CENTRAL ELECTRICITY REGULATORY COMMISSION NEW DELHI

Coram

- 1. Shri Ashok Basu, Chairman
- 2. Shri G.S. Rajamani, Member
- 3. Shri K.N.Sinha, Member

Petition No 30/2001

In the matter of

Approval of tariff in respect of Korba Super Thermal Power Station for the period from 1.4.2001 to 31.3.2004.

And in the matter of

National Thermal Power Corporation Ltd.

.....Petitioner

Vs

- 1. Madhya Pradesh State Electricity Board, Jabalpur
- 2. Maharashtra State Electricity Board, Mumbai
- 3. Gujarat Electricity Board, Vadodara
- 4. Chhattisgarh State Electricity Board, Raipur
- 5. Electricity Department, Govt of Goa, Panaji, Goa
- 6. Electricity Department, Admn. Of Daman & Diu, Daman
- 7. Electricity Department, Admn. of Dadra and Nagar Haveli, Silvassa..**Respondents**

The following were present

- 1. Shri K.K. Garg, GM, NTPC
- 2. Ms. Alka Saigal, NTPC
- 3. Shri Sravan Kumar, NTPC
- 4. Shri D. Khandelwal, SE, MPSEB
- 5. Shri Deepak Shrivastava, EE, MPSEB

ORDER (DATE OF HEARING 17-3-2003)

This petition has been filed by the petitioner, NTPC, a generating company

owned by the Central Government for approval of tariff in respect of Korba Super

Thermal Power Station, (hereinafter referred to as "Korba STPS ") for the period from

1.4.2001 to 31.3.2004 based on the terms and conditions contained in the

Commission's Notification dated 26.3.2001, (hereinafter referred to as the "notification dated 26.3.2001").

2. Korba STPS capacity with capacity of 2100 MW comprises of 3 units of 200 MW each and three units of 500 MW each. The dates of commercial operation of the first Unit of 200 MW was 1.8.1982 and that of the last unit of 500 MW was 1.6.1990. The necessary details of dates of commercial operation of different units are given hereunder:

| <u>Unit</u> | Capacity in MW | Date of | commercial |
|-------------|----------------|----------|------------|
| operation | | | |
| I | 200 | 1.8.1983 | |
| II | 200 | 1.1.1984 | |
| 111 | "00 | 1.6.1984 | |
| IV | 500 | 1.3.1988 | |
| V | 500 | 1.4.1989 | |
| VI | 500 | 1.6.1990 | |

3. The tariff for the station was earlier notified by Ministry of Power vide its notification dated 2.11.1992 valid for a period up to 31.10.1997. The tariff notified was subsequently revised vide notifications dated 15.12.1995, 30.11.1998 and 14.5.1999 to account for change in rate of depreciation, increase in return on equity from 12% to 16% and additional capitalisation based on audited accounts up to 1996-97. The tariff for the period from 1.11.1997 to 31.3.2001 was approved by the Commission vide its order dated 10.10.2002 in petition No 34/2002. The Commission considered additional capitalisation up to 31.3.2001 in tariff order.

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

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| | (Rs. in lakh) | | | | | |
|-----------|---------------------------------|---------|---------|---------|--|--|
| SI No. | Particulars | 2001-02 | 2002-03 | 2003-04 | | |
| 1 | Interest on Loan | 3571 | 3844 | 4098 | | |
| 2 | Interest on Working Capital | 4209 | 4497 | 4805 | | |
| 3 | Depreciation | 5833 | 5933 | 6062 | | |
| 4 | Advance against Depreciation | 0 | 0 | 0 | | |
| 5 | Return on Equity | 12411 | 12622 | 12897 | | |
| 6 | O & M Expenses | 17040 | 18017 | 19053 | | |
| | TOTAL | 43064 | 44913 | 46916 | | |

5. The details of Working Capital furnished by the petitioner and its claim for interest thereon are summarised hereunder:

| | | (Rs. in lakh) | |
|--|---------|---------------|---------|
| | 2001-02 | 2002-03 | 2003-04 |
| Fuel Cost | 4872 | 5243 | 5644 |
| Coal Stock | 2184 | 2333 | 2493 |
| Oil stock | 1010 | 1153 | 1316 |
| O & M expenses | 1357 | 1439 | 1525 |
| Spares | 6515 | 6906 | 7320 |
| Receivables | 18070 | 19140 | 20302 |
| Total Working Capital | 34009 | 36214 | 38601 |
| Working Capital Margin (WCM) | 2214 | 2214 | 2214 |
| Total Working Capital allowed | 31795 | 34000 | 36387 |
| Rate of Interest | 12.35% | 12.35% | 12.35% |
| Interest on allowed Working Capital | 3927 | 4199 | 4494 |
| Interest on WCM | 106 | 121 | 134 |
| Return on WCM | 177 | 177 | 177 |
| Total Interest on Working capital | 4209 | 4497 | 4805 |

6. In addition, the petitioner has claimed Energy Charges @ 41.80 paise/kWh for the period from 1.4.2001 to 31.3.2004.

CAPITAL COST

7. As per the notification dated 26.03.2001, the capital expenditure of the project shall be financed as per the approved financial package set out in the TEC of CEA or as approved by an appropriate independent agency, as the case may be. The notification dated 26.3.2001 further lays down that the actual capital expenditure incurred on completion of the generating station shall be the criterion for fixation of tariff and where actual expenditure exceeds the approved project cost, the excess expenditure as approved by CEA or an appropriate independent agency shall be deemed to be the actual capital expenditure for the purpose of determining the tariff.

8. The Commission vide its order dated 10.10.2002 in Petition No.34/2002 has approved the tariff for the period 1.11.97 to 31.3.2001 by considering a closing capital cost of Rs.147388.00 lakh, including initial spares of Rs.5725.00 lakh, as on 31.3.2001. This has been adopted as the opening capital cost as on 1.4.2001 for the purpose of tariff determination in the present petition. The petitioner has also included anticipated additional capital expenditure of Rs. 2811.00 lakh, Rs. 2488.00 lakh and Rs. 4387.00 lakh for 2001-02, 2002-03 and 2003-04 respectively, based on budgetary projections. Therefore, the additional capitalisation claimed by the petitioner has not been considered for tariff determination since the claim of the petitioner is out of tune with the notification dated 26.3.2001. However, as a precautionary measure, the petitioner may keep its purchasers informed that they can keep a provision for additional capitalisation arrears on ad hoc basis in their ARR. Accordingly, the capital cost of Rs.147388.00 lakh has been considered.

DEBT-EQUITY RATIO

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9. As per the notification dated 26.03.2001, the interest on loan capital and return on equity are to be computed, as per the financial package approved by CEA or an appropriate independent agency, as the case may be. The petitioner has claimed tariff by considering debt and equity in the ratio of 50:50. It has been submitted by the respondents that debt and equity should be in the ratio of 80:20 or 70:30 as applicable to IPPs.

10. We have considered the rival submissions. Ministry of Power, while notifying tariff vide its notification dated 2.11.1992 had considered the normative debt-equity ratio of 50:50. The debt-equity ratio of 50:50 was adopted by the Commission in its order dated 10.10.2002 in Petition no. 34/2002 while approving tariff for the period from 1.11.1997 to 31.3.2001. Therefore, for the purpose of present petition, debt-equity ratio of 50:50 has been adopted in the working.

TARGET AVAILABILITY

11. The petitioner has considered Target Availability of 80%, based on the provisions of the notification dated 26.3.2001. Accordingly, Target Availability of 80 % has been considered for recovery of full fixed charges and computation of fuel element in the working capital for the period from 1.4.2001 to 31.3.2004.

RETURN ON EQUITY

12. As per the notification dated 26.03.2001, return on equity shall be computed on the paid up and subscribed capital and shall be 16% of such capital. The petitioner has claimed return on equity @ 16% on normative equity. The respondents have, however, submitted that that return on equity should be payable at 12% and should be allowed on actual equity employed since the cost of servicing equity is

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higher in comparison to cost involved in servicing debt. In case of generating stations, return on equity was charged in tariff @ 12% per annum till 31.10.1998. However, it was increased to 16% with effect from 1.11.1998. The respondent has contended that there was no justification to increase return on equity from 12% to 16%. As the things stand, the terms and conditions prescribed by the Commission legislate that return on equity should be allowed @ 16%. Accordingly, we do not find any justification in support of the issue raised. In our computation of tariff, return on equity @ 16% per annum has been allowed. We have already indicated our reasons for allowing normative equity in the present case.

13. The respondents have submitted that the tariff for the generating stations belonging to the petitioner were notified by Ministry of Power based on KP Bao Committee Report wherein it was recommended that once the loan is reduced to zero, the equity component will be reduced progressively to the extent of further depreciation recovered. It is, therefore, contended that the equity needs to be reduced to the extent of depreciation charged after notional loan was repaid. We have considered this submission. The tariff notification issued by Ministry of Power on 2.11.1992 does not provide reduction of equity after the loan is fully repaid. To that extent, the recommendation of KP Rao Committee was not accepted by the Central Government. In any case, the tariff is to be fixed in keeping with the provisions of the notification dated 26.3.2001, which also does not provide for the reduction of equity. Therefore, the contention raised on behalf of the respondents has been found to be without force.

14. The return on equity has been worked out on the average normative equity. The charges payable by the respondents on account of return on equity as under:

| | | (Rs in lakh) | |
|-------------|---------|--------------|---------|
| Particulars | 2001-02 | 2002-03 | 2003-04 |

| Opening Balance | 73694 | 73694 | 73694 |
|--------------------------------------|--------|--------|--------|
| Increase/ Decrease due to FERV | 0 | 0 | 0 |
| Increase/ Decrease due to Additional | 0 | 0 | 0 |
| Capitalisation | | | |
| Closing Balance | 73694 | 73694 | 73694 |
| Average | 73694 | 73694 | 73694 |
| Rate of Return on Equity | 16.00% | 16.00% | 16.00% |
| Return on Equity | 11791 | 11791 | 11791 |

INTEREST ON LOAN

15. As per the notification dated 26.03.2001, the interest on loan capital shall be computed on the outstanding loans, duly taking into account the schedule of repayment, as per the financial package approved by CEA or an appropriate independent agency, as the case may be.

16. The fixed charges for the period prior to 1.4.2001 were approved by the Commission on normative debt. Therefore, while considering interest on loan the methodology as given below has been adopted:

- (a) The gross opening normative loan amount has been taken as per the Commission's order dated 1 .10.2002 in petition no. 34/2002.
- (b) The cumulative repayment of loan up to 31.3.2001 has been taken as per the Commission's order dated 10.10.2002 in petition no. 34/2002.
- (c) The annual repayment amount for the years 2001-02 to 2003-04 has been worked out based on actual repayment during the year or as worked out as per the following formula, whichever is higher::

Actual repayment during the year x normative net loan at the beginning of the year/ actual net loan at the beginning of the year,

- (d) On the basis of actual rate of interest as on 1.4.2001 on actual loans, the weighted rate of interest on average loan is worked out and the same is applied on the normative average loan during the year to arrive at the interest on loan.
- (e) The loan drawls up to 31.3.2001 only have been considered.
- (f) Some of the loans carry floating rate of interest. Therefore, interest rate prevailing as on 1.4.2001 has been considered for interest computation for the period 1.4.2001 onwards. However, interest on loan would be subject to adjustment on the basis of actual rate of interest applicable for the period 1.4.2001 onwards.
- (g) In case of ICICI-I loan, the repayment installment for the year 2002-03 and 2003-04 has been computed based on the details furnished in form-8 of the petition and the same works out as Rs. 430 lakh and Rs. 860 lakh respectively as against Rs. 420 lakh and Rs. 840 lakh claimed in the petition.
- (h) The commitment fees @ 0.75 % per annum as indicated by the petitioner in the petition have not been allowed in case of IBRD loans as commitment fees is generally applicable on undisbursed portion of loans and would have been capitalised. However, the Govt. Guarantee fees @ 1.0% per annum in case of IBRD loans have been allowed.

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17. In the present case, IBJ-II loan (foreign loan) which has 4 Tranches viz. Tranche -A, Tranche -B, Tranche -C and Tranche -D with different terms and conditions have been re-financed. IBJ-II (Tranche-A) was replaced by Sumitomo-I loan on 24.3.1997 and Sumitomo-I was entirely prepaid on 25.9.2000 and substituted by Sumitomo-III loan. Then, ING((Bahring) loan has replaced the balance amount of IBJ-II(Tranche-A) loan on 24.3.1998 and SBI NY-II has replaced the entire outstanding balance of IBJ-II, Tranche-B and Tranche-C on 24.9.2000.

18. The part IBJ-II loan which has been substituted /refinanced by loans with fixed interest rate are detailed below.

| | IBJ-II(Tranche- | A)\$ | IBJ-II (Tranche-B)# | IBJ-II (Tranche-C)# |
|-------------------|-------------------------------|--------------------------------|----------------------------|-------------------------------|
| Interest rate | • | | 2.80% per annum (Fixed) | 2.60% per annum (Fixed) |
| Financial charges | | | | |
| Currency | J | Y | JY | JY |
| | \$Sumitomo-I | \$Sumitomo-III | #SBI N | IY-II |
| Interest rate | 2.52% per annum (Fixed) | 1.235% per annum (Fixed) | 1.14% per annum (Fixed) | |
| Financial | 0.45% Flat | 0.33% Flat | 0.35% Flat | |
| charges | (Management fees) | (Management fees) | (Management fees) | |
| Currency | JY | JY | JY | |

19. The part IBJ-II loan which have been substituted /refinanced by loans with floating rate of interest is detailed below.

| | IBJ-II(Tranche-A)\$ | IBJ-II(Tranche-D)* |
|-------------------|----------------------------|-----------------------|
| Interest rate | 5.85% per annum (Fixed) | LIBOR +0.375 % spread |
| Financial charges | | |

| Currency | JY | JY | JY |
|-----------|--------------------|-----|--------------|
| | \$ING(Bahring) | *No | re-financing |
| Interest | 6 Months LIBOR +70 | | |
| Rate | BPs | | |
| | | | |
| Financial | 1 % Flat | | |
| charges | (Management fees) | | |
| Currency | JY | | |
| | | | |

20. In our order dated 13.12.2002 in petition No. 94/2002, and other related petitions we have decided that in case of re-financing of costlier loan with cheaper loan, the benefit should be passed on to the consumer. The relevant extracts of the said order are reproduced below:

"It is generally observed that loans taken by NTPC for financing of its different projects bear higher rate of interest as compared to interest rate presently applicable in the market. We, therefore, feel that NTPC may re-finance the loan and replace the loans bearing higher rate of interest with the loans carrying lower rate of interest. The representative of the petitioner explained that NTPC was availing the opportunity to re-finance the loan. However, for the purpose of tariff, the original interest on loan and the original schedule of repayment were considered. <u>We are of the opinion that the benefit of re-financing should be passed on to the beneficiaries and through them the ultimate consumer when a costlier loan is re-financed through cheaper loan with fixed rate of interest.</u>

21. In line with our order, the interest rate applicable on re-financed /substituted loans with fixed rate of interest have been considered in the working. As such, the interest rate applicable on SUMITOMO-III and SBI NY-II loans have been considered in the working. In case of ING (Bahring) loan which is having floating rate of interest, the interest rate applicable on IBJ-II (Tranche-A) has been considered. As IBJ-II (Tranche-D) is having floating rate of interest and no re-financing is involved, the interest rate applicable as on 1.4.2001(LIBOR rate with 0.375 % spread) has been considered in the working.

22. The respondents have contended that the depreciation charged should be adjusted against the outstanding loan. When so adjusted, the entire loan gets repaid

and as such interest on loan should not be payable. We have given our utmost thought to the submission. In our considered view, the submission cannot be accepted. Neither the tariff notifications issued by Ministry of Power for the earlier period nor the notification daded 26.3.2001 contain any provision for adjustment of depreciation recovered against the outstanding loan.

23. The computation of interest by applying weighted average interest rate are also appended hereinbelow:

COMPUTATION OF INTEREST ON NOTIONAL LOAN

(Rs. in lakh)

| | | - | - |
|--------------------------------------|---------|---------|---------|
| | 2001-02 | 2002-03 | 2003-04 |
| Gross loan-Opening | 73694 | 73694 | 73694 |
| Cumulative repayments of Loans up to | 58927 | 60939 | 66596 |
| previous year | | | |
| Net loan-Opening | 14767 | 12755 | 7098 |
| Increase/ Decrease due to FERV | 0 | 0 | 0 |
| Increase/ Decrease due to Additional | 0 | 0 | 0 |
| Capitalisation | | | |
| Total | 14767 | 12755 | 7098 |
| Repayments of Loans during the year | 2012 | 5657 | 1050 |
| Net loan-Closing | 12755 | 7098 | 6048 |
| Average Net Loan | 13761 | 9927 | 6573 |
| Rate of Interest on Loan | 7.03% | 8.79% | 11.31% |
| Interest on Ioan | 967 | 873 | 743 |

DEPRECIATION

24. The notification dated 26.3.2001 prescribes that the value base for the purpose of depreciation shall be historical cost of the asset and the depreciation shall be calculated annually as per straight line method at the rates of depreciation prescribed in the Schedule thereto.

25. Depreciation for the tariff period has been calculated by taking the individual assets and their depreciation rates as per the notification dated 26.03.2001. The weighted average rate of depreciation works out to 3.76% as claimed in the petition. In

accordance with the notification dated 26.3.2001, after the loan is fully repaid, the balance depreciation is to be recovered over the balance useful life of the generating station.

26. Depreciation has been considered at opening gross block of Rs. 147388.00 lakh. The petitioner is entitled to the following amounts on account of depreciation.:

| | 2001-2002 | 2002-2003 | 2003-2004 |
|----------------------------|-----------|-----------|-----------|
| Rate Of Depreciation | 3.76% | 3.76% | 3.76% |
| Depreciation (Rs. In lakh) | 5535 | 5535 | 5535 |

27. While allowing tariff, depreciation recovered in tariff up to 31.3.2001, as per the Commission's order dated 10.10.2002 in Petition No.34/2002 has been taken into account.

ADVANCE AGAINST DEPRECIATION

28. As per the notification dated 26.3.2001, Advance Against Depreciation shall be permitted wherever originally scheduled loan repayment exceeds the depreciation allowable and shall be computed as follows:

AAD= Originally scheduled loan repayment amount subject to a ceiling of

1/12th of original loan amount minus depreciation as per schedule.

29. The actual gross loan and actual repayment as on 1.4.2001 have been considered for computing Advance Against Depreciation. The petitioner is entitled to claim any Advance Against Depreciation as shown below:

| | (Rs. in lakh) | | | |
|------------------------------------|---------------|---------|---------|--|
| | 2001-02 | 2002-03 | 2003-04 | |
| 1/12 th of Loan(s) | 6141 | 6141 | 6141 | |
| Scheduled Repayment of the Loan(s) | 2012 | 5657 | 1050 | |
| Minimum of the above | 2012 | 5657 | 1050 | |
| Depreciation during the year | 5535 | 5535 | 5535 | |
| Advance Against Depreciation | 0 | 122 | 0 | |

O&M EXPENSES

As per the notification dated 26.03.2001, operation and maintenance (O&M) 30. expenses including insurance for the stations belonging to the petitioner, in operation for 5 years or more in the base year of 1999-2000, are derived on the basis of actual O & M expenses, excluding abnormal O & M expenses, if any, for the years 1995-1996 to 1999-2000 duly certified by the statutory auditors. The average of actual O & M expenses for the years 1995-1996 to 1999-2000 is considered as O & M expenses for the year 1997-1998 which is escalated twice at the rate of 10% per annum to arrive at O & M expenses for the base year 1999-2000. Thereafter, the base O & M expenses for the year 1999-2000 are further escalated at the rate of 6% per annum to arrive at permissible O & M expenses for the relevant year. The notification dated 26.3.2001 further provides that if the escalation factor computed from the observed data lies in the range of 4.8% to 7.2%, this variation shall be absorbed by the petitioner. In case of deviation beyond this limit, adjustment shall be made by applying actual escalation factor arrived on the basis of weighted price index of CPI for industrial workers (CPI IW) and index of selected component of WPI(WPIOM) for which the petitioner shall approach the Commission with an appropriate petition. The notification dated 26.3.2001 thus implies that the variations between ±20% over the previous year's expenses are to be absorbed by the petitioner.

31. The petitioner has claimed O & M expenses as under, based on the actual expenses for the years 1996-1997 to 2000-2001 which is not as per the methodology discussed above. The actual O&M expenses for the years 1995-1996 to 1999-2000 are furnished in the petition, the details of which are as follows:

(Rs. In lakh)

| Year | 1995-96 | 1996-97 | 1997-98 | 1998-99 | 1999-00 |
|------------------------------------|---------|---------|---------|---------|---------|
| O&M | 99.37 | 104.27 | 122.99 | 133.21 | 146.44 |
| Water Charges | 4.43 | 4.33 | 5.00 | 7.30 | 7.07 |
| Total O&M without Water charges | 94.94 | 99.94 | 117.99 | 125.91 | 139.37 |

32. The petitioner's claim on account of O&M expenses has been examined in terms of the notification dated 26.3.2001 as discussed in the succeeding paragraphs.

Employee Cost:

33. The petitioner has indicated following amounts under this head for 1995-1996 to 1999-2000: -

| | | (Rs. in lakh) | | | |
|-----------|-----------|---------------|-----------|-----------|--|
| 1995-1996 | 1996-1997 | 1997-1998 | 1998-1999 | 1999-2000 | |
| | | | | | |
| 2560.92 | 2848.71 | 3819.41 | 4669.77 | 5483.35 | |
| | | | | | |

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34. There has been increase of 34.08% in the year 1997-1998 over the expenses for the previous year and 22.26% in the year 1998-1999 over those for 1997-1998. The petitioner has clarified that the increase is on account of pay revision of employees, was due from 01.04.1997 and therefore a provision was kept in 1997-98 for higher wages to employees. The increase in 1998-1999 is also due to pay revision. The petitioner has also claimed incentive and ex gratia paid to the employees under the employee cost. The petitioner has clarified that incentive and ex gratia payments are under the productivity linked bonus scheme. The respondents have contested that incentive and ex gratia should not be included in the employee cost, should be payable from the incentive earned by the petitioner and should not be charged from beneficiaries in the O&M cost. The Commission's policy in this regard is to allow only the obligatory minimum bonus payable under the Payment of Bonus Act. As such, the following amount of incentive and *ex gratia* has not been considered for arriving at the normalised O&M expenses for the purpose of tariff:

| | | (Rs. in lakh) | | |
|---|-----|---------------|-----|-----------|
| 1995-1996 1996-1997 1997-1998 1998-1999 | | | | 1999-2000 |
| | | | | |
| 293 | 385 | 253 | 712 | 501 |
| | | | | |

Power Charges

35. The petitioner has indicated the following amounts under this head for 1995-1996 to 1999-2000: -

(Rs. in lakh)

| 1995-1996 | 1996-1997 | 1997-1998 | 1998-1999 | 1999-2000 |
|-----------|-----------|-----------|-----------|-----------|
| 177.93 | 223.01 | 297.28 | 262.00 | 279.64 |

36. There has been increase of 25.34% and 33.30% in 1996-1997 and 1997-1998 over the respective previous year. The petitioner has clarified that the internal consumption of power has been accounted for based on the fuel cost and the electricity duty as per guidelines. The increase in 1996-1997 with respect to 1995-1996 and in 1997-1998 with respect to 1996-1997 is due to increase in coal prices and also revision of rates of ED and cess. The explanation given by the petitioner has been found to be satisfactory. Since the increase is attributable to fuel cost increase and increase in statutory electricity duty and cess the amount indicated by the petitioner has been considered to arrive at normalized O&M expenses.

37. The respondents have questioned the admissibility of power charges claimed by the petitioner. The respondents have contended that the claim results in double payment by them as they are paying separately for auxiliary consumption on normative basis. On the issue the petitioner has explained during the hearings that these power charges pertain to colony power consumption taken directly from the power stations and do not include any construction power. However, the charges booked under O&M are only the energy charges and fixed charges are not claimed. It has been further clarified that the payment received from the employees for the power consumed in residential quarters is credited to the revenue account and only net power charges for colony power consumption is charged to O&M. As such, there is no double payment by the respondent-beneficiaries. It is contended by the petitioner that in case the power had been procured from the state utility, then also power charges for the colony infrastructure would have been booked under O&M. We are satisfied with the explanation furnished by the petitioner. In view of this, power charges as indicated by the petitioner have been considered for calculation of the normalised O&M charges.

Water Charges

38. The petitioner has indicated following amounts under this head for the years 1995-1996 to 1999-2000:-

| 1995-1996 | 1996-1997 | 1997-1998 | 1998-1999 | 1999-2000 |
|-----------|-----------|-----------|-----------|-----------|
| 443.06 | 433.02 | 499.84 | 730.41 | 706.54 |

(Rs. in lakh)

39. There has been increase of 46.13% in the iear 1998-1999 over the previous year. The petitioner has clarified that the increase in 1998-1999 with respect to 1997-1998 was due to increase in rate of water charges from Re.0.63 per Cu.M to Re.1.00 per Cu.M in May 1998.

40. We have considered the submission. The propotionate increase is more than increase of the rate of 37%. This may be on account of increase in consumption of water. Averaging of water charges for different years due to sudden change in rate may not be appropriate. Hence, the amount of water charges has not been considered for normalization. Since water charges are of recurring nature occurring every year, these could be considered at the present rate in the base year of 2000-2001. The petitioner has indicated as per the new rates water charges for the period 2001-2004 would be Rs. 752 lakh / year subject to adjustment based on actuals of 2000-2001. Accordingly, an amount of 752 lakh on this account has been considered in the normalised O&M expenses for the base year 2000-2001.

Communication expenses

41. The petitioner has indicated following amounts under this head for 1995-1996 to 1999-2000

(Rs. in lakh)

| 1995-1996 | 1996-1997 | 1997-1998 | 1998-1999 | 1999-2000 |
|-----------|-----------|-----------|-----------|-----------|
| 27.96 | 31.73 | 38.15 | 40.74 | 52.91 |

42. The petitioner has clarified that the increase in 1997-1998 with respect to 1996-1997 was attributable to increase in Postage & Telegram expenses arising from increase in postal rates and increase in 1999-2000 with respect to 1998-1999 was due to increase in Telephone charges arising from installation of new connection for improving communication facilities. In view of this, the amount indicated by the petitioner has been considered to arrive at normalized O&M expenses .

Travelling Expenses

43. The petitioner has indicated the following amounts under this head for 1995-1996 to 1999-2000:-

| 100 | in | lakh) | |
|----------------|----|--------|--|
| | | | |
| \' \O . | | iuiii) | |
| | | | |

| 1995-1996 | 1996-1997 | 1997-1998 | 1998-1999 | 1999-2000 |
|-----------|-----------|-----------|-----------|-----------|
| 181.54 | 186.19 | 240.94 | 276.57 | 305.09 |

44. There has been an increase of 29.41% in 1998-1999 than the previous year. The petitioner has clarified that this increase in 1997-1998 and 1998-1999 is due to conveyance reimbursement rates and payment of vehicle maintenance charges and also increase in DA rates and road journey rates under TA rules. On consideration of the explanation, amounts as indicated by the petitioner have been considered to arrive at normalized O&M charges.

Security Expenses

45. The petitioner has indicated the following amounts under the head "security expenses" for 1995-1996 to 1999-2000:-

(Rs. in lakh)

| 1995-1996 | 1996-1997 | 1997-1998 | 1998-1999 | 1999-2000 |
|-----------|-----------|-----------|-----------|-----------|
| 287.85 | 344.80 | 343.85 | 458.17 | 408.41 |

46. There has been increase of 33.25 % in 1998-1999 than the previous year's expenses. The petitioner has submitted that the increase is on account of revision of salaries of CISF personnel deployed for security of the station consequent to

implementation of recommendation of V Central Pay Commission. As such the amounts claimed by the petitioner have been considered for the purpose of normalisation of O&M charges.

Professional Expenses

47. The petitioner has submitted the following details of the amounts under the head "profession expenses" for 1995-1996 to 1999-2000: -

(Rs. in lakh)

| 1995-1996 | 1996-1997 | 1997-1998 | 1998-1999 | 1999-2000 |
|-----------|-----------|-----------|-----------|-----------|
| 41.17 | 18.65 | 8.28 | 16.72 | 4.90 |

48. The expenditure in different years is widely varying. The expenditure of Rs.41.17 lakh during 1995-1996 is considered to be very high as compared to expenditure during other years. As such, the expenditure for 1995-1996 has not been considered to arrive at normalized O&M. The amounts considered under the head of professional expenses in the O&M to arrive at normalized O&M expenses with remaining 4 year averaging.

49. It is made clear that if the petitioner incurs any expenditure during the tariff period, it may approach the Commission for reimbursement on actual basis with due justification.

Printing & Stationery

50. The petitioner has indicated the following amounts under this head for 1995-1996 to 1999-2000: -

(Rs. in lakh)

| 1995-1996 | 1996-1997 | 1997-1998 | 1998-1999 | 1999-2000 |
|-----------|-----------|-----------|-----------|-----------|
| | | | | |

| 3.63 | 21.31 | 41.80 | 28.18 | 25.34 |
|------|-------|-------|-------|-------|
| | | | | |

51. There has been an increase of 487.05% in 1996-1997 and 96.15% in the year 1997-98 from the previous year. The petitioner has clarified that the increase in 1896-1997 with respect to 1995-1996 and in 1997-1998 with respect to 1996-1997 was due to introduction of online Material Management System (MMS) and Financial Accounting System (FAS) reacquiring printing of POs. SRVs. BPVs/BRVs,CPV,CRVs,PJV,1 JVs etc., on computer stationary and corresponding increase in computer stationary. Such expenditure would be regular after introduction of such monitoring system. However, no justification has been given for increase in expenditure for the year 1997-98. Therefore, it has been restricted to 20% increase to arrive at normalized O&M expenses. The expenditure in the 1995-96 is very low as compared to other years and therefore, this has not been taken into account to arrive at normalised O&M.

Other Expenses

52. The petitioner has indicated the following amounts under this head for 1995-1996 to 1999-2000:-

| | (Rs. in lakh) | | | |
|-----------|---------------|-----------|-----------|-----------|
| 1995-1996 | 1996-1997 | 1997-1998 | 1998-1999 | 1999-2000 |
| 438.83 | 509.98 | 591.47 | 585.21 | 800.62 |

53. There has been an increase of 36.81% in 1999-2000 from previous year. The petitioner has clarified that the increase in training and recruitment expenses due to payment of stipend to EETs posted at site and increase in fees paid to outside staff development programme (BITS Pilani etc.,) as part of employee development efforts and increase in education expenses due to reimbursement of revenue expenses to

KV Sangathan compared to previous year due to revision of pay scales as per 5th Pay Commission recommendation. As such amounts indicated by the petitioner have been considered for arrive at normalized O&M charges.

Corporate Office Expenses

54. The petitioner has made the following allocation of corporate office expenses to the station for 1995-1996 to 1999-2000: -

| | (Rs. in lakh) | | | | | | | | |
|-----------|---------------|-----------|-----------|-----------|--|--|--|--|--|
| 1995-1996 | 1996-1997 | 1997-1998 | 1998-1999 | 1999-2000 | | | | | |
| | | | | | | | | | |
| 670.90 | 658.33 | 766.48 | 891.11 | 1247.56 | | | | | |
| | | | | | | | | | |

55. As clarified by the petitioner, the expenses common to Operational and Construction activities are allocated to Profit and Loss Account and Incidental Expenditure during Construction in proportion of sales to annual capital outlay. The corporate office expense details furnished by the petitioner are those charged to revenue only. These corporate office and other common expenses chargeable to revenue are allocated to the projects on the basis of sales.

56. There has been increase of 54.45%, 21.31% and 43.46% in corporate expenses in the year 1997-1998 to 1999-2000 in corporate office expenses respectively over the previous year. It has been clarified by the petitioner that the increases are on account of the increases due to wage revision and increase in travelling expenses of the corporate office employees. As discussed above, in the case of project employee costs, the increases on account of wage revision have been allowed for calculation of the normalised O&M expenses after deducting

incentive and ex gratia. Similarly, in case of corporate office expenses also, the incentive and ex gratia have not been considered in direct employee expenses.

57. Schedule 13 of the Company balance sheets for different years reveals Rs. 55 lakh, Rs.0.40 lakh, Rs. 85 lakh and Rs. 2800 lakh as donations for the years 1996-1997 to 1999-2000 respectively, the donations were made for the benefit of society or for some social cause for which the petitioner deserves appreciation, donations cannot be directly attributed to the business of power generation, the activity in which the petitioner is engaged. Accordingly, these donations cannot be passed on to the beneficiaries. Therefore, the donation amounts have not been considered in the corporate office expenses.

58. After excluding the proportionate amount for incentive, ex gratia, and donations, the following amounts in corporate office expenses in respective year have been considered towards the normalised O&M expenses for the station:

| | | (Rs. in lakh) | | | | | | | |
|--------|-----------|---------------|-----------|-----------|-----------|--|--|--|--|
| Year | 1995-1996 | 1996-1997 | 1997-1998 | 1998-1999 | 1999-2000 | | | | |
| | | | | | | | | | |
| Amount | 645.69 | 625.20 | 746.38 | 836.95 | 1021.30 | | | | |
| | | | | | | | | | |

Expenses under remaining heads

59. Under all other heads, increases are within the permissible limit of 20%. Therefore, amounts indicated by the petitioner have been considered to arrive at the normalised O&M charges. O&M computation done in accordance with the methodology prescribed in the notification dated.26.3.2001 as given in the following table:

60. A comparative tabular statement of the year-wise O&M expenses claimed by the petitioner and allowed by us is extracted hereunder:

| | | 1995 | -1996 | 199 | 6-97 | 1997 | -1998 | 1998 | 3-1999 | 1999- | 2000 | 1995-1996 | to 1999-2000 |
|----|-------------------------------|---------|---------|----------|---------|----------|----------|----------|----------|----------|----------|--------------------------|-----------------------|
| | | Claimed | Allowed | Claimed | Allowed | Claimed | Allowed | Claimed | Allowed | Claimed | Allowed | Average As Claimed | Average as Allowed |
| 1 | Employee cost | 2560.92 | 2268.00 | 2848.71 | 2464.00 | 3819.41 | 3567.00 | 4669.77 | 3958.00 | 5483.35 | 4982.00 | 3876.43 | 3447.80 |
| 2 | Employee cost | 2000.92 | 2200.00 | 2040./1 | 2404.00 | 3019.41 | 3567.00 | 4009.77 | 3956.00 | 5463.35 | 4902.00 | 3070.43 | 5447.00 |
| 2 | Repair and Maintenance | 4819.56 | 4819.56 | 4870.22 | 4870.22 | 5378.54 | 5378.54 | 5068.29 | 5068.29 | 5039.64 | 5039.64 | 5035.25 | 5035.25 |
| 3 | Stores | | | | | | | | | | | | |
| | consumed | 85.68 | 85.68 | 93.56 | 93.56 | 83.14 | 83.14 | 85.19 | 85.19 | 76.84 | 76.84 | 84.88 | 84.88 |
| 4 | Power charges | 177.93 | 177.93 | 223.01 | 223.01 | 297.28 | 297.28 | 262.00 | 262.00 | 279.64 | 279.64 | 247.97 | 247.97 |
| 5 | Water Charges | 443.06 | 0.00 | 433.02 | 0.00 | 499.84 | 0.00 | 730.41 | 0.00 | 706.54 | 0.00 | 562.57 | 0.00 |
| 6 | Communication expenses | 27.96 | 27.96 | 31.73 | 31.73 | 38.15 | 38.15 | 40.74 | 40.74 | 52.91 | 52.91 | 38.30 | |
| _7 | Travelling | 21.00 | 27.00 | 01.70 | 01.70 | 00.10 | 00.10 | +0.74 | | 02.01 | 02.01 | 00.00 | , |
| _' | expenses | 181.54 | 181.54 | 186.19 | 186.19 | 240.94 | 240.94 | 276.57 | 276.57 | 305.09 | 305.09 | 238.07 | 238.07 |
| 8 | Insurance | 197.37 | 197.37 | 187.25 | 187.25 | 190.01 | 190.01 | 209.34 | 209.34 | 213.02 | 213.02 | 199.40 | 199.40 |
| 9 | Rent 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | Security expenses | 287.85 | 287.85 | 344.80 | 344.80 | 343.85 | 343.85 | 458.17 | 458.17 | 408.41 | 408.41 | 368.62 | 368.62 |
| 11 | Professional expenses | 41.17 | | 18.65 | 18.65 | | | | | | | | |
| 12 | Printing & | 41.17 | | 10.05 | 10.05 | 0.20 | 0.20 | 10.72 | 10.72 | 4.90 | 4.90 | 17.34 | 12.14 |
| 12 | Stationary | 3.63 | | 21.31 | 21.31 | 41.80 | 25.57 | 28.18 | 28.18 | 25.34 | 25.34 | 24.05 | 25.10 |
| 13 | Other Expenses | 438.83 | 438.83 | 509.98 | 509.98 | 591.47 | 591.47 | 585.21 | 585.21 | 800.62 | 800.62 | 585.22 | 585.22 |
| 14 | Corporate office | 670.00 | 045.00 | 050.00 | 005.00 | 700.40 | 740.00 | 004.44 | 000.05 | 4047.50 | 1001.00 | 0.40.00 | 775 40 |
| 15 | expenses | 670.90 | | 658.33 | 625.20 | | | | 836.95 | | | | |
| 15 | | 9936.40 | 9130.41 | 10426.76 | 9575.90 | 12299.19 | 11510.61 | 13321.70 | 11825.36 | 14643.86 | 13209.71 | 12125.58 | 11050.40 |
| 16 | O &M without water Charges | 9493.34 | 9130.41 | 9993.74 | 9575.90 | 11799.35 | 11510.61 | 12591.29 | 11825.36 | 13937.32 | 13209.71 | 11563.01 | 11050.40 |

61. O &M expenses allowed in tariff are summarised below*

| | | | (Rs. in lakh) | | | | | | | | |
|-----|--|----------|---------------|---------------|----------|----------|--------------------|----------|--|--|--|
| | | | With 10% e | escalation | | With | With 6% escalation | | | | |
| | | 1997-98 | 1998-99 | 1999- 2000 | 2000-01 | 2001-02 | 2002-03 | 2003-04 | | | |
| I | Base O&M - Average of (1995-1996 to 1999-2000) | 11050.40 | 12155.44 | 13370.98 | 14173.24 | | | | | | |
| II | Recurring Water Charges | | | | 752.00 | | | | | | |
| III | Total O&M | | | | 14925.24 | 15820.76 | 16770.00 | 17776.20 | | | |

62. The petitioner has claimed water charges separately. As the O&M charges allowed include water charges, these have not been approved separately.

INTEREST ON WORKING CAPITAL

- 63. Working capital has been calculated considering the following elements:
 - (a) Fuel Cost: As per the notification dated 26.03.2001, fuel cost for one month corresponding to normative Target Availability is to be included in the working capital. Accordingly, the fuel cost is worked out for one month on the basis of operational parameters as given in the notification dated 26.03.2001. The fuel cost allowed in working capital is given hereunder:

| | 2001-2002 | 2002-2003 | 2003-2004 |
|------------------------------------|-----------|-----------|-----------|
| Oil Stock -1 Month (KL) | 4292.40 | 4292.40 | 4304.16 |
| Oil Stock -1 Month (Rs. in Lakh) | 471 | 471 | 473 |
| Coal Stock -1 month (mt) | 879555 | 879555 | 881965 |
| Coal Stock -1 month (Rs. in Lakh) | 4217 | 4217 | 4229 |
| Fuel Cost - 1 month (Rs. in lakh) | 4688 | 4688 | 4702 |

(b) Coal Stock: As per the notification dated 26.03.2001, cost of reasonable fuel stock as actually maintained but limited to 15 days for

pit head station and thirty days for non-pit head stations, corresponding to normative Target Availability should form part of working capital. Accordingly, the coal stock has been worked out for 15 days on the basis of operational parameters and weighted average price of coal. The normative stock for 15 days' coal stock has been considered in the calculation since its value is lower than the actual coal stock as per the audited balance-sheet for the year 2000-2001. The cost of coal stock considered has been computed as shown below:

| Balance Sheet for 2000-2001 (Rs. in lakh) | 2131 | 2151 | 2151 |
|---|-----------|-----------|-----------|
| Coal Stock-Actual as per audited | 2151 | 2151 | 2151 |
| Coal Stock-15 days- (Rs. in Lakh) | 2079.63 | 2079.63 | 2079.63 |
| Weighted Avg. Price of Coal (Rs./mt) | 479.45 | 479.45 | 479.45 |
| Coal Stock (15 days) (mt) | 433753 | 433753 | 433753 |
| Annual Requirement of Coal (mt) | 10554664 | 10554664 | 10583581 |
| Specific Coal Consumption (kg/kWh) | 0.7172 | 0.7172 | 0.7172 |
| Heat Contribution by Coal (kCal/kwh) | 2465.18 | 2465.18 | 2465.18 |
| Weighted Avg. GCV of Coal (kcal/kg) | 3437.30 | 3437.30 | 3437.30 |
| | 2001-2002 | 2002-2003 | 2003-2004 |

(c) Oil Stock: As per the notification dated 26.03.2001, 60 days stock of secondary fuel oil, corresponding to normative Target Availability is permissible. Accordingly, the oil stock considered for 60 days as per the operational parameters and weighted average price of oil has been considered, the details of which are extracted below:

| | 2001-02 | 2002-03 | 2003-04 |
|--------------------------------------|----------|----------|----------|
| Weighted Avg. GCV of Oil (kcal/Lit.) | 9948.83 | 9948.83 | 9948.83 |
| Heat Contribution by Oil (kcal/kWh) | 34.82 | 34.82 | 34.82 |
| Annual Requirement of Oil (Itrs) | 51508800 | 51508800 | 51649920 |
| Oil Stock(60 days) (KL) | 8467.20 | 8467.20 | 8467.20 |
| Weighted Avg. Price of Oil (Rs./KL) | 10984.29 | 10984.29 | 10984.29 |
| Oil Stock- 60 days- (Rs. in lakh) | 930.06 | 930.06 | 930.06 |

(d) O&M Expenses: As per the notification dated 26.03.2001, operation and maintenance expenses (cash) for one month are permissible as a

part of the working capital. Accordingly, O&M expenses for working capital has been worked out for 1 month of O&M expenses approved above are considered in tariff of the respective year.

Spares: As per the notification dated 26.03.2001, maintenance spares (e) at actuals subject to a maximum of 1% of the capital cost but not exceeding 1 year's requirements less value of 1/5th of initial spares already capitalised for first 5 years are required to be considered in the working capital. Accordingly, actual spares consumption/one year requirement has been worked out in the similar manner as prescribed for O&M expenses in the notification dated 26.03.2001, that is, the average of actual spares consumption for the years 1995-1996 to 1999-2000 has been considered as spares consumption for the year 1997-98, which has been escalated twice at the rate of 10% per annum to arrive at spares consumption for the base year 1999-2000, and the base spares consumption for the year 1999-2000 has been further escalated at the rate of 6% per annum to arrive at permissible spares consumption for the relevant year. The above amount has been restricted to 1% of capital cost as on 1.4.2001. As the plant is more than 5 years old, deduction of 1/5th of initial spares is not applicable. The calculations in support of spares allowed in working capital are as under:

| | | | | (Rs. i | n lakh) | |
|--------|--|--|---------|--------|---------|---------------|
| Spares | | | Average | Base | Base | Tariff Period |

| | 1995- 1996 | 1996- 1997 | 1997- 1998 | 1998- 1999 | 2000 | to 1999- | 1999- 2000 | | 2001- 2002 | | 2003- 2004 |
|---|---------------|---------------|---------------|---------------|------|----------|---------------|------|---------------|------|---------------|
| Actual Consumption as per Audited Balance Sheet | 3650 | 3443 | 3724 | 3462 | 3478 | 2000 | | | | | |
| Calculation of Base Spares | 3650 | 3443 | 3724 | 3462 | 3478 | 3551 | 4297 | 4555 | 4828 | 5118 | 5425 |
| 1% of Average Capital Cost | | | | | | | | 1474 | 1474 | 1474 | 1474 |
| Minimum of the above allowed as spares | | | | | | | | 1474 | 1474 | 1474 | 1474 |

(f) Receivables: As per the notification dated 26.03.2001, receivables will be equivalent to two months average billing for sale of electricity calculated on normative Plant Load Factor/Target Availability. The receivables have been worked out on the basis of two months of fixed and variable charges. The supporting calculations in respect of receivables are tabulated hereunder:

Computation of receivables component of Working Capital

| Variable Charges | 2001-2002 | 2002-2003 | 2003-2004 |
|---|-----------|-----------|-----------|
| Coal (Rs/kwh) | 0.3755 | 0.3755 | 0.3755 |
| Oil (Rs/kwh) | 0.0420 | 0.0420 | 0.0420 |
| Rs./kwh | 0.4175 | 0.4175 | 0.417% |
| Variable Charges per year(Rs. in lakh) | 56262 | 56262 | 56416 |
| Variable Charges -2 months (Rs. in lakh) | 9377 | 9377 | 9403 |
| Fixed Charges - 2 months (Rs. in lakh) | 6185 | 6356 | 6491 |
| Receivables (Rs. in lakh) | 15562 | 15733 | 15894 |

(g) Working Capital Margin: The notification dated 26.3.2001 is silent on Working Capital Margin. The Commission had considered the Working Capital Margin while awarding tariff for the period 1.11.1997 to 31.3.2001 vide order dated 10.10.2002 in Petition No.34/2002. Accordingly, Working Capital Margin of Rs2214.00 lakh has been considered in the working. 50% of the Working Capital Margin has been considered as equity and the remaining 50% as loan. Return on equity and interest on loan have been allowed on the respective portion. The interest on loan portion of the Working Capital Margin has been allowed on the basis of weighted average rate of interest.

64. Since the notification dated 26.3.2001 does not provide for escalation in fuel prices, the same has not been considered in the computation of fuel elements in working capital. Therefore, the coal stock has been adopted based on stock for 15 days at normative Target Availability level.

65. The average SBI PLR of 11.50% has been considered as the rate of interest on working capital during the tariff period 2001-02 to 2003-04, in line with the Commission's earlier decision.

66. The necessary details in support of calculation of Interest on Working Capital are appended below:

| | (Rs. in lakh) | | | | | | |
|-------------------------------------|---------------|-----------|-----------|--|--|--|--|
| | 2001-2002 | 2002-2003 | 2003-2004 | | | | |
| Fuel Cost | 4688 | 4688 | 4702 | | | | |
| Coal Stock | 2080 | 2080 | 2080 | | | | |
| Oil stock | 930 | 930 | 930 | | | | |
| O & M expenses | 1318 | 1398 | 1481 | | | | |
| Spares | 1474 | 1474 | 1474 | | | | |
| Receivables | 15562 | 15733 | 15894 | | | | |
| Total Working Capital | 26052 | 26302 | 26561 | | | | |
| Working Capital Margin (WCM) | 2214 | 2214 | 2214 | | | | |
| Total Working Capital allowed | 23838 | 24088 | 24347 | | | | |
| Rate of Interest | 11.50% | 11.50% | 11.50% | | | | |
| Interest on allowed Working Capital | 2741 | 2770 | 2800 | | | | |
| Interest on WCM | 78 | 97 | 125 | | | | |
| Return on WCM | 177 | 177 | 177 | | | | |
| Total Interest on Working capital | 2996 | 3044 | 3102 | | | | |

Calculation of Interest on Working Capital

ANNUAL FIXED CHARGES

67. The annual fixed charges for the period 1.4.1999 to 31.3.2004 allowed in this order are summed up as below:

| | | | (Rs. in lakh) | |
|---|---------------------------------|-----------|---------------|-----------|
| | Particulars | 2001-2002 | 2002-2003 | 2003-2004 |
| 1 | Interest on Loan | 967 | 873 | 743 |
| 2 | Interest on Working Capital | 2996 | 3044 | 3102 |
| 3 | Depreciation | 5535 | 5535 | 5535 |
| 4 | Advance against Depreciation | 0 | 122 | 0 |
| 5 | Return on Equity | 11791 | 11791 | 11791 |
| 6 | O & M Expenses | 15821 | 16770 | 17776 |
| | TOTAL | 37110 | 38135 | 38948 |

ENERGY/VARIABLE CHARGES

68. The notification dated 26.3.2001 in para 2.3 (a) lays down that the operational norms, except those relating to "Target Availability" and Plant Load Factor" as contained in the existing tariff notifications for individual power stations issued by the Central Government under proviso to Section 43A (2) of the Electricity (Supply) Act, 1948 (for short, "the Supply Act") in respect of the existing stations of NTPC shall continue to apply for those stations. Similarly, para 2.3(b) of the notification dated 26.3.2001 saves application of operational norms for the existing and new stations of NTPC and NLC for which no tariff notification had been issued by the Central Government, but Power Purchase Agreements/Bulk Power Supply Agreements were existing on the date of the notification dated 26.3.2001. Para 2.4 of the notification dated 26.3.2001 further lays down in detail the norms of operation, including Target

Availability" and "Plant Load Factor". The explanation below para 2.4 further prescribes that for the purpose of calculating tariff, the operating parameters, namely, Station Head Rate, Secondary Fuel Oil Consumption and Auxiliary Consumption shall be determined on the basis of actuals or norms, whichever is lower.

69. Based on the explanation, it has been argued on behalf of Respondent No.1 that the operational parameters for Korba STPS for the purpose of fixation of energy charges should be lower of the actuals or norms. According to Respondent No.1, the explanation governs para 2.3 as also para 2.4 of the notification dated 26.3.2001.

70. We have considered the submission made on behalf of Respondent No.1. The provisions of para 2.3 and para 2.4 are mutually exclusive. Para 2.3 will apply to the thermal stations belonging to the petitioner where, the Central Government, in exercise of powers under proviso under Section 43 A (2) of the Supply Act had prescribed the terms and conditions of tariff or Power Purchase Agreements/Bulk Power Supply Agreements were signed. Para 2.4 applies in cases where terms and conditions of tariff in respect of generating stations belonging to Central Government were not notified by the Central Government or the agreements were not entered into by the generator and the beneficiaries. The explanation qualifies the norms prescribed under para 2.4. The tariff for Korba STPS was notified by Ministry of Power vide notification dated 2.11.1992, issued under proviso to Section 43 A (2) of the Supply Act. Therefore, in view of the para 2.3 (a) of the notification dated 26.3.2001, the terms and conditions as contained in Ministry of Power notification dated 2.11.1992 shall govern the operational parameters, applicable to Korba STPS. 71. It was next contended on behalf of Respondent No.1 that Ministry of Power notification dated 2.11.1992 was valid for a period of 5 years from 1.11.1992 and thus

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it expired on 31.10.1997. We do not find any force in this contention of Respondent No.1. Ministry of Power notification dated 2.11.1992 was continued up to 31.3.2001. Para 6 of Ministry of Power notification dated 2.11.1992 provided that in case a new tariff for the period beyond dated 31.10.1997 was not finalised before that date, the beneficiaries would continue to pay to the petitioner for the power supplied from Korba STPS beyond that date on ad hoc basis in the manner detailed in the notification dated 2.11.1992 up to 31.3.2001. Thus, the operational norms in respect of Korba STPS as contained in Ministry of Power notification dated 2.11.1992 would be applicable for computation of tariff. Ministry of Power notification dated 2.11.1992 does not contain any provisions for computing energy charges by considering the operational parameters based on norms or actuals, whichever is lower. Therefore, the operational parameters as laid down in Ministry of Power notification dated 2.11.1992 have been considered for the purpose of determination of tariff in the present petition.

72. The petitioner has claimed the energy charges based on the operational norms applicable to coal based projects as per the notification dated 26.3.2001 for the tariff period 2001-2004.

73. The fuel price and GCV furnished by the petitioner for the month of Jan, Feb, March 2001 in the petition have been considered for the Base Energy Charge computation. We have adopted the unit price of coal as per PSL after deliberating on the issue in detail based on the presentation made by the petitioner on 8.4.2003 and the information furnished by the petitioner subsequently. The Base Energy

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Charge(BEC) have been computed based on the data furnished by the petitioner are summarised below:

| Description | Unit | |
|--|-----------|----------|
| Capacity | MW | 2100 |
| PLF corresponding to Availability of 80% | % | 80.00 |
| Gross Station Heat Rate | kcal/kWh | 2500.00 |
| Specific Fuel Oil Consumption | ml/kWh | 3.50 |
| Aux. Energy Consumption | % | 8.43 |
| Weighted Average GCV of Oil | kcal/l | 9948.83 |
| Weighted Average GCV of Coal | kcal/Kg | 3437.30 |
| Weighted Average Price of Oil | Rs./KL | 10984.29 |
| Weighted Average Price of Coal | Rs./MT | 479.45 |
| Rate of Energy Charge from Sec. Fuel Oil | Paise/kWh | 3.84 |
| Heat Contributed from SFO | kcal/kWh | 34.82 |
| Heat Contributed from Coal | kcal/kWh | 2465.18 |
| Specific Coal Consumption | Kg/kWh | 0.72 |
| Rate of Energy Charge from Coal | Paise/kWh | 34.39 |
| Base Energy Charge ex-bus per kWh Energy Sent out | Paise/kWh | 41.75 |

74. The Base Energy Charges have been calculated on base value of GCV, base price of fuel and normative operating parameters as indicated in the above table and are subject to fuel price adjustment. The notification dated 26.3.2001 provide for fuel price adjustment for variation in fuel price and GCV of fuels. The base energy

charges approved on the basis of norms shall be subject to adjustment. The formula applicable for fuel price adjustment shall be as given below: -

FPA = A + B

Where,

FPA – Fuel price Adjustment for a month in Paise/kWh Sent out

A – Fuel price adjustment for Secondary Fuel oil in Paise/kWh sent out

B – Fuel price adjustment for Coal in Paise/kWh sent out

And,

$$A = ------ \left[(P_{om} / K_{om}) - (P_{os} / K_{os}) \right]$$

(100 - AC_n)

$$\mathbf{B} = \frac{10 \text{ x} \{ (\text{SHR}_{n}) - (\text{SFC}_{n}) \text{x}(\text{K}_{\text{os}}) \}}{(100 - \text{AC}_{n})} \left[(\text{P}_{\text{cm}}/\text{K}_{\text{cm}}) - (\text{P}_{\text{cs}}/\text{K}_{\text{cs}}) \right]$$

Where,

- SFC_n Normative Specific Fuel Oil consumption in ml/kWh
- SHR_n Normative Gross Station Heat Rate in kCal/kWh

AC_n – Normative Auxiliary Consumption in percentage

P_{om} – Weighted Average price of fuel oil as per PSL for the month in Rs./KL.

K_{om} – Weighted average GCV of fuel oils fired at boiler front for the month in Kcal/Litre

- Pos Base value of price of fuel oils as taken for determination of base energy charge in tariff order in Rs. /KL.
- K_{os} Base value of gross calorific value of fuel oils as taken for determination of base energy charge in tariff order in Kcal/Litre

- P_{cm} Weighted average price of coal as per PSL for the month at the power station in Rs. / MT.
- K_{cm} Weighted average gross calorific value of coal fired at boiler front for the month in Kcal/Kg
- P_{cs} Base value of price of coal as taken for determination of base energy charge in tariff order in Rs. /MT
- K_{cs} Base value of gross calorific value of coal as taken determination of base energy charge in tariff order in kCal/Kg

75. 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, Development Surcharge and other charges in accordance with the notification dated 26.3.2001, as applicable. This is subject to the orders, if any, of the superior courts. The petitioner shall also be entitled to recover the filing fee of Rs. 10 lakh paid in the present petition from the respondents in ten equal monthly installments of Rs. one lakh each, payable by the respondents in proportion of the fixed charges. This is subject to confirmation that the amount has not been included in O &M expenses.

76. This order disposes of Petition No 30/2001.

Sd/-Sd/-(K.N. SINHA)(G.S. RAJAMANI)MEMBERMEMBERNew Delhi dated the 6th August, 2003

Sd/-(ASHOK BASU) CHAIRMAN