

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Coram**

- 1. Dr. Pramod Deo, Chairperson**
- 2. Shri R. Krishnamoorthy, Member**
- 3. Shri V.S.Verma, Member**

**Petition No. 13/2009**

**In the matter of**

Approval of revised fixed charges considering the impact of additional capital expenditure incurred during the period 2007-08 and 2008-09 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 N.A.K.Sarma, Advocate, NLC
2. Shri.R.Suresh, NLC
3. Shri.E. Gnanaprakasam, NLC
4. Shri.S.Soumyanarayanan, TNEB

**ORDER  
(Date of Hearing: 15.9.2009)**

This application has been made by the applicant, Neyveli Lignite Corporation Limited for approval of revised fixed charges on account of the impact of additional capital expenditure incurred during the period 2007-08 and projected addition during 2008-09 in respect 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”). The Commission, vide order dated 23.3.2009 directed the petitioner to amend the petition taking into account the audited figures of additional expenditure incurred up to 31.3.2009. The petitioner vide affidavit dated 27-6-2009 filed the amended petition providing details of the additional capital expenditure incurred during the period 1.4.2007 to 31.3.2009.

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)	23.5.1962
Unit-2 (50 MW)	23.1.1963
Unit-3 (50 MW)	11.6.1963
Unit-4 (50 MW)	27.10.1963
Unit-5 (50 MW)	29.4.1964
Unit-6 (50 MW)	24.8.1965
Unit-7 (100 MW)	28.3.1967
Unit-8 (100 MW)	12.2.1969
Unit-9 (100 MW)	21.2.1970

3. The generating station was under extensive R&M during the period from 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 and was subsequently revised by order dated 17.11.2008 in Petition No. 125/2007,

after allowing the additional capital expenditure for the years 2004-05, 2005-06 and 2006-07. The annual fixed charges approved by the Commission for the period 2004-09 vide order dated 17.11.2008 based on the capital cost of Rs.45499.49 lakh as on 1.4.2007 are as under:

Particulars	(Rs. in lakh)				
	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>

5. Also, the Commission by its said orders dated 26.9.2006 and 17.11.2008 worked out the energy charges at 132.11 paise/kWh based on the lignite transfer price of Rs.797/MT.

6. The respondent has filed its reply.

### **Additional Capitalization**

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

*(1) The following capital expenditure with in 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 within 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.*

**Note**

*The list of items is illustrative and not exhaustive.*

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

**Note 1**

*Any expenditure admitted on account of committed liabilities within the original scope of work and the expenditure deferred on techno-economic grounds but falling within the original scope of work shall be serviced in the normative debt-equity ratio specified in regulation 20.*

**Note 2**

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

**Note 3**

*Any expenditure admitted by the Commission for determination of tariff on account of new works not in the original scope of work shall be serviced in the normative debt-equity ratio specified in regulation 20.*

**Note 4**

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

8. The year-wise additional expenditure claimed by the petitioner and certified by the auditors is tabulated as under:

(Rs. in lakh)

Year	Direct Assets (Additions) (1)	Direct Assets (Deletions) (2)	Direct Assets (Depreciation withdrawal) (3)	Net Common Services (4)	Total [1-2+3+4]
2007-08	1267.13	52.94	47.65	98.89	1360.73
2008-09	71.63	49.13	46.67	140.57	209.74

9. The reconciliation of additional capital expenditure as per books of accounts claimed for the purpose of tariff is reproduced as below:

(Rs. in lakh)

Sl.No.	Particulars	2007-08	2008-09
(a)	Opening Gross block	45740.79	47269.71
(b)	Addition	1581.86	411.13
(c)	Deletion	52.94	80.19
(d)	Closing Gross block (a+b-c)	47269.71	47600.65
(e)	Direct assets depreciation withdrawal	47.65	73.80
(f)	FERV adjustment	215.84	194.99
(g)	Additional Capital Expenditure claimed (b-c+e-f)	<b>1360.73</b>	<b>209.74</b>

10. The category wise claim of the petitioner in terms of the 2004 regulations is as under:

(Rs. in lakh)

Sl.No.	Capitalization Code	2007-08	2008-09
<b>A</b>	<b>Additions</b>		
(i)	Liabilities to meet award of arbitration or for compliance of the order or decree of a court - Regulation 18(2)(ii)	28.30	10.64
(ii)	On account of change in law - Regulation 18(2)(iii)	4.67	0.00
(iii)	Additional works/services which have become necessary for efficient and successful operation of the generating station, but not included in the original project cost- Regulation 18(2)(iv)	1234.17	60.99
(iv)	Expenditure on replacement of old assets Regulation 18(2)-Note 2	0.00	0.00
	<b>Total Addition (i + ii + iii+iv)</b>	<b>1267.13</b>	<b>71.63</b>
<b>B</b>	Deletion	52.94	49.13
<b>C</b>	Depreciation withdrawal on deleted assets	47.65	46.67
<b>D</b>	Common Assets	98.89	140.57
<b>E</b>	Additional Capital Expenditure Claimed (A-B+C+D)	<b>1360.73</b>	<b>209.74</b>

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

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

12. The petitioner has claimed Rs.28.30 lakh and Rs.10.64 lakh during 2007-08 and 2008-09 respectively, under this category. On scrutiny, it is noticed that the claim for 2007-08 includes an amount of Rs. 1.84 lakh for furniture, which has not been allowed, being a minor asset. After applying prudence check, amounts of Rs.26.46 lakh and Rs.10.64 lakh for the years 2007-08 and 2008-09 respectively have been allowed.

**On account of change in law- Regulation 18(2)(iii)**

13. The petitioner has claimed an amount of Rs.4.67 lakh during 2007-08 under this category, for installation of GPS time synchronization equipment with control unit based on the Govt. of Tamil Nadu Gazette Notification dated 19.10.2005. The justification furnished by the petitioner is found to be in order and the amount of Rs 4.67 lakh is allowed to be capitalized.

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

14. The petitioner has claimed amounts of Rs.1234.17 lakh and Rs.60.99 lakh for the years 2007-08 and 2008-09 respectively, under this category. On scrutiny, it is observed that the amount claimed by the petitioner includes amounts of Rs.160.59 lakh and Rs.57.18 lakh for the years 2007-08 and 2008-09 respectively towards

assets which have been replaced. These amounts are considered under Note 2 to Regulation 18(2) and hence not allowed under this head. In addition, the claim for Rs.2.48 lakh and Rs.1.06 lakh respectively for the years 2007-08 and 2008-09 in respect of minor assets like wet grinder, digital photocopier, DVD player and canteen accessories has not been allowed. Also, the claim for an amount of Rs.2.16 lakh for air handling unit used in administrative building and other two air handling units of Rs.2.24 lakh each for the year 2008-09 has not been considered as the locational details of the said units/building has not been furnished by the petitioner. However, the petitioner is at liberty to approach the Commission for capitalization of the said amounts on this count, in future, which shall be considered in accordance with law. In view of above analysis and after applying prudence check, amounts of Rs.1071.10 lakh and (-) Rs.3.89 lakh for the years 2007-08 and 2008-09 respectively, has been allowed.

**Expenditure on replacement of old assets-Regulation 18(2), Note 2**

15. As stated above, the petitioner has claimed amounts of Rs.160.59 lakh and Rs.57.18 lakh during the years 2007-08 and 2008-09, under Regulation 18(2)(iv), which has been considered under this head. As the assets are of the nature of replaced assets, the gross value of the original assets, i.e. assets replaced, has been deducted in accordance with the principles laid down by the Commission in its order dated 17.11.2008 in Petition No. 125/2007. Although, the amounts of Rs.160.59 lakh and Rs.57.18 lakh for the years 2007-08 and 2008-09 respectively has been allowed under this category based on the prudence check, the value of the assets replaced is estimated to be about 1/10<sup>th</sup> of the value of the new assets and hence assumed to be depreciated by 90%. Accordingly, the value of the old assets replaced amounting to Rs. 16.06 lakh and Rs.5.72 lakh for the years 2007-08 and

2008-09 respectively, is assumed to be deleted and the depreciation recovered has been calculated as Rs.14.45 lakh and Rs.5.15 lakh for the years 2007-08 and 2008-09 respectively.

#### **Deletion of direct assets**

16. The petitioner has de-capitalized amounts of Rs. 52.94 lakh and Rs.49.13 lakh for the years 2007-08 and 2008-09 respectively under this head and the same has been allowed.

#### **Depreciation withdrawal on deletion of direct assets**

17. The petitioner has claimed amounts of Rs. 47.65 lakh and Rs.46.67 lakh for the years 2007-08 and 2008-09 respectively, under this head. Though depreciation withdrawal has not been considered for the capital cost of the generating station, the same has been adjusted in the cumulative depreciation recovered.

#### **Common Assets**

18. The petitioner has claimed amounts of Rs.98.89 lakh and Rs.140.57 lakh for the years 2007-08 and 2008-09 respectively, in proportion to the addition of common assets for the generating station. It is observed that a net value of common assets amounting to Rs. 824.09 lakh and Rs 1130.55 lakh for the years 2007-08 and 2008-09 respectively includes an amount of Rs.2.12 lakh and Rs.50.61 lakh for B.T.Roads, Rs.14.32 lakh and Rs.349.28 lakh for furniture and equipments, Rs.38.82 lakh and Rs 140.73 lakh for office equipments, Rs.19.55 lakh for assets costing less than Rs.5000 and Rs.58.55 lakh and Rs.218.19 for depreciation withdrawal on deletion of common assets. As the amount of Rs.2.12 lakh, and Rs 50.61 lakh for B.T.Road for the years 2007-08 and 2008-09 is of the nature of O & M expenses, the same is not allowed. Also, the petitioner has not furnished the assets-



wise details in respect of the claim for Rs.14.32 lakh and Rs 349.28 lakh for the years 2007-08 and 2008-09 for 'furniture and equipment', Rs.38.82 lakh and Rs 140.73 lakh for office equipments for the years 2007-08 and 2008-09 and Rs.19.55 lakh for assets costing less than Rs.5000 for the year 2007-08 and in the absence of asset-wise details, the claims under this head has not been allowed. However, the petitioner is at liberty to approach the Commission for capitalization under this head, along with details, in future, which shall be considered in accordance with law. Though the claim for Rs 58.55 lakh and Rs.218.19 lakh for the years 2007-08 and 2008-09 for depreciation withdrawal has not being considered for capital cost of the generating station, the same has been adjusted in cumulative depreciation recovered. Based on the prudence check, amounts of Rs.690.73 lakh and Rs.371.74 lakh for the years 2007-08 and 2008-09 respectively, has been allowed. Accordingly, the amounts of Rs.82.89 lakh and Rs.46.22 lakh for the years 2007-08 and 2008-09 respectively in respect of common assets allocated to the generating station has been allowed.

19. Based on the above discussions, the additional capital expenditure claimed by the petitioner and allowed (before adjusting un-discharged liabilities) for the years 2007-08 and 2008-09 is as under:

(Rs.in lakh)

S.No	Capitalization Code	2007-08		2008-09	
		Claimed	Allowed	Claimed	Allowed
<b>A</b>	<b>Additions</b>				
(i)	Liabilities to meet award of arbitration or for compliance of the order or decree of a court -Regulation 18(2)(ii)	28.30	26.46	10.64	10.64
(ii)	On account of change in law - Regulation 18(2)(iii)	4.67	4.67	0.00	0.00
(iii)	Additional works/services which have become necessary for efficient and successful operation of the generating station, but not included in the original project cost- Regulation 18(2)(iv)	1234.17	1071.10	60.99	-3.89

(iv)	Expenditure on replacement of old assets Regulation 18(2)-Note 2		160.59		57.18
	<b>Total Additions</b>	<b>1267.13</b>	<b>1262.81</b>	<b>71.63</b>	<b>63.93</b>
<b>B</b>	Deletion	52.94	52.94	49.13	49.13
<b>C</b>	Assumed Deletion		16.06		5.72
<b>D</b>	Depreciation withdrawal on deleted assets	47.65	0.00	46.67	0.00
<b>E</b>	Common Assets	98.89	82.89	140.57	46.22
<b>F</b>	<b>Additional capital expenditure claimed and allowed before adjustment of un-discharged liability (A-B-C+D+E)</b>	<b>1360.73</b>	<b>1276.70</b>	<b>209.74</b>	<b>55.31</b>

### Un-discharged liabilities

20. The petitioner, vide affidavit dated 27.6.2009, has submitted that the additional capitalization claimed during 2007-08 and 2008-09 have actually been paid in the same year and do not include any un-discharged liability.

### Capital Cost

21. As stated above, the annual fixed charges approved by the Commission for the period 2004-09 vide order dated 17.11.2008 in Petition No. 125/2007 was based on the capital cost of Rs.45499.49 lakh as on 1.4.2007. Taking into consideration the capital cost as on 1.4.2007 and the additional capital expenditure allowed in para 19 above, the capital cost as on 1.4.2007 and 1.4.2008 is worked out as under:

Particulars	(Rs in lakh)	
	2007-08	2008-09
Opening capital cost as on 1 <sup>st</sup> April of the financial year	45499	46776
Additional capitalization allowed	1277	55
<b>Capital Cost as on 31<sup>st</sup> March of the financial year</b>	<b>46776</b>	<b>46831</b>

### Debt-Equity Ratio

22. The petitioner has submitted that it has adopted the Net Fixed Assets (NFA) methodology and in terms of the order of the Commission dated 17.11.2008 in Petition No. 125/2007, the funding pattern shall be considered at actuals as per NFA methodology. The petitioner has also submitted that the entire additional capital

expenditure has been funded out of internal resources and hence the same should be considered for the purposes of tariff.

23. The respondent, TNEB has submitted that the Commission should consider the normative debt-equity ratio of 70:30 in respect of the funding of additional capital expenditure, in terms of of the 2004 regulations.

24. 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>2007-08</b>	<b>2008-09</b>
Equity- Opening	15247	14919
Additional capitalization	1277	55
<b>Total</b>	<b>16524</b>	<b>14974</b>
Less: Balance Depreciation	1674	1877
Equity- Closing	14850	13097
Depreciation written off	69	79
<b>Total</b>	<b>14919</b>	<b>13176</b>
Equity-Opening	15247	14919
Equity-Closing	14850	13097
<b>Average Equity</b>	<b>15049</b>	<b>14008</b>

## Return on Equity

25. Clause (iii) of Regulation 21 of the 2004 regulations, stipulates that return on equity shall be computed on the equity base determined in accordance with regulation 20 @ 14% per annum. It is provided that equity invested in foreign currency shall be allowed a return up to the prescribed limit in the same currency and the payment on this account shall be made in Indian Rupees based on the exchange rate prevailing on the due date of billing.

26. Accordingly, the return on equity has been worked out @14% per annum on the normative average equity, as under.

(Rs. in lakh)		
Average Equity	15049	14008
Rate of return on equity	14%	14%
<b>Return on Equity</b>	<b>2107</b>	<b>1961</b>

## Interest on Loan

27. Interest on loan as worked out in the order dated 17.11.2008 in Petition No.125/2007 has been considered in the present computation as under:

(Rs. in lakh)		
	<b>2007-08</b>	<b>2008-09</b>
Net loan-opening	2427	2345
Increase/decrease due to FERV	0	0
Increase/decrease due to Additional capital expenditure	0	0
Total	2427	2345
Repayment during the year	82	82
Net loan-closing	2345	2264
Average Net loan	2386	2305
Rate of Interest	1.95%	1.95%
Interest on loan	<b>47</b>	<b>45</b>

## Depreciation

28. The Cumulative depreciation recovered up to 31.3.2007 as per order dated 17.11.2008 is Rs.27825 lakh and the same has been considered for the purpose of the present order. Further, the cumulative depreciation on deleted assets during the

respective years has been deducted from the cumulative depreciation recovered in the respective years as under:

(Rs in lakh)		
	<b>2007-08</b>	<b>2008-09</b>
Depreciation Withdrawal – Direct Assets	47.65	46.67
Depreciation Withdrawal – Common Assets	7.03	27.13
Depreciation Withdrawal – Assumed Deletion	14.45	5.15
<b>TOTAL(1+2+3)</b>	<b>69.13</b>	<b>78.95</b>

29. The necessary computation of depreciation is as under:

(Rs. in lakh)		
	<b>2007-08</b>	<b>2008-09</b>
Opening capital cost	45499	46776
Closing capital cost	46776	46831
Depreciable value @ 90%	41266	41316
Balance useful life of asset	7	6
Rate of Depreciation	5.12%	5.12%
<b>Depreciation</b>	<b>1756</b>	<b>1959</b>
Advance against Depreciation (AAD)	0	0
Total Depreciation and AAD	1756	1959
Cumulative Depreciation/AAD recovered in tariff	29581	31471
Depreciation to be written back against deleted assets	69	79
<b>Adjusted Cumulative Depreciation/AAD recovered in tariff</b>	<b>29512</b>	<b>31392</b>

### **O&M Expenses**

30. O&M expenses as considered in order dated 17.11.2008 in Petition No. 125/2007 have been considered.

### **Interest on Working Capital**

31. For the purpose of calculation of working capital, the operating parameters including the price of fuel components considered in the order dated 17.11.2008 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>2007-08</b>	<b>2008-09</b>
Fuel Cost	0	0
Lignite Stock	5567	5552
Oil stock	236	235
O & M expenses	855	889
Spares	639	678
Receivables- 2 months	10321	10380
Total Working Capital	17618	17734
Interest rate on working capital	10.25%	10.25%
<b>Interest on Working Capital</b>	<b>1806</b>	<b>1818</b>

32. The revised annual fixed charges on the above basis in respect of the generating station for the period from 1.4.2007 to 31.3.2009 are summarized as under:

(Rs. in lakh)

Particulars	<b>2007-08</b>	<b>2008-09</b>
Interest on Loan	47	45
Interest on Working Capital	1806	1818
Depreciation	1756	1959
Advance Against Depreciation	0	0
Return on Equity	2107	1961
O & M Expenses	10260	10668
<b>TOTAL</b>	<b>15975</b>	<b>16451</b>

### **Target Availability**

33. As considered in the order dated 17.11.2008, target availability of 75% has been considered for recovery of full fixed charges and computation of fuel element in the working capital.

### **Energy Charges**

34. The petitioner has not claimed any change in the energy charges due to additional capitalization. Hence, the energy charges as allowed in order dated 17.11.2008 in Petition No. 125/2007 has been considered.

35. The petitioner shall claim the difference between the fixed charges approved vide order dated 17.11.2008 in Petition No. 125/2007 and those approved now, from

the beneficiaries in three equal monthly installments.

36. Petition No.13/2009 stands disposed of in terms of the above.

**Sd/-**  
**(V.S.VERMA)**  
**MEMBER**

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

**Sd/-**  
**(DR.PRAMOD DEO)**  
**CHAIRPERSON**

New Delhi dated the 18<sup>th</sup> December 2009