

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram:

1. **Shri Ashok Basu, Chairman**
2. **Shri K.N. Sinha, Member**

Petition No.96/2002

In the matter of

Approval of tariff from 1.4.2000 to 31.3.2001 of Farrakka Super Thermal Power Station

And in the matter of

National Thermal Power Corporation Ltd.

.... **Petitioner**

Vs

1. West Bengal State Electricity Board, Calcutta
2. Bihar State Electricity Board, Patna
3. Jharkhand State Electricity Board
4. Grid Corporation of Orissa Ltd., Bhubaneswar
5. Damodar Valley Corporation, Calcutta
6. Power Deptt., Govt. of Sikkim, Gangtok
7. Assam State Electricity Board, Guwahati
8. APTRANSCO, Hyderabad
9. Madhya Pradesh State Electricity Board, Jabalpur
10. Tamil Nadu State Electricity Board, Chennai
11. Kerala State Electricity Board, Trivandrum
12. Karnataka Power Transmission Corporation Ltd., Bangalore
13. Uttar Pradesh Power Corporation Ltd., Lucknow
14. Gujarat Electricity Board, Vadodara
15. Union Territory of Pondicherry, Pondicherry
16. Rajasthan Rajya Vidyut Prasaran Nigam Ltd, Jaipur
17. Haryana Vidyut Prasaran Nigam Ltd, Panchkula
18. Power Department, Union Territory of Chandigarh, Chandigarh....**Respondents**

The following were present:

1. Shri V.B.K. Jain, GM (Comml), NTPC
2. Shri R. Datt, GM (Comml), NTPC
3. Shri M.S. Chawla, AGM (Comml), NTPC
4. Smt. Ranjana Gupta, NTPC
5. Shri B. Arya, NTPC
6. Shri S.K. Johar, NTPC
7. Shri S.K. Sharma, Sr. Mgr (C), NTPC
8. Shri Sandeep Mehta, NTPC
9. Shri Alka Saigal, NTPC
10. Shri Ajay Sardana, NTPC

11. Shri D. Khandelwal, MPSEB
12. Shri T.K. Srivastava, EE, UPPCL
13. Dr. S. C. Bhattacharya, CE(Comml.), WBSEB
14. Shri P.K. Bagchi, ZM, Mid Zone, WBSEB
15. Shri P.C. Saha, SE (Comml.), WBSEB
16. Shri Deepak K. Srivastava, EE (Comml.), MSEB
17. Shri S. Misra, AGM (PP), GRIDCO
18. Shri Jayant Mehta, Advocate, GEB

ORDER
(DATE OF HEARING 25.11.2003)

The petitioner has filed this petition for approval of tariff in respect of Farrakka Super Thermal Power Station (Farrakka STPS) for the period from 1.4.2000 to 31.3.2001. Initially, the petitioner had filed the petition for approval of fixed charges. Subsequently, however, it filed the amended petition to claim fixed charges as well as the variable charges. The amended petition was directed to be taken on record vide our order dated 1.10.2003.

2. Farrakka STPS comprises of five units. The fifth unit was declared under commercial operation on 1.7.1996. The tariff for Farrakka STPS was notified by Ministry of Power vide notification dated 7.5.1999 from 1.7.1996, valid up to 31.3.2000, but was continued on ad hoc basis beyond that date in view of Clause 6 of the said notification dated 7.5.1999 thereof.

3. The petitioner had filed Petition No. 41/2000 to claim revised fixed charges due to additional capital expenditure and FERV capitalised in respect of Farrakka STPS for the years 1997-98 to 1999-2000. The said petition was disposed of vide the Commission's order dated 19.6.2002. The Commission directed the petitioner to file fresh petition for determination of tariff for the period 1.4.2000 to 31.3.2001 based on the terms and conditions notified by Ministry of Power as per the notification dated

7.5.1999. The present petition has been filed in pursuance of these directions of the Commission contained in its order dated 19.6.2002 to claim fixed charges as under:

Sl No	Particulars	Rs in lakh
1	Interest on Loan	3989
2	Interest on Working Capital	5487
3	Depreciation	22965
4	Return on Equity	24259
5	O&M Expenses including water Charges	18350
	TOTAL	75050

4. In addition the petitioner has claimed a variable charges @ of 72.17 paise/kWh (ex-bus), subject to monthly fuel price adjustment in accordance with the formula given in Annexure A1 to the petition.

5. The petitioner has furnished the following details in support of its claim of interest on working capital:

(Rs. in lakh)	
Fuel Cost	5871
Coal stock	2789
Oil Stock	587
O & M expenses	1527
Spares	7331
Recievables	26896
Total Working Capital	45001
Working Capital Margin (WCM)	5422
Total Working Capital allowed	39579
Rate of Interest	12.19%
Interest on Working Capital	4825
Interest on WCM	229
Return on WCM	434
Interest on WCM	5487

6. Before we consider the individual elements of tariff, we consider certain preliminary issues raised on behalf of the respondents.

7. It has been contended on behalf of the respondents that before undertaking the process of determination of tariff for the period from 1.4.2000 to 31.3.2001, the Commission should decide the terms and conditions of tariff for that period under Section 28 of the Electricity Regulatory Commissions Act, 1998. It has been stated that the terms and conditions of tariff notified by Ministry of Power on 7.5.1999 were valid for a period up to 31.3.2000. The Commission has already considered this issue. The Commission in its order dated 21.12.2000, while laying down the terms and conditions of tariff, decided that the terms and conditions would be applicable with effect from 1.4.2001 and for the period prior to that, the terms and conditions earlier notified by the Central Government in Ministry of Power would continue to apply. Therefore, the terms and conditions of tariff in respect of Farrakka STPS for the period from 1.4.2000 to 31.3.2001 are not required to be determined by the Commission afresh. Accordingly, while disposing of Petition No. 41/2000, the Commission in its order dated 19.6.2002 had directed the petitioner to file the petition based on terms and conditions decided by Ministry of Power. The present petition has been filed in compliance with those directions. Therefore, we do not find any merit in the preliminary submission made on behalf of the respondents.

8. It was further contended by the respondents that debt and equity should be in the ratio of 70:30 as applicable to IPPs, though as per notification dated 7.5.1999, debt and equity have been taken in the ratio of 50:50. It is further contended that ROE should be payable at 12% as there was no justification to increase ROE to 16% with effect from 1.11.1998. Similarly, on the question of depreciation, it has been submitted that prior to 1992, depreciation was charged at a rate of 3.4%. However, this was increased to 7.4% after 1994. The respondents have prayed that depreciation should

be charged at the rate applicable prior to 1992 or at the rate of 3.60% as decided by the Commission for the period commencing 1.4.2001. The respondents have also raised the issues of interest on loan, interest on working capital, O&M expenses and the water charges. It is also contended that the respondents should not meet the income-tax liability of the petitioner who should pay it out of its own profits. We do not find any force in any of these submissions made on behalf of the respondents. We have already noted that the petition has been filed based on the terms and conditions contained in Ministry of Power's notification dated 7.5.1999. The respondents have not been able to pin point any deviation on account of ROE, debt-equity ratio, depreciation, interest on loan, interest on working capital, O&M expenses and incentive from the said notification. In view of earlier decisions, we are bound to follow the terms and conditions for determination of tariff in respect of Farrakka STPS based on notification dated 7.5.1999.

9. The respondents also raised certain issues regarding the applicability of operational norms like specific fuel oil consumption, auxiliary energy consumption, etc. It has been contended that the Energy (Variable) Charges should be determined based on actual or normative operational parameters, whichever is lower. These aspects are not being considered in this petition as the Commission has already decided to follow the Ministry of Power project specific tariff notification up to 31.3.2001 and the operational norms have been considered in accordance with the notification dated 7.5.1999 applicable to Farrakka STPS. We now proceed to examine the different components of tariff separately.

CAPITAL COST

10. The investment approval for the project was accorded by the Central Government vide Ministry of Power letter dated 6.1.1998 at a cost of Rs.72228 lakh, excluding working capital margin (WCM) of Rs. 865 lakh for Farrakka STPS Stage-I (3x210MW) (RCE-II) and Rs. 240772 lakh excluding WCM of Rs.4557 lakh for Stage-II (2x500MW) vide letter dated 19.9.1996 (RCE-II). The total approved cost of the project of Rs.313000 lakh, excluding WCM of Rs.5422 lakh. In addition, CEA had also approved R&M proposal for EAP of Rs.3480 lakh vide letter dated 4.7.1996.

11. Ministry of Power while issuing tariff notification dated 7.5.1999 considered a project cost of Rs.283531 lakh. This was considered as the gross block as on 31.3.1997 for the purpose of calculation of tariff. The Commission in its order dated 19.6.2002 in petition No 41/2000 in respect of this power station, had allowed additional capitalisation and FERV as under:

(Rs. in lakh)

Financial Year	1997-98	1998-99	1999-00	Total
1. Additional Capitalization	2551.70	432.90	1817.24	4801.82
2. FERV	1551.30	8039.10	6252.10	15842.50
Total (1+2)	4103.00	8472.00	8069.30	20643.20

12. Thus, the closing capital cost of Rs. 304174.20 lakh as on 31.3.2000 has been considered as the opening gross block for the purposes of present tariff petition.

13. The petitioner has claimed the following amounts on account of additional capitalisation during the year 2000-01:

(Rs. in lakh)

Financial Years	2000-01
1. New work	
(a) Within the scope of RCE	130.60
(b) Not in the scope of RCE	367.35
Total (a + b)	497.95
2. Balance Payments	1571.36
Total (1+2)	2069.31

14. Against the above claim, no specific justification has been furnished by the petitioner in support of balance payments, though the petitioner has furnished justification for the following expenditure under the New Works in the respective years:

(Rs. in lakh)

Financial Years	2000-01
New work	
(a) Within the scope of RCE	130.60
(b) Not in the scope of RCE	340.42
Total (a + b)	471.02

15. The following methodology has been adopted for allowing or disallowing the claim of the petitioner for additional capitalisation:

New Works

(a) The expenditure on any works, which was in the scope of approved project cost but undertaken after the date of commercial operation has been allowed.

(b) The expenditure incurred for the replacement of existing equipment/facility due to technology becoming obsolete or the equipment having outlived its utility in the normal course of operation, has also been allowed for capitalisation.

(c) The expenditure on the works undertaken/on purchase of additional equipment/facility which is giving benefit exclusively to the petitioner without

any apparent benefit to the beneficiaries has not been allowed, unless it is found that expenditure was necessary for the benefit of the employees for giving necessary facilities at the remote location of the power project.

(d) Any mandatory expenditure arising out of statutory obligation due to change of law, etc., has been allowed.

16. The balance payments pertaining to

(a) Works undertaken or order placed before the date of commercial operation which are presumed to be within the scope of approved project cost have been allowed.

(b) Works undertaken or order placed after the date of commercial operation which might have been admitted by the Central Government in the previous tariff period have been allowed.

(c) Works undertaken or order placed after the date of commercial operation which has been claimed as new works in the relevant years in the tariff period under consideration and allowed by the Commission, the balance payments in subsequent years pertaining to these new works have also been allowed.

17. The claim of balance payments pertaining to adjustments positive or negative for the works already executed in the previous tariff periods or involving expenditure on balance works undertaken in previous tariff periods or capitalization / de-capitalization of assets due to I/U transfers or replacement of assets etc., separate justification was not considered necessary. However, for allowing such balance

payments, guiding factor had been the date of placement of order for the works. The works for which orders were placed before the date of commercial operation of the plant or during the period for which tariff was notified by Ministry of Power have been presumed to be in the scope of approved revised cost or admitted cost and have been allowed. Apart from the above, expenditure of Rs.433.608 lakh against capital spares claimed by the petitioner has been disallowed for capitalization for tariff purpose. Accordingly, an expenditure of Rs. 1044.217 lakh has been found justified. The other balance payments not falling in any of the above categories have been disallowed.

18. Based on the above methodology, we allow the additional capitalisation as given below:

(Rs. in lakh)	
Financial Year	2000-01
1. New works	
(a) Within the scope of RCE	130.60
(b) Not in the scope of RCE	334.82
Total (a + b)	465.42
2. Balance Payments	1044.22
Total (1+2)	1509.64

19. Foreign Exchange Rate Variation for the year 2000-01 works out to (-) Rs. 3953 lakh. This has been considered for working out the capital cost.

20. In view of the above, the capital cost allowed for the purpose of tariff is as under:

		(Rs. in lakh)
		2000-01
(i)	Opening project cost as on 1 st April	304175
(ii)	Additional capitalisation during the year	1510
(iii)	Foreign Exchange Rate Variation	(-) 3953
(iii)	Closing project Cost as on 31 st March of the year	301732

DEBT-EQUITY RATIO

21. Ministry of Power in its notification dated 7.5.1999 had considered the normative debt-equity ratio of 50:50. For the purpose of calculation of fixed charges in this petition same debt-equity ratio has been adopted and accepted by the Commission.

RETURN ON EQUITY (ROE)

22. ROE @ 16% per annum has been allowed as provided in the notification issued by Ministry of Power. The charges payable by the respondents on account of return on equity works out to Rs. 24236 lakh. The supporting calculations are appended hereunder:

(Rs. in lakh)	
Opening Balance (50% of Rs.304175 lakhs)	152088
Increase/ Decrease due to FERV (50% of Rs.3953 lakhs)	-1977
Increase/ Decrease due to Additional Capitalisation (50% of Rs.1510 lakhs)	755
Closing Balance	150866
Average Equity	151477
Rate of Return on Equity	16.00%
Return on Equity	24236

INTEREST ON LOAN

23. The normative loan amount has been worked out based on the normative debt-equity ratio of 50:50. The cumulative repayment of loan up to 31.3.2000 as per the petition has been considered. The annual repayment amount for the year 2000-01 has been worked out as per the following formula:

$$\frac{\text{Actual repayment during the year} \times \text{normative loan at the beginning of the year}}{\text{Actual loan at the beginning of the year.}}$$

24. The amount of annual repayment for calculation of interest on loan is considered as worked out by the above formula, or as given in the petition, whichever is higher.

25. For the purpose of calculation of amount of interest on loan, the weighted rate of interest on loan has been worked out on the basis of actual rate of interest on actual average loans and the same is applied on the normative average loan during the year. An amount of Rs. 3191 lakh is payable by the respondents on account of interest on loan. The calculations of interest on normative loan based on actual rate of interest are also given hereunder:

(Rs. in lakh)

Gross loan-Opening	152088
Cumulative repayments of Loans up to previous year	96741
Net loan-Opening	55347
Increase/ Decrease due to FERV	(-) 1977
Increase/ Decrease due to Additional Capitalisation	755
Total	54125
Repayments of Loans during the year	15120
Net loan-Closing	39005
Average Net Loan	47176
Rate of Interest on Loan	6.76%
Interest on loan	3191

26. The other salient features of calculation of interest on loan are indicated herein below:

(a) The weighted average interest rate on Bonds has been worked out by considering the interest rate and redemption period of individual Bonds drawn in different years.

(b) The benefit of re-financing of loans (by replacing the fixed interest rate loans bearing higher rate of interest with the loans carrying lower rate of interest) has been passed on to the beneficiaries / ultimate consumers, and the interest rate applicable on re-financed /substituted loans has been considered in the working. The foreign loans viz. EXIM and BTCO loans have been re-financed by the SUMITOMO-II/SG ASEA loans with variable/ fixed interest rate and Bank of America loan with fixed interest rate respectively. As such, the interest rate applicable on SG ASEA and Bank of America loans have been considered in the working and in case of SUMITOMO-II loan with variable rate of interest, the interest rate of original EXIM loan has been considered along with Govt. guarantee fees @ 1.2% per annum.

(c) The commitment fees @ 0.75 % per annum as indicated by the petitioner in form-8 of the petition have not been allowed in case of IBRD loans as commitment fees is generally applicable on un-disbursed 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.

(d) In case of Bonds of all issues, financial charges have not been allowed for working out the interest rate as no specific clarification has been received from the petitioner on the issue of capitalisation of financial charges of Bonds in their submission dated 4.12.2003.

(e) As no specific percentage has been indicated for agency fees per annum in case of Bank of America loan, the same has not been allowed for working out the interest rate of said loan. However the financial charges in case of United Bank

of India, ICICI –I, Bank of America and SG ASEA loans have been allowed for working out the interest rate.

DEPRECIATION

27. Depreciation recovered in tariff from 1.4.1993 to 31.3.2000 as notified by Ministry of Power has also been taken into account. As the tariff calculations of Farrakka STPS Stage I are not available on record, the depreciation recovered in tariff up to 31.3.1993 has been taken as given in the petition. The amount considered for this purpose is Rs. 12067 lakh. In the notification issued by Ministry of Power, the depreciation rate of 7.55% was taken into consideration. The same rate has been considered for working out the depreciation for the year 2000-01. The amount of depreciation to be recovered on capital cost of Rs.301732 lakh @ 7.55% in tariff shall be Rs. 22965 lakh.

O&M EXPENSES

28. In the amended petition the petitioner has claimed O&M expenses of Rs.18350 lakh. for the year 2000-01 based on actuals. The principle so far adopted by the Commission is to consider actual O&M expenses for the previous year as the base and allow 10% escalation as per the methodology followed by Ministry of Power in the project specific notification .

29. The petitioner has not furnished the actual O&M data for the previous year, that is, 1999-2000 in the present petition. We have, therefore, relied upon the actual O&M operational data submitted by the petitioner in petition No.36/2001 pertaining to tariff for Farrakka STPS for the period from 1.4.2001 to 31.3.2004. In that petition the

petitioner has shown an expenditure of Rs. 15428 lakh on account of O & M for the year 1999-2000. Escalating the above, O & M expenses for 1999-2000 at the rate of 10%, the allowable O&M expenses for the year 2000-01 work out to Rs.16971 lakh. Therefore, O&M expenses for the year 2000-01 have been taken as Rs.16971 lakh. for the purpose of tariff.

INTEREST ON WORKING CAPITAL

30. Working capital has been calculated considering the following elements in accordance with Ministry of Power notification dated 7.5.1999:

- (a) Fuel Cost: The fuel component allowed in the working capital has been calculated as shown below:

Annual Generation corresponding to 68.49% PLF	MU	9600.00
Annual Coal requirement	MMT	8.18
Monthly Coal Requirement	MMT	0.68
Value of Coal Stock (15 days)	Rs in lakh	2653.04
Annual Oil Requirement	KL	33600.00
Monthly Oil requirement	KL	2800.00
60 Days Oil requirement	KL	5523.29
Value of 1 Month Oil Stock	Rs. in lakh	269.43
Value of 60 days Oil Stock for W.C	Rs. in lakh	531.47
Fuel Cost-1Month	Rs. in lakh	5649.20

- (b) Coal stock: For coal stock to be provided in the working capital , the figure as per audited accounts of 1999-00 has been considered in the working.

- (c) Oil stock: The value of Oil stock of 60 days has been considered in the working.

(d) O&M Expenses: O&M expenses for working capital has been considered for 1 month for the year 2000-2001 in accordance with Ministry of Power notification dated 7.5.1999.

(e) Spares: The actual spares for the year 1999-00 as per the audited balance sheet of Farrakka STPS have been considered in the working for the year 2000-01.

(f) Receivables: Receivables have been worked out on the basis of two months of fixed and variable charges. The variable charges component of the receivables in the working capital have been estimated on the basis of variable charges as calculated below. The fixed charge component of the receivables is based on the calculations for the current tariff period.

31. Ministry of Power in its notification dated 7.5.1999 had considered the working capital margin of Rs.5422 lakh. The same has been adopted for the purpose of calculating working capital for the year 2000-01. 50% of the working capital margin has been treated as equity and remaining 50% has been treated as loan by retaining the debt-equity ratio of 50:50 and respective return and interest is allowed thereon. The SBI PLR of 11.5% for the year 2000-2001 has been considered as the rate of interest on working capital. Based on the above methodology, the interest on working capital payable by the respondents to the petitioner shall be Rs. 3976 lakh. The details in support of interest on working capital allowed in tariff are extracted below:

(Rs. in lakh)

Fuel Cost	5649
Coal stock	545
Oil Stock	531
O & M expenses	1414
Spares	3303
Receivables	23188
Total Working Capital	34631
Working Capital Margin (WCM)	5422
Total Working Capital allowed	29209
Rate of Interest	11.50%
Interest on allowed Working Capital	3359
Interest on WCM	183
Return on WCM	434
Total Interest on Working Capital	3976

32. Annual fixed charges for the period 1.4.2000 to 31.3.2001 allowed are summed up as below:

(Rs. in lakh)

	Particulars	2000-01
1	Interest on Loan	3191
2	Interest on Working Capital	3976
3	Depreciation	22965
4	Return on Equity	24236
5	O & M Expenses	16970
	TOTAL	71339

33. The Annual Fixed (Capacity) Charges shall be shared by the respondents in proportion of power drawn by them.

Energy Charge

34. It has been contended that actual or the normative operational parameters, whichever is lower should be the basis for computation of energy charge. It is pointed out that the Commission during hearing on 2.7.2003 had directed the petitioner to furnishing the actual operating parameters achieved during the tariff period under consideration as recorded in the Commission's order dated 13.12.2002. It was submitted that the petitioner had not complied with the direction. The Commission had asked the petitioner to file an appropriate reply. The petitioner in IA dated 14.7.2003 as follows:

"The petitioner respectfully submits that it acted under bona-fide belief that having made the above submission based on norms contained in the notification for this Station issued by Gol, the actual data was not required. As such by oversight and without intending to be in non-compliance with the direction in para 6 of the said order, the data was not filed. The petitioner apologises for the oversight".

35. The petitioner sought modification of the order dated 13.12.2003 so that it was not required to file the actual operational parameters. The Commission vide order dated.1.10.2003, recalled its earlier direction to the petitioner to file actual parameters achieved, observing that the actual operating parameters were not required to be looked into and the energy charges needed to be determined in the light of norms contained in Ministry of Power notification dated 7.5.1999.

36. Accordingly, Energy (Variable) Charges are worked out considering operational norms as per the notification dated 7.5.1999.

37. The petitioner has claimed energy charges based on the PSL prices of coal. The average price and GCV of coal and secondary fuel oil, energy charges on

monthly basis have been furnished by the petitioner in the amended petition and affidavit dated 12.10.2002 respectively.

38. Base energy charge have been computed based on average GCV and price of coal and secondary fuel oil for the month of April, May and June 2000 given in the petition and the same is worked under:

Description	Unit	
Capacity	MW	1600.00
Hours corresponding to Availability of 68.49% PLF	%	6000.00
Gross Station Heat Rate	Kcal/kWh	2500.00
Specific Fuel Oil Consumption	MI/kWh	3.50
Aux. Energy Consumption (9% for 200 MW units & 7.5% for 500 MW units)	%	8.06
Weighted Average GCV of Oil	Kcal/l	9576.66
Weighted Average GCV of Coal	Kcal/Kg	2893.33
Weighted Average Price of Oil	Rs./KL	9622.33
Weighted Average Price of Coal	Rs./MT	788.85
Rate of Energy Charge from Sec. Fuel Oil	Paise/kWh	3.37
Heat Contributed from SFO	Kcal/kWh	33.52
Heat Contributed from Coal	Kcal/kWh	2466.48
Specific Coal Consumption	Kg/kWh	0.85
Rate of Energy Charge from Coal	Paise/kWh	67.25
Rate of Energy Charge ex-bus per kWh Sent	Paise/kWh	76.81

39. The base energy charges have been calculated on base value of GCV, base price of gas and normative operating parameters. Ministry of Power notification dated 7.5.1999 provides for fuel price adjustment for variation in fuel price and GCV of fuels. Accordingly, the above base energy charges shall be subject to adjustments.

40. Fuel price and GCV variation shall be based on monthly weighted average as per the formula given below: -

$$\text{FPA} = \text{A} + \text{B}$$

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,

$$\text{A} = \frac{10 \times (\text{SFC}_n)}{(100 - \text{AC}_n)} \left\{ (\text{P}_{om}) - (\text{P}_{os}) \right\}$$

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

Where,

SFC_n – Normative Specific Fuel Oil consumption in l/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/Liter

P_{os} – 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

41. This order disposes of Petition No. 96/2002.

Sd/-
(K.N. SINHA)
MEMBER

Sd/-
(ASHOK BASU)
CHAIRMAN

New Delhi dated the 23rd April 2004