rates. It was further provided that total depreciation during the life of the project would not exceed 90% of the approved original cost and on repayment of loan, the remaining depreciable value would be spread over the balance useful life. A new concept of Advance Against Depreciation was made applicable to thermal power generating stations. According to this, Advance Against Depreciation was permitted in addition to allowable depreciation where originally scheduled loan repayment exceeded the depreciation allowable. Therefore, under the 2001 regulations for the first time, some linkage was established between depreciation and the repayment of loan. The Commission in its order dated 20.12.2000 gave the following reasons for allowing Advance Against Depreciation:

“It is worthwhile to bring about uniformity in the method of charging depreciation across the entire electricity sector covering the thermal and hydro generation as well as transmission. This could be achieved either by providing further accelerated depreciation for hydro and transmission projects or by providing advance against depreciation for repayment of loans in the case of thermal and transmission projects as well. Along with extending advance against depreciation, it is appropriate that the depreciation rates would then have to be linked to the fair life of the various assets. Thus, depreciation rates which were prevailing before 1992 could broadly become the relevant rates subject of course to any revision in estimation of useful life of the asset which was done in 1992 and 1994. This would smoothen out the tariff, reduce tariff shocks due to excessive front loading of tariff, bring uniformity of depreciation rates across various utilities etc. As far as the utilities are concerned, their debt service obligations are to be fully met subject to application of test of prudence with regard to the duration of loan which has been recognised as 12 years in the case of existing hydro stations. The utilities would also do well to manage their finance by resorting to refinancing etc by which they can create opportunities for optimising their financing cost and reduce interest burden, which shall accrue to them exclusively.

We do recognise that the above may result in some reduction in the cash flow to utilities which are presently using accelerated depreciation. However, no utility shall suffer on account of lack of funds for repayment of loans as the concept of advance against depreciation is a flexible measure. It should be ensured that once the loans are repaid the depreciation rates are readjusted to spread the balance depreciable value over the balance life of the assets.”

14. The terms and conditions as contained in the 2001 regulations were valid up to 31.3.2004. Therefore, the Commission undertook an exercise for formulation of terms and conditions for determination of tariff applicable from 1.4.2004. In the first instance, the Commission had invited views of the stakeholders and other interested persons on the 2001 regulations. In response, a suggestion was made that the loan repayment should match the depreciation because in some cases loan repayment could start later due to moratorium period. It was also suggested that the provision for Advance Against Depreciation should be omitted or it should be provided only when the cumulative depreciation allowable is less than the original scheduled loan repayment on cumulative basis. The State utilities had also raised the issue of reduction of equity corresponding to recovery of depreciation after the loan is fully repaid, as recommended by the K.P. Rao Committee. These aspects were deliberated in the Discussion Paper on terms and conditions of tariff circulated by the Commission in June 2003. On further consideration of the responses received on the Discussion Paper, the Commission formulated draft regulations on the terms and conditions of tariff applicable from 1.4.2004, elaborately dealing with the genesis for the provisions made therein. The draft regulations provided that interest on loan capital would be computed duly taking into account the schedule of repayment and actual interest rate. It was provided that in case of the existing projects, the normative loan outstanding would be considered as the opening loan and the repayment would be worked out on normative basis. On the question of return on equity, the suggestion made by the State utilities for its reduction corresponding to depreciation recovered was not incorporated in the draft regulations. As regards depreciation and Advance Against Depreciation, the provisions made in the 2001 regulations were generally retained in the draft regulations.

15. The suggestions and objections received on the draft regulations were considered by the Commission in its order dated 29.3.2004. In response to the draft regulations, the State utilities had pleaded that in the past, central power sector utilities contracted loans with a moratorium period extending beyond the date of commercial operation and in all such cases the interest on loan was passed on to the beneficiaries without considering any repayment during the moratorium period. This issue was considered threadbare and the Commission decided that in case any moratorium period is availed of by the central power sector utilities, the repayment during such period should be reckoned as depreciation provided in tariff during that year and the interest on loan would be calculated accordingly. The relevant extract from the order is placed below:-

“89. We have also applied our mind to the issue of moratorium period after the commercial operation date. The effect of moratorium period is to increase the liability on account of interest on loan. In case the loan is repaid from the date of commercial operation, the interest liability would be going down on a year to year basis. We are, therefore, of the view that the moratorium period only benefits the central power sector utilities at the cost of the beneficiaries. We are keen to correct this situation and accordingly we have decided that in case any moratorium period is availed of by the central power sector utilities, the depreciation shall be reckoned as repayment during such moratorium period and the interest on loan shall be calculated accordingly. This arrangement is equitable to both i.e. the central power sector utilities and the beneficiaries inasmuch as the central power sector utilities would have sufficient cash flows during the moratorium period of loans, while the beneficiaries would get the benefit of reduction in the interest.”

16. The above decision of the Commission has been notified in the 2004 regulations, as given at para 9 (a) above. In this manner, the 2004 regulations moved towards further strengthening the bond between depreciation and loan repayment and this has brought material change in the position on the nexus between the two.

17. It would, however, be seen that when the terms and conditions for determination of tariff applicable from 1.4.2004 were being formulated, the issue was

raised on behalf of the State beneficiaries to co-relate depreciation with repayment of loan so that depreciation recovered should be treated as repayment in case of loans with moratorium period. The issue of adjusting excess depreciation against repayment of loan generally was not raised or considered or decided.

18. The argument for adjusting excess amount of depreciation against repayment of loan is that the 2004 regulations provide for considering depreciation against repayment of loan where there is a moratorium period. The 2004 regulations also provide for Advance Against Depreciation where depreciation is less than the amount of repayment, (subject to 1/10th of the gross loan) to provide for cash flow to facilitate repayment. It has been urged that though the 2004 regulations are silent on the question of adjustment of depreciation, when depreciation exceeds repayment amount, provision has to be read into these regulations by implication, that being a situation in between the two positions expressly covered. It is also urged that unless the provision is so implied, the central power sector utilities, by not repaying the loans or contracting loans with longer tenor, be able to recover depreciation at accelerated rates, since so long as loan is outstanding, and is not fully paid, depreciation is recoverable in tariff based on the depreciation rates specified by the Commission and after entire repayment of loan, the amount of depreciation each year gets considerably reduced, because in such case, balance recoverable depreciation is spread over the balance useful life of the asset, in accordance with para 9 (c) above.

19. There is a well known principle of statutory interpretation called "*expressio unius est exclusio alterius*" which means that express enactment shuts the door to further implication. This has been interpreted to mean that where an expressly prescribed one or more particular modes of dealing with property are provided, such expression

always excludes any other mode, except as specifically authorised. It has, however, been held that for application of the principle it is not enough that the express and the tacit are incongruous; it must be clear that they cannot be reasonably be intended to co-exist. The courts have observed that the rule has to be applied with great caution for it is neither conclusive nor of universal application. The Hon'ble Supreme Court in *Asstt Collector of Central Excise Vs National Tobacco Co.* [(1972) 2 SCC 560] observed that the rule, is often a valuable servant, but a dangerous master and further held that the rule is subservient to the basic principle that courts must endeavour to ascertain the legislative intent and purpose, and then adopt a rule of construction which effectuates rather than the one that may defeat them. Maxwell on Interpretation of Statutes (12th Edition – Page 296) has stated that “the maxim ought not be applied when its application, having regard to the subject-matter to which it is to be applied, leads to inconsistency and injustice”.

20. The strict application of the principle will lead to the conclusion that when depreciation recovered exceeds the amount of repayment, the excess amount cannot be considered as repayment since the express provisions in the 2004 regulations are made for other purposes, and not for this purpose.

21. But, such an interpretation will appear to be inconsistent with the other provisions of the 2004 regulations and will do injustice to the State beneficiaries. The 2004 regulations provide that whenever the repayment amount exceeds the depreciation recovered, excess amount is to be allowed as Advance Against Depreciation. The converse of it should also be taken as true, which would mean that where depreciation exceeds the actual repayment, the excess amount is taken as repayment of loan; otherwise the State beneficiaries will be put to hardship and will be

subjected to injustice. It is also to be noted that under the 2004 regulations when there is no actual repayment, (as during the moratorium period) the depreciation recovered is adjusted against loan repayment. Non-adjustment of depreciation against repayment of loan where depreciation is more will lead to illogical results. For example, where amount of repayment is only nominal, depreciation is not adjusted against repayment of loan, but when repayment is 'nil', depreciation is considered as repayment of loan. This interpretation may afford opportunity to the central power sector utilities for maneuvering their affairs in such a manner that they contract loans in such a manner that the loan repayments, howsoever small in amount, always remain outstanding. This cannot be the intention of the 2004 regulations which were based on equitable considerations, as extracted at para 14 above. Thus, rigid observance of the maxim "*expressio unius est exclusio alterius*" in this case would lead to a wholly irrational situation, make other provisions of the 2004 regulations inconsistent and absurd, and result in injustice. Therefore, strict interpretation of the 2004 regulations based on the rule should not be permitted. It was an omission not to consider the matter in the context of the issue presently before us. The conclusion, therefore, is that when depreciation recovered in a year is more than the amount of repayment during that year, the entire amount of depreciation is to be considered as repayment of loan for tariff computation. This interpretation will coexist with the specific provisions of the 2004 regulations, adverted to at para 8 above, and will be in consonance with the intent and object the provision of these regulations which lays down that in case of moratorium, depreciation will be considered as repayment of loan.

22. Similar approach has been adopted by the Commission, while approving tariff in respect the generating stations owned by NTPC and of the transmission assets of

PGCIL, and in the interest of consistency and continuity of approach same methodology needs to be followed in case of the petitioner also.

CAPITAL COST

23. As per the second proviso to Regulation 33 of the 2004 regulations in case of the generating stations existing up to 31.3.2004, the capital cost admitted by the Commission for determination of tariff prior to 1.4.2004 shall form the basis for determination of tariff.

24. The petitioner has considered the capital expenditure of Rs. 93845.29 lakh after accounting for Rs. 53.71 lakh on account of de-capitalization on works and additional capitalisation on account of FERV for the period 1.4.2001 to 31.3.2004 over the capital expenditure of Rs. 93899 lakh admitted by the Commission in the order dated 29.10.2004 *ibid*. The details of FERV claimed by the petitioner are as follows:

Year	Amount of FERV (Rs. In lakh)
2001-02	7.32
2002-03	(-) 1.44
2003-04	0.00
Total	5.88

25. The Commission vide its order dated 1.2.2006 in Petition No.85/2005 has decided that the opening capital cost for the purpose of tariff for the period 2004-09 as on 1.4.2004 shall be Rs.91430.95 lakh after considering de-capitalisation for the period 1.4.2001 to 31.3.2004 and also the assets not in use as on 31.3.2004 This has been adopted for the purpose of tariff determination in the present petition. Now we consider the additional capitalisation on account of FERV.

FERV/Extra Rupee Liability during the years 2001-04

26. Regulation 1.13 (a) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2001 provided as under:

- (a) Extra rupee liability towards interest payment and loan repayment actually incurred, in the relevant year shall be admissible; provided it directly arises out of foreign exchange rate variation and is not attributable to Utility or its suppliers or contractors. Every utility shall follow the method as per the Accounting Standard-11 (Eleven) as issued by the Institute of Chartered Accountants of India to calculate the impact of exchange rate variation on loan repayment
- (b) Any foreign exchange rate variation to the extent of the dividend paid out on the permissible equity contributed in foreign currency, subject to the ceiling of permissible return shall be admissible. This as and when paid, may be spread over the twelve-month period in arrears

27. Regulation 1.7 of the 2001 regulations further provided that recovery of foreign exchange rate variation would be done directly by the utilities from the beneficiaries without filing a petition before the Commission. In case of any objections by the beneficiaries to the amounts claimed on these counts, they may file an appropriate petition before the Commission.

28. The petitioner's claim for capitalization of Rs.5.88 lakh on account of FERV, is matching with calculations submitted and is in accordance with AS-11 applicable up to 31.3.2004. The respondents have not objected to the petitioner's claim under this head. The claim has accordingly been admitted for tariff calculations.

29. Based on the above, after adjustment of FERV of Rs 5.88 lakh, the gross block as on 1.4.2004 comes to Rs.91436.81 lakh as per details given hereunder:

(Rs. in lakh)	
Capital cost admitted as on 31.3.2001.	93899.00
Additional Capitalization as approved for the years 2001-2004	(-) 2468.06
FERV admitted for the tariff period 2001-2004	5.88
Opening capital cost as on 1.4.2004 for the tariff period 2004-2009	91436.81

DEBT-EQUITY RATIO

30. Clause (1) of Regulation 36 of the 2004 regulations *inter alia* provides that in case of the existing generating stations, debt–equity ratio Considered by the Commission for fixation of tariff for the period ending 31.3.2004 shall be considered for determination of tariff.

31. The petitioner has claimed tariff on the basis of debt and equity of 46.97:53.03 as considered by the Central Government while approving capital structure vide notification dated 26.3.1999 and consequently adopted by the Commission in the order dated 29.10.2004 *ibid*. The amount of de-capitalisation as claimed has been deducted from the loan and equity as on 1.4.2004 on the same basis.

32. It is noted that the petitioner in Annexure to Form No. 1 in the petition has shown the capital cost, and financing of capital cost as under:

Particulars	Amount (Rs. in lakh)	Percentage
Capital cost as on 31.3.2004	93845.29	
Equity	49791.00	53.06%
Debt	44108.00	47.00%
Reduction due to de-capitalisation	(-)53.71	(-)0.06%
Total Funding	93845.29	100.00%

33. Debt and equity allowed to finance the capital expenditure by order dated 29.10.2004 has been considered in the calculation. De-capitalisation for the years 2001-02 to 2003-04 (taken en block) amounting to Rs. 2291.36 lakh and assets amounting to Rs. 176.70 lakh declared as not in use by the petitioner as on 1.4.2004 and FERV for the years 2001-02, 2002-03 and 2003-04 (taken en block) amounting to Rs. 5.88 lakh have been segregated in such a way, so as to keep overall debt-equity ratio of 46.97:53.03, notified by the Central Government vide notification dated 26.3.1999 for the tariff period from 1.4.1997 to 31.03.2002 and subsequently adopted by the Commission for the tariff period 2001-04. Accordingly, the adjusted debt-equity ratio is same i.e. 46.97:53.03 as was considered in 2001-04 tariff determination. The equity as on 1.4.2004 works out to Rs.48485.63 lakh and the normative loan to Rs.42951.18 lakh.

NORMATIVE CAPACITY INDEX

34. The generating station is operating as purely run-of-river type scheme. Its annual normative capacity index as per the 2004 regulations shall be taken as 90% for the tariff period 2004-09. There shall be *pro rata* recovery of capacity charge in case the generating station achieves capacity index below the normative levels. At zero capacity index during any month, no capacity charges shall be payable to the generating station.

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 20 @ 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. The petitioner has claimed return on equity of Rs.49762.52 lakh after accounting for equity on account of de-capitalization on works and FERV for the period 1.4.2001 to 31.3.2004.

37. The equity as on 1.4.2004 works out to Rs.48485.63 lakh and the petitioner's entitlement towards return on equity @ 14% works out to Rs.6787.99 lakh per annum.

INTEREST ON LOAN

38. Clause (i) of regulation 38 of the 2004 regulations *inter alia* provides that,-

(a) Interest on loan capital shall be computed loan-wise on the loans arrived at in the manner indicated in regulation 20.

(b) The loan outstanding as on 1.4.2004 shall be worked out as the gross loan as per regulation 20 minus cumulative repayment as admitted by the Commission for the period up to 31.3.2004. The repayment for the period 2004-09 shall be worked out accordingly on normative basis.

(c) The generating company shall make every effort to swap the loan as long as it results in net benefit to the long-term transmission customers. The costs associated with such swapping shall be borne by the long-term transmission customers.

(d) The changes to the loan terms and conditions shall be reflected from the date of such swapping and benefits passed on to the beneficiaries.

(e) In case any moratorium period is availed of by the transmission licensee, 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.

39. The petitioner has claimed interest on loan in the following manner:

(i) Gross notional loan, up to previous year as admitted by the Commission in the order dated 29.10.2004 has been adjusted after giving due consideration for decapitalisation of Rs. 25.23 lakh and taken as the opening balance as on 1.4.2004. Cumulative repayment as on 1.4.2004 is also adjusted considering the effect of refinancing of GOI loans by M-series bonds.

(ii) Normative repayment of loan during the year is calculated using formula:

$$\text{Actual repayment of loan} \times \frac{\text{Normative net loan at the beginning of the year}}{\text{Actual net loan at the beginning of the year}}$$

(iii) On the basis of actual rate of interest on actual average loan, the weighted average rate of interest on loan is worked out for various years.

(iv) Gross loan as corrected has been considered as notional loan and the weighted average rate of interest on loan for respective years as per above has been multiplied to arrive at interest on loan.

40. The petitioner has submitted loan details up to 31.3.2004 for the tariff period 2004-09 on 2.9.2005, 14.11.2005 and 20.12.2005. Accordingly, loan allocation statement as on 1.4.2004 was prepared on the basis of:

(a) Gross loan up to 31.3.2004, repayment up to 31.3.2004 and outstanding loan as on 31.3.2004 as worked out from the loan allocation statement for the year 2003-04.

(b) Instalments of various loans for the year 2004-09 as furnished by the petitioner.

- (c) Allocation of the above instalments on the basis of outstanding loan as on 31.3.2004.
- (d) Applicable rate of interest as on 1.4.2004.

41. In our calculation, the interest on loan has been worked out as detailed below:

- (i) Details of net outstanding loan as on 31.3.2004, repayment schedule for the period 2004-09, rate of interest as on 1.4.2004, exchange rate as on 31.3.2004 etc. have been taken from above loan allocation statement worked out as above for working out weighted average rate of interest.
- (ii) Gross notional loan and cumulative repayment up to 31.3.2004 has been taken from the order dated 29.10.2004.
- (iii) Notional loan arising out of de-capitalisation/additional capitalisation and FERV during the years 2001-04 has been considered.
- (iv) Repayment of notional loan arising due to de-capitalisation/additional capitalisation and FERV during the years 2001-04 has been worked out in proportion to the repayment of actual loan during these years.
- (v) Tariff is worked out considering normative loan and normative repayments. Once the normative loan is arrived at, it is considered for all purposes in the tariff. Normative repayment is worked out by the following formula:

$$\frac{\text{Actual repayment of actual loan during the year}}{\text{Opening balance of actual loan during the year}} \times \text{Opening balance of normative loan during the year}$$

- (vi) Moratorium in repayment of loan is considered with reference to normative loan and if the normative repayment of loan during the year is less than the depreciation including AAD during the year, then depreciation including AAD during the year is deemed as normative repayment of loan during the year.
-

- (vii) Weighted average rate of interest on actual loan worked out as per (i) above is applied on the notional average loan during the year to arrive at the interest on loan.
- (viii) LIC loan amounting to Rs. 2500.00 lakh has been refinanced by the petitioner with Dena Bank loan on 4.11.2004. As this loan is refinanced after 1.4.2004 it has not been considered while determining the tariff.
- (ix) GOI loan amounting to Rs. 1378.58 lakh has been refinanced with M-Series bonds on 7.1.2002. As this refinancing has been found to be beneficial to the respondents, the effect of this refinancing has been notionally considered in 2001-04 tariff period to arrive at the cumulative repayment as on 31.03.2004 and cumulative depreciation/AAD, without revising the tariff.

42. The computations of interest on notional loan by applying weighted average interest rate are appended hereinbelow:

COMPUTATION OF INTEREST ON LOAN

(Rs. in lakh)

		2004-05	2005-06	2006-07	2007-08	2008-09
Gross loan-Opening	44107.76					
Increase/ Decrease due to Additional Capitalisation	(-)1159.34					
Increase/ Decrease due to FERV	2.76					
Gross Normative loan	42951.18	42951.18	42951.18	42951.18	42951.18	42951.18
Cumulative repayments of Loans up to previous year		37373.26	40968.60	42951.18	42951.18	42951.18
Net loan opening		5577.92	1982.58	0.00	0.00	0.00
Repayments of Loans during the year		3595.34	1982.58	0.00	0.00	0.00
Net loan-Closing		1982.58	0.00	0.00	0.00	0.00
Average Net Loan		3780.25	991.29	0.00	0.00	0.00
Weighted Average Rate of Interest		10.9528%	9.5500%	9.5500%	0.0000%	0.0000%
Interest on loan		414.05	94.67	0.00	0.00	0.00

DEPRECIATION

43. 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 capitalisation on account of Foreign Exchange Rate Variation up to 31.3.2004 already allowed by the Central Government /Commission.
- (iii) 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.

44. The petitioner has claimed the depreciation at the weighted average rate of depreciation on the fixed assets claimed by it up to financial year 2006-07. After repayment of entire loan from financial year 2007-08 and onwards, the petitioner has spread over the remaining depreciable value over the balance useful life of 23 years in accordance with the 2004 regulations.

45. The capital cost considered for working out the weighted average rate of depreciation for 2001-04 tariff is as given by the petitioner then. As the admitted

capital cost as on 1.4.2001 differs with the former cost, head-wise weights have proportionately been reduced to the admitted capital cost level as on 1.4.2001 to keep consistency in weighted average depreciation rate. Further, head-wise separation of additional capital expenditure, FERV and "Assets not in use" as on 1.4.2004 is done and added to the capital cost of 1.4.2001 to arrive at the capital cost as on 31.3.2004. On the basis of this cost, the individual head-wise weights of depreciation have been determined for calculation of weighted average rate of depreciation as on 31.3.2004. New heads for communication equipment and computers and software have been added and rates of depreciation considered for these heads are 6% and 18%.

46. While determining depreciation for the period 2001-04 the Commission vide order dated 29.10.2004 *ibid* considered the capital cost after excluding initial spares amounting to Rs. 624.00 lakh and determined the petitioner's entitlement to depreciation accordingly. For the purpose of determination of tariff in the present petition, same methodology has been adopted.

47. The Commission vide order dated 1.2.2006 has approved deletion/decapitalisation of the assets worth Rs. 2880.74 lakh from the capital cost, as also 'Assets not in use' as declared by the petitioner, as on 1.4.2004 amounting to Rs. 176.70 lakh. Against these deletions/decapitalisation and assets not in use, cumulative depreciation amounting to Rs. 1056.80 lakh has been deducted on pro-rata basis from cumulative depreciation/AAD recovered as on 31.3.2004, for determination of tariff in the present petition.

48. The gross depreciable value of the asset, as per (ii) above, is $0.9 \times$ (Rs.90812.81 lakh – Rs.526.20 lakh) = Rs.81257.95 lakh. Cumulative depreciation

and AAD recovered in tariff up to 31.3.2004 is Rs.30332.77 lakh. Remaining depreciable value as on 1.4.2004 is thus Rs.50925.19 lakh.

49. The entire loan gets repaid during 2005-06. Therefore, depreciation for the years 2006-07 to 2008-09 has been spread over to the balance useful life of the generating station. Weighted average life of the project has been worked out to 40.5 years and the mean date of commercial operation of the generating station has been taken as 1.2.1991. The balance useful life of the generating station works out to 24.5 years as on 1.4.2006.

50. Accordingly, for the period 1.4.2004 to 31.3.2006 the depreciation works out to Rs. 2123.98 lakh each year by applying rate of depreciation of 2.34% as shown below and from 1.4.2006 to 31.3.2009 depreciation works out to Rs. 1845.14 lakh each year by spreading the remaining depreciation over the balance useful life of the generating station:

(Rs. in lakh)

Details of Depreciation	Up to 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09
As per order dated 29.10.2006	93899.00					
Addition during 2001-04 due to Additional Capitalisation	-2468.06					
Addition during 2001-04 due to FERV	5.88					
Gross Block as on 31.3.2004	91436.81	91436.81	91436.81	91436.81	91436.81	91436.81
Less cost of initial spares	624.00					
Net Gross Block as on 1.4.2004	90812.81	90812.81	90812.81	90812.81	90812.81	90812.81
Rate of Depreciation	2.34%					
Depreciable Value	90%	81257.95	81257.95	81257.95	81257.95	81257.95
Balance Useful life of the asset		26.5	25.5	24.5	23.5	22.5
Remaining Depreciable Value		50925.19	47329.85	45205.86	43360.73	41515.59
Depreciation		2123.98	2123.98	1845.14	1845.14	1845.14

ADVANCE AGAINST DEPRECIATION

51. As per sub-clause (b) of clause (ii) of Regulation 56 of the 2004 regulations, in addition to allowable depreciation, the transmission licensee is entitled to Advance Against Depreciation, computed in the manner given hereunder:

AAD = Loan repayment amount as per regulation 56 (i) subject to a ceiling of 1/10th of loan amount as per regulation 54 minus depreciation as per schedule

52. It is 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. It is further provided 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.

53. The petitioner has claimed Advance Against Depreciation in the following manner, namely:

- (i) 1/10th of gross loan is worked out from the gross notional loan admitted by the Commission in the order dated 29.10.2004 along with notional loan worked out by division of de-capitalisation/additional capitalisation into notional loan and equity.
- (ii) Cumulative loan as well as repayment of notional loan during the year has been considered.
- (iii) Depreciation as claimed in the petition.

54. In addition to cumulative depreciation up to 2003-04 (excluding Advance Against Depreciation) as per the order dated 29.10.2004, depreciation on additional capital expenditure for the period 2001-04 has been added by the petitioner to arrive at total cumulative depreciation amount as on 31.3.2004.

55. In our calculations, Advance Against Depreciation has been worked in accordance with the following methodology, namely:

- (i) 1/10th of gross loan is worked out from the gross notional loan.
- (ii) Repayment of notional loan during the year as per para 41 above has been considered.
- (iii) Depreciation is worked out as per para 49 above.
- (iv) Cumulative depreciation up to 31.3.2004 is worked out considering cumulative depreciation/AAD up to 2003-04 as per the order dated 29.10.2004 and has been revised assuming the effect of refinancing of GOI loan with M-Series bonds and depreciation recovered on the additional capitalization on account of FERV.
- (v) Cumulative depreciation for calculation of AAD is worked out considering depreciation up to the year of calculation, excluding AAD of the year of calculation.

56. Based on the above, the petitioner is entitled to Advance Against Depreciation only during 2004-05 as shown hereunder:

(Rs. in lakh)

	2004-05	200506	2006-07	2007-08	2008-09
1/10 th of Gross Loan(s)	4295.12	4295.12	4295.12	4295.12	4295.12
Repayment of the Loan	3595.34	1982.58	0.00	0.00	0.00
Minimum of the above	3595.34	1982.58	0.00	0.00	0.00
Depreciation during the year	2123.98	2123.98	1845.14	1845.14	1845.14
(A) Difference	1471.35	-141.40	-1845.14	-1845.14	-1845.14
Cumulative Repayment of the Loan	40968.60	42951.18	42951.18	42951.18	42951.18
Cumulative Depreciation/ Advance against Depreciation	32456.75	36052.09	37897.23	39742.36	41587.50
(B) Difference	8511.85	6899.09	5053.96	3208.82	1363.68
Advance against Depreciation Minimum of (A) and (B)	1471.35	0.00	0.00	0.00	0.00

O&M EXPENSES

57. According to clause (v) of Regulation 38 of the 2004 regulations, O&M expenses including insurance for the existing generating stations which have been in operation for 5 years or more in the base year of 2003-04 shall be derived on the basis of actual O&M expenses for the years 1998-99 to 2002-03, based on the audited balance sheets, excluding abnormal O&M expenses, if any, after prudence

check by the Commission. The average of such normalized O&M expenses after prudence check, for the years 1998-99 to 2002-03 considered as O&M expenses for the year 2001-02 are to be escalated @ 4% per annum to arrive at the O&M expenses for the base year 2003-04. Further, the base O&M expenses for the year 2003-04 are further escalated at the rate of 4% per annum to arrive at permissible O&M expenses for the relevant year of tariff period.

58. The year-wise break-up of actual O&M expenses for the years 1998-99 to 2002-03 furnished by the petitioner based on which O&M expenses for the period 2004-05 to 2008-09 have been claimed are as follows:

(Rs. in lakh)						
S.No	Item	1998-99	1999-00	2000-01	2001-02	2002-03
1	Consumption of Stores and Spares	188.37	182.55	319.24	44.12	310.09
2	Repair and Maintenance	1101.82	1411.22	1268.69	1109.79	1200.20
3	Insurance	465.67	488.31	482.05	477.33	469.78
4	Security	334.70	361.96	365.37	445.10	397.74
5	Administrative Expenses					
	Rent	3.11	5.52	7.49	9.23	14.54
	Electricity Charges	0.26	1.12	2.79	1.13	0.98
	Traveling and conveyance	33.02	37.94	36.74	42.54	48.41
	Telephone, telex and postage	13.18	12.41	13.96	17.34	26.64
	Advertising	16.99	4.83	18.35	10.88	15.24
	Entertainment	0.47	0.17	0.43	1.23	0.30
	Other Misc. Expenses	50.06	61.65	70.56	75.04	249.97
	Sub-total (Administrative Expenses)	117.09	123.64	150.32	157.39	356.08
6	Employee Cost					
	Salaries, wages and allowances	3511.21	2354.79	3816.84	3325.22	3705.29
	Staff welfare expenses	1008.31	444.30	664.42	874.01	1005.09
	Productivity linked incentive	287.10	135.86	76.93	102.56	73.97
	Sub-total	4806.62	2934.95	4558.19	4301.79	4784.35
7	Corporate office expenses allocation	220.34	165.13	133.34	168.61	176.18
8	Total (1 to 7)	7234.61	5667.76	7277.20	6704.13	7694.42
	LESS: Recoveries	85.91	59.31	48.66	45.66	78.03
9	Net Expenses	7148.70	5608.45	7228.54	6658.48	7616.39
10	Less abnormal O&M expenses					
	Siltation	87.36	456.95			
	Overstaffing	1037.63				
	Total O&M Expenses	6023.71	5151.50	7228.54	6658.48	7616.39

59. The petitioner has furnished the following details of the employees:

Executives	151	131	116	120	130
Non-Executives	2230	1736	1372	1357	1023
Total	2831	1867	1488	1477	1153

60. Based on the methodology specified in the 2004 regulations, the petitioner has claimed the following O&M expenses for the tariff period 2004-09.

(Rs. in lakh)

Year	O&M
2004-05	7573.32
2005-06	7876.25
2006-07	8191.30
2007-08	8518.95
2008-09	8859.71

61. Major components of O&M expenses are:

- (a) Consumption of stores and spares
- (b) Repairs & maintenance
- (c) Insurance
- (d) Security
- (e) Employees cost
- (f) Corporate office's expenses

62. The petitioner has furnished reasons wherever O&M expenses during a year exceed the expenses for the previous year. During the hearing of the petition held on 17.11.2005, it was noticed that in case of repairs and maintenance, works and consumption of stores and spares, there were fluctuations in expenditure during certain years. The petitioner had explained that consumption of stores and spares had increased with normal wear and tear of the machinery. It was observed that the reasons furnished by the petitioner regarding higher O&M expenses in such cases were either inadequate or unsatisfactory. The petitioner was directed to furnish additional details of O&M expenses claimed under the above categories for the years 1998-99 to 2002-03.

63. It was further noted that in Petition No. 85/2005, regarding additional capitalization of expenditure for the generating station for the period 2001-04, the petitioner had claimed sums of Rs. 740.81 lakh and Rs. 1463.21 lakh on account of capitalization of spares during the years 2002-03 and 2003-04 respectively. In its order dated 1.2.2006 in Petition No. 85/2005, the Commission had disallowed the additional capital expenditure claimed on account of capitalization of spares during the years 2002-03 and 2003-04. However, actual amount of spares consumed for the purpose of Repairs & Maintenance during the years 2002-03 and 2003-04 are to be considered under "O&M expenses" of the generating station. The petitioner has submitted a list of spares amounting to Rs. 310.09 lakh and Rs. 150.65 lakh actually consumed during the years 2002-03 and 2003-04 respectively.

64. Further, according to the information given by the petitioner in the previous tariff period, insurance expenses were on account of corporate policy of providing insurance coverage to all fixed assets of the generating station. Since the expenses of about Rs. 5 crore per year on insurance coverage appeared to be of high order, the petitioner was directed to furnish details of the terms and conditions of insurance coverage, including the exigencies for insurance of various assets.

65. It was also noted that during the year 1998-99, expenses on salaries, wages and allowances including welfare expenses and productivity-linked incentive were about Rs. 48 crore. These expenses had gone down to Rs 29 crore in the year 1999-00 and again increased to Rs. 46 crore during 2000-01 and remained more or less constant in the years 2001-02 and 2002-03. The petitioner was directed to clarify the reasons for the same.

66. The petitioner subsequently furnished the requisite details vide affidavit dated 18.1.2006 and further clarifications dated 1.3.2006.

67. O&M expenses claimed by the petitioner with reference to the table given under para 58 above are discussed in the following paragraphs.

Consumption of Stores & Spares and Repairs & Maintenance

68. The expenditure stated to have been incurred by the petitioner under the heads "Consumption of Stores & Spares and Repairs & Maintenance " in respect of Salal HE station during the years 1998-99 to 2002-03 is as follows:

(Rs. in lakh)

Year	1998-99	1999-00	2000-01	2001-02	2002-03
Consumption of Stores & Spares	188.37	182.55	319.24	44.12	310.09
Repairs & Maintenance	1101.82	1411.22	1268.69	1109.79	1200.20

69. The petitioner has clarified that by virtue of their very nature, these expenses are liable to be erratic because of the fact that some of routine expenditures are of regular nature whereas others shall be as per actual repairs and maintenance requirement based on planning of repair and maintenance works varying from year to year.

70. The nature of repair and maintenance (R&M) expenses covered are- R&M of plant & machinery, R&M of office buildings, staff colonies, PH building, vehicles like buses, trucks, cars, R&M of roads & bridges, electrical installations, water supply, furniture & fixture, computer, barrage etc. The quantum of these variations shall further depend upon the number of generating units taken on major capital maintenance, quantity and type of spares consumed for replacement of damaged components during the year, special repairs of civil structures, if any, like spillway, silt

excluder gallery, intake area, HRT, hydro mechanical equipments i.e. radial & penstock gates etc. of the power plant to be undertaken during the year as per site requirement; frequency of specified repair and maintenance cycles of each components; besides other repair & maintenance works such as white washing, painting of residential and non-residential buildings and other civil works to be taken as per pre-determined cycles (whose expenses may not be incurred every year).

71. Apart from above, sometime replacement of any major component like lower ring, top cover, turbine shaft, bearing pads etc may shoot up the quantum of expenditure incurred in a particular year. Therefore, such increase/ decrease in O&M expenses are very common and normal feature as per yearly requirements and cannot be considered abnormal.

72. Higher expenditure in consumption of stores and spares during the years 2000-01 and 2002-03 has been attributed due to following works:

2000-01: Due to capital maintenance, existing lower ring and guide vanes were replaced by new one resulting in higher expenditure in consumption of stores and spares.

2002-03: Because of replacement of -

- (i) Upper labyrinth for Rs. 11 lakh
- (ii) Turbine bearing pads for Rs. 15 lakh
- (iii) Lower ring with bushes for Rs. 75 lakh
- (iv) Revolving sleeves for Rs. 16 lakh
- (v) 8 nos. stator air coolers for Rs. 79 lakh

73. Higher expenditure on repair and maintenance during the year 1999-00 has been attributed due to following works:

1999-00: Because of repairs carried out on runners of units 1&3 (Rs. 247 lakh) and special repair of spillways galleries & flip bucket concrete with fiber reinforced concrete & epoxy material (Rs. 195 lakh)

Remaining years: Expenditure on repairs and maintenance works in the remaining years were of the same order.

74. The justification provided by the petitioner is found to be satisfactory, and hence expenditure on repair and maintenance works and consumption of stores and spares has been allowed for calculation of O&M for the tariff period 2004-09. Thus, during the year 2002-03, spares amounting to Rs. 310.09 lakh actually consumed have been considered for O&M calculations in this petition.

Insurance coverage

75. Expenditure on account of Insurance coverage submitted by the petitioner is as follows:

(Rs. in lakh)

Year	1998-99	1999-00	2000-01	2001-02	2002-03
Insurance	465.67	488.31	482.05	477.33	469.78

76. The petitioner vide affidavit dated 12.12.2005 has submitted that as per its policy, it was to establish a self-insurance reserve/fund in respect of O.M. projects by transferring on year to year basis an amount equal to 0.5% of the gross block of the assets. This reserve/fund is to be utilized for losses of assets due to fire, storm, cyclones, earthquake, landslides, terrorist activities (added in May, 2002), floods

(added in September, 2005), but not for the routine wear and tear, repair and maintenance etc, accidents or breakdown of machinery or shortage of inventory or insurance of human life. According to the petitioner, it was also decided that losses of nature mentioned above shall be assessed by a Committee to be constituted for the purpose by its CMD and actual losses based on accepted recommendations of the Committee shall be reimbursed from the fund.

77. The reasons for insurance coverage and nature assets covered as submitted by the petitioner are satisfactory. Further, the annual expenditure incurred on insurance coverage (around Rs. 5 crore) is around 0.5% of the capital cost of the the generating station admitted by the Commission as on 1.4.2001. Hence expenses towards insurance coverage have been allowed.

Security

78. Expenditure on account of security claimed by the petitioner is as follows:

(Rs. in lakh)					
Year	1998-99	1999-00	2000-01	2001-02	2002-03
Security expenses	334.70	361.96	365.37	445.10	397.74

79. The petitioner has submitted that the generating station is located in sensitive area of J&K State. Security charges are being paid to CISF on the basis of bills raised by them. Security expenses were comparatively higher in the year 2001-02 due to replacement of uniform to security personnel (Rs. 34 lakh) and reimbursement of cost of arms and ammunition (Rs. 46 lakh). Security expenses have remained almost constant during the remaining years of the period 1998-99 to 2002-03.

80. On consideration of the facts placed on record, the security expenses as claimed have been allowed.

Administrative expenses

81. The details of administrative expenses incurred are as below:

(Rs. in lakh)					
Administrative Expenses	1998-99	1999-00	2000-01	2001-02	2002-03
Rent	3.11	5.52	7.49	9.23	14.54
Electricity Charges	0.26	1.12	2.79	1.13	0.98
Traveling and conveyance	33.02	37.94	36.74	42.54	48.41
Telephone, telex and postage	13.18	12.41	13.96	17.34	26.64
Advertising	16.99	4.83	18.35	10.88	15.24
Entertainment	0.47	0.17	0.43	1.23	0.30
Other Misc. expenses	50.06	61.65	70.56	75.04	249.97
Total (Administrative Expenses)	117.09	123.64	150.32	157.39	356.08

82. There is no significant variation in the expenses like rent, electricity charges, traveling charges, telephone, telex & postage entertainment etc. The "other miscellaneous expenses" include - printing & stationery, loss on sale of assets, consultancy charges, income tax on consultant, books & journals, legal expenses, departmental meetings, environment & ecology, payment of compensation of land awarded by district judge etc. The "other miscellaneous expenses" of Rs. 249.97 lakh claimed in the year 2002-03 are abnormally high compared to other years. The petitioner has submitted that this expenditure is due to payment of sales tax as per demand by J&K Sales Tax Department and writing off of the stores due to obsolescence. In our view, any loss due to obsolescence is not to be considered for tariff purpose. Such losses of stores and other assets should be borne by the petitioner and should not be charged to beneficiaries. Therefore, the following expenses have not been considered for normalization:

(Rs. in lakh)					
Year	1998-99	1999-00	2000-01	2001-02	2002-03
Loss of stores/ written off	0.26	2.20	14.49	2.21	146.98

83. Thus, the following administrative expenses during the period 1998-99 to 2002-03 have been allowed for calculation of O&M cost:

(Rs. in lakh)					
Year	1998-99	1999-00	2000-01	2001-02	2002-03
(a) Total Administrative Expenses claimed	117.09	123.64	150.32	157.39	356.08
(b) Not allowed (-)	0.26	2.20	14.49	2.21	146.98
Total Administrative expenses allowed (a)-(b)	116.83	121.44	135.83	155.18	209.10

Employees cost

84. The expenses on account of employees cost forms major part of the total O&M expenses, the average employee cost being about 66% of the total average O&M cost during 1998-99 to 2002-03. The comparative figures of other generating stations of the petitioner have been tabulated below:

Project	Average Employee Cost (Rs. in Crore)	Average Total O&M Cost (Rs. in Crore)	%age of Avg. Employee cost to Total avg. O&M cost during 1998-99 to 2002-03
Tanakpur	11.32	19.68	58%
Baira siul	17.82	26.64	67%
Chamera-I	28.25	56.19	50%
Loktak	23.22	27.82	83%
Salal	42.77	64.74	66%
Uri	10.67	44.27	24%

85. The table below gives the ratio of employees/ MW of installed capacity in case of the petitioner's generating stations. In case of Salal HEP the ratio is quite reasonable.

Project	Capacity (MW)	Number of employees as on 2002-03	Employee per MW
Tanakpur	94.2	479	5
Bairasiul	198	679	3.4
Chamera-I	540	750	1.4
Loktak	105	844	8
Salal	690	1153	1.7
Uri	480	342	0.7

86. The employee cost comprises -

- (a) Salaries, wages & allowances- which apart from Salaries & wages and include honorarium, leave encashment, provident fund contribution, compensation under statutory provision, gratuity and provision on a/c of gratuity made on actuarial valuation basis every year , VRS and also arrear of wage revision of employees.
- (b) Staff welfare expenses- include LTC, medical reimbursement, liveries & uniform, ex-gratia, grants & subsidies to sports & canteen, new year gifts, project school & hospital expenses, transport expenses etc.
- (c) Productivity-linked incentive- These are paid as per policy of the petitioner company.

87. Year-wise break up of employees cost is as below:

Year	(Rs. in lakh)				
	1998-99	1999-00	2000-01	2001-02	2002-03
Salaries, wages and allowances	3511.21	2354.79	3816.84	3325.22	3705.29
Staff welfare expenses	1008.31	444.30	664.42	874.01	1005.09
Productivity linked incentive	287.10	135.86	76.93	102.56	73.97
Total	4806.62	2934.95	4558.19	4301.79	4784.35

88. The employee cost has increased by about 55% in the year 2000-01 compared to the year 1999-00. As explained by the petitioner, this is for the reasons that provision of Rs. 1647 lakh was made against wage revision of non-executive employees w.e.f. 1.1.1997 and there was reduction of Rs. 185 lakh due to reduction of total strength of non-executive employees from 1736 in the year 1999-00 to 1372 in 2000-01.

89. On prudence check, the following expenses have been excluded from consideration towards O&M expenses :

(Rs. in lakh)

Year	1998-99	1999-00	2000-01	2001-02	2002-03
Ex-gratia	0	0	157.67	0	0
New year gifts	4.93	3.71	2.35	4.64	12.46
VRS	187.41	63.81	0	206.32	149.73
Productivity linked incentive	287.10	135.86	76.93	102.56	73.97
Total	479.44	203.38	236.95	313.52	236.16

90. The reasons for not considering the above expenses for normalisation are that

- (a) Ex-gratia is an incentive and should be paid out of profit of the company.
- (b) The expenses on new year gifts should be borne by the petitioner company out of its profits and not loaded to the beneficiaries.
- (c) VRS expenses are not of regular nature, particularly when the petitioner has not indicated the likely pattern of expenses on this account during the period 2004-09.
- (d) The expenses on account of productivity-linked Incentive (under section 31 A of Payment of Bonus Act), included under the category staff welfare expenses, are not allowed for tariff purpose for the reason that expenses incurred under this head are on account of incentive paid to the employees for maintaining high availability of the generating station to achieve higher generation from the generating station, for which incentive payment is made separately to the generating station and claimed in the bill of the beneficiaries.

91. The petitioner while justifying the reasons for higher employee cost of the generating station has submitted following clarification vide affidavit dated 12.12.2005:

“NHPC inherited a large workforce at the time of taking over of the project from Central Govt., however, NHPC already considering the impact of high O&M strength has made consistent and vigorous efforts over the years through all possible means to bring down the staff strength at a reasonable level. The O&M staff strength at salal HEP was 5156 nos. in the year 1987, which has now been brought down to the level of 1153 in the year 2002-03 and further to the level of 966 in the year 2004-05 and to 939 in the year 2005-06 up to October, 2005.”

92. Keeping in view the efforts made and being made by the petitioner to reduce the staff strength each year we have accepted the employee strength claimed by the petitioner. Thus, the employees cost considered for normalization for the reasons explained above shall work out as follows:

(Rs. in lakh)

Year	1998-99	1999-00	2000-01	2001-02	2002-03
Employees cost claimed	4806.62	2934.95	4558.19	4301.79	4784.35
Expenses not considered	479.44	203.38	236.95	313.52	236.16
Total Employee Cost considered	4327.18	2731.57	4321.24	3988.27	4548.19

Corporate Office expenses

93. The petitioner has submitted that the as per its policy, the Corporate Office expenses allocated to the running generating stations are taken @ 1% of sale of energy for the year excluding taxes and duties and in case of construction projects @ 5% of the project expenditure during the year. Year-wise details of total Corporate Office expenses incurred, its apportionment to the running generating stations, construction projects and other activities of the petitioner and proportionate corporate expenses charged to the generating station are given hereunder:

(Rs. in lakh)

Corporate Office expenses	1998-99	1999-00	2000-01	2001-02	2002-03
Total expenses	4523	4401	6206	7276	8676
Running stations	1336	1217	1276	1310	1282
Const. stations	3020	2432	3781	5665	7261
Other activities	167	752	1148	301	133
Charged to Salal HEP	220.34	165.13	133.34	168.61	176.18

94. The petitioner's balance sheets indicate that amounts of Rs. 10.45 lakh during the year 1999-00 and Rs. 1.50 lakh during 2000-01 were paid towards donation. Although it is appreciable for the benefit of society or for the social cause, donation cannot be directly attributed to the business of power generation. Accordingly donation cannot be passed on to the beneficiaries. Therefore, donation amounts have not been considered in the Corporate Office expenses for tariff purpose. Further, ex-gratia has also not been considered because it is an incentive and should be borne out of profit of the petitioner company. After excluding proportionate expenses on account of ex-gratia and donation paid by the petitioner, the following Corporate Office expenses have been considered towards O&M expenses of the generating station for the period 1998- 99 to 2002-03:

(Rs. in lakh)

Year	1998- 99	1999- 00	2000- 01	2001-02	2002-03
As claimed	220.34	165.13	133.34	168.61	176.18
Less Donations	0	10.45	1.50	0	0
Less ex-gratia	2.91	1.92	1.37	1.35	1.65
As considered	217.43	152.76	130.47	167.26	174.53

O&M expenses considered during 1998-99 to 2002-03

95. Based on the above discussion and after prudence check, the following O&M expenses have been considered for the period 1998-99 to 2002-03 for calculation of O&M expenses for the tariff period 2004-09.

(Rs. in lakh)

Year	1998-99	1999-00	2000-01	2001-02	2002-03	Average base on 2001-01
Consumption of Stores & Spares	188.37	182.55	319.24	44.12	310.09	
Repairs and Maintenance	1101.82	1411.22	1268.69	1109.79	1200.20	
Insurance	465.67	488.31	482.05	477.33	469.78	
Security	334.70	361.96	365.37	445.10	397.74	
Administrative expenses	116.83	121.44	135.83	155.18	209.10	
Employee Cost	4327.18	2731.57	4321.24	3988.27	4548.19	
Corporate expenses	217.43	152.76	130.47	167.26	174.53	
LESS: Recoveries	85.91	59.31	48.66	45.66	78.03	
Less abnormal O&M Expenses						
(a) Siltation	87.36	456.95				
(b) Overstaffing	1037.63					
Total O&M expenses considered	5541	4934	6974	6341	7232	6204
Total O&M claimed	6024	5152	7229	6658	7616	6536

96. Accordingly, the year-wise O&M expenses for the generating station, applying escalation @ 4%, work out as follows-

(Rs. in lakh)					
Year	2004-05	2005-06	2006-07	2007-08	2008-09
O&M expenses	7258	7549	7851	8165	8491

97. The petitioner has submitted that the wage revision of its employees is due with effect from 1.1.2007. Therefore, O &M expenses should be subject to revision on account of revision of employee cost from that date. In the alternative, it has been prayed that the increase in employee cost due to wage revision be allowed as per actuals for extra cost to be incurred consequent to wage revision. We are not expressing any view, as this issue does not arise for consideration at this stage. The petitioner may approach for a relief in this regard at an appropriate stage in accordance with law.

INTEREST ON WORKING CAPITAL

98. 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.

99. Under the 2004 regulations, 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.

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

(a) **Maintenance Spares:** Historical cost of the generating station (1995-96) has been furnished by the petitioner as Rs. 80341 lakh. Based on the above methodology in the 2004 regulations, the cost of maintenance spares for calculating working capital as on 1.4.2004 has been furnished by the petitioner as Rs.1357.34 lakh. This is in order. It has been further escalated @ 6% per annum to work out the cost of maintenance spares for the period 2004-09. Year wise details are as follows:

(Rs. in lakh)					
Year	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance spares	1357.34	1438.78	1525.11	1616.61	1713.61

(b) **O&M Expenses:** O&M expenses for working capital have been worked out for 1 month of O&M expenses approved above are considered in working capital of the respective year:

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

101. The average SBI PLR of 10.25% as on 1.4.2004 has been considered as the rate of interest on working capital during the tariff period 2004-05 to 2008-09.

102. The necessary details in support of calculation of interest on working capital are appended below:

Calculation of Interest on Working Capital

(Rs. in lakh)

	2004-2005	2005-2006	2006-07	2007-2008	2008-09
Spares	1357.34	1438.78	1525.11	1616.62	1713.62
O & M expenses	604.83	629.08	654.25	680.42	707.58
Receivables	3095.63	2843.17	2832.98	2888.27	2945.71
Total Working Capital	5,057.81	4,911.04	5,012.34	5,185.31	5,366.90
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest on Working Capital	518.43	503.38	513.77	531.49	550.11

ANNUAL FIXED CHARGES

103. A summary sheet showing the capital cost and other related details is annexed to this order. The annual fixed charges for the period 1.4.2004 to 31.3.2009 allowed in this order are summed up as below:

(Rs. in lakh)

Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	2123.98	2123.98	1845.14	1845.14	1845.14
Interest on Loan	414.05	94.67	0.00	0.00	0.00
Return on Equity	6787.99	6787.99	6787.99	6787.99	6787.99
Advance Against Depreciation	1471.35	0.00	0.00	0.00	0.00
Interest on Working Capital	518.43	503.38	513.77	531.49	550.11
O & M Expenses	7258.00	7549.00	7851.00	8165.00	8491.00
TOTAL	18573.80	17059.02	16997.89	17329.62	17674.23

PRIMARY ENERGY RATE

104. As per Regulation 39 of the 2004 regulations, rate of primary energy for all hydroelectric generating stations, except for pump storage generating stations, shall be equal to the lowest variable charges of the central sector thermal power generating stations of the concerned region. The primary energy charge is computed based on the primary energy rate and saleable scheduled primary energy. In case the primary energy charge recoverable by applying the above primary energy rate exceeds the Annual Fixed Charges of a generating station, the primary energy rate for such generating station is to be calculated by the following formula:

$$\text{Primary energy rate} = \frac{\text{Annual Fixed Charges}}{\text{Saleable Primary energy}}$$

105. The lowest variable charges of the Central Sector Thermal generating stations of Northern Region are found to be varying from month to month. The petitioner has calculated the primary energy rate of the generating station for the first year of tariff period, namely 2004-05 as average of preceding 12 months' (i.e. April 2003 to March 2004) lowest variable charges of the Central Sector Thermal generating stations of Northern Region. Based on this methodology, the lowest variable charge for the year 2003-04 has been worked out at 69.47 paise/ kWh. This rate has also been agreed by the respondents in 115th Commercial Committee meeting of NREB held in September 2004. Accordingly, this has been considered as the primary energy rate for Northern Region for the year 2004-05.

106. The details in support of primary energy rate arrived at during 2003-04 are given in the following table:

VARIABLE CHARGES OF THE CENTRAL SECTOR THERMAL POWER STATIONS OF NORTHERN REGION FOR THE YEAR 2003-04 FOR COMPUTATION OF PRIMARY ENERGY RATE OF SALAL H.E.STATION												
STATION	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV	DEC	JAN	FEB	MAR.
SINGRAULI	68.53	68.28	71.05	70.79	72.23	71.48	74.77	75.79	75.84	75.84	74.87	76.72
RIHAND	67.06	71.37	68.89	68.41	68.33	65.17	65.98	63.53	78.99	80.57	73.03	73.26
FGUPTS	100.7	101.86	102.88	102.02	104.41	105.98	104.69	108.9	112.17	105.89	110.21	108.51
NCTPS	155.27	154.77	152.05	148.69	148.8	142.65	153.48	146.8	146.13	141.43	145.34	141.39
ANTA GPS	97.13	100.24	114.38	113.56	111.89	110.29	137.92	143.4	144.66	166.67	179.26	153.31
AURAIYA GPS	128.26	101.38	114.35	127.36	143.01	146.62	147.9	140.44	154.8	166.96	200.45	95.53
DADRI GAS	110.64	111.64	161.33	104.35	165.12	171.85	202.17	197.37	95.38	94.41	94.41	94.41
FGUPTS-II	100.64	101.72	102.18	101.46	102.86	104.46	102.85	106.63	110.26	103.89	108.15	106.54
Lowest of the month	67.06	68.28	68.89	68.41	68.33	65.17	65.98	63.53	75.84	75.84	73.03	73.26
Average Lowest Rate for the year (P/Kwh) = (67.06 + 68.28+68.89 +68.41+ 68.33+65.17+65.98+63.53+75.84+75.84+73.03+73.26) = 833.62/12 = 69.47												

107. Considering the above primary energy rate of 69.47 paise/kWh and saleable primary energy of 2685 MU (after deducting 12% free energy from Ex-bus design energy), the primary energy charge during the year 2004-05 works out to Rs.18652.69 lakh. It exceeds the Annual Fixed charge of Rs.18573.80 lakh approved

for the year in the present order. In view of the above, the primary energy rate applicable for the year 2004-05 shall be re-calculated as per the formula stated at para 104 above. Thus, primary energy rate for the year 2004-05 = $18573.80/2685 \times 10$ = 69.17 paise/kWh.

108. The primary energy rates for the remaining years of the tariff period shall be determined on the basis considered above, by the petitioner, in consultation with the beneficiary States. No petition for this purpose is required to be filed. However, in case the parties are unable to agree to primary energy rate, any one of them may approach the Commission for a decision by filing an appropriate petition.

Design Energy

109. The quantum of energy generated in excess of the design energy at the generating station on annual basis is the secondary energy. For the computation of monthly secondary energy and the secondary energy charge, month-wise details of design energy are indicated in the following table:

Month	Design Energy (MU)
April	189.52
May	324.94
June	471.90
July	487.70
August	487.70
September	424.30
October	229.61
November	128.63
December	94.57
January	60.69
February	68.97
March	113.47
Total	3082.00

110. The rate of secondary energy shall be the same as rate of primary energy.

Impact of additional capitalization for the years 2001-04

111. The Commission has decided that additional capital expenditure for the period 1.4.2001 to 31.3.2004 be added to the gross block as on 1.4.2001 to arrive at gross block as on 1.4.2004 for the purpose of fixation of tariff for the period 2004-05 to 2008-09. The Commission has further ordered that the petitioner would be entitled to earn return on equity @ 16% on equity portion of additional capitalization approved and interest on loan at the rate as applicable during 2001-02 to 2003-04. The return on equity and interest on loan are payable on additional capitalization from 1st April of the financial year following the financial year to which additional capital expenditure relates.

112. Based on the above principles, the petitioner shall be liable to repay the following amounts to the respondents through tariff on account of return on equity and interest on loan on decreased equity and debt for de-capitalisation on works:

(Rs. in lakh)

CALCULATION OF IMPACT OF ADDITIONAL CAPITALISATION DURING THE YEAR 2001-04					
					(Rs. in Lacs)
		2001-02	2002-03	2003-04	Total
Period		1.00	1.00	1.00	
Additional Capitalisation		(374.09)	(1134.68)	(782.60)	(2291.36)
Financing of Additional Capitalisation					
Notional Loan		(175.72)	(533.00)	(367.62)	(1076.34)
Notional Equity		(198.36)	(601.68)	(414.98)	(1215.03)
Total		(374.09)	(1134.68)	(782.60)	(2291.36)
Effective Additional Capitalisation					
Opening Loan Balance		0.00	(153.73)	(686.73)	
Addition of Loan		(175.72)	(533.00)	(367.62)	(1076.34)
Repayment of Loan		-21.99	0.00	-252.29	(274.28)
Closing Loan Balance		(153.73)	(686.73)	(802.06)	
Effective Loan			(153.73)	(686.73)	
Weighted Average Rate of Interest on Loan		13.29%	11.94%	13.56%	
Effective Equity			(198.36)	(800.04)	
Interest on Loan			(18.35)	(93.12)	(111.47)
Return on Equity	16%		(31.74)	(128.01)	(159.75)
Impact of Additional Capitalisation			(50.09)	(221.13)	(271.22)

113. The petitioner has sought reimbursement of filing fee of Rs.25 lakh paid. A final view on reimbursement of filing fee is yet to be taken by the Commission for which views of the stakeholder have been called for. The view taken on consideration

of the comments received shall apply in the present case as regards reimbursement of filing fee.

114. In addition to the charges approved above, the petitioner is entitled to recover other charges also like incentive, claim for reimbursement of Income-tax, other taxes, cess levied by a statutory authority, and other charges in accordance with the 2004 regulations, as applicable.

115. The petitioner is already billing the respondents on provisional basis in accordance with the Commission's interim directions. The provisional billing of tariff shall be adjusted in the light of final tariff now approved by us.

116. This order disposes of Petition No.197/2004.

(BHANU BHUSHAN)
MEMBER

(K.N. SINHA)
MEMBER

New Delhi dated the 9th May 2006

Summary Sheet			
Name of the Company:		NHPC	
Name of the Project		SALAL HEP	
Actual DOCO:		1.4.1995	
Petition No.:		197/2004	
Tariff setting Period:		2004-09	
(Rs. in lakh)			
1	Admitted Capital Cost as on 1.4.2004 for calculation of Debt and Equity		93899.00
2	Additional Capitalisation(works)		(-)2468.06
	2001-02	(-)374.09	
	2002-03	(-)1134.68	
	2003-04	(-)782.60	
	Assets not in use as on 1.4.2004	(-)176.70	
	Total	(-)2468.06	
3	Additional Capitalisation(FERV)		5.88
	2001-02	7.32	
	2002-03	(-)1.44	
	2003-04	0.00	
	Total	5.88	
4	Total Capital Cost as on 1.4.2004(2+3+4)		91436.81
5	Means of Finance:		
	Debt	46.97%	42951.18
	Equity	53.03%	48485.63
	Total	100.00%	91436.81
6	Gross Loan as on 1.4.2004		42951.18
7	Cumulative Repayment up to 31.3.2009 :		42951.18
	Repaid up to 31.03.2004	37646.55	
	1.4.2001 to 31.3.2004 (ACE & FERV)	(-)273.29	
	1.4.2004 to 31.3.2009	5577.92	
	Total	42951.18	
8	Balance Loan to be repaid beyond 31.3.2009 :		0.00
9	Depreciation recovered up to 31.3.2009 :		41587.50
		Dep	AAD
	Recovered up to 31.3.2004	25440.19	5949.00
	1.4.2001 to 31.3.2004 (ACE & FERV) /	(-)1056.42	0.00
	Assets not in use as on 1.4.2004 / Deletions		(-)1056.42
	1.4.2004 to 31.3.2009	9783.38	1471.35
	Total		41587.50
10	Balance Depreciation to be recovered beyond 31.3.2009 :		39670.45
	Capital cost for the purpose of Depreciation		93899.00
	ACE + FERV		-2462.19
	Capital cost as on 1.4.2004		91436.81
	Less: Initial spares		624.00
			90812.81
	Less: Land Cost		526.20
			90286.62
	90% of Capital Cost as above		81257.95
	Cum. Depreciation to be recovered up to 31.3.2009		41587.50
	Balance Depreciation to be recovered beyond 31.3.2009		39670.45