

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Coram**

- 1. Shri Bhanu Bhushan, Member**
- 2. Shri R. Krishnamoorthy, Member**

**Petition No. 125/2007**

**In the matter of**

Approval of revised fixed charges considering the impact of additional capital expenditure incurred during the period 2004-05 to 2006-07 and impact of year-wise lignite price for the period 2004-09 determined on energy charges and capacity charges for NLC TPS –I (600 MW)

**And in the matter of**

Neyveli Lignite Corporation Limited, Chennai

...**Petitioner**

vs

Tamil Nadu Electricity Board, Chennai

...**Respondent**

**The following were present:**

1. Shri.R.Suresh, NLC
2. Shri.A.Ganesan, NLC
3. Ms. Ratna Choudhury, NLC
4. Shri.S.Soumyanarayanan, TNEB
5. Ms. Ayilium Jayamary, TNEB
6. Shri.R.Krishnaswami, TNEB

**ORDER**

**(Date of Hearing: 22.11.2007)**

This application has been made for approval of revised fixed charges considering the impact of additional capital expenditure incurred during the period 2004-05 to 2006-07 and impact of year-wise pooled lignite price for the period 2004-

09 determined on energy charges and capacity charges of NLC TPS –I (600 MW) (hereinafter referred to as “the “generating station”) based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004, (hereinafter referred to as “the 2004 regulations”).

2. The generating station with a total capacity of 600 MW comprises of 6 units of 50 MW and 3 units of 100 MW each. The dates of commercial operation of these units are as follows:

Unit-1 (50 MW)	23.5.62
Unit-2 (50 MW)	23.1.63
Unit-3 (50 MW)	11.6.63
Unit-4 (50 MW)	27.10.63
Unit-5 (50 MW)	29.4.64
Unit-6 (50 MW)	24.8.65
Unit-7 (100 MW)	28.3.67
Unit-8 (100 MW)	12.2.69
Unit-9 (100 MW)	21.2.70

3. The generating station was under extensive R&M during April 1994 to March 1999 under the Life Extension Programme. As a consequence, the life of the generating station was extended upto 2014. The power generated from the generating station is supplied to the State of Tamil Nadu and thus the respondent is the sole beneficiary of the generating station.

4. The tariff for the generating station for the period from 1.4.2004 to 31.3.2009 was approved by the Commission by order dated 26.9.2006 in Petition No.186/2004 based on the gross block of Rs.41970 lakh and net block of Rs.18623 lakh as on

1.4.2004. The annual fixed charges approved by the Commission for the period 2004-09 are as under:

(Rs in lakh)					
<b>Particulars</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Interest on Loan	97	58	48	47	45
Interest on Working Capital	<b>1755</b>	<b>1765</b>	<b>1776</b>	<b>1790</b>	<b>1798</b>
Depreciation	1359	1359	1359	1359	1359
Advance Against Depreciation	0	0	0	0	0
Return on Equity	2093	1961	1789	1607	1428
O & M Expenses	9120	9486	9864	10260	10668
<b>TOTAL</b>	<b>14425</b>	<b>14630</b>	<b>14835</b>	<b>15063</b>	<b>15299</b>

5. Also, the Commission by its said order dated 26.9.2006 worked out the energy charges at 132.11 paise/kWh based on the pooled lignite transfer price of Rs.797/MT.

6. The respondent has filed its reply.

### **ADDITIONAL CAPITALISATION**

7. Regulation 18 of the 2004 regulations provides for considering the additional capital expenditure for tariff purposes as under:

*(1) The following capital expenditure within the original scope of work actually incurred after the date of commercial operation and up to the cut off date may be admitted by the Commission, subject to prudence check:*

- (i) Deferred liabilities;*
- (ii) Works deferred for execution;*
- (iii) Procurement of initial capital spares in the original scope of work, subject to ceiling specified in regulation 17:*
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court: and*
- (v) On account of change in law.*

*Provided further that a list of the deferred liabilities and works deferred for execution shall be submitted along with the application for final tariff after the date of commercial operation.*

*(2) Subject to the provisions of clause (3) of this regulation, the capital expenditure of the following nature actually incurred after cut off date may be admitted by the commission, subject to prudence check:*

*(i) Deferred liabilities relating to works/services with in the original scope of work;*

*(ii) Liabilities to meet award of arbitration or for compliance of the order or decree of a court;*

*(iii) On account of change in law;*

*(iv) Any additional works/services which have become necessary for efficient and successful operation of the generating station, but not included in the original project cost; and*

*(v) Deferred works relating to ash pond or ash handling system in the original scope of work.*

*(3) Any expenditure on minor items/assets like normal tools and tackles, personal computers, furniture, air-conditioners, voltage stabilizers, refrigerators, fans, coolers, TV, washing machine, heat-convector, carpets, mattresses etc. brought after the cut off date shall not be considered for additional capitalization for determination of tariff with effect from 1.4.2004.*

*(4) Impact of additional capitalization in tariff revision may be considered by the Commission twice in a tariff period, including revision of tariff after the cut off date.*

**Note 2**

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

8. The year-wise details of the additional capital expenditure claimed by the petitioner as per the books of accounts and certified by the auditors are as under:

(Rs.in lakh)			
Year	Direct assets	Common services assets	Total
2004-05	734.21	171.66	905.87
2005-06	1719.64	415.33	2134.97
2006-07	391.35	171.75	563.10
<b>Total</b>	<b>2845.20</b>	<b>758.74</b>	<b>3603.94</b>

9. The Commission vide order dated 14.1.2008 had directed the petitioner to furnish the detailed categorization and consolidation of amount for each asset with proper justification for additional expenditure incurred under different clauses of Regulation 18 of the 2004 regulations. The petitioner by its affidavit dated 28.1.2008 has submitted the categorization of additional expenditure in accordance with Regulation 18 of the 2004 regulations.

10. The details of additional capital expenditure claimed for direct assets by affidavit dated 28.1.2008 in accordance with various clauses of Regulation 18 of the 2004 regulations are as under:

(Rs in lakh)			
Year	Category under 2004 regulations		Total
	Liabilities to meet award of arbitration or for compliance of the order or decree of a court- 18 (2) (ii)	Additional works/services necessary for efficient and successful operation of the generating station, but not included in the original project cost- 18(2) (iv)	
2004-05	4.37	729.91	734.28
2005-06	256.47	1464.43	1720.90
2006-07	309.36	82.34	391.70
<b>Total</b>	<b>570.20</b>	<b>2276.68</b>	<b>2846.88</b>

11. It is observed that the additional capital expenditure claimed for direct assets as per books of accounts and certified by the auditors submitted vide affidavit dated 28.1.2008 are slightly at variance from that claimed in the main petition and taken note of at para 8 above. It has been explained that the amount of Rs.2846.88 lakh for the period 2004-07 details of which have been given in the affidavit dated 28.1.2008, is the result of gross additions of expenditure under different heads as per Regulation 18 of the 2004 regulations, whereas the additional capitalization of Rs.2845.20 lakh claimed on direct assets is the net value after deletions of the value of unserviceable assets and additions of cumulative depreciation of deleted assets. Also, an error in total amount for accumulated depreciation on deleted assets for the year 2006-07 has been reconciled and corrected as Rs.363.217 lakh instead of Rs.229.995 lakh.

12. Based on the details submitted by the petitioner, the net values of additional capital expenditure arrived at are as under:

	(Rs in lakh)		
	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>
Gross asset value (A)	734.28	1720.90	391.70
Deletion of assets (B)	1.41	14.38	3.97
Cumulative depreciation of assets deleted (C)	1.34	13.13	3.63
Net additional capitalization claimed (A-B+C)	<b>734.21</b>	<b>1719.65</b>	<b>391.36</b>

13. The cumulative depreciation of assets deleted cannot be allowed to be capitalized as the assets decapitalized formed part of the capital cost. However, the amount of cumulative depreciation of assets deleted has been deducted from the cumulative depreciation recovered, for the purpose of determination of tariff.

14. On prudence check of the additional expenditure incurred for the years 2004-05, 2005-06 and 2006-07, it is observed that the petitioner has claimed the expenditure under the head “liabilities to meet award of arbitration or for compliance of the order or decree of a court” in terms of Regulation 18(2) (ii) whereas it should have been claimed under Regulation 18(2) (iv) of the 2004 regulations. The expenditure on this account has been correctly considered under Regulation 18(2) (iv) of the 2004 regulations. Accordingly, the additional expenditure for different years has been segregated under the following heads:

Year	Category under 2004 regulations			(Rs in lakh)	
	Liabilities to meet award of arbitration or for compliance of the order or decree of a court- 18 (2) (ii)	Additional works/services necessary for efficient and successful operation of the generating station, but not included in the original project cost- 18(2) (iv)	Expenditure on minor items /assets-18 (3)	Total	
2004-05	2.74	724.36	7.19	734.29	
2005-06	18.85	1696.89	5.15	1720.89	
2006-07	304.27	85.92	1.51	391.70	
<b>Total</b>	<b>325.86</b>	<b>2507.17</b>	<b>13.85</b>	<b>2846.88</b>	

15. After examining the asset-wise details and justification of additional capital expenditure claimed by the petitioner under various categories and by applying prudence check, the admissibility of additional capitalization for the years 2004-05, 2005-06 and 2006-07 is discussed in the subsequent paragraphs.

**Expenditure to meet award or for compliance of the order or decree of a court- Regulation 18 (2) (ii)**

16. Expenditure of Rs.325.86 lakh for the period 2004-07 has been incurred by the petitioner under this head for assets like construction of rest shed for coal handling operators, procuring 70 kV high voltage rect. transformer, static energy

meters suitable for ABT application and dry fog dust suppression system. These assets have been procured/constructed to comply with the requirements of ABT mechanism and the various provisions of the rules and regulations of statutory authorities. Hence, capitalization of the expenditure of Rs.325.86 lakh under this head is allowed.

**Expenditure on works/services necessary for efficient and successful operation of the generating station, but not included in the original project cost -Regulation 18 (2) (iv)**

17. The expenditure to the tune of Rs.2507.17 lakh for the period 2004-07 under this head has been examined on merit. It has been noticed that the petitioner has purchased some additional assets necessary for successful and efficient operation of the generating station. It is also found that the petitioner has incurred substantial amount of capital expenditure for replacement of obsolete/old assets without corresponding de-capitalisation. The justification has been furnished by the petitioner that replacement of the old/obsolete assets was necessary as these assets had outlived their useful life, vintage design of the different components and systems of the units and the non-availability of spares etc., resulting in outage of vital generating equipments. This has been found to be in order. It has been the approach of the Commission to allow capitalization of expenditure against replacement of old /obsolete assets on merit, provided the value of the old/obsolete assets is written-off from the gross block. The petitioner has not furnished the written-off value of these old/obsolete assets. As has been noted above, first 6 units (50 MW each) of the generating station were commissioned during the year 1962-65 and the remaining 3 units (100 MW each) during the years 1967-70. Thus the assets

replaced had been in use for nearly 38 to 43 years. In this backdrop it is considered that it would not be appropriate to disallow the capitalization of the expenditure incurred merely on the ground that the petitioner has not furnished the gross block of old assets. As such, the value of the old/obsolete assets is estimated to be about 1/10<sup>th</sup> of the value of the new assets (considering the fact that the generating station was commissioned about 40 years back when the gross block of the old/obsolete assets was substantially less than the value of the new assets) has been deducted from the gross block of the new asset. The tariff for the generating station for the previous period has been determined by following the Net Fixed Assets (NFA) approach. In NFA method, the cumulative depreciation of fixed assets was deducted from the gross block to arrive at the net block. Accordingly, 90% of the depreciated value of the old assets has been deducted from the gross block of the fixed assets, to arrive at the net block. The remaining value of the old assets regarded as salvage value is written off from the gross block and the net block of the new assets to allow the additional capital expenditure on new works to replace the old/obsolete assets, in order to ensure the reliability and availability of all the generating units for the benefit of the respondent. Even if all the units of the generating station are to be phased out by the year 2014, these replacements are necessary to sustain the availability of the generating station under the ABT regime. Therefore, an expenditure of Rs.2464.65 lakh under this head is allowed.

### **Expenditure on minor items/assets -Regulation 18 (3)**

18. The additional capital expenditure of Rs.13.85 lakh on canteen items, furniture and fittings and on minor assets claimed by the petitioner is not allowed to

be capitalized, as the same is not admissible in view of Regulation 18(3) of the 2004 regulations.

19. Based on the above, the following additional expenditure is allowed to be capitalized for the respective year:

Year	Category under 2004 regulations			(Rs.in lakh)	
	Liabilities to meet award of arbitration or for compliance of the order or decree of a court- 18 (2) (ii)	Additional works/services necessary for efficient and successful operation of the generating station, but not included in the original project cost- 18(2) (iv)	Expenditure on minor items /assets-18 (3)	Total	
2004-05	2.74	723.28	0	726.02	
2005-06	18.85	1684.30	0	1703.15	
2006-07	304.27	57.07	0	361.34	
<b>Total</b>	<b>325.86</b>	<b>2464.65</b>	<b>0</b>	<b>2790.51</b>	

20. Considering the above, the additional capitalization allowed for the purpose of tariff, after accounting for deletion of assets, is as under:

Description	(Rs in lakh)		
	2004-05	2005-06	2006-07
Gross asset value	726.02	1703.15	361.34
Deletion of assets	1.41	14.38	3.97
Cumulative depreciation of assets deleted	0	0	0
<b>Net direct assets</b>	<b>724.61</b>	<b>1688.77</b>	<b>357.37</b>

21. The following amount has been claimed by the petitioner for common assets and services for the period 2004-05, 2005-06 and 2006-07:

Description	(Rs. in lakh)			
	2004-05	2005-06	2006-07	Total
Common assets/service	171.66	415.33	171.75	758.74

22. The petitioner has stated that Neyveli Lignite Corporation is an integrated utility, consisting of production units of mines and power stations and in order to

augment the production units, the service units like the centralized material management, services, township administration, corporate office, hospital and regional offices are functioning and the asset additions are apportioned to the service units. The justification furnished by the petitioner for expenditure on common assets and services is in order. Accordingly, the expenditure of Rs.758.74 lakh (Rs 171.66 lakh, Rs.415.33 lakh and Rs.171.75 lakh during 2004-05, 2005-06 and 2006-07 respectively) on common services assets is allowed to be capitalized.

23. Since for computation of capital cost for determination of tariff, undischarged liabilities are to be excluded, the petitioner was directed by order dated 14.1.2008 to furnish, *inter alia*, the undischarged liability in the gross block as on 1.4.2004, 1.4.2005, 1.4.2006 and 1.4.2007. The petitioner vide affidavit dated 28.1.2008 has submitted that the additional capital expenditure claimed for the period 2004-07 had actually been paid for each year and did not include any undischarged liability. The petitioner by affidavit dated 13.3.2008 has further certified that the gross block of assets as on 1.4.2004, 1.4.2005, 1.4.2006 and 1.4.2007, does not include any element of undischarged liability.

24. After segregation and reconciliation, the additional capital expenditure claimed by the petitioner and that admitted is summarized as under:

(Rs in lakh)

<b>Additional capital expenditure claimed</b>				
	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>Total</b>
Gross asset value (A)	734.29	1720.89	391.69	2846.87
Deletion of assets (B)	1.41	14.38	3.97	19.76
Cumulative depreciation of assets deleted (C)	1.34	13.13	3.63	18.10
Net direct assets (A-B+C)= D	734.22	1719.64	391.35	2845.21
Common assets /service (E)	171.66	415.33	171.75	758.74
Net additional capitalisation (D+E) = F	<b>905.88</b>	<b>2134.97</b>	<b>563.10</b>	<b>3603.95</b>
<b>Additional capital expenditure allowed</b>				
Gross asset value (A)	<b>726.02</b>	<b>1703.15</b>	<b>361.34</b>	<b>2790.51</b>
Deletion of assets (B)	1.41	14.38	3.97	19.76
Cumulative depreciation of assets deleted (C)	0.00	0.00	0.00	0.00
Net direct assets (A-B+C)= D	<b>724.61</b>	<b>1688.77</b>	<b>357.37</b>	<b>2770.75</b>
Common assets /service (E)	171.66	415.33	171.75	758.74
Net additional capitalisation (D+E) = F	<b>896.27</b>	<b>2104.10</b>	<b>529.12</b>	<b>3529.49</b>

### Cumulative depreciation recovered

25. The cumulative depreciation of Rs.23347 lakh recovered in tariff up to 31.3.2004, as per order dated 26.9.2006 in Petition No.186/2004 for the tariff period 2004-09, has been considered. In line with our discussion in the preceding paragraphs, the cumulative depreciation on account of deleted assets for the years 2004-07 has been considered as under:

(Rs.in lakh)

<b>Particulars</b>	<b>Amount</b>
Gross Block as per order dated 26.9.2006 as on 31.3.2004	41970.00
Cumulative depreciation recovered through tariff up to 31st March 2004 as per order dated 26.9.2006	23347.00
<b>Additional capitalization</b>	
2004-05	896.27
2005-06	2104.10
2006-07	529.12
<b>Total</b>	<b>3529.49</b>

<b>Cumulative depreciation on deleted assets</b>	
2004-05	1.34
2005-06	13.13
2006-07	3.63
Total	18.10

26. As stated above, the Commission in its order dated 26.9.2006 considered the gross block of Rs.41970 lakh and net block of Rs.18623 lakh as on 1.4.2004, for determination of tariff for the period 2004-09. Accordingly, the revised capital cost, for the purpose of tariff for the period 2004-09, after accounting for additional capitalization, is worked out under:

(Rs. in lakh)

<b>Particulars</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Opening capital cost as on 1 <sup>st</sup> April of the financial year	<b>41970</b>	<b>42866</b>	<b>44970</b>	<b>45499</b>	<b>45499</b>
Additional capitalization allowed	896	2104	529	0	0
Discharged liability as on 31 <sup>st</sup> March of the financial year	0	0	0	0	0
Capital cost as on 31 <sup>st</sup> March of the financial year	<b>42866</b>	<b>44970</b>	<b>45499</b>	<b>45499</b>	<b>45499</b>

## **DEBT-EQUITY RATIO**

27. As the Commission has adopted NFA method in the case of the generating station, actual source of funding has been considered for calculating debt-equity ratio as on the date of commercial operation. Further, normative debt-equity ratio loses its relevance once the repayment is allowed on actual basis. Therefore, the contention of the respondent that the additional capital expenditure be considered as the normative debt-equity ratio of 70:30 is not tenable. Regulation 18 of the 2004 regulations applies to the cases where tariff is determined by following Gross Fixed

Assets approach. The petitioner has submitted that the entire additional expenditure incurred has been funded out of equity. Accordingly, 100% equity has been considered for funding the additional capitalization as per the details given below:

(Rs. in lakh)

<b>Particulars</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Equity- Opening	15330	15471	16361	15247	13573
Additional capitalization	896	2104	529	0	0
<b>Total</b>	<b>16226</b>	<b>17575</b>	<b>16890</b>	<b>15247</b>	<b>13573</b>
Less: Balance Depreciation after repayment of loan	756	1227	1647	1674	1674
Equity- Closing	15470	16348	15244	13573	11899
Depreciation written off	1	13	4	0	0
<b>Total</b>	<b>15471</b>	<b>16361</b>	<b>15247</b>	<b>13573</b>	<b>11899</b>
Equity-Opening	<b>15330</b>	<b>15471</b>	<b>16361</b>	<b>15247</b>	<b>13573</b>
Equity-Closing	<b>15470</b>	<b>16348</b>	<b>15244</b>	<b>13573</b>	<b>11899</b>
Average Equity	<b>15400</b>	<b>15910</b>	<b>15803</b>	<b>14410</b>	<b>12736</b>

## RETURN ON EQUITY

28. As per the 2004 regulations, return on equity has been worked out @ 14% per annum on the normative average equity. Accordingly, the return on equity for the period 2004-09 works out as follows:

(Rs. in lakh)

	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Average equity	15400	15910	15803	14410	12736
Rate of return on equity	14%	14%	14%	14%	14%
<b>Return on Equity</b>	<b>2156</b>	<b>2227</b>	<b>2212</b>	<b>2017</b>	<b>1783</b>

## INTEREST ON LOAN

29. Interest on loan as considered in order dated 26.9.2006 has been considered in the present computation as under:

(Rs. in lakh)

	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Net Loan-Opening	3293	2690	2468	2427	2345
Increase/ Decrease due to FERV	0	0	0	0	0
Increase/ Decrease due to ACE	0	0	0	0	0
Total	3293	2690	2468	2427	2345
Repayment	603	222	41	82	82
Net Loan-Closing	2690	2468	2427	2345	2264
Average NetLoan	2992	2579	2448	2386	2305
Rate of Interest	3.24%	2.27%	1.95%	1.95%	1.95%
Interest	<b>97</b>	<b>58</b>	<b>48</b>	<b>47</b>	<b>45</b>

## DEPRECIATION

30. The cumulative depreciation recovered up to 31.3.2004 as per order dated 26.9.2006 is Rs.23347 lakh. This has been considered for the purpose of the present order. Further, the cumulative depreciation on deleted assets during the respective year as shown below has been deducted from the cumulative depreciation recovered in the respective year as under:

(Rs in lakh)

<b>Period</b>	<b>Amount</b>
2004-05	1.34
2005-06	13.13
2006-07	3.63

31. The necessary computation of depreciation is as under:

(Rs. in lakh)

		<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Opening capital cost	41970	41970	42866	44970	45499	45499
Closing capital cost		42866	44970	45499	45499	45499
Depreciable value @ 90%	36941	37747	39641	40117	40117	40117
Balance useful life of asset		10	9	8	7	6
Rate of Depreciation		5.12%	5.12%	5.12%	5.12%	5.12%
Depreciation		<b>1359</b>	<b>1449</b>	<b>1687</b>	<b>1756</b>	<b>1756</b>
Advance against Depreciation (AAD)		0	0	0	0	0
Total Depreciation and AAD		1359	1449	1687	1756	1756
Cumulative Depreciation/AAD recovered in tariff	23347	24706	26154	27828	29581	31337
Depreciation to be written back against deleted assets	0	1.34	13.13	3.63	0	0
Adjusted Cumulative Depreciation/AAD recovered in tariff	<b>23347</b>	<b>24705</b>	<b>26141</b>	<b>27825</b>	<b>29581</b>	<b>31337</b>

## O&M EXPENSES

32. O&M expenses as considered in order dated 29.6.2006 have been adopted.

## INTEREST ON WORKING CAPITAL

33. For the purpose of calculation of working capital, the operating parameters including the price of fuel components considered in the order dated 26.9.2006 has been kept unaltered. However, the amount of receivables has been recalculated.

The necessary revised calculations of interest on working capital are as under:

(Rs. in lakh)

	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Fuel Cost	0	0	0	0	0
Lignite Stock	5552	5552	5552	5567	5552
Oil stock	234.87	234.87	234.87	235.51	234.87
O & M expenses	760	791	822	855	889
Spares	537	569	603	639	678
Receivables- 2 months	10053	10137	10238	10306	10315
Total Working Capital	17137	17283	17450	17603	17669
Interest rate on working capital	10.25%	10.25%	10.25%	10.25%	10.25%
<b>Interest on Working Capital</b>	<b>1757</b>	<b>1772</b>	<b>1789</b>	<b>1804</b>	<b>1811</b>

34. The revised annual fixed charges on the above basis in respect of the generating station for the period from 1.4.2004 to 31.3.2009 are summarized as under:

(Rs. in lakh)					
Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Interest on Loan	97	58	48	47	45
Interest on Working Capital	1757	1772	1789	1804	1811
Depreciation	1359	1449	1687	1756	1756
Advance Against Depreciation	0	0	0	0	0
Return on Equity	2156	2227	2212	2017	1783
O & M Expenses	9120	9486	9864	10260	10668
<b>TOTAL</b>	<b>14489</b>	<b>14992</b>	<b>15600</b>	<b>15884</b>	<b>16063</b>

## TARGET AVAILABILITY

35. As stated in the order dated 26.9.2006, target availability of 75% has been considered for recovery of full fixed charges and computation of fuel element in the working capital for the period from 1.4.2004 to 31.3.2009.

## ENERGY/VARIABLE CHARGE

### Lignite Transfer Price

36. The year-wise energy charges (ex-bus) claimed by the petitioner for the tariff period 2004-09 are as under:

Year	2004-05	2005-06	2006-07	(paise./kWh)		2008-09
				2007-08 (upto 31.7.2007)	2007-08 (from 1.8.2007)	
Energy charges (ex-bus)	102.71	105.44	138.85	134.03	135.64	144.32

37. The petitioner has submitted that the generating station is linked to Mine-I of 6.5 Million Tonne per annum capacity. The lignite transfer price of Rs.797/ MT

including royalty of Rs.50/MT, as on 31.3.2002, in terms of the BPSA which has since expired, was being adopted provisionally. The petitioner has also submitted that the year-wise lignite transfer price for the period 2004-09 is based on Ministry of Coal guidelines and the transfer price of lignite has been certified by the auditors. It is noticed that in terms of the Gol notification dated 30.1.2006, the royalty on lignite has been increased and thus, the lignite transfer price has been enhanced. Accordingly, the year-wise pooled lignite transfer price adopted by the petitioner for working out the energy charges is as under:

Year	Lignite price ( Rs/Tonne)
2004-05	614
2005-06	631
2006-07	839
2007-08 ( upto 31.7.07)	809
2007-08 ( from 1.8.07)	819
2008-09	873

38. The petitioner has included the cost of mine-closure in addition to the components considered for computing lignite transfer price on the basis of the order dated 23.3.2007 in Petition No.5/2002. The respondent in its reply vide affidavit dated 12.11.2007 has submitted that Ministry of Coal, guidelines dated 30.1.2006 based on which transfer price of lignite was determined for the period 2001-04 in respect of the other mines of the petitioner do not have any provision for mine-closure expenditure and the same need not be allowed for arriving at transfer price of lignite. In the further additional affidavit verified on 14.3.2008 also, the respondent has opposed the petitioner's claim on this count.

39. The petitioner has explained that in terms of the Mineral Conservation and Development Rules, 1988, as amended in April 2003, it is obligatory on the part of the user of mines to submit progressive mine closure plan every five years. The Coal Regulatory Authority Bill which is at finalization stage provides that any cost for mine-closure and land restoration should be built into the price and certain amount be set apart for this purpose. The cost is to be incurred at the time of mine-closure and at that time matching revenue is not available to meet the expenditure. Accordingly, the petitioner has calculated the mine-closure expenditure provisionally and included in the lignite transfer price. The petitioner has further submitted that any variance of provisional cost with the actual shall be adjusted later.

40. Considering the fact that the mine-closure is a statutory requirement which has to be complied with by the petitioner as a user of mines, the cost of mine-closure considered in the lignite transfer price is allowed, subject to adjustment based on the actual expenditure is incurred.

41. In terms of the 2004 regulations, the base energy charge shall be calculated on the basis of actual lignite transfer price for the preceding three months i.e. January, February and March, 2004. Accordingly, the base rate of energy charge of 132.11 paise/kWh based on the lignite transfer price of Rs.797/MT, as worked out by the Commission in order dated 26.9.2006, has been considered. This base energy charge has been considered for computation of interest on working capital, as well as for the fuel price adjustment.

42. Any variation in the fuel price or GCV is adjustable on month-to-month basis on the basis of cost and GCV of fuel received and burnt as per formula as under:

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

**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 Lignite in Paise/kWh sent out

**And,**

$$\mathbf{A = \frac{10 \times (SFC_n)}{(100 - AC_n)} \left\{ (P_{om}) - (P_{os}) \right\}}$$

$$\mathbf{B = \frac{10}{(110 - AC_n)} \left\{ (SHR_n) \left( P_{cm}/K_{cm} - P_{cs}/K_{cs} \right) - (SFC_n) \left\{ (k_{om} \times P_{cm}/K_{cm}) - (k_{os} \times P_{cs}/K_{cs}) \right\} \right\}}$$

**Where,**

**SFC<sub>n</sub>** – Normative Specific Fuel Oil consumption in l/kWh

**SHR<sub>n</sub>** – Normative Gross Station Heat Rate in kCal/kWh

**AC<sub>n</sub>** – Normative Auxiliary Consumption in percentage

**P<sub>om</sub>** – Weighted Average price of fuel oil on as consumed basis during the month in Rs./KL.

**K<sub>om</sub>** – Weighted average GCV of fuel oils fired at boiler front for the month in Kcal/Litre

**P<sub>os</sub>** – Base value of price of fuel oils as taken for determination of base energy charge in tariff order in Rs. / KL.

**K<sub>os</sub>** – Base value of gross calorific value of fuel oils as taken for determination of base energy charge in tariff order in Kcal/Litre

**P<sub>cm</sub>** – Weighted average price of lignite procured and burnt during the month at the power station in Rs. / MT.

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

43. The lignite transfer price as worked out by the petitioner for the respective year of the tariff period as extracted in para 37 above, shall be taken as the actual lignite price for applying the fuel price adjustment on month-to-month basis, with the energy charge of 132.11 paise/kWh sent out, in terms of the order dated 26.9.2006, as the basis. The petitioner shall, however, share the details of lignite price computations in the respective year and its basis with the respondents.

44. The arrears on account of revision of annual fixed charges and energy charge in terms of this order shall be recovered by the petitioner within three months from the date of issue of this order.

45. This disposes of Petition No. 125/2007.

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

Sd/-  
**(BHANU BHUSHAN)**  
**MEMBER**

New Delhi dated the 17<sup>th</sup> day of November, 2008