CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Coram:
1. Shri Bhanu Bhushan, Member
2. Shri R.Krishnamoorthy, Member

Petition No. 118/2007

In the matter of

Approval of tariff for NLC TPS-II, Stage-I (630 MW) and Stage-II (840 MW) for the period from 1.4.2004 to 31.3.2009.

And in the matter of

Neyveli Lignite Corporation Limited, Chennai **...Petitioner**
vs
1. Tamil Nadu Electricity Board, Chennai
2. Karnataka State Power Purchase Co-ordinate Centre, Bangalore
3. Kerala State Electricity Board, Thiruvananthapuram
4. Pondicherry Electricity Department, Pondicherry
5. Transmission Corporation of Andhra Pradesh, Hyderabad **...Respondents**

The following were present:

1. Shri R.Suresh, NLC
2. Shri E.Gnanaprakasam, NLC
3. Smt. Ratna Choudhry, NLC
4. Shri S.Sowmyanarayanan, TNEB

ORDER
(Date of Hearing: 26.2.2008)

This petition has been filed by the petitioner, Neyveli Lignite Corporation Ltd (NLC), a generating company owned and controlled by the Central Government for approval of tariff for its TPS-II, Stage-I (630 MW) and Stage-II (840 MW) (hereinafter referred to as “the generating station”) for the period from 1.4.2004 to 31.3.2009 based on the Central Electricity Regulatory Commission

(Terms and Conditions of Tariff) Regulations, 2004 (hereinafter referred to as "the 2004 regulations").

2. The generating station consists of three generating units each with a capacity of 210 MW under Stage-I and four generating units each with a capacity of 210 MW under Stage-II. The dates of commercial operation of the units of the generating station of Stage-I and Stage-II are as follows:

Stage-I (3X210 MW)		Stage-II (4x210 MW)	
Unit-I	29.9.1986	Unit-IV	25.1.1992
Unit-II	8.5.1987	Unit-V	2.6.1992
Unit-III	23.4.1988	Unit-VI	17.3.1993
-	-	Unit-VII	9.4.1994

3. The tariff for the generating station for the period 2001-04 was determined by the Commission on "Net Fixed Assets" basis by order dated 23.3.2007 in Petition No. 5/2002 as under:

(Rs.in lakh)

	Particulars	**Stage-I**			**Stage-II**		
		2001-02	**2002-03**	**2003-04**	**2001-02**	**2002-03**	**2002-03**
1	Interest on Loan	0	0	0	0	0	0
2	Interest on Working Capital	1257	1305	1685	1611	1672	1672
3	Depreciation	725	725	725	1148	1148	1148
4	Advance Against Depreciation	0	0	0	0	0	0
5	Return on Equity	2358	2242	2126	51222	4938	4755
6	O & M Expenses	6307	6685	7087	8446	8953	9490
	TOTAL	**10647**	**10957**	**11623**	**16327**	**16711**	**17730**

4. The lignite transfer price for the period 2001-04, considered by the Commission in its order dated 23.3.2007 is as below:

(Rs /MT)

	2001-02	2002-03	2003-04
Mine-II Stage-I	661	691	719
Mine-II Satge-II	570	599	628
Mine-I (Expansion)			1749
Mine-iA			1024
Pooled price			977

5. The present petition has been filed on "Net Fixed Assets" basis in terms of the 2004 regulations and the petitioner has claimed the following Annual Fixed Charges:

Stage-I

(Rs in lakh)

	2004-05	2005-06	2006-07	2007-08 (up to 31.7.2007)	2007-08 (from 1.8.2007)	2008-09
Depreciation	970.67	886.21	1085.85	463.78	927.56	1633.10
Interest on loan	-	-	-			-
Return on Equity	2067.35	1826.35	1832.10	636.65	1273.30	1934.82
Advance against Depreciation	-	-	-			-
Interest on Working capital	1670.83	1722.26	1784.92	625.32	1266.88	1927.82
O&M expenses	6552.00	6816.60	7087.50	2457.00	4914.00	7667.10
TOTAL	**11260.85**	**11251.41**	**11790.37**	**4182.75**	**8381.74**	**13162.84**

Stage-II

(Rs in lakh)

	2004-05	2005-06	2006-07	2007-08 (up to 31.7.2007)	2007-08 (from 1.8.2007)	2008-09
Depreciation	1269.78	1212.74	1253.74	485.80	971.60	1603.92
Interest on loan		-	-	-	-	-
Return on Equity	4272.82	3955.19	3850.15	1297.30	2594.61	3993.05
Advance Against Depreciation	-	-	-	-	-	-
Interest on Working capital	2325.13	2399.02	2481.24	867.61	1756.87	2675.21
O&M expenses	8736.00	9088.80	9450.00	3276.00	6552.00	10222.80
TOTAL	**16603.73**	**16655.75**	**17035.14**	**5926.71**	**11875.08**	**18494.99**

6. In addition, the petitioner has claimed energy charges for the tariff period 2004-09 as under:

(Rs./kWh)

	2004-05	2005-06	2006-07	2007-08 (upto 31.7.2007)	2007-08 (from 1.8.2007)	2008-09
Energy charges (ex-bus)	1.1525	1.1897	1.2280	1.2879	1.3059	1.3143

7. The first respondent has filed its reply.

CAPITAL COST

8. Regulation 17 of the 2004 regulations provides:

"Subject to prudence check by the Commission, the actual expenditure incurred on completion of the project shall form the basis for determination of final tariff. The final tariff shall be determined based on the admitted capital expenditure actually incurred up to the date of commercial operation of the generating station and shall include capitalized initial spares subject to following ceiling norms as a percentage of the original project cost as on the cut off date:

Coal based/lignite-fired generating stations -2.5%
Gas Turbine/Combined cycle generating stations –4.0%

Provided that where the power purchase agreement entered into between the generating company and the beneficiaries provides a ceiling of actual expenditure, the capital expenditure shall not exceed such ceiling for determination of tariff.

Provided further that in case of the existing generating stations, the capital cost admitted by the Commission prior to 1.4.2004 shall form the basis for determination of tariff."

9. The petitioner has arrived at the net block as on 1.4.2004 in respect of the generating station as follows:

(Rs. in lakh)

Particulars	Stage-I	Stage-II
Gross block as per order dated 23.3.2007 as on 31.3.2004 (without additions 2001-04)	57330.00	117795.00
Accumulated depreciation allowed upto 31.3.2004 (without additions 2001-04)	44404.00	88652.00
Opening Net Block as on 1.4.2004 (without additions 2001-04)	**12926.00**	**29143.00**
Additions: Gross (2001-04)	994.14	635.68
Less : Depreciation against additions (2001-04)	140.87	81.05
Net block as on 1.4.2004	**13779.27**	**29697.63**

10. The Commission in its order dated 23.3.2007 in Petition No. 5/2002 has accepted the capital cost of Rs.57330 lakh and Rs.117795 lakh respectively for Stage-I and Stage-II of the generating station as on 1.4.2001 for the purpose of determination of tariff for the period 2001-04. As tabulated above, the petitioner has considered additional capitalization for the period 2001-04 and dereciation recovered, to arrive at the net block on the basis of the order dated 23.3.2007. The claim of additional capitalization was not considered by the Commission for the purpose of tariff for the period ending 31.3.2004 in the order dated 23.3.2007. However, the additional capitalization for the period 2001-04 is now being considered for the purpose of tariff for the period 2004-09, after prudence check.

Additional capitalization for the period 2001-04

11. The petitioner by its affidavit dated 24.1.2008 furnished year-wise details of additional capitalization for the period 2001-04. It is observed that the additional capitalization for the year 2003-04 given in the affidavit is different from that claimed in the petition. Since the details contained in the affidavit have been certified by the Auditors, these have been considered. The year-wise additions to

the fixed assets as per the books of accounts and certified by the Auditors are as follows:

Rs.in lakh)

Year	Generating station	
	Stage-I	Stage-II
2001-02	364.40	445.70
2002-03	29.90	70.79
2003-04	599.75	119.36
Total	**994.05**	**635.85**

12. The petitioner has segregated the additional capital expenditure incurred for the period 2001-04 under the following heads against the total claim of Rs.1629.90 lakh for Stage-I and Stage-II:

(Rs. in lakh)

Year	HEADS			Total
	Liabilities	Additional works/services	Deferred works	
2001-02	127.68	58.66	57.27	243.61
2002-03	55.39	70.65	219.75	345.79
2003-04	10.89	195.09	168.90	374.88
Total	**193.96**	**324.39**	**445.93**	**964.28**

13. In response to the Commission's direction, the petitioner has furnished the reconciliation statement by its affidavit dated 7.3.2008, as detailed below:

(Rs in lakh)

Sl. No.	Particulars	Stage-I	Stage-II	Total
a.	Additional assets for the years 2001-02 and 2003-04 (Page 52 of affidavit dtd.24.1.08)	964.11	0.16	964.27
	Other additional assets for the years 2001-02 and 2003-04	132.16	44.45	176.61
b.	Deletion of assets for the years 2001-02 and 2003-04	648.05	135.00	783.06
c.	Net asset additions for the years 2001-02 and 2003-04 (a-b)	448.22	(-) 90.39	357.83
d.	Addition of common assets for the period 2001-02 to 2003-04	545.83	726.24	1272.07
e.	Additional capital expenditures claimed as per books of account (c+d)	994.05	635.85	1629.90

14. From the details furnished by the petitioner in its affidavit dated 24.1.2008, it is observed that the additional capitalization for the years 2001-02 and 2002-03 include amount of Rs.4.84 lakh and Rs.11.96 lakh respectively as the residual value of the assets. The petitioner has clarified that since it follows the net block of assets, the opening investment had already been firmed up, the accumulated depreciation of the assets removed has been added to Net Fixed Assets and shown as additions.

15. The treatment of adjustment of cumulative depreciation by adding it to the gross block does not appear to be correct. The amount of depreciation on deleted assets shall have to be deducted from the cumulative depreciation recovered in the tariff. As such, these amounts in the respective years have not been considered for capitalization. However, amounts of Rs.0.26 lakh and Rs. 0.15 lakh as value reduction and Rs.11.45 lakh as value addition in the additional

capitalization during the years 2001-02, 2002-03 and 2003-04 respectively, are allowed since the expenditure is in the nature of balance payments/ adjustments. It is also observed from the details furnished in affidavit dated 24.1.2008 that the assets amounting to Rs.7024 lakh commissioned during 1986-88 have been capitalized in the year 2003-04 and subsequently de-capitalized in the same year. The petitioner by its affidavit dated 7.3.2008 has clarified that it is only a book adjustment as these assets were included as addition, in the additional capitalization and the same were deleted and hence, there is no net impact in additional capitalization. Taking these into account, the actual additional expenditure claimed by the petitioner has been reconciled and re-arranged as given below:

(Rs.in lakh)

Gross Additions				
Year	Heads			Total
	Liabilities	Additional works/services	Deferred works	
2001-02	127.68	53.82	57.27	238.77
2002-03	55.39	58.68	219.75	333.82
2003-04	-	205.98	168.90	374.88
Total	**183.07**	**318.48**	**445.92**	**947.47**
Accumulated depreciation of assets de-capitalized				
2001-02	**-**	**4.84**	**-**	**4.84**
2002-03	**-**	**11.96**	**-**	**11.96**
2003-04	**-**	**-**	**-**	**-**
Total	**-**	**16.80**	**-**	**16.80**
Total Claim	**183.07**	**325.28**	**445.92**	**964.27**

16. The actual additional capital expenditure claimed by the petitioner and as reconciled and re-arranged for the period 2001-04 are discussed in the succeeding paras.

Liabilities to meet award of arbitration or for compliance of the order or decree of the court

17. The petitioner has claimed additional capital expenditure under this head, to the tune of Rs.183.07 lakh as reconciled above, for the period 2001-04. The assets include PLC bunker, Static Energy Meter (SEM) and reference meter of 0.5 class. The justification for PLC bunker of Rs.85.68 lakh (2001-02) has been found proper as it provides safety to work force deployed for bunker filling from health hazards which cannot be overlooked. Regarding energy meter, the petitioner was asked to justify the installation of SEMs of Rs.55.39 lakh (2002-03) and reference meter of 0.5 class for Rs.42.00 lakh (2001-02) in addition to the meters already provided by PGCIL. The petitioner vide affidavit dated 7.3.2008 has stated that PGCIL has provided only one set of SEMs for computing the export to the grid from the generating station in all the feeders. Further, PGCIL as the Central Transmission Utilities (CTU) were advised by the task force of Central Electricity Authority (CEA) constituted for the specific purpose, to provide check meters for back-up purposes. The meters provided by the CTU do not fall in line with the site requirements of the petitioner. Hence, it was agreed in the forum of the Commission and the CEA that meters to suit the requirement may be procured and installed by the petitioner at the generating stations. The SEMs procured by the petitioner have additional features like on-line display of current, voltage and frequency and energy record for 15-

minute time blocks for one day. The meters are compatible with computer servers and hence utilized for on-line monitoring of ABT performance and ensure committed export to the grid. ABT on-line monitoring system has been installed to closely follow the consumption pattern of mines besides monitoring the trend of schedule/declaration vis-à-vis the actual relief to the grid to ensure the economic operation of the generating station. The generating station of the petitioner is an integrated project and consists of production units of mines and power generating station. SEMs installed by the petitioner are used for computation of gross generation (Stage-wise) and auxiliary consumption apportioned to Stage-I and Stage-II and drawal by the mines of the petitioner from Stage–I and Stage-II. Proper energy accounting for the above purposes is very important to meet the committed declaration to the grid as per the requirements of ABT. Since there is only one set of SEMs provided by PGCIL, another set of SEMs as check meters on the side of the petitioner is allowed as in the generating stations of NTPC, another generating company owned by the Central Government. The total claim for SEMs is reduced to Rs.48.70 lakh and is allowed for capitalization. In view of the above, a total amount of Rs.134.38 lakh has been allowed to be capitalized under this head.

Additional works/services necessary for efficient and successful operation of the generating station, but not included in the original project cost:

18. The following additional expenditure under this head is found to have been incurred by the petitioner, on assets under the head furniture, fittings and others:

(Rs in lakh)

2001-02	48.97
2002-03	31.74
2003-04	116.68
Total	**197.39**

19. The list of assets capitalized includes almirahs, chairs, tables, cabinet, dewatering pumps, steam boilers, vacuum cleaners, welding rectifiers, welding sets, bicycles, tractors, walkie talkies, steel lockers, on-line generation monitoring system, oxygen gas monitor, refrigerators, fume cupboards, binding machines, fax machines, digital cameras, booster pumps with motors, wireless sets, PC with accessories, electrostat liquid cleaners, mill maintenance store room, industrial platform truck, stack monitoring kit, rice/samber /iddly vessels, electrical control panels, laboratory apparatus, bath and toilet block near lift, room in CWPH, electric wire rope hoist, calculators, steel racks, steel stools, pump sets, motor operated winch, induction heating equipments, hot air oven, roof shed for electric store etc. It is observed that the additional capital expenditures claimed on works/services are not in the original scope of work. The petitioner had purchased these assets for providing better working environment to its operating and maintenance personnel and for improving the performance of the generating station.

20. The above mentioned additional capital expenditure amounting to Rs.197.39 lakh includes certain other assets commissioned prior to 31.3.2001

which have been capitalized in the period 2001-04. The value of such assets, year-wise, is as below:

(Rs.in lakh)

2001-02	4.06
2002-03	10.48
2003-04	7050.13
Gross Total	7064.67
Deletion of assets in 2003-04	7024.24
Net addition	40.43

21. The petitioner vide affidavit dated 7.3.2008 has submitted that these assets were purchased and commissioned prior to 31.3.2001 in other units and were transferred to TPS-II, after 31.3.2001. The details of such transferred assets have been incorporated in the asset register of the generating station. In view of the clarification given by the petitioner, these assets are allowed to be capitalized during the year 2001-02, 2002-03 and 2003-04 and as such the expenditure of Rs.197.39 lakh on this count has been considered for additional capitalization.

22. The justification for addition of other assets under this head, such as UPS system for Rs.26.94 lakh (2002-03), IGPT UPS system amounting to Rs.44.62 lakh, gas chromatograph amounting to Rs.9.85 lakh(2003-04), vibration analyser for Rs.8.74 lakh, UHF band voice and data wireless link for Rs.11.76 lakh (2003-04), A.C plant for Rs.11.75 lakh etc., totaling Rs.113.66 lakh during 2001-04, as

stated below, are found to be in order and the assets have been allowed to be capitalized as under:

(Rs.in lakh)

2001-02	-
2002-03	26.94
2003-04	86.72
Total	**113.66**

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

23. The petitioner has capitalized an amount of Rs.445.92 lakh under this head, for work on diversion and re-routing ash pipe lines. The justification furnished for the job undertaken has been found to be in order as it has avoided the requirement of high expenditure for a new ash pond and also expenditure on rehabilitation and relocation of people living in that area. Moreover, the works relating to ash pond /raising of ash dykes are taken up in stages as is the normal practice. Hence, capitalization of Rs.445.92 lakh under this head is allowed.

24**.** In view of the above, the actual additional capital expenditure claimed and allowed for the period 2001-04 is summarized as under:

(Rs in lakh)

Additional capital expenditure	2001-02	2002-03	2003-04	Total
Claimed	183.07	318.48	445.92	**947.47**
Allowed	134.38	311.05	445.92	**891.35**

25. The petitioner has also claimed the following amount as common assets, land and road additions for the period 2001-02 to 2003-04 for the generating station:

(Rs.in lakh)

Item	Period	Stage-I	Stage-II	Total
Common assets	2001-04	545.83	726.24	**1272.07**
Land additions, road additions and others	2001-04	132.16	44.45	**176.61**

26. The petitioner has furnished the details of the expenditure with justification vide affidavit-dated 7.3.2008. The petitioner has stated that the generating station consists of production units of mines and power stations and 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 these service units. The justification furnished by the petitioner for allocation of expenditures on common assets and land additions are in order and has been allowed for capitalization. However an expenditure of Rs.14.33 lakh which has been capitalized as insurance spares in Stage-II of the generating station for the year 2002-03 has not been allowed for the purpose of tariff. As such, the following amounts are allowed:

(Rs.in lakh)

Item	Period	Stage-I	Stage-II	Total
Common Assets	2001-04	545.83	726.24	**1272.07**
Land and road additions and others	2001-04	132.16	30.12	**162.28**

Deletion of assets for the period 2001-04

27. The petitioner has furnished details of assets not in use as on 1.4.2004 as under:

(Rs in lakh)

Item	Period	Stage-I	Stage-II	Total
Assets not in use	2001-04	648.05	135.00	**783.06**

Undischarged liabilities

28. The petitioner has certified that additional capitalization claimed during the years 2001-02, 2002-03 and 2003-04 had actually been paid for each year and does not include any undischarged liability The petitioner has also certified that there is no amount of undischarged liability in the gross block of assets as on 1.4.2004 for the generating station .

29. Based on the above discussions, the summary of the additional capital expenditure claimed by the petitioner and allowed by the Commission for the period 2001-04 is as follows:

(Rs.in lakh)

	Additional capital expenditure claimed				**Additional capital expenditure allowed**			
Stage-I	**2001-02**	**2002-03**	**2003-04**	**Total**	**2001-02**	**2002-03**	**2003-04**	**Total**
Gross asset additions	238.69	333.83	374.79	**947.31**	212.84	306.14	372.21	**891.19**
Cumulative depreciation of assets decapitalised	4.84	11.96	-	**16.8**	-	-	-	**-**
Other assets	41.06	17.94	73.16	**132.16**	41.06	17.94	73.16	**132.16**
Deletions	244.61	394.71	8.73	**648.05**	244.61	394.71	8.73	**648.05**
Net asset additions	39.98	(-)30.98	439.22	**448.22**	9.29	(-)70.64	436.64	**375.30**
Common assets	324.42	60.88	160.53	**545.83**	324.42	60.88	160.53	**545.83**
Total	364.40	29.90	599.75	**994.05**	333.71	(-)9.75	597.17	**921.13**
Stage-II								
Gross asset additions	0.01	(-)0.01	0.16	**0.16**	0.01	(-)0.01	0.16	**0.16**
Cumulative depreciation of assets decapitalised	-	-	**-**	**-**	-	-	-	**-**
other assets	15.63	14.34	14.48	**44.45**	15.63	14.34	0.15	**30.12**
Deletions	2.50	24.71	107.79	**135.00**	2.50	24.71	107.79	**135.00**
Net asset additions	13.14	(-)10.38	(-)93.15	**(-)90.39**	13.14	(-)10.38	(-)107.48	**(-)104.72**
Common assets	432.56	81.17	212.51	**726.24**	432.56	81.17	212.51	**726.24**
Total	445.70	70.79	119.36	**635.85**	445.70	70.79	105.03	**621.52**
Grand Total	**810.10**	**100.69**	**719.11**	**1629.90**	**779.41**	**61.04**	**702.20**	**1542.65**

Extra Rupee Liability during 2001-04

30. The petitioner has not claimed FERV during 2001-2004 as there is no foreign loan in the capital cost.

31**.** In view of the above, the capital cost as on 1.4.2004 considered for the tariff for 2004-2009, is given below:

(Rs. in lakh)

	Stage-I	**Stage-II**
Particulars	**Amount**	**Amount**
Capital cost as on 1.4.2001	57330.00	117795.00
Additional capitalisation during 2001-04	921.13	621.52
Less: Undischarged liability as on 31.03.2004	0	0
Capital cost as on 1.4.2004	**58251.13**	**118416.52**

Cumulative depreciation

32. As per the order dated 23.3.2007 in Petition No. 5/2002, cumulative depreciation recovered upto 1.4.2001 has been considered as Rs.42229 lakh for Stage-I and Rs.85208 lakh for Stage-II of the generating station. As the loan in respect of the station was fully repaid in 2000-01, the balance recoverable depreciation was spread over the balance useful life of the generating station. The depreciation amount per year to be recovered from 1.4.2001 was worked out to Rs.725 lakh each year for Stage-I and Rs.1148 lakh each year for Stage-II considering the balance useful life as on 1.4.2001 as 12 years and 18 years respectively, considering the total useful life of 25 years from the date of commercial operation of the respective Stage. As such, cumulative depreciation recovered in the tariff upto 31.3.2004, works out to Rs.44404 lakh for Stage-I and

Rs.88652 lakh for Stage-II which is considered for working out the net block of the generating station as on 1.4.2004.

33**.** In line with the above discussion, the following are considered for working out the gross block / net block as on 1.4.2004 for the purpose of determination of tariff:

(Rs.in lakh)

Particulars	**Stage-I**	**Stage-II**
Gross Block as on 31.3.2001 as per order dated 23.3.2007	57330.00	117795.00
Cumulative depreciation recovered through tariff up to 31.3.2004 as per the order dated 23.3.2007 without addition of additional capital expenditure for the period 2001-04	44404.00	88652.00
Additional capitalization for the period 2001-04		
2001-02	333.71	445.70
2002-03	(-)9.75	70.79
2003-04	597.17	105.03
Total for 2001-04	921.13	621.52
Cost of land additions in the additional capitalization for 2001-04	74.66	29.26
Cumulative depreciation on deleted assets	16.80	0.00

Additional capitalization for the period 2004-07

34. The petitioner has claimed additional capitalization for the years 2004-05, 2005-06 and 2006-07 on the basis of actual additions and for the years 2007-08 and 2008-09 on the basis of anticipated expenditure.

35. The petitioner by its affidavit dated 24.1.2008 submitted details of additional capitalization for the year 2004-05, 2005-06 and 2006-07 without segregation of additional capitalization, Stage-wise and year-wise. The petitioner

has furnished on 3.4.2008, the Stage-wise additional capital expenditure in terms of Regulation 18 (2) and (3) of the 2004 regulations as under:

Stage-I (in Rupees)

YEAR	Regulation			**Total**
	18(2)(ii)	18(2)(iv)	18(2)(v)	
2004-2005	5,089,663	14,106,377	-	19,196,040
2005-2006	4,131,043	19,552,852	-	23,683,895
2006-2007	13,567,732	51,843,097	79,012,884	144,423,713
Total	22,788,438	85,502,326	79,012,884	**187,303,648**

Stage-II

YEAR	Regulation			**Total**
	18(2)(ii)	18(2)(iv)	18(2)(v)	
2004-2005	-	1,611,974	-	1,611,974
2005-2006	-	2,055,640	-	2,055,640
2006-2007	16,042,358	28,053,708	-	44,096,066
Total	16,042,358	31,721,322	-	**47,763,680**

Stage-I & Stage-II

(in Rupees)

YEAR	Regulation			TOTAL
	18(2)(ii)	18(2)(iv)	18(2)(v)	
2004-2005	5,089,663	15,718,351	-	19,469,746
2005-2006	4,131,043	21,608,492	-	25,719,594
2006-2007	29,610,090	79,896,805	79,012,884	187,970,196
Total	38,830,796	117,223,648	79,012,884	233,159,536

36. It is observed that total additions amounting to Rs.2331.60 lakh to the fixed assets for the period 2004-07 as segregated above by the petitioner are not matching with the assets of value of Rs.2350.67 lakh claimed for additional

capitalization for the period 2004-07 vide affidavit dated 24.1.2008. The petitioner vide affidavit dated 7.3.2008 furnished the reconciliation statement and it is observed that the total additions of Rs.2331.60 lakh for the period 2004-07 as segregated above are net additions after deletion of unserviceable assets and additions of cumulative depreciation on deleted assets.

37. As per the reconciliation of additional capitalization for the period 2004-07 submitted by affidavit dated 7.3.2008, the additional capitalization during the year 2004-05, 2005-06 and 2006-07 include amounts of Rs.3.21 lakh, Rs.3.79 and Rs. 48.09 lakh respectively for Stage-I and Rs.3.32 lakh in the year 2006-07 for Stage-II as depreciation on deleted assets. As per clarification of the petitioner dated 3.4.2008, these figures are of the cumulative depreciation recovered on deleted assets and have been added to the gross additions in the respective years to arrive at the net additions. As per practice, as soon as the value of un-serviceable assets is removed from the gross block, the depreciation recovered on the un-serviceable assets is also deducted from the cumulative depreciation recovered. Hence, the depreciation recovered on the un-serviceable assets is taken out from the cumulative depreciation to arrive at the opening net block in the respective year. The reconciliation of additional capitalization for the period 2004-07 has been arrived at after deducting the value of deleted assets from the gross additions and without addition of depreciation for deleted assets.

38. On scrutiny of the items/assets procured by the petitioner, the items/assets can be broadly categorized as items related to safety, environment

protection, statutory norms, IT equipment, to meet the requirements of ABT regime, technology upgradation, etc. Additional capital expenditure claimed by the petitioner for the period 2004-07, the justification furnished in support of the expenditure incurred, and our decision thereon are discussed hereunder :

Expenditure on new works not included in approved cost

Stage-I

39. The petitioner has claimed Rs. 51.26 lakh in the year 2004-05, Rs.27.78 lakh in the year 2005-06 and Rs.135.68 lakh in the year 2006-07 under this head, as additional capital expenditure in terms of Regulation 18(2)(ii) of the 2004 regulations. The assets capitalized include Digital/ISDN EPABX system, input event loggers for switchyard, walkie-talkies, smoke density analysers, hydrogen gas leak detection system, oil & gas cylinders storage shed, automatic water sprinkler with fire alarm for conveyor galleries, furniture, bicycles etc. It is found that the assets were procured for meeting the ABT requirement, statutory norms and requirements, environmental code, safety standards, etc. Hence Rs.50.90 lakh during 2004-05, Rs.27.78 lakh during 2005-06 and Rs.135.68 lakh during 2006-07 has been allowed to be capitalized. However, an amount of Rs.0.37 lakh during the year 2004-05 on furniture and bicycles has not been allowed for additional capitalization as the expenditure was incurred on minor assets.

40. Amounts of Rs.140.70 lakh (2004-05), Rs.209.06 lakh (2005-06) and Rs.518.43 lakh (2006-07) have been claimed under the additional works/services in terms of Regulation 18 (2) (iv) of the 2004 regulations. The petitioner vide

affidavit dated 24.1.2008 has submitted the asset-wise justification/reasons for incurring this expenditure. The items/assets procured under this head include mainly furniture and fittings, civil works (road, buildings, construction of sheds, store room, extension of LHS control room, etc.), float-cum-battery boost chargers, battery chargers, protection relays, various type of welding machines, land additions, automatic bunker filling, hydraulic transmission crane, transformers, battery bank with UPS, expansion and modernization of communication network, addition of new assets with advanced technology, etc. It is observed that the petitioner has deleted some unserviceable assets like welding machines, batteries and battery chargers, PLCC, CCTV monitors, submersible pumps, railway sidings, jeep, water lorry, paper copier, mobile M.G.etc, amounting to Rs.16.59 lakh (2004-05), Rs.3.99 lakh (2005-06) and Rs.53.28 lakh (2006-07). As such, these assets have been de-capitalised. For new addition of assets without corresponding de-capitalization, the assets have been allowed for capitalization after prudent check based on the justification furnished by the petitioner and after considering the overall requirement of these assets for sustenance of rated generation. On scrutiny of the items/assets procured it is found that expenditure of the sum of Rs.133.90 lakh (2004-05), Rs.147.51 lakh (2005-06) and Rs.456.24 lakh are found admissible and hence allowed for capitalization. The capitalization of an amount of Rs.130.54 lakh is not allowed for the reason explained hereunder:

Sl no.	Item of work	Reason for not allowing capitalization	Amount (Rs in lakh)
1	Furniture and fittings, electronic rat repeller, vacuum cleaners, air-conditioners, bottle coolers, extension. tables, chairs, bicycles, computers, CCTV, etc.,	Minor items/assets not allowed to be capitalized in terms of Regulation 18(3) of the 2004 regulations.	46.16
2	Providing WBM BT in lignite gate, road	No corresponding decapitalisation of these assets of O&M nature, and the necessity of these assets have not been explained properly	84.38
3	Electrical distribution panel, induction heating equipment, switchyard control room, battery operated platform truck, 160 kV transformers, cranes, bus shelter, acid storage tanks, extension of HT motor workshop, facility in the canteen, etc	No corresponding decapitalisation of these assets and the necessity of these assets/jobs have not been explained properly	

41. The petitioner has claimed an amount of Rs.790.13 lakh under deferred works in terms of Regulation 18(2)(v) of the 2004 regulations, for the year 2006-07. The expenditure on works/jobs in the nature of inter-connection of ash ponds, construction of pedestals for pipes etc., is justified. As such, the amount of Rs.790.13 lakh claimed by the petitioner has been allowed to be capitalized.

Stage-II

42. The petitioner has claimed Rs.280.54 lakh during 2006-07 as additional capital expenditure under the head “liabilities” in terms of Regulation 18(2)(ii) of the 2004 regulations. The expenditure capitalized on assets namely, dust suppression system and automatic medium velocity water spray system is justified. Hence, the amount has been allowed to be capitalized.

43.. The amount of Rs.16.12 lakh (2004-05), Rs.20.56 lakh (2005-06) and Rs.160.42 lakh (2006-07) have been claimed by the petitioner, as additional works in terms of Regulation 18(2)(iv) of the 2004 regulations. The items/assets procured under this head includes the land additions, automatic bunker filling, electrical control panel and minor assets like steam boiler 54 KW, rice/samber /Iddly vessels, milk boilers, tri-cycles, grinders, etc. After scrutiny, the amounts of Rs.15.45 lakh (2004-05), Rs.18.56 lakh (2005-06) and Rs.156.21 lakh (2006-07) have been found to be justified and have been allowed to be capitalized. Electrical control panels amounting to Rs.046 lakh and minor assets amounting to Rs.0.67 lakh during 2004-05 and other minor assets amounting to Rs.1.99 lakh in 2005-06 have not been allowed to be capitalised as the necessity for electrical control panels have not been properly explained and the expenditure on also minor assets is not allowed to be capitalized in terms of the Regulation 18(3) of the 2004 regulations.

44. The expenditure Stage-wise and category-wise allowed to be capitalized is as follows:

Stage-I (Rs.in lakh)

YEAR	Regulation			**Total**
	18(2)(ii)	18(2)(iv)	18(2)(v)	
2004-2005	50.90	133.90	-	**184.80**
2005-2006	27.78	147.51	-	**175.29**
2006-2007	135.68	456.24	790.13	**1382.05**
Total	**214.36**	**737.65**	**790.13**	**1742.14**

Stage-II

YEAR	Regulation			Total
	18(2)(ii)	18(2)(iv)	18(2)(v)	
2004-2005	-	15.45	-	**15.45**
2005-2006	-	18..56	-	**18.56**
2006-2007	280.54	156.21	-	**436.75**
Total	**280.54**	**190.22**	**-**	**470.76**

45. The details of additional capital expenditure allowed vis-à-vis the claim of the petitioner during 2004-07 is as follows:-

(Rs.in lakh)

Year		Stage-I	Stage-II
2004-05	**Claimed**	191.96	16.12
	Allowed	**184.80**	**15.45**
2005-06	**Claimed**	236.84	20.56
	Allowed	**175.29**	**18.56**
2006-07	**Claimed**	1444.23	440.96
	Allowed	**1382.05**	**436.75**

Deletion of assets for the period 2004-05 to 2006-07

46. The petitioner has furnished year-wise details of the assets not in use, as under:

(Rs in lakh)

Item	Period	Stage-I	Stage-II	Total
Assets deleted	2004-05	16.59	-	**16.59**
	2005-06	3.99	-	**3.99**
	2006-07	53.28	3.63	**56.91**

Common assets

47. The petitioner has claimed the following amounts as common assets for the period 2004-05 to 2006-07 for the generating station:

(Rs in lakh)

Item	Period	Stage-I	Stage-II
Common Assets	2004-05	109.43	145.91
	2005-06	264.77	353.02
	2006-07	113.75	151.66

48. The petitioner vide affidavit dated 7.3.2008 has stated that the generating station is integrated and consists of production units of mines and power stations and in order to augment the production units, service units like centralized material management, services, township administration, corporate office, hospital and regional offices are functioning and the asset additions are apportioned to these service units. The reasons furnished by the petitioner for allocation of expenditures on common assets and land additions which have been certified by the auditors are in order. Hence, the expenditure on these assets is allowed to be capitalized.

Net additional capitalization, year-wise

49**.** The break-up of the additional capitalization allowed after deletion of assets and addition of common assets works out as under:

(Rs.in lakh**)**

Year	Description	Stage-I	Stage-II
2004-05	Net additions	168.21	15.45
	Common assets	109.43	145.91
	Total	**277.64**	**161.36**
2005-06	Net additions	171.30	**18.56**
	Common assets	264.77	353.02
	Total	**436.07**	**371.58**
2006-07	Net additions	1328.77	433.12
	Common assets	113.75	151.66
	Total	**1442.52**	**584.78**

Undischarged liabilities

50. The petitioner has certified that the additional capitalization claimed during 2004-05, 2005- 06 and 2006-07 has actually been paid for each year and did not include any undischarged liability. The petitioner has further certified that there is no amount of undischarged liability in the gross block of assets as on 1.4.2005, 1.4.2006 and 1.4.2007 for the generating station.

Anticipated additional capitalization for the period 2007-09

51. The anticipated additional capitalization claimed for the period 2007-09, has not been considered as there is no provision in the 2004 regulations to consider such expenditure for computation of tariff as in the case of the mines of the petitioner. However, the petitioner is at liberty to approach the Commission, if so advised, for revision of tariff, with proper justification after incurring the expenditure.

Capital Cost for the purpose of tariff

52**.** The capital cost considered for the purpose of tariff determination for the period 2004-09 is as under:

Stage-I

(Rs. in lakh)

Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Opening capital cost as on 1st April of the financial year	58251.13	58528.77	58964.84	60407.36	60407.36
Additional capitalization	277.64	436.07	1442.52	-	-
Undischarged liabilities as on 31st March of the financial year	0	0	0	-	-
Capital cost as on 31st March of the financial year	**58528.77**	**58964.84**	**60407.36**	**60407.36**	**60407.36**

Stage-II

(Rs. in lakh)

Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Opening capital cost as on 1st April of the financial year	118416.52	118577.88	118949.46	119534.24	119534.24
Additional capitalization	161.36	371.58	584.78	-	-
Undischarged liabilities as on 31st March of the financial year	0	0	0	-	-
Capital cost as on 31st March of the financial year	**118577.88**	**118949.46**	**119534.24**	**119534.24**	**119534.24**

DEBT-EQUITY

53. Regulation 20 of the 2004 regulations, as amended, provides that:

> *(1) In case of the existing generating stations, debt-equity ratio considered by the Commission for the period ending 31.3.2004 shall be considered for determination of tariff with effect from 1.4.2004:*
>
> *Provided that in cases where the tariff for the period ending 31.3.2004 has not been determined by the Commission, debt-equity ratio shall be as may be decided by the Commission:*
>
> *Provided further that in case of the existing generating stations where additional capitalisation has been completed on or after 1.4.2004 and admitted by the Commission under Regulation 18, equity in the additional capitalization to be considered shall be,-*
>
> *(a) 30% of the additional capital expenditure admitted by the Commission; or*
> *(b) equity approved by the competent authority in the financial package, for additional capitalization; or*
> *(c) actual equity employed,*
> *Whichever is the least:*
>
> *Provided further that in case of additional capital expenditure admitted under the second proviso, the Commission may consider equity of more than 30% if the generating company is able to satisfy the Commission that deployment of such equity of more than 30% was in the interest of general public.*
>
> *(2) In case of the generating stations for which investment approval was accorded prior to 1.4.2004 and which are likely to be declared under commercial operation during the period 1.4.2004 to 31.3.2009, debt and equity in the ratio of 70:30 shall be considered:*
>
> *Provided that where equity actually employed to finance the project is less than 30%, the actual debt and equity shall be considered for determination of tariff:*
> *Provided further that the Commission may in appropriate cases consider equity higher than 30% for determination of tariff, where the generating company is able to establish to the satisfaction of the Commission that deployment of equity higher than 30% was in the interest of general public.*

(3) In case of the generating stations for which investment approval is accorded on or after 1.4.2004, debt and equity in the ratio of 70:30 shall be considered for determination of tariff:

Provided that where equity actually employed is more than 30%, equity in excess of 30% shall be treated as notional loan:

Provided further that where deployment of equity is less than 30%, the actual debt and equity shall be considered for determination of tariff
.
(4) The debt and equity amount arrived at in accordance with above clause (1), (2) or (3), as the case may be, shall be used for calculation of interest on loan, return on equity, advance against depreciation and foreign exchange rate variation."

54**.** The petitioner has submitted that all the additional capital expenditure incurred have been funded from internal resources. Since NFA method is being adopted in the case of the generating station, actual source of funding would be considered for calculating debt-equity. However, debt-equity ratio looses relevance once the repayment is allowed on actual basis.

RETURN ON EQUITY

55. 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.

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

Stage-I

(Rs in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Opening Balance	13864	13320	12896	13403	12306
Closing Balance	13320	12896	13403	12306	11208
Average	13592	13108	13150	12854	11757
Rate of Return on Equity	14%	14%	14%	14%	14%
Return on Equity	**1903**	**1835**	**1841**	**1800**	**1646**

Stage-II

(Rs in lakh)

Equity	**2004-05**	**2005-06**	**2006-07**	**2007-08**	**2008-09**
Opening Balance	29765	28737	27904	27255	25997
Closing Balance	28737	27904	27255	25997	24738
Average	29251	28321	27580	26626	25367
Rate of Return on Equity	14%	14%	14%	14%	14%
Return on Equity	**4095**	**3965**	**3861**	**3728**	**3551**

INTEREST ON LOAN

57. Clause (i) of Regulation 21 of the 2004 regulation as amended provides that;

> (a) *Interest on loan capital shall be computed loan wise on the loans arrived at in the manner indicated in regulation 20.*
>
> (b) *The loan outstanding as on 1.4.2004 shall be worked out as the gross loan in accordance with Regulation 20 minus cumulative repayment as admitted by the Commission or any other authority having power to do so, up to 31.3.2004. The repayment for the period 2004-09 shall be worked out on a normative basis;*
>
> (c) *Generating Company shall make every effort to re-finance the loan as long as it results in net benefit to the beneficiaries. The costs associated with such re-financing shall be borne by the beneficiaries.*
>
> (d) *The changes to the loan terms and conditions shall be reflected from the date of such re-financing and benefits passed on to the beneficiaries.*
>
> (e) *In case of any dispute, any of the parties may approach the Commission with proper application. However, the beneficiaries shall not withhold any payment as ordered by the Commission to the Generating Company during pendency of any dispute relating to re-financing of loan.*

(f) In case any moratorium period is availed of by the Generating Company, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.

(g) The Generating Company shall not make any profit on account of re-financing of loan and interest on loan.

(h) The generating company may, at its discretion, swap loans having floating rate of interest with loans having fixed rate of interest, or vice-versa, at its own cost and gains or losses as a result of such swapping shall accrue to the generating company:

Provided that the beneficiaries shall be liable to pay interest for the loans initially contracted, whether on floating or fixed rate of interest.

58. As all the loans have been repaid prior to 1.4.2001, there is no liability towards payment of interest on loan. Hence interest on loan is considered as nil.

DEPRECIATION

59. Sub-clause (a) of clause (ii) of Regulation 21 of the 2004 regulations stipulates that for the purpose of tariff, depreciation shall be computed in the following manner, namely:

(i) The value base for the purpose of depreciation shall be the historical cost of the asset.
(ii) Depreciation shall be calculated annually based on straight line method over the useful life of the asset and at the rates prescribed in Appendix II to these regulations.

The residual life of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the historical capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded from the capital cost while computing 90% of the historical cost of the asset. The historical capital cost of the asset shall include additional capitalization on account of Foreign Exchange Rate Variation up to 31.3.2004 already allowed by the Central Government/Commission.

(iii) On repayment of entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset.

(iv) Depreciation shall be chargeable from the first year of operation. In case of operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

60. As noticed in para 32 above, cumulative depreciation recovered upto 1.4.2001 has been considered as Rs.42229 lakh for Stage-I and Rs.85208 lakh for Stage-II of the generating station. As the loans in respect of the generating station have been fully repaid in 2000-01, the balance depreciation to be recovered has been spread over the balance useful life of the generating station. The balance useful life has been taken as 9 years for Stage-I and 15 years for Stage-II as on 1.4.2004, considering useful life of 25 years from the date of commercial operation of the respective asset. Further, cost of land additions in the additional capitalization and the cumulative depreciation on deleted assets in the respective period have been considered for calculation of depreciation. Cumulative depreciation on deleted assets during the year has been deducted from the cumulative depreciation recovered in the respective period. The necessary details are given hereunder:

(a) <u>Cost of Land</u>:

(Rs in lakh)

Additions			**As on 1st April of the financial year**	
Period	**Stage-I**	**Stage-II**	**Stage-I**	**Stage-II**
	Amount	Amount	Amount	Amount
As on 31.3.2001	746.31	155.00	746.31	155.00
Additions during 2001-04	74.66	29.26	820.97	184.26
Additions during 2004-05	14.70	15.45	835.67	199.71
Additions during	15.02	18.56	850.69	218.27

2005-06				
Additions during 2006-07	11.99	0.14	862.68	218.41

(b) <u>Cumulative depreciation on deleted assets</u>

(Rs in lakh)

Addition		
Period	**Stage-I**	**Stage-II**
	Amount	**Amount**
2001-04	16.80	0
2004-05	3.21	0
2005-06	3.59	0
2006-07	48.09	3.27

61. The depreciation to be recovered each year from 1.4.2004 for Stage-I and Stage-II is given below:

Stage-I

(Rs in lakh)

		2004-05	2005-06	2006-07	2007-08	2008-09
Remaining asset life as on 1st April of the financial year	10	9	8	7	6	5
Depreciation value 90%		51812	52120	52952	53591	53591
Cumulative depreciation recovered up to previous year		44387	45209	46069	47005	48102
Balance depreciation		7425	6911	6883	6586	5488
Depreciation		**825**	**864**	**983**	**1098**	**1098**

Stage-II

(Rs in lakh)

		2004-05	2005-06	2006-07	2007-08	2008-09
Remaining asset life as on 1st April of the financial year	16	15	14	13	12	11
Depreciation value 90%		106482	106708	107121	107384	107384
Cumulative depreciation recovered up to previous year		88652	89841	91045	92279	93538
Balance depreciation to be recovered in tariff		17830	16867	16076	15105	13847
Depreciation		**1189**	**1205**	**1237**	**1259**	**1259**

ADVANCE AGAINST DEPRECIATION

62. Sub-clause (b) of Clause (ii) of Regulation 21 of the 2004 regulations stipulates that for the purpose of tariff, depreciation shall be computed in the following manner, namely:

> *"In addition to allowable depreciation, the generating company shall be entitled to Advance Against Depreciation, computed in the manner given hereunder:*
>
> *AAD = Loan repayment amount as per regulation 21 (i) subject to a ceiling of 1/10th of loan amount as per regulation 20 minus depreciation as per schedule.*
>
> *Provided that Advance Against Depreciation shall be permitted only if the cumulative repayment up to a particular year exceeds the cumulative depreciation up to that year;*
>
> *Provided further that Advance Against Depreciation in a year shall be restricted to the extent of difference between cumulative repayment and cumulative depreciation up to that year".*

63. Since loan has been fully repaid, the petitioner is not entitled to Advance Against Depreciation.

O & M EXPENSES

64. The petitioner has claimed O&M charges as follows-

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08 (up to 31.7.07)	2007-08 (from 1.8.07)	2008-09
Stage-I	6552	6817	7088	2457	4914	7667
Stage-II	8736	9089	9450	3276	6552	10223

65. O&M expenses claimed by the petitioner are in line with the norms adopted for lignite fired generating stations as provided under sub-clause (iv) of clause (b) of Regulation 21 of the 2004 regulations. Hence, O&M expenses as claimed by the petitioner are allowed.

INTEREST ON WORKING CAPITAL

66. As per sub-clause (a) of clause (v) of Regulation 21 of the 2004 regulations, interest on working capital shall cover:

(a) Cost of coal or lignite for 1 ½ months for pit head generating stations and two months for non-pit head generating stations, corresponding to target availability;

(b) Cost of secondary fuel oil for two months corresponding to target availability;

(c) Operation and Maintenance expenses for one month;

(d) Maintenance spares @ 1% of the historical cost escalated @ 6% per annum from the date of commercial operation; and

(e) Receivables equivalent to two months of fixed and variable charges for sale of electricity calculated on target availability.

67. Interest on working capital is worked out as under:

(a) **Lignite Stock:** The lignite stock for one and half months is permissible, and the same has been considered for the purpose of tariff.

(b) **Oil Stock**: Oil stock for two months is permissible and has been considered for tariff.

(c) **O & M Expenses:** O&M expenses of the respective year for 1 month have been considered in tariff.

(d) **Maintenance Spares**: The petitioner has calculated the value of maintenance spares considering gross block of Rs.48081 lakh as capital cost as on 31.3.1988 (date of commercial operation of Stage-I is 23.4.1988) and Rs.127025 lakh as capital cost as on 9.4.1994 (date of commercial operation of Stage-II is 9.4.1994). Accordingly, the maintenance spares have been worked out on historical cost as on date of commercial operation and escalated at the rate of 6% p.a. to arrive at permissible spare consumption for the relevant year as under:

(Rs in lakh)

		2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance spares allowed	Stage-I	1217	1290	1368	1450	1537
	Stage-II	2272	2408	2553	2706	2868

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

Stage-I

(Rs in lakh)

Variable Charges	2004-05	2005-06	2006-07	2007-08	2008-09
Lignite (Rs/kwh)	1.1707	1.1707	1.1707	1.1707	1.1707
Oil (Rs/kwh)	0.0394	0.0394	0.0394	0.0394	0.0394
Rs./kwh	**1.2100**	**1.2100**	**1.2100**	**1.2100**	**1.2100**
Variable Charges - full year	45076	45076	45076	45199	45076
Variable Charges -2 months	7513	7513	7513	7533	7513
Fixed Charges - 2 months	1834	1875	1944	2007	2033
Receivables - 2 months	**9346**	**9388**	**9457**	**9540**	**9545**

Stage-II

(Rs in lakh)

Variable Charges	2004-05	2005-06	2006-07	2007-08	2008-09
Lignite (Rs/kwh)	1.1707	1.1707	1.1707	1.1707	1.1707
Oil (Rs/kwh)	0.0394	0.0394	0.0394	0.0394	0.0394
Rs./kwh	**1.2100**	**1.2100**	**1.2100**	**1.2100**	**1.2100**
Variable Charges - full year	60101	60101	60101	60265	60101
Variable Charges -2 months	10017	10017	10017	10044	10017
Fixed Charges - 2 months	2735	2779	2831	2880	2920
Receivables - 2 months	**12752**	**12796**	**12848**	**12924**	**12937**

Rate of interest on working capital

68. As per sub-clause (b) of clause (v) of Regulation 21 of the 2004 regulations, the rate of interest on working capital shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on 1.4.2004 or on 1st April of the year in which the generating station or a unit thereof is declared under commercial operation, whichever is later. Interest on working capital shall be payable on normative basis notwithstanding that the generating company has not taken working capital loan from any outside agency.

69. The average SBI Prime Lending rate of 10.25% as on 1.4.2004 has been considered as the rate of interest on working capital, during the tariff period 2004-09.

70. The necessary details in support of calculation of interest on working capital are as follows:

Stage-I

(Rs in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Lignite Stock for 1 1/2 month (MT)	5451	5451	5451	5466	5451
Oil stock for 2 month (KL)	244	244	244	245	244
O & M expenses for 1 month	546	568	591	614	639
Spares	1217	1290	1368	1450	1537
Receivables- 2 months	9346	9388	9457	9540	9545
Total Working Capital allowed	16805	16942	17111	17315	17416
Rate of Interest on working capital	10.25%	10.25%	10.25%	10.25%	10.25%
Interest on Working Capital	**1723**	**1737**	**1754**	**1775**	**1785**

Stage-II

(Rs in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Lignite Stock for 1 1/2 month (MT)	7268	7268	7268	7288	7268
Oil stock for 2 month (KL)	326	326	326	327	326
O & M expenses for 1 month	728	757	788	819	852
Spares	2272	2408	2553	2706	2868
Receivables- 2 months	**12752**	**12796**	**12848**	**12924**	**12937**
Total Working capital allowed	23346	23555	23782	24064	24251
Rate of Interest on working capital	10.25%	10.25%	10.25%	10.25%	10.25%
Interest on Working Capital	**2393**	**2414**	**2438**	**2467**	**2486**

ANNUAL FIXED CHARGES

71. The annual fixed charges for the period 1.4.2004 to 31.3.2009 allowed are summed up below:

Stage-I

(Rs in lakh)

Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Interest on Loan	0	0	0	0	0
Depreciation	825	864	983	1098	1098
Advance Against Depreciation	0	0	0	0	0
Return on Equity	1903	1835	1841	1800	1646
Interest on Working Capital	1723	1737	1754	1775	1785
O & M Expenses	6552	6817	7088	7371	7667
TOTAL	**11002**	**11252**	**11666**	**12043**	**12196**

Stage-II

(Rs in lakh)

Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Interest on Loan	0	0	0	0	0
Depreciation	1189	1205	1237	1259	1259
Advance Against Depreciation	0	0	0	0	0
Return on Equity	4095	3965	3861	3728	3551
Interest on Working Capital	2393	2414	2438	2467	2486
O & M Expenses	8736	9089	9450	9828	10223
TOTAL	**16413**	**16673**	**16985**	**17281**	**17519**

LIGNITE TRANSFER PRICE AND ENERGY CHARGES

72. The petitioner has considered the lignite transfer price as under:

Year	Lignite price (Rs/Tonne)
2004-05	929
2005-06	960
2006-07	992
2007-08 (upto 31.7.2007)	1042
2007-08 (from 1.8.2007)	1057
2008-09	1064

73. The petitioner has 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. Accordingly, the year- wise pooled lignite transfer price has been adopted by the petitioner for working out the energy charges.

74. The year-wise energy charges claimed by the petitioner are as under:

(Rs./kWh)

Year	**2004-05**	**2005-06**	**2006-07**	**2007-08 (upto 31.7.2007)**	**2007-08 (from 1.8.2007)**	**2008-09**
Energy charges (ex-bus)	**1.1525**	**1.1897**	**1.2280**	**1.2879**	**1.3059**	**1.3143**

75. The petitioner has claimed energy charges year-wise for the tariff period 2004-09 based on pooled lignite price worked out by it on the basis of Ministry of Coal guidelines and the prescribed operational norms as per the 2004 regulations as follows:

Operational norms		
Secondary Oil Consumption	ml/kWh	3.0
Auxiliary Energy Consumption	%	10.00
Gross Station Heat Rate	Kcal/kWh	2850

76. The petitioner was directed to furnish the details with all workings in respect of lignite transfer price as calculated on the basis of order dated 23.3.2007 in Petition No. 5/2002 and the parameters and principles spelt out by Ministry of Coal in its letter dated 30.1.2006. In response, the petitioner has furnished the details by affidavit dated 7.3.2008. 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 said order dated 23.3.2007. The explanation furnished by the petitioner for inclusion of the cost of mine-closure in determining the lignite transfer price year-wise is given in the succeeding paras.

77. 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. Coal Regulatory Bill which is in final stage, in the regulatory framework, provides for mine-closure and land restoration. The petitioner has stated that in terms of the Bill, any cost for mine-closure should be built into the price and certain amount be set apart for final mine-closure. The petitioner has sought to re-assure that mine-closure expenditure will be spent after closure of the mine and there will not be any matching revenue. As such, provisions are to be made for such expenses and accordingly mine-closure expenditure is calculated provisionally for inclusion in the lignite price. The petitioner has further submitted that any variance of provisional cost with the actual shall be adjusted later.

78. Considering the fact that the mine-closure is obligatory on the part of the petitioner, as user of mines, the cost of mine-closure considered in the lignite transfer price is allowed, subject to adjustment as and when the actual expenditure is incurred.

79. In terms of the 2004 regulations, the base energy charge shall be calculated on the basis of actual lignite transfer price for preceding three months i.e. January, February and March, 2004. Since the lignite transfer price for the year 2003-04 has been determined by the Commission as Rs.977/MT, in Petition No. 5/2002, the same has been taken for computation of the base energy charges. This base energy charge shall be considered for computation of interest on working capital, as well as the datum for applying the fuel price adjustment.

80. 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 given in this order. The lignite transfer price worked out by the petitioner for the respective years of the tariff period as indicated in para 72 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 121.00 paise/kWh sent out, as worked out in this order, as the datum.

Secondary Fuel Oil

81. The petitioner has stated that the furnace oil prices and LDO prices prevailing during the preceding three months of the tariff period i.e. January

2004 to March 2004 have been considered for arriving at the weighted average secondary fuel oil price for Stage-I and Stage-II at Rs.11809 /KL for computing the rate of energy charges with secondary fuel.

82. It is observed from the details of oil price workings furnished by the petitioner that the weighted average secondary fuel oil price of Rs.11809/KL is a mix of 53% cost of furnace oil in the month of January 2004 and 47% cost of LDO consumption in the month of March 2004. There was no supply/receipt of either FO or LDO in the month of February 2004. The weighted average prices and GCVs of the fuels given in the table below have been adopted by the Commission for calculating the fuel component in working capital and base energy charges:

Description	As adopted by petitioner	As considered
Price of lignite (Rs./MT)	Pooled price	977
GCV of lignite (Kcal/kg.)	2615	2615
Price of secondary fuel oil (Rs./KL)	11809	11809
GCV of secondary fuel oil (Kcal./Kg)	10000	10000

83. Accordingly, the energy charges worked out are as follows:

Description	Unit	
Gross Station Heat Rate	kCal/kWh	2850
Specific Fuel Oil Consumption	ml/kWh	3
Aux. Energy Consumption	%	10
Weighted Average GCV of Oil	kCal/l	10000
Weighted Average GCV of Lignite	kCal/Kg	2615
Weighted Average Price of Oil	Rs./KL	11809.29
Weighted Average Price of Lignite	Rs./MT	977
Rate of Energy Charge from Sec. Fuel Oil	Paise/kWh	3.54
Heat Contributed from SFO	kCal/kWh	30.00
Heat Contributed from Lignite	kCal/kWh	2820.00
Specific Lignite Consumption	Kg/kWh	1.08
Rate of Energy Charge from Lignite	Paise/kWh	105.36
Rate of Energy Charge ex-bus per kWh Sent	**Paise/kWh**	**121.00**

84. The above Base Rate of Energy charge (BREC) computed shall however be subject to fuel price adjustment because of variation in prices and GCVs of lignite and secondary fuel oil on month-to-month basis as per the following formula:

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,

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

$$B = \frac{10}{(100 - AC_n)} \left[\left\{ (SHR_n) \quad (P_{cm}/K_{cm}) - (P_{cs}/K_{cs}) \right\} - (SFC_n) \left\{ (k_{om} x P_{cm}/K_{cm}) - (k_{os} x P_{cs}/K_{cs}) \right\} \right]$$

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 on as consumed basis during the month in Rs./KL.

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

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 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

IMPACT OF ADDITIONAL CAPITALISATION FOR THE YEARS 2001-04

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

86. Based on the above impact of additional capitalization has been worked out as under, which the petitioner shall recover from the respondents, along with tariff being approved through this order, during the current year, that is up to 31.3.2009.

(Rs in lakh)

Stage-I	2001-02	2002-03	2003-04	Total
Period	**1.00**	**1.00**	**1.00**	
Additional Capitalisation	**333.71**	**(9.75)**	**597.17**	**921.13**
Financing of Additional Capitalisation				
Notional Loan	0.00	0.00	0.00	0.00
Notional Equity	333.71	(9.75)	597.17	**921.13**
Total				
Effective Additional Capitalisation				
Opening Loan Balance	0.00	0.00	0.00	
Addition of Loan	0.00	0.00	0.00	**0.00**
Repayment of Loan	0.00	0.00	0.00	**0.00**
Closing Loan Balance	0.00	0.00	0.00	
Effective Loan		0.00	0.00	
Weighted Average Rate of Interest on Loan		0.0000%	0.0000%	
Effective Equity		333.71	323.96	
Interest on Loan		0.00	0.00	**0.00**
Return on Equity		53.39	51.83	**105.23**
Impact of Additional Capitalisation		53.39	51.83	**105.23**

(Rs in lakh)

Stage-II	2001-02	2002-03	2003-04	Total
Period	**1.00**	**1.00**	**1.00**	
Additional Capitalisation	**445.70**	**70.79**	**105.03**	**0.00**
Financing of Additional Capitalisation				**105.23**
Notional Loan	0.00	0.00	0.00	**105.23**
Notional Equity	445.70	70.79	105.03	**621.52**
Total				
Effective Additional Capitalisation				
Opening Loan Balance	0.00	0.00	0.00	
Addition of Loan	0.00	0.00	0.00	**0.00**
Repayment of Loan	0.00	0.00	0.00	**0.00**
Closing Loan Balance	0.00	0.00	0.00	
Effective Loan		0.00	0.00	
Weighted Average Rate of Interest on Loan		0.0000%	0.0000%	
Effective Equity		445.70	516.49	
Interest on Loan		0.00	0.00	**0.00**
Return on Equity @ 16%		71.31	82.64	**153.95**
Impact of Additional Capitalisation		71.31	82.64	**153.95**

87. The petitioner has also sought reimbursement of filing fee of Rs.50 lakh paid. A final view on reimbursement of filing fee is yet to be taken by the Commission for which views of the stakeholder have been called for. The view taken on consideration of the comments received shall apply in the present case.

88. In addition to the charges approved above, the petitioner is entitled to recover other charges also like reimbursement of income-tax, other taxes, cess levied by statutory authorities and other charges in accordance with the 2004 regulations.

89. The petitioner is billing the respondents in accordance with the order dated 23.3.2007 in Petition No. 5/2002. The tariff shall be adjusted in the light of the final tariff now approved by us. The additional amount becoming due in terms of this order shall be recovered by the petitioner in 4 monthly installments, starting from July 2008.

90. This order disposes of Petition No. 118/2007.

Sd/-
(R.KRISHNAMOORTHY)
MEMBER

Sd/-
(BHANU BHUSHAN)
MEMBER

New Delhi, dated the 4th June, 2008