

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram:

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

Petition No. 66/2005

In the matter of

Determination of tariff for generation and inter-State transmission of electricity by Damodar Valley Corporation for the period 1.4.2006 to 31.3.2009, in terms of the directions of the Appellate Tribunal for Electricity dated 23.11.2007 in Appeal No. 273/2006.

And in the matter of

Damodar Valley Corporation, Kolkata

.....Petitioner

Vs

1. Department of Energy, Govt. of West Bengal, Kolkata
2. Department of Energy, Govt. of Jharkhand, Ranchi
3. West Bengal State Electricity Board, Kolkata
4. Jharkhand State Electricity Board, Ranchi
5. Union of India, Ministry of Power, New Delhi

..... Respondents

The following was present:

- 1.Shri M.G.Ramachandran, Advocate, DVC
- 2.Shri C.S.Vaidyanathan, Sr.Advocate, BSAL
- 3.Shri T.K.Gupta, DVC
- 4.Shri D.K.Majumdar, DVC
- 5.Shri P.K.Choudhuri, DVC
- 6.Shri A.Biswas, DVC
- 7.Shri D.K.Aich, DVC
- 8.Shri P.Bhattacharya, DVC
- 9.Shri R.Goswami, DVC
- 10.Shri G.Bhunia, DVC
- 11.Shri G.Chaudhury, DVC
- 12.Shri Shyamal Sarkar, Advocate, BSAL

13. Shri Gautam Shroff, Advocate, BSAL
 14. Shri K.P. Roy, BSAL
 15. Shri R.R. Dubey, Advocate, JSEB

ORDER
(Date of Hearing: 16.6.2009 & 7.7.2009)

This order issues pursuant to the judgment of the Appellate Tribunal for Electricity (the Appellate Tribunal) dated 23.11.2007 in Appeal Nos. 273/2006 and other connected appeals.

Background

2. Damodar Valley Corporation (hereinafter referred to as "the petitioner") is a statutory body established by the Central Government under the Damodar Valley Corporation Act, 1948 (hereinafter referred to as the 'DVC Act') for the development of the Damodar Valley, with three participating Governments, namely, the Central Government, the Government of West Bengal and the Government of Jharkhand.

3. The assets owned by the petitioner and their dates of commercial operation are as under:

Name of the Stations/ systems	Installed Capacity (in MW)	Date of Commercial operation
Bokaro TPS	805	August 1993
Chandrapur TPS	750	March 1979
Durgapur TPS	350	September 1982
Mejia TPS	630	September 1999
Maithon GPS	82.5	October 1989
Maithon Hydel	60	December 1958
Panchet Hydel	80	March 1991
Tilaya Hydel	4	August 1953
Transmission system	220/132 kV lines	Existing as on 31.3.2004
Distribution system		Existing as on 31.3.2004

4. The petitioner filed petition under sections 61, 62 and 86 of the Electricity Act, 2003 (hereinafter referred to as “the Act”) for approval of the revenue requirements and for determining the matters concerning the tariff for electricity related activities, that is, generation, transmission and distribution of electricity, undertaken by it for the period from 1.4.2004 to 31.3.2009. As the Commission was concerned only with the determination of tariff for generation and inter-State transmission of electricity undertaken by the petitioner, the issue of distribution tariff was not addressed as the matter fell within the jurisdiction of the State Commissions. By virtue of the powers under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2004 (hereinafter referred to as “the 2004 regulations”) the Commission considered the norms for O&M expenses and the operational norms specific to the generating stations and the transmission assets owned by the petitioner.

5. The Commission by its order dated 3.10.2006 allowed a special dispensation to the petitioner to continue with the prevailing tariff till 31.3.2006 and determined tariff in respect of the generating stations and transmission system of the petitioner, based on the capital cost as on 1.4.2004, for the period from 1.4.2006 to 1.3.2009, as under:

(Rs. in lakh)			
ANNUAL FIXED CHARGES FOR THERMAL STATIONS	2006-07	2007-08	2008-09
BOKARO			
Interest on Loan	0.00	0.00	0.00
Interest on Working Capital	1409.22	1461.01	1524.02
Depreciation	1986.41	1986.41	1986.41
Advance against Depreciation	0.00	0.00	0.00
Return on Equity	2317.48	2317.48	2317.48
O & M Expenses	11167.00	11167.00	11167.00
TOTAL	16880.10	16931.90	16994.90

CHANDRAPURA			
Interest on Loan	0.00	0.00	0.00
Interest on Working Capital	810.48	813.38	855.17
Depreciation	851.69	851.69	851.69
Advance against Depreciation	0.00	0.00	0.00
Return on Equity	993.64	993.64	993.64
O & M Expenses	11382.00	11382.00	11382.00
TOTAL	14037.80	14040.71	14082.50
DURGAPUR			
Interest on Loan	0.00	0.00	0.00
Interest on Working Capital	932.72	938.80	972.06
Depreciation	625.00	0.00	0.00
Advance against Depreciation	0.00	0.00	0.00
Return on Equity	784.77	784.77	784.77
O & M Expenses	9508.00	9508.00	9508.00
TOTAL	11850.49	11231.57	11264.83
MEJIA Units 1 to 3			
Interest on Loan	4444.53	3749.96	2962.07
Interest on Working Capital	1802.10	1762.91	1708.25
Depreciation	5672.41	5672.41	5672.41
Advance against Depreciation	0.00	0.00	0.00
Return on Equity	6617.81	6617.81	6617.81
O & M Expenses	6880.00	6880.00	6880.00
TOTAL	25416.86	24683.09	23840.55
ANNUAL CAPACITY CHARGES FOR HYDRO STATIONS			
MAITHON			
Interest on Loan	228.65	208.93	182.31
Interest on Working Capital	44.80	45.98	47.08
Depreciation	135.28	135.28	135.28
Advance against Depreciation	0.00	0.00	0.00
Return on Equity	221.09	221.09	221.09
O & M Expenses	1092.00	1136.00	1181.00
TOTAL	1721.82	1747.28	1766.77
PANCHET			
Interest on Loan	0.00	0.00	0.00
Interest on Working Capital	30.31	31.38	32.53
Depreciation	125.70	125.70	125.70
Advance against Depreciation	0.00	0.00	0.00
Return on Equity	205.42	205.42	205.42
O & M Expenses	722.00	750.00	780.00
TOTAL	1083.43	1112.50	1143.65
TILAIYA			
Interest on Loan	2.29	1.57	0.85
Interest on Working Capital	8.82	9.16	9.51
Depreciation	6.50	6.50	6.50
Advance against Depreciation	0.00	0.00	0.00
Return on Equity	10.63	10.63	10.63
O & M Expenses	314.00	327.00	340.00

TOTAL	342.24	354.86	367.48
ANNUAL TRANSMISSION CHARGES			
TRANSMISSION SYSTEM	2006-07	2007-08	2008-09
Interest on Loan	577.57	412.01	244.19
Interest on Working Capital	241.62	246.65	252.04
Depreciation	1473.15	1473.15	1473.15
Advance against Depreciation	0.00	0.00	0.00
Return on Equity	2062.41	2062.41	2062.41
O & M Expenses	4319.00	4490.00	4668.00
TOTAL	8673.75	8684.23	8699.79
TOTAL FIXED CHARGES			
Interest on Loan	5253.04	4372.46	3389.42
Interest on Working Capital	5280.08	5309.28	5400.66
Depreciation	10876.14	10251.14	10251.14
Advance against Depreciation	0.00	0.00	0.00
Return on Equity	13213.24	13213.24	13213.24
O & M Expenses	45384.00	45640.00	45906.00
TOTAL	80006.50	78786.13	78160.47
PENSION LIABILITY	30689.80	30689.80	30689.80
TOTAL FIXED CHARGES (inclusive of pension liability)	110696.30	109475.93	108850.27

6. The Commission's order dated 3.10.2006 was challenged by the petitioner in Appeal No.273/2006 before the Appellate Tribunal for Electricity (hereinafter referred to as "the Appellate Tribunal") wherein the following issues were raised:

- (a) Debt-Equity ratio
- (b) Disallowance of additional capitalization for the period 2004-2009
- (c) Higher Return on Equity
- (d) Pension and Gratuity Contribution
- (e) Revenues to be allowed under the DVC Act
- (f) Depreciation Rate
- (g) Re-setting of operating norms at variance from the operating norms prescribed in the 2004 Regulations.
- (h) O&M Expenses
 - (i) Return on capital Investment on Head Office, Regional Offices, Administrative and other Technical centers, etc.
 - (j) Generation Projects presently not operating

7. Appeals were also filed before the Appellate Tribunal by some of the respondent/consumers, namely, Maithon Alloys Ltd and others (Appeal No.271/2006), Bhaskhar Shrachi Alloys Ltd and others (Appeal No 272/2006), State of Jharkhand

(Appeal No.275/2006) and the West Bengal State Electricity Regulatory Commission (Appeal No.8/2007) challenging the order of the Commission dated 3.10.2006 on various grounds.

8. The Appellate Tribunal by its judgment dated 23.11.2007 disposed of the said appeals as under:

“113. In view of the above the subject Appeal No. 273 of 2006 against the impugned order of Central Commission passed on October 3, 2006 is allowed to the extent described in this judgment and we remand the matter to Central Commission for denovo consideration of the tariff order dated October 3, 2006 in terms of our findings and observations made hereinabove and according to the law. Appeal No. 271, 272 and 275 of 2006 and No. 08 of 2007 are also disposed of, accordingly.”

9. As regards the applicability of the DVC Act vis-à-vis the Electricity Act,2003, the Appellate Tribunal in its judgment dated 23.11.2007, observed as under:

“91. Having held that the provisions in Part IV of the DVC Act provide essential parameters for determination of tariff for DVC, and viewing it in conjunction with the provisions of the Section 175 of the Act we come to the conclusion that the regulations under the Act are to be read in addition to and not in derogation of any other law (i.e. provisions of Part IV of DVC Act) for the time being in force. This directly implies that the Regulations, 2004 formulated by the Central Commission need to be read along with the provisions of Part IV of DVC that relate to the power-object of DVC. We accordingly allow the contention of the Appellant on this count.”

xx
xx
xx

96. We feel that in order to overcome the discontinuities in application of Regulations, 2004, the Central Commission could have considered to give effect to certain provisions of the DVC Act in Regulations, 2004 by resorting to power vested in it under Regulation 13. Regulation 13 empowers the Commission to vary provisions of the Regulations on its own motion or on an application made before it. This power has been conferred on the Commission to relax rigour of the Regulations in appropriate cases. The tariff determined for the period April 1, 2004 to March 31, 2009 given effect from April 1, 2006 to provide for a transition period, was perhaps given by the Commission under the said clause even though not mentioned in the impugned order.”

10. On the issue of jurisdiction of the Commission to determine tariff of the petitioner, the Appellate Tribunal in its judgment dated 23.11.2007, observed as under:

“110. Taking an integrated view of the above provisions and applying them to the instant case, it is clear that any ‘transmission line’ i.e. high pressure (HT) Cables and overhead lines (HT), excluding the lines which are essential part of distribution system of a licensee (WBSEB and JSEB as the case may be), used for the conveyance of electricity from a generating station owned by DVC and located in the territory of one State (either State of West Bengal or Jharkhand) to generating station or a sub-Station located in the territory of

another State (either in the State of Jharkhand or West Bengal) together with any step-up and step down transformer, switch gear and other works necessary to and used for the control of such cables or overhead lines and such building or part thereof as may be required to accommodate such transformers, switch-gear and other works shall constitute the "Inter-State Transmission system" of DVC. Further, the transmission segments from the generating Stations to HT Consumers located in the same territory of a State are deemed 'dedicated transmission lines' and are to be maintained and operated by DVC.

111. DVC has been supplying power from its generating stations to West Bengal Electricity Board and Jharkhand Electricity Board along with nearly 120 HT-Consumers either through inter-state transmission lines or through the point-to-point 'dedicated transmission lines'. We, therefore, conclude that all transmission systems of DVC be considered as unified deemed inter-state transmission system, insofar as the determination of tariff is concerned and as such regulatory power for the same be exercised by the Central Commission."

11. Against the judgment dated 23.11.2007, the Commission filed Civil Appeal No.4289/2008 in the Supreme Court of India. The civil appeal is pending before the Supreme Court. Others like the West Bengal State Electricity Regulatory Commission (in Civil Appeal No.804/2008) and some of the respondent/consumers namely, Bhaskhar Shrachhi Alloys Ltd & ors (in Civil Appeal No 971-973/2008), State of Jharkhand (in Civil Appeal No.4504-4508/2008) and the State of West Bengal (in Civil Appeal No. 1914/2008) have also preferred appeals before the Hon'ble Supreme Court. The present order is being issued in the light of the observations of the Appellate Tribunal in its judgement dated 23.11.2007 in Appeal No.273/2006 and other connected appeals, subject to the final outcome of the appeals pending in the Supreme Court.

12. Pursuant to the order of the Appellate Tribunal directing *denovo* consideration of the order of the Commission dated 3.10.2006, to the extent indicated therein, the Commission directed the petitioner to file certain additional information/documents and issued notices for hearing.

Interlocutory Application No.19/2009

13. The petitioner through an Interlocutory Application No.19/2009 submitted additional documents/information. One of the respondents namely, JSEB (Respondent No.4) and objector namely Bhaskhar Shrachhi Alloys Ltd have filed their responses. In the said I.A, the petitioner has submitted details of additional capital expenditure for the period 2006-09, with request to consider capital cost as per books of accounts as on 1.4.2006. The petitioner has also submitted that the estimated revenue requirements included audited capital expenditure for the period 2004-08 and provisional accounts for the year 2008-09, additional capital expenditure incurred for the period 2006-09, additional expenditure incurred on employee cost on account of revision of pay, pension and gratuity contribution pursuant to the implementation of the sixth pay commission, additional O&M expenses incurred on old units and on account of compliances towards environmental laws. The respondent No.4 in its reply has submitted that the actual data and financials for the period 1.4.2006 to 31.3.2009 can be considered for the future tariff since its consideration at this stage would unnecessary delay the determination of tariff of the petitioner who has been raising bills on the basis of its own tariff order applicable as on the year 2000. Moreover, the Commission is now required to consider afresh its earlier order dated 3.10.2006 in terms of the directions of the Appellate Tribunal. The objector in its submissions has stated that the petitioner has widened the scope of determination of tariff in the petition *vis-a-vis* the directions contained in the judgment of the Appellate Tribunal by including the additional capital expenditure incurred for the years 2006-07 and 2007-08, additional O&M expenses and liabilities towards employee cost on account of revision of pay, pension and gratuity contribution. It was urged that

the Commission should confine to re-determination of tariff in accordance with the directions contained in the judgment of the Appellate Tribunal.

14. The claim of the petitioner for additional capital expenditure for the period 2006-09 is outside the scope of the judgment of the Appellate Tribunal in which directions have been issued to consider the order dated 3.10.2006 *denovo* to the extent indicated in the judgment. Accordingly, we have decided to confine our consideration of the issues earlier decided in our order dated 3.10.2006 in the light of the observations of the Appellate Tribunal. The petitioner is allowed liberty to approach the Commission through an appropriate application, for consideration of any additional issues which would be considered in accordance with law. With the said observation, the interlocutory application is disposed of.

15. Based on the above, and in consideration of the documents furnished and arguments made submitted by the parties, we now proceed to determine tariff for the generating stations and inter-State transmission systems of the petitioner, in terms of the directions contained in the judgment of Appellate Tribunal dated 23.11.2007, as discussed hereunder:

Additional capitalization for 2004-05 and 2005-06

A. Thermal generating stations

16. Regulation 18 of the 2004 regulations provides for considering the additional capital expenditure for tariff 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 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-convectors, 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.

17. The petitioner had not claimed any additional capitalization for the years 2004-05 and 2005-06. However, the Appellate Tribunal in its judgment dated 23.11.2007 had observed as under:

“B. Disallowance of additional capitalization for the period 2004-2009

The Central Commission at para 50 of the impugned order has observed that the “the petitioner corporation has not claimed any additional capitalization for the period 2004-2009.” However the records submitted by the Appellant show that a sum of Rs. 767.45 crores and Rs. 181.14 crores have been shown to be capitalized during 2004-05 and 2005-06 respectively. In order to get the relief on this account, the Appellant may bring out the above omission to the notice of the Central Commission who may appropriately dispose of the matter in terms of law. The appeal is accordingly allowed on this count.”

18. Based on the above, the petitioner has submitted its claim for additional capitalization as tabulated hereunder:

(Rs.in lakh)

SI.No.	Particulars	2004-05	2005-06
1	Director's offices	244.99	31.91
2	Other offices	4.89	22.30
3	Thermal and Gas generating stations		
(a)	Bokaro TPS	118.21	384.24
(b)	Chandrapura TPS	1572.37	522.67
(c)	Durgapur TPS	1110.38	331.05
(d)	Mejia TPS (Units 1 to 3)	146.50	678.58
(e)	Mejia TPS (Unit 4)	70051.06	1171.14
	Total Thermal	72998.52	3087.68
(f)	Maithon GT	-	-
4	Hydro generating stations		
(a)	Tilaiya	6.78	0.34
(b)	Maithon	197.66	211.51
(c)	Panchet	2.12	114.66
	Total Hydro	206.56	326.52
5	Transmission & Distribution	3473.62	14639.87
6	Subsidiary Activities	141.82	169.44
7	Multipurpose Dams	101.32	7.30
8	Central Offices	29.74	72.63
9	Flood Control	-	-
10	Irrigation	-	-
11	Mining & Ropeway	14.06	5.10
	Total	77215.53	18362.74

19. After examining the asset-wise details and justification for additional capitalization claimed by the petitioner under various categories and by applying prudence check, the admissibility of additional capitalization is discussed below:

Bokaro TPS

20. The petitioner has claimed additional capital expenditure of Rs 118.21 lakh for the year 2004-05 and Rs 384.24 lakh for the year 2005-06. Out of this, an amount of Rs 2.88 lakh for expenditure during 2004-05, towards purchase of AC compressor as insurance spare due to damage of compressor and Rs 11.79 lakh incurred during 2005-06, towards transformer oil filter has been disallowed as the value of the replaced assets have not been de-capitalised. An amount of Rs 63.33 lakh during 2004-05 and Rs 53.72 lakh for 2005-06, incurred on other assets for improving the working condition and to maintain efficiency of the plant and on account of wrong bookings for the period 2003-04 has been disallowed for want of proper justification. The expenditure of Rs 61.46 lakh during 2004-05 for assets like 220 kV current transformer and 220V plant lead acid batteries and Rs.197.23 lakh during 2005-06 for assets like micro processor based control panel, static excitation system, spare distribution transformer has been allowed after deduction of the gross value of the replaced assets, in terms of Note 2 of Regulation 18 of the 2004 regulations. An amount of Rs 32.65 lakh incurred during the year 2005-06 for RLA study of 'A' plant has been disallowed as it has been the consistent approach of the Commission to allow such expenditure only after the R & M works based on RLA studies are incurred and benefits passed on to the consumers. In view of the above, an amount of Rs 32.91 lakh for the year 2004-05 and Rs 223.13 lakh for the year 2005-06 is allowed for capitalization.

Chandrapura TPS

21. The petitioner has claimed additional capital expenditure of Rs.1572.37 lakh for the year 2004-05 and Rs.522.67 lakh for the year 2005-06. Out of this, expenditure of Rs 199.16 lakh during 2004-05, for preparation of DPR, technical specifications and Rs 163.11 lakh during 2005-06, towards improvement of plant performance and R & M work has been disallowed, as it has been the consistent approach of the Commission to allow such expenditure only after the R & M works based on RLA studies are incurred and benefits passed on to the consumers. An amount of Rs 40.95 lakh incurred during 2004-05 towards EOT crane for maintenance works, construction of cycle shed, boundary wall, ashpond, ATM room etc and Rs 551.37 lakh incurred during 2005-06 towards construction of township buildings, roads, ashbund etc has been allowed in terms of sub-clause (iv) of clause (2) of Regulation 18 of the 2004 regulations. An expenditure of Rs 1326.19 lakh during 2004-05, towards repair of turbine rotor has been disallowed, as the expenditure relates to O & M expenses. An expenditure of Rs 1.34 lakh during 2004-05 for providing grill at hostel for safety of trainees and chain pulley block to support maintenance activities has also been disallowed being expenditure on minor asset. An expenditure of Rs 8.61 lakh during 2005-06, towards provision for monitor for measuring particulate emission and smoke and optical meter has been allowed, after reduction of the gross value of the replacement assets, in terms of Note 2 of Regulation 18 of the 2004 regulations. An expenditure of Rs 23.44 lakh incurred on other assets for the year 2004-05 and Rs 64.06 lakh for the year 2005-06 in order to improve the working condition and maintain efficiency of the plant has been disallowed for want of proper details/justification. Hence, an amount

of Rs 4.31 lakh for the year 2004-05 and Rs 267.64 lakh for the year 2005-06 is allowed for capitalization.

Durgapur TPS

22. The petitioner has claimed additional capital expenditure of Rs.1110.38 lakh for the year 2004-05 and Rs 331.05 lakh for the year 2005-06. Out of this, expenditure for Rs 1018.92 lakh for 2004-05 and Rs 198.44 lakh for 2005-06 towards land rights, chain pulley blocks, designing and commissioning of additional ESP's, blower control panels, electronic belt weigher, screen cables, friction cranes, bull dozers, digital sensor meters, insulation tester etc, which are necessary for efficient and successful operation of the generating station has been allowed, in terms of sub-clause (iv) of clause (2) of Regulation 18 of the 2004 regulations. An amount of Rs 15.38 lakh for 2004-05 and Rs 5.64 lakh for 2005-06 incurred for assets like pump, motor and air cooled compressor, motorized rack, weigh rail, and flexible set grinder etc has been allowed, after reduction of the gross value of the replaced assets, in terms of Note 2 of Regulation 18 of the 2004 regulations. An amount of Rs 66.50 lakh for 2004-05 and Rs 20.86 lakh for 2005-06 incurred towards consultation and preparation of technical specification for taking up R & M activities of the age old units of the generating stations has been disallowed, as it has been the consistent approach of the Commission to allow such expenditure only after the R & M works based on RLA studies are incurred and benefits passed on to the customers. Amounts of Rs 4.78 lakh for 2004-05 and Rs 7.78 lakh for 2005-06 incurred towards other assets to improve the working condition and maintain efficiency of the generating station has been disallowed for want of proper justification. An amount of Rs 117 lakh towards provisions for the year 2005-06 has also been disallowed. The petitioner by way of negative entries has adjusted

amounts of Rs 4 lakh for 2004-05 and Rs 21.12 lakh for 2005-06, which is allowed. In view of this, amounts of Rs 1030.30 lakh for the year 2004-05 and Rs 182.96 lakh for the year 2005-06 is allowed for capitalization.

Mejia TPS (Units 1 to 3)

23. The petitioner has claimed amount of additional capital expenditure of Rs 146.50 lakh for the year 2004-05 and Rs.678.58 lakh for the year 2005-06. Out of this, an amount of Rs 0.71 lakh is in the nature of deferred liabilities incurred towards balance payment against land acquired for the units of the generating station, has been allowed in terms of sub clause (i) of clause (2) of Regulation 18 of the 2004 regulations. Amounts of Rs.1248.52 lakh for 2004-05 and Rs 649.76 lakh for 2005-06 incurred on assets like club building, hospital building, plantation, cooling towers, boiler and accessory equipments, mandatory spares for turbo generators, electrical equipments, ash handling equipment, bus bar insulator, transformer, relay and control panel, battery charging equipments, station lighting , LTAC board, miscellaneous pumps, cranes, internal telephones systems, elevators, mandatory spares for air compressors, fire extinguishers, power house building, club building, cable trenches, water works, plantation, oil equipment, cooling tower and bridges and railway sidings transferred from Unit 4 of the generating station etc, which are necessary for efficient and successful operation of the generating station, has been allowed in terms of sub-clause (iv) of clause (2) of Regulation 18 of the 2004 regulations. Expenditure of Rs 13.05 lakh for 2004-05 and Rs 28.82 lakh for 2005-06 towards other assets has not been allowed for want of proper details/justification. The petitioner by way of negative entry has adjusted an amount of Rs 1115.79 lakh, during 2004-05, which is

allowed. In view of the above, expenditure of Rs. 133.34 lakh for 2004-05 and Rs 649.76 lakh for 2005-06 is allowed to be capitalized.

24. Expenditure on acquiring spare assets/spares after the cut-off date has been disallowed for all other generating stations of the petitioner, in terms of Regulation 18 of the 2004 regulations. However, for this generating station procurement of spares within the original scope of work has been allowed, since the concept of cut-off date was introduced in the 2004 regulations and also Commission provided transition period of two years to the petitioner.

B. Hydro-generating stations

25. Regulation 34 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 works subject to ceiling specified in regulation 33,*
- (iv) Liabilities to meet award of arbitration or in compliance of the order or decree of a court, and*
- (v) On account of change in law.*

Provided that original scope of works along with estimates of expenditure shall be submitted along with the application for provisional tariff.

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 of generating station.

(2) Subject to the provision of clause (3) of this regulation, the capital expenditure of the following nature actually incurred after the 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 in compliance of the order or decree of a court;
- (iii) On account of change in law; and
- (iv) Any additional works/service which has become necessary for efficient and successful operation of plant but not included in the original capital cost.

(3) Any expenditure incurred on acquiring minor items/assets like tools and tackles, personal computers, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, fans, T.V, washing machine, heat-convector, mattresses, carpets, 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 36.

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 capital 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 36.

Note 4

Any expenditure admitted on renovation and modernization and life extension shall be serviced on normative debt-equity ratio specified in regulation 36 after writing off the original amount of the replaced assets from the original capital cost.”

Maithon

26. The petitioner has claimed additional capital expenditure of Rs 197.66 lakh for the year 2004-05 and Rs 21.51 lakh for the year 2005-06. Out of this, amounts of Rs 137.75

lakh for 2004-05 and Rs 108.54 lakh for 2005-06 incurred for lightning arrestor, SF-6 breaker with accessories, revamping and refurbishment of the generating station, repair of cranes etc, has been allowed after deduction of the gross value of the replaced asset, in terms of Note 2 of Regulation 34 of the 2004 regulations. An expenditure for Rs 1.07 lakh for 2004-05 and Rs 51.42 lakh for 2005-06 towards other assets have been disallowed for want of proper details/justification. The petitioner by way of negative entries has adjusted an amount of Rs 19.12 lakh for the year 2004-05, towards sale of old and used silicon steel, rotor pole copper coil, refund of demand draft etc, which has been allowed. An expenditure for Rs 0.94 lakh incurred during 2004-05 towards consultancy service to sustain the productivity of Unit-2 through R&M, has been disallowed, as it has been the consistent approach of the Commission to allow such expenditure only after the R & M works based on RLA studies are incurred and benefits passed on to the customers. An amount of Rs 0.38 lakh incurred during 2004-05 for auxillary CT has been disallowed, as the corresponding de-capitalisation of the replaced asset has not been effected. An amount of Rs 4.88 lakh for the year 2004-05 for construction of new store building for storage of R&M materials, which had become necessary for efficient and successful operation of generating station has been allowed, in terms of sub-clause (iv) of clause (2) of Regulation 34 of the 2004 regulations. In view of this, an amount of Rs 118.63 lakh for the year 2004-05 and Rs 108.54 lakh for the year 2005-06, has been allowed to be capitalized.

Panchet

27. The petitioner has claimed additional capital expenditure of Rs 2.12 lakh for the year 2004-05 and Rs 114.66 lakh for the year 2005-06. Out of this, amounts of Rs 1.24

lakh for 2004-05 and Rs 66.56 lakh for 2005-06 incurred for replacement of exide planet head acid station battery and digital governor etc, has been allowed after deduction of the gross value of the replaced asset, in terms of Note 2 of Regulation 34 of the 2004 regulations. Amounts of Rs 0.22 lakh for 2004-05 and Rs 0.65 lakh for 2005-06 incurred in towards other assets necessary for improving the working condition and productivity has been disallowed for want of proper details/justification. Also, an amount of Rs 15.84 lakh incurred during 2005-06 for consultancy for RLA studies for Unit-I and other auxillary systems has been disallowed as it has been the consistent approach of the Commission to allow such expenditure only after the R & M works based on RLA studies are incurred and benefits passed on to the customers. In view of this, amounts of Rs 1.24 lakh for 2004-05 and Rs 66.56 lakh is allowed to be capitalised.

Tilaiya

28. The petitioner has additional capital expenditure of Rs 6.78 lakh for the year 2004-05 and Rs 0.34 lakh for the year 2005-06. Out of this, amounts of Rs 4.82 lakh for 2004-05, incurred for replacement of the damaged pressure filter has been allowed after deduction of the gross value of the replaced asset, in terms of Note 2 of Regulation 34 of the 2004 regulations, Also an amount of Rs.0.15 lakh for 2004-05 has been allowed for construction of the boundary wall of the dam in terms of sub-clause (iv) of clause (2) of Regulation 34 of the 2004 regulations. However, amounts of Rs 0.32 lakh and Rs 0.34 lakh for the years 2004-05 and 2005-06 respectively incurred on other assets necessary for efficient service of the generating station has been disallowed for want of proper justification. In view of this, only an amount of Rs.4.97 lakh for 2004-05 is allowed for capitalization.

C. Transmission and distribution system

29. Regulation 53 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.

- (vi) Deferred liabilities,*
- (vii) Works deferred for execution,*
- (viii) Procurement of initial capital spares in the original scope of works subject to ceiling specified in regulation 52,*
- (ix) Liabilities to meet award of arbitration or in compliance of the order or decree of a court, and*
- (x) On account of change in law.*

Provided that original scope of works along with estimates of expenditure shall be submitted along with the application for provisional tariff.

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 of generating station.

(2) Subject to the provision of clause (3) of this regulation, the capital expenditure of the following nature actually incurred after the 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 in compliance of the order or decree of a court;*
- (iii) On account of change in law; and*
- (iv) Any additional works/service which has become necessary for efficient and successful operation of plant but not included in the original capital cost.*

(3) Any expenditure incurred on acquiring minor items/assets like tools and tackles, personal computers, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, fans, T.V, washing machine, heat-convectors, mattresses, carpets, 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 54.

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 capital cost.

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 54.

Note 4

Any expenditure admitted on renovation and modernization and life extension shall be serviced on normative debt-equity ratio specified in regulation 54 after writing off the original amount of the replaced assets from the original capital cost.”

30. The claim of the petitioner for additional capitalization under different heads are as under:

Particulars	(Rs in lakh)	
	2004-05	2005-06
Transmission A-N	2858.17	14082.50
Main Division	595.70	536.39
CE Stores	19.75	20.98
Total	3473.62	14639.87

Transmission (A-N)

31. As stated above, the petitioner has claimed additional capital expenditure of Rs 2858.17 lakh and Rs 14082.50 lakh for the years 2004-05 and 2005-06 respectively, towards assets for capacity augmentation and system strengthening in order to meet the load growth commensurate with increased generation. Out of this, amounts of Rs 1399.35 lakh for 2004-05 and Rs 4379.62 lakh for 2005-06 incurred towards tower poles and lines etc which are necessary for efficient and successful operation of the generating station has been allowed, in terms of sub-clause (iv) of clause (2) of Regulation 53 of the 2004

regulations. Amounts of Rs 223.41 lakh for 2004-05 and Rs 321.91 lakh for 2005-06 incurred for assets like relays, extension works, replacement of 132 kV CB etc, has been disallowed since the gross value of the replaced assets have not been de-capitalised. Amounts of Rs 2604.07 for the year 2004-05 and Rs 9192.92 lakh for the year 2005-06 incurred for lines and bays, ATR, etc has not been allowed for want of proper details/justification as it appears that the work relates to the new line work of the new units of Mejia TPS, another generating station of the petitioner. Expenditures of Rs 26.94 lakh for 2004-05 and Rs 217.98 lakh for 2005-06 incurred towards cost of power supply assets has been disallowed as it has not been clarified by the petitioner as to whether the cost of the assets were recovered from the respective customers. However, the petitioner is at liberty to claim the said amounts in accordance with law, after proper justification. The petitioner by way of negative entries has adjusted amounts of Rs 1395.61 lakh for 2004-05 and Rs 29.93 lakh for 2005-06, which has been allowed. In view of this, amounts of Rs 3.75 lakh and Rs 4349.69 lakh for the years 2004-05 and 2005-06 respectively is allowed for capitalization under this head.

Main Division

32. The petitioner has claimed additional capital expenditure of Rs 595.70 lakh and Rs 536.39 lakh respectively under this head. Out of this, amounts of Rs 143.44 lakh for 2004-05 and Rs 17.15 lakh for 2005-06 incurred for building, boundary wall for substation, modification and renovation of building, construction of barrack, garage, staff quarter, which are necessary for efficient and successful operation of the generating station has been allowed, in terms of sub-clause (iv) of clause (2) of Regulation 53 of the 2004 regulations. An amount of Rs 54.24 lakh for 2004-05 incurred on other assets necessary

to improve the working condition has been disallowed for want of proper details/ justification. Also, amounts of Rs 253.14 lakh for 2004-05 and Rs 378.08 lakh for 2005-06 incurred towards plant and machines, replacement of sub-station equipments which had been damaged etc, has been allowed after deducting the gross value of the replaced assets, in terms of Note 2 of Regulation 53 of the 2004 regulations. The petitioner by way of negative entry has adjusted an amount of Rs 0.16 lakh for 2004-05 which is allowed. In view of this, amounts of Rs 396.41 lakh for 2004-05 and Rs 395.23 for 2005-06 is allowed for capitalization under this head.

CE Stores, construction establishment

33. The petitioner has claimed amounts of Rs 19.75 lakh for 2004-05 and Rs 20.98 lakh for 2005-06. Out of this, amounts of Rs. 19.75 lakh for 2004-05 and Rs 12.45 lakh for 2005-06 incurred on other assets necessary to improve the working condition has been disallowed for want of proper details/justification. An amount of Rs 8.53 lakh for 2005-06 incurred for building which are necessary for efficient and successful operation of the generating station, has been allowed in terms of sub-clause (iv) of clause (2) of Regulation 53 of the 2004. In view of this, only an amount of Rs 8.53 lakh for 2005-06 is allowed for capitalisation under this head.

34. In view of the above, the additional capitalization allowed is as under:

Particulars	2004-05	2005-06
Transmission A-N	3.75	4349.69
Main Division	396.41	395.23
CE Stores	-	8.53
Total	400.16	4753.45

35. Based on the above discussions, the additional capital expenditure allowed for the period 2004-06, for the purpose of tariff is as under:

(Rs. in lakh)		
	2004-05	2005-06
Bokaro TPS	32.91	223.13
Chandrapura TPS	4.31	267.64
Durgapur TPS	1030.30	182.96
Mejia TPS (Units 1 to 3)	133.44	649.76
Maithon	118.63	108.54
Panchet	1.24	66.56
Talaiya	4.97	0.00
Transmission & Distribution. system	400.16	4753.45
Total	1725.96	6252.05

Capital cost of common assets

36. The Commission in its order dated 3.10.2006 had excluded the apportioned cost of common assets in the capital base of various generating stations based on the recommendations of the one-member Bench. However, the Commission had allowed depreciation on the costs to be included in O&M charges. As per standard accounting practice, the cost of capital and depreciation relating to common assets are apportioned to productive units on suitable basis and shown in the books of productive units in the form of overheads as part of O&M expenses and hence was not considered as part of the capital base.

37. The Appellate Tribunal in its judgment dated 23.1.2007 has directed as under:

1.3 With the above process, it is true that the cost of operating and maintaining the above facilities would be recovered but the recovery of capital cost in the form of depreciation and return on corresponding equity, interest on loans, if any, would be missed out without any justification.

1.4 We feel that once the Commission has agreed to treat these assets as part of the generating and transmission activities of the Appellant by permitting recovery of their O&M cost, these assets, after due prudence check, should also be included in the capital cost and consequential effect be given through determination of tariff."

38. In terms of the above observations of the Appellate Tribunal, the return on equity, interest on loan and depreciation of the common assets has been calculated and the amount so calculated has been apportioned to each of the productive generating stations/transmission system of the petitioner in proportion to the capital cost allocated as on 31.3.2004, as under:

Direction office

(Rs in lakh)

	As on 31.3.2004		2004-05	2005-06	2006-07	2007-08	2008-09
	Capital cost	Cumulative Depreciation					
	457	334					
Return on Equity			24	24	24	24	24
Interest on loan			0	0	0	0	0
Depreciation			54	21	0	0	0
Total			78	45	26	26	26
Allocation to capacity in use							
Bokaro TPS			12.49	7.29	3.91	3.91	3.91
Chandrapura TPS			5.36	3.13	1.68	1.68	1.68
Durgapur TPS			4.2	2.5	1.3	1.3	1.3
Mejia TPS			35.67	20.81	11.16	11.16	11.16
Tilaya			0.03	0.02	0.01	0.01	0.01
Maithon			0.89	0.52	0.28	0.28	0.28
Panchet			0.92	0.54	0.29	0.29	0.29
Transmission & Distribution			12.78	7.46	4.00	4.00	4.00

Other office

(Rs in lakh)

	As on 31.3.2004		2004-05	2005-06	2006-07	2007-08	2008-09
	Capital cost	Cumulative depreciation					
	486	352					
Return on Equity			26	26	26	26	26
Interest on loan			0	0	0	0	0
Depreciation			43	42	0	0	0
Total			69	68	26	26	26
Allocation to capacity in use							
Bokaro TPS			11.00	10.97	4.16	4.16	4.16

ChandrapuraTPS			4.72	4.70	1.78	1.78	1.78
Durgapur TPS			3.7	3.7	1.4	1.4	1.4
Mejia TPS			31	31	12	12	12
Tilaya			0.03	0.03	0.01	0.01	0.01
Maithon			0.78	0.78	0.30	0.30	0.30
Panchet			0.81	0.81	0.31	0.31	0.31
Transmission & Distribution			11.25	11.22	4.25	4.25	4.25

Central office

(Rs in lakh)

	As on 31.3.2004		2004-05	2005-06	2006-07	2007-08	2008-09
	Capital cost	Cumulative depreciation					
	3477	736					
Return on Equity			186	186	186	186	186
Interest on loan			149	124	104	84	62
Depreciation			169	169	169	169	169
Total			504	479	459	439	417
Allocation to capacity in use							
Bokaro TPS			80.70	76.70	73.54	70.34	66.86
ChandrapuraTPS			34.60	32.89	31.53	30.16	28.67
Durgapur TPS			27.3	26.0	24.9	23.8	22.6
Mejia TPS			230	219	210	201	191
Tilaya			0.18	0.18	0.17	0.16	0.15
Maithon			5.76	5.47	5.24	5.02	4.77
Panchet			5.95	5.65	5.42	5.18	4.93
Transmission & Distribution			82.55	78.46	75.22	71.95	68.39

Subsidiary activities

(Rs in lakh)

	As on 31.3.04		2004-05	2005-06	2006-07	2007-08	2008-09
	Capital cost	Cumulative depreciation					
	3469	461					
Return on Equity			195	195	195	195	195
Interest on loan			167	119	77	35	7
Depreciation			383	383	383	383	383
Total			735	686	644	603	575
Allocation to capacity in use							
Bokaro TPS			117.79	110.00	103.26	96.67	92.18

ChandrapuraTPS			50.50	47.16	44.27	41.45	39.52
Durgapur TPS			39.9	37.2	35.0	32.7	31.20
Mejia TPS			336	314	295	276	263
Tilaya			0.27	0.25	0.24	0.22	0.21
Maithon			8.40	7.85	7.36	6.89	6.57
Panchet			8.68	8.11	7.61	7.12	6.79
Transmission & Distribution			120.48	112.52	105.62	98.88	94.29

All activities combined

(Rs in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Bokaro TPS	221.98	204.96	184.86	175.07	167.11
ChandrapuraTPS	95.18	87.88	79.26	75.06	71.65
Durgapur TPS	75.17	69.40	62.60	59.28	56.59
Mejia TPS	633.89	585.27	527.89	499.93	477.19
Tilaya	0.51	0.47	0.42	0.40	0.38
Maithon	15.83	14.62	13.18	12.49	11.92
Panchet	16.36	15.11	13.62	12.90	12.32
Transmission & Distribution	227.06	209.65	189.09	179.08	170.93

Capital cost

39. The capital cost as on 1.4.2004 admitted by the Commission in its order dated 3.10.2006 is as under:

(Rs in lakh)

Project Particulars	Capital cost
Bokaro TPS	55178.00
ChandrapuraTPS	23658.00
Durgapur TPS	18685.00
Mejia TPS	157567.00
Maithon	5264.00
Panchet	4891.00
Tilaya	253.00
Transmission & Distribution	49105.00
Total	314601.00

40. The capital cost in respect of the transmission system has been revised to Rs 56440.46 lakh, in terms of the observation of the Appellate Tribunal, the relevant portion of which is extracted as under:

“111. DVC has been supplying power from its generating stations to West Bengal Electricity Board and Jharkhand Electricity Board along with nearly 120 HT-Consumers either through inter-state transmission lines or through the point-to-point ‘dedicated transmission lines’. We, therefore, conclude that all transmission systems of DVC be considered as unified deemed inter-state transmission system, insofar as the determination of tariff is concerned and as such regulatory power for the same be exercised by the Central Commission.

K.1 One of the Respondents (GoWB) has challenged the capital base adopted by the CERC while determining the tariff. GoWB has contended that certain assets should have been treated as part of the distribution network and hence should have been taken out of the purview of tariff determined by the CERC. While the impact of the above would be revenue neutral on DVC as assets forming part of the distribution network would be eligible for tariff determination at the retail end. However, it would impact the power purchase bills of the beneficiary states. We feel that when the process of tariff determination for distribution segment of DVC takes place, the appropriate Commission would also determine the distribution network capital base. At that time DVC may approach the CERC again for adjustment of its revenue requirement and corresponding tariff.”

41. Based on the capital cost as on 1.4.2004 and the additional capitalization allowed during the years 2004-05 and 2005-06 as at para 35 above, the capital cost considered for revision of tariff is as under:

		(Rs in lakh)	
		2004-05	2005-06
Bokaro	Opening capital cost	55178	55210
	Closing capital cost	55210	55434
	Average capital cost	55194	55322
Chandrapura	Opening capital cost	23658	23662
	Closing capital cost	23662	23930
	Average capital cost	23660	23796
Durgapur	Opening capital cost	18685	19715
	Closing capital cost	19715	19898
	Average capital cost	19200	19807
Mejia	Opening capital cost	157566	157699
	Closing capital cost	157699	158349
	Average capital cost	157632	158024
Maithon	Opening capital cost	5264	5382
	Closing capital cost	5382	5491
	Average capital cost	5323	5437
Panchet	Opening capital cost	4891	4892
	Closing capital cost	4892	4959

	Average capital cost	4892	4926
Talaiya	Opening capital cost	253	258
	Closing capital cost	258	258
	Average capital cost	256	258
Transmission system	Opening capital cost	56440	56841
	Closing capital cost	56841	61594
	Average capital cost	56641	59217
Total	Opening capital cost	321934	323660
	Closing capital cost	323660	329912
	Average capital cost	322797	326786

Debt-Equity Ratio

42. The Commission in its order dated 3.10.2006 had considered the debt-equity ratio of 70:30 as under:

"53. The petitioner Corporation has pleaded for debt-equity ratio of 15:85, claiming it to be the actual ratio. On the contrary, the objector-intervenors have argued in favour of debt-equity ratio of 95:5, which they also claim to be the actual ratio. We find that the submissions made by both the parties are unreasonable. The one-member bench has already considered this aspect in great detail and has found that the actual debt-equity are in the ratio of 69:31. The one-member bench has accordingly recommended debt-equity ratio of 70:30. The Commission finds the ratio reasonable and decided to adopt the same for tariff calculations."

43. The Appellate Tribunal in its judgment dated 23.11.2007 has observed as under:

"A-8. The DVC Act is silent about adopting any specific Debt Equity Ratio for financing of projects. We, therefore, in the interest of equity and fairness feel that all old projects of DVC commissioned prior to 1992 be assigned normative debt-equity-ratio of 50:50 and the recent projects such as Mejia to be aligned with 70:30 capital structure specified in the regulations."

44. In accordance with the directions of the Appellate Tribunal, the debt-equity ratio for the generating stations has been computed as under:

(Rs in lakh)					
Station		Capital cost	Debt-Equity ratio	Equity	Loan
Thermal	Bokaro	55178	50:50	27589	27589
	Chandrapura	23658	50:50	11829	11829

	Durgapur	18685	50:50	9342	9342
	Mejia (Units 1 to 3)	157566	70:30	47270	110296
Hydro	Tilliya	253	50:50	127	127
	Maithon	5264	50:50	2632	2632
	Panchet	4891	50:50	2446	2446
		265494		101234	164260

45. As the dates of commercial operation of the associated transmission lines and system along with distribution could not be ascertained from the data furnished by the petitioner, the debt-equity ratio for transmission and distribution system along with the offices, namely, Direction, Central and others and the subsidiary activities have all been taken as average computed on the basis of the above. The calculations are as under:

(Rs in lakh)

Particulars	Capital Cost	Debt-Equity ratio	Equity	Loan
Transmission & Distribution	56440	62:38	21521	34920
Director's office	457	62:38	174	283
Central office	3477	62:38	1326	2151
Other office	486	62:38	185	301
Subsidiary activities	3469	62:38	1323	2146

46. Further, in terms of second proviso to clause (1) of Regulation 20 of the 2004 regulations, additional capitalization incurred after 1.4.2004 shall be considered in the debt-equity ratio of 70:30. The petitioner has submitted that the entire additional capital expenditure has been funded through internal accruals/resources. Hence, equity is restricted to 30% in line with the above provisions of the 2004 regulations. The notional equity works out as under:

(Rs in lakh)

	2004-05	2005-06
Bokaro TPS	9.87	66.94
Chandrapura TPS	1.29	80.29

Durgapur TPS	309.09	54.89
Mejia TPS (Units 1 to 3)	40.03	194.93
Maithon	35.59	32.56
Panchet	0.37	19.97
Talaiya	1.49	0.00
Transmission & Distribution. system	120.05	1426.03

Return on Equity

47. Return on equity as adopted by the Commission in its order dated 3.10.2006 has been considered and worked out as under:

(Rs in lakh)					
BOKARO TPS	2004-05	2005-06	2006-07	2007-08	2008-09
Equity-Opening	27589	27599	27666	27666	27666
Addition of equity due to additional capital expenditure	9.87	66.94	0	0	0
Equity closing	27599	27666	27666	27666	27666
Average equity	27594	27632	27666	27666	27666
Return on Equity @ 14 %	3863	3868	3873	3873	3873
CHANDRAPURA TPS					
Equity-Opening	11829	11830	11910	11910	11910
Addition of equity due to additional capital expenditure	1.29	80.29	0	0	0
Equity closing	11830	11910	11910	11910	11910
Average equity	11829	11870	11910	11910	11910
Return on Equity @ 14%	1656	1662	1667	1667	1667
DURGAPUR TPS					
Equity-Opening	9342	9652	9706	9706	9706
Addition of equity due to additional capital expenditure	309.09	54.89	0	0	0
Equity closing	9652	9706	9706	9706	9706
Average equity	9497	9679	9706	9706	9706
Return on Equity @ 14%	1330	1355	1359	1359	1359
MEJIA TPS (Units 1 to 3)					
Equity-Opening	47270	47310	47505	47505	47505
Addition of equity due to additional capital expenditure	40.03	194.93	0	0	0
Equity Closing	47310	47505	47505	47505	47505
Average equity	47290	47407	47505	47505	47505
Return on Equity @ 14%	6621	6637	6651	6651	6651

MAITHON					
Equity-Opening	2632	2667	2700	2700	2700
Addition of equity due to additional capital expenditure	35.59	32.56	0	0	0
Equity Closing	2667	2700	2700	2700	2700
Average equity	2650	2684	2700	2700	2700
Return on Equity @14%	371	376	378	378	378
PANCHET					
Equity-Opening	2446	2446	2466	2466	2466
Addition of equity due to additional capital expenditure	0.37	19.97	0	0	0
Equity Closing	2446	2466	2466	2466	2466
Average equity	2446	2456	2466	2466	2466
Return on Equity @14%	342	344	345	345	345
TILAIYA					
Equity-Opening	127	128	128	128	128
Addition of equity due to additional capital expenditure	1.49	0.00	0	0	0
Equity Closing	128	128	128	128	128
Average equity	127	128	128	128	128
Return on Equity @ 14%	18	18	18	18	18
TRANSMISSION SYSTEM					
Equity-Opening	21521	21641	23067	23067	23067
Addition of equity due to additional capital expenditure	120.05	1426.03	0	0	0
Equity Closing	21641	23067	23067	23067	23067
Average equity	21581	22354	23067	23067	23067
Return on Equity @ 14%	3021	3130	3229	3229	3229

Interest on Loan

48. The petitioner has submitted that it has not availed any loans to meet the expenditure towards additional capitalization. Based on the additional capitalization allowed and the revised debt-equity ratio and depreciation considered in line with the directions of the Appellate Tribunal, the interest on loan has been worked out with the weighted average rate of interest considered as per the Commission's order dated 3.10.2006. Depreciation calculated for the year has been treated as repayment of loan during that year.

49. Interest on loan has been computed as under:

(Rs in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
BOKARO TPS					
Gross loan opening	27589	27612	27768	27768	27768
Cumulative Repayment of loan upto previous year	27589	27612	27768	27768	27768
Net loan opening	0	0	0	0	0
Addition of loan due to additional capitalization	23.03	156.2	0	0	0
Repayment of loan during the year	23.03	156.19	0.00	0.00	0.00
Net loan closing	0	0	0	0	0
Average loan	0	0	0	0	0
Weighted Average Rate of Interest	11.19%	10.67%	10.50%	10.23%	9.56%
Interest on loan	0	0	0	0	0
CHANDRPURA TPS					
Gross loan opening	11829	11832	12019	12019	12019
Cumulative Repayment of loan upto previous year	11829	11832	12019	12019	12019
Net loan opening	0	0	0	0	0
Addition of loan due to additional capitalization	3.02	187.35	0	0	0
Repayment of loan during the year	3.02	187.35	0.00	0.00	0.00
Net loan closing	0	0	0	0	0
Average loan	0	0	0	0	0
Weighted Average Rate of Interest	11.19%	10.67%	10.50%	10.23%	9.56%
Interest on loan	0	0	0	0	0
DURGAPUR TPS					
Gross loan opening	9342	10064	10192	10192	10192
Cumulative Repayment of loan upto previous year	9342	10064	10192	10192	10192
Net loan opening	0	0	0	0	0
Addition of loan due to additional capitalization	721.21	128.07	0	0	0
Repayment of loan during the year	721.21	128.07	0.00	0.00	0.00
Net loan closing	0	0	0	0	0
Average loan	0	0	0	0	0
Weighted Average Rate of Interest	11.19%	10.67%	10.50%	10.23%	9.56%
Interest on loan	0	0	0	0	0
MEJIA TPS (Units 1 to 3)					
Gross loan opening	110296	110389	110844	110844	110844
Cumulative Repayment of loan upto previous year	53787	63497	73232	82987	92741
Net loan opening	56509	46892	37612	27857	18103

Addition of loan due to additional capitalization	93.41	454.80	0	0	0
Repayment of loan during the year	9710.47	9734.59	9754.61	9754.61	9754.61
Net loan closing	46892	37612	27857	18103	8348
Average loan	51700	42252	32735	22980	13226
Weighted Average Rate of Interest	11.19%	10.67%	10.50%	10.23%	9.56%
Interest on loan	5785	4508	3437	2351	1264
MAITHON					
Gross loan opening	2632	2715	2791	2791	2791
Cumulative Repayment of loan upto previous year	1169	1451	1738	2028	2318
Net loan opening	1463	1264	1053	763	472
Addition of loan due to additional capitalization	83.04	76.0	0.0	0	0
Repayment of loan during the year	281.35	287.35	290.22	290.22	290.22
Net loan closing	1264	1053	763	472	182
Average loan	1363	1159	908	618	327
Weighted Average Rate of Interest	11.19%	10.67%	10.50%	10.23%	9.56%
Interest on loan	153	124	95	63	31
PANCHET					
Gross loan opening	2446	2446	2493	2493	2493
Cumulative Repayment of loan upto previous year	2446	2446	2493	2493	2493
Net loan opening	0	0	0	0	0
Addition of loan due to additional capitalization	0.87	46.60	0	0	0
Repayment of loan during the year	0.87	46.60	0.00	0.00	0.00
Net loan closing	0	0	0	0	0
Average loan	0	0	0	0	0
Weighted Average Rate of Interest	11.19%	10.67%	10.50%	10.23%	9.56%
Interest on loan	0	0	0	0	0
TILAIYA					
Gross loan opening	127	130	130	130	130
Cumulative repayment of loan upto previous year	127	130	130	130	130
Net loan opening	0	0	0	0	0
Addition of loan due to additional capitalization	3	0.0	0	0	0
Repayment of loan during the year	3	0	0	0	0
Net loan closing	0	0	0	0	0
Average loan	0	0	0	0	0
Weighted Average Rate of Interest	11.19%	10.67%	10.50%	10.23%	9.56%
Interest on loan	0	0	0	0	0

TRANSMISSION SYSTEM					
Gross loan opening	34920	35200	38527	38527	38527
Cumulative repayment of loan upto previous year	28954	33378	38003	38527	38527
Net loan opening	5966	1822	524	0	0
Addition of loan due to additional capitalization	280	3327.4	0	0	0
Repayment of loan during the year	4424	4625	524	0	0
Net loan closing	1822	524	0	0	0
Average loan	3894	1173	262	0	0
Weighted Average Rate of Interest	11.19%	10.67%	10.50%	10.23%	9.56%
Interest on loan	436	125	27	0	0

Depreciation

50. The Commission in its order dated 3.10.2006 had used rate of depreciation of 3.6% for thermal generating stations, 2.57% for hydro-generating stations and 3% for transmission systems. However, in its judgment dated 23.11.2007, the Appellate Tribunal has observed as under:

“F.1 Section 40 of DVC Act provides for the Comptroller and Auditor General of India (C&AG) to prescribe depreciation, reserve and other funds in consultation with the Central Government. The aforesaid provision neither quantifies nor limit the rate of depreciation to be allowed.

F2. The Appellant has claimed depreciation at rate prescribed by the C&AG and submits that all along till the Electricity Act, 2003 came into effect, it has been factoring the prescribed depreciation rate in formulating the tariff. It is relevant to point out that the Act does not make any provision for factoring rate of depreciation in tariff determination. Thus, in our opinion, the DVC Act insofar as the depreciation is concerned is not inconsistent with the Act and shall continue to apply to the corporation.

F3. The depreciation, in respect of useful life of a substantial portion of generation capacity of DVC being aged out and redeemed, leaves little or no impact on the tariff of such plants. However, the impact of depreciation rate on the tariff of the balance generation capacity shall be significant as the rate of depreciation prescribed by the C&AG is higher than what is fixed by the Regulations, 2004. For the aforesaid reason, it is essential for the Central Commission to carryout reasonable assessment of the capital cost of each power plant individually at COD (if the authentication of approved cost is not available/traceable) and apply the prescribed rate of depreciation for each successive year since then to arrive at adjusted fixed cost for each plant for consideration in tariff determination. The depreciation is to be allowed and computed only on aggregate sum of gross capital asset of each plant qualifying for the depreciation and not regardless of it.

F4. We, therefore, direct the Central Commission to adopt rate of depreciation as prescribed by C&AG for computation of tariff for the asset based on the principle outlined above while keeping in view our remarks in respect of Dept-Equity ratio in para 112(A) above.”

51. The rates of depreciation adopted by the petitioner for various assets are as under:

Asset class/Particulars	Rate of depreciation
Land & Land Rights	0.00%
Buildings	3.02%

Roads, Bridges & Railway siding	3.02%
Dam & Spill way	1.95%
Barrage, Barrage gates & other civil works	3.40%
Regulator, Falls, Locks etc.	3.40%
Power House P&M	7.84%
Machinery equipment	7.84%
Sub Station equipment	7.84%
Switch gear	7.84%
Towers, Poles & fixtures	7.84%
Construction equipment	7.84%
Other assets	12.77%
Expenses pending allocation	12.77%

52. Weighted average rate of depreciation has been calculated in case of each of the generating stations and transmission systems, all offices and subsidiary activities of the petitioner, based on the value of each assets as on 31.3.2004, and the rate of depreciation applicable for the asset used by the petitioner based on depreciation rates approved by the Comptroller and Auditor General (C&AG). The depreciable value of 90% has been calculated after excluding the amount for land and land rights.

53. The cumulative depreciation recovered as on 31.3.2004 has been considered as per the order of the Commission dated 3.10.2006. Since the capital cost as on 1.4.2004 in case of transmission systems (inclusive of distribution asset base) has been revised in terms of the judgment of the Appellate Tribunal, the cumulative depreciation recovered in case of transmission system is inclusive of the distribution assets.

54. The annual depreciation has been calculated based on the weighted average rate of depreciation on gross block after accounting for the additional capital expenditure allowed (including adjustment in the cumulative depreciation on assets de-capitalized) to the extent

of cumulative depreciation of 90% of the cost of the assets. The necessary calculations are:

(Rs in lakh)					
BOKARO TPS	2004-05	2005-06	2006-07	2007-08	2008-09
Capital cost-opening	55177.56	55210.46	55433.59	55434	55434
Capital cost closing	55210.46	55433.59	55433.59	55434	55434
Average capital cost	55194.01	55322.03	55433.59	55434	55434
Rate of depreciation	6.80%	6.80%	6.80%	6.80%	6.80%
90% depreciable value excluding land & land rights cost	49611	49727	49827	49827	49827
Balance depreciable value	10038	6419	2817	0	0
Depreciation to be recovered	3751	3760	2817	0	0
Cumulative depreciation	43324	47067	49827	49827	49827
Cumulative depreciation reduction due to de-capitalization	17.18	56.65			
Cumulative depreciation after adjustment due to de-capitalization	43307	47010	49827	49827	49827
CHANDRAPURA TPS	2004-05	2005-06	2006-07	2007-08	2008-09
Capital cost-opening	23657.55	23661.86	23929.50	23930	23930
Capital cost closing	23661.86	23929.50	23929.50	23930	23930
Average capital cost	23659.71	23795.68	23929.50	23930	23930
Rate of depreciation	7.85%	7.85%	7.85%	7.85%	7.85%
90% depreciable value excluding land & land rights cost	21273	21395	21516	21516	21516
Balance depreciable value	5729	4001	2258	379	0
Depreciation to be recovered	1858	1869	1880	379	0
Cumulative depreciation	17402	19263	21137	21516	21516
Cumulative Depreciation reduction due to decapitalization	8.15	5.41			
Cumulative Depreciation after adjustment due to decapitalization	17394	19258	21137	21516	21516
DURGAPUR TPS					
Capital cost-opening	18684.84	19715.15	19898.11	19898	19898
Capital cost closing	19715.15	19898.11	19898.11	19898	19898
Average capital cost	19200.00	19806.63	19898.11	19898	19898
Rate of depreciation	7.28%	7.28%	7.28%	7.28%	7.28%
90% Depreciable value excluding land & land rights cost	17217	17763	17845	17845	17845
Balance depreciable value	2370	1526	168	0	0
Depreciation to be recovered	1398	1443	168	0	0
Cumulative depreciation	16245	17679	17845	17845	17845
Cumulative depreciation reduction due to de-capitalization	7.92	2.20	-	-	-
Cumulative depreciation after adjustment due to de-capitalization	16237	17677	17845	17845	17845

MEJIA TPS (Units 1 to 3)					
Capital cost-opening	157566	157699	158349	158349	158349
Capital cost closing	157699	158349	158349	158349	158349
Average capital cost	157632	158024	158349	158349	158349
Rate of depreciation	6.16%	6.16%	6.16%	6.16%	6.16%
90% depreciable value excluding land & land rights cost	140447	140799	141091	141091	141091
Balance depreciable value	86660	77301	67859	58104	48350
Depreciation to be recovered	9710	9735	9755	9755	9755
Cumulative depreciation	63497	73232	82987	92741	102496
MAITHON					
Capital cost-opening	5263.65	5382.28	5490.82	5491	5491
Capital cost -closing	5382.28	5490.82	5490.82	5491	5491
Average capital cost	5322.96	5436.55	5490.82	5491	5491
Rate of depreciation	5.29%	5.29%	5.29%	5.29%	5.29%
90% depreciable value excluding land & land rights cost	4685	4830	4879	4879	4879
Balance depreciable value	3516	3448	3256	2966	2676
Depreciation to be recovered	281	287	290	290	290
Cumulative depreciation	1451	1669	1913	2203	2493
Cumulative depreciation reduction due to de-capitalization	68.97	46.40	-	-	-
Cumulative depreciation after adjustment due to de-capitalization	1382	1623	1913	2203	2493
PANCHET					
Capital cost-opening	4891.03	4892.27	4958.83	4959	4959
Capital cost closing	4892.27	4958.83	4958.83	4959	4959
Average capital cost	4891.65	4925.55	4958.83	4959	4959
Rate of depreciation	5.70%	5.70%	5.70%	5.70%	5.70%
90% depreciable value excluding land & land rights cost	4348	4378	4408	4408	4408
Balance depreciable value	738	490	268	0	0
Depreciation to be recovered	279	281	268	0	0
Cumulative depreciation	3888	4168	4408	4408	4408
Cumulative depreciation reduction due to de-capitalization	0.59	28.45	-	-	-
Cumulative depreciation after adjustment due to de-capitalization	3888	4140	4408	4408	4408
TILAIYA					
Capital cost-opening	253.45	258.42	258.42	258	258
Capital cost closing	258.42	258.42	258.42	258	258
Average capital cost	255.94	258.42	258.42	258	258
Rate of depreciation	2.42%	2.42%	2.42%	2.42%	2.42%
90% depreciable value excluding land & land rights cost	195	197	197	197	197
Balance depreciable value	55	53	46	40	34
Depreciation to be recovered	6	6	6	6	6

Cumulative depreciation	146	150	157	163	169
Cumulative depreciation reduction due to de-capitalization	1.35	-	-	-	-
Cumulative depreciation after adjustment due to de-capitalization	144	150	157	163	169
TRANSMISSION SYSTEM					
Capital cost-opening	56440	56840.62	61620.60	61621	61621
Capital cost closing	56840.62	61620.60	61620.60	61621	61621
Average capital cost	56640.54	59230.61	61620.60	61621	61621
Rate of depreciation	7.81%	7.81%	7.81%	7.81%	7.81%
90% depreciable value excluding land & land rights cost	50837	53168	55319	55319	55319
Balance depreciable value	21883	19921	17565	12752	7939
Depreciation to be recovered	4424	4626	4813	4813	4813
Cumulative depreciation	33378	37874	42567	47380	52193
Cumulative depreciation reduction due to de-capitalization	130.54	119.77	-	-	-
Cumulative depreciation after adjustment due to de-capitalization	33248	37753	42564	47375	52186

O&M expenses

55. The following O&M expenses had been allowed by the Commission in its order dated 3.10.2006 in respect of thermal and hydro-generating stations and transmission systems of the petitioner, for the period from 2006-09:

(Rs in lakh)

Sl. No.		O&M excluding Pension & gratuity Fund & Pension relief on cash basis and including recurring actuarial liability @30.41%		
		2006-07	2007-08	2008-09
A	Thermal Stations			
	Admissible O&M	38938	38938	38938
B	Hydel Stations			
	Admissible O&M	2128	2212	2301
C	Transmission			
	Admissible O&M	4319	4490	4668
	Total O&M claimed	69877	72672	75577
	Admissible O&M	45385	45640	45907

56. The Commission vide its order dated 3.10.2006 allowed O&M expenses for thermal generating stations as under:

		(Rs. in lakh)		
Sl. No.	Name of Station	O&M excluding Pension & gratuity Fund & Pension relief on cash basis and including recurring actuarial liability @30.41%		
		2006-	2007-08	2008-09
	Thermal Stations			
1	Bokaro TPS			
	Claimed	168.23	174.96	181.96
	O&M	111.67	111.67	111.67
2	Chandrapura TPS			
	Claimed	181.99	189.27	196.84
	O&M	113.82	113.82	113.82
3	Durgapur TPS			
	Claimed	138.91	144.47	150.25
	O&M	95.08	95.08	95.08
4	Meija TPS			
	Claimed	114.98	119.58	124.36
	O&M	68.80	68.80	68.80
4	Maithon GPS			
	Claimed	10.53	10.95	11.38
	O&M	0.00	0.00	0.00
5	Total Thermal			
	Claimed	614.64	639.23	664.79
	Admissible O&M	389.38	389.38	389.38

57. The Appellate Tribunal in its judgment dated 23.11.2007 has directed the Commission to consider escalation in case of thermal generating stations also, which is extracted as under:

“GH.5 As regards not allowing any increase in the O&M expenses, we find no reason given in the CERC order. The Tariff Regulations, 2004 notified by the Commission generally provide a 4% increase annually. We think the same be adopted in case of DVC also to offset additional burden on the Appellant due to inflationary measures.”

58. The Commission vide its order dated 3.10.2006 had determined tariff for the transmission systems of the petitioner, inclusive of O&M expenses, by considering 87% of the total system as transmission system and 13% as distribution system. However, the Appellate Tribunal in its judgment dated 23.11.2007 has observed as under:

“111. DVC has been supplying power from its generating stations to West Bengal Electricity Board and Jharkhand Electricity Board along with nearly 120 HT-Consumers either through inter-state transmission lines or through the point-to-point ‘dedicated transmission lines’. We, therefore, conclude that all transmission system of DVC be considered as unified deemed

inter-state transmission system, insofar as the determination of tariff is concerned and as such regulatory power for the same be exercised by the Central Commission.”

59. In line with the directions contained in the judgment of the Appellate Tribunal, we allow O&M expenses on the entire transmission and distribution network considering the same as Inter-state transmission system for the purpose of tariff.

60. The O&M expenses allowed by the Commission in its order dated 3.10.2006 had included the apportionment of depreciation on capital investment on central offices, director's offices and other offices and subsidiary activities other than tourism & navigation amongst the generating stations and transmission systems additionally. However, the Commission had not considered the capital expenditure on the above assets/activity for the purpose of tariff except for depreciation which had been allowed in O&M expenses. In this regard, the Appellate Tribunal in its judgment dated 23.11.2007 has observed as under:

“1.2 The One Member Bench in its recommendations at para 31 and 32 provides that cost of servicing of capital investment on these offices should be booked to O&M expenses duly apportioned to different generating stations and transmission and distribution system and accordingly, the allocated costs of director office, other offices, central offices and subsidiary activities have been excluded from the capital cost claimed by DVC for the purpose of generating and transmission tariff.

With the above process, it is true that cost of operating and maintaining the above facilities would be recovered but the recovery of capital cost in the form of depreciation and return on corresponding equity, interest on loans, if any, would be missed without any justification,

We feel that once the Commission has agreed to treat these assets as part of the generating and transmission activities of the Appellant by permitting recovery of their O&M cost, these assets, after due prudence check, should also be included in the capital cost and consequential effect be given through determination of tariff.”

61. The break-up of the depreciation which had been considered and allowed by the Commission with O&M norms in order dated 3.10.2006 is as under:

(Rs in lakh)

	Depreciation on Central offices, Director's offices & other offices	Depreciation on Subsidiary activities	Total
Bokaro TPS	27.90	18.45	46.35
Chandrapur TPS	11.96	7.91	19.87

Durgapur TPS	9.45	6.25	15.69
Mejia TPS	79.66	52.69	132.34
Maithon Hydel	2.66	1.76	4.42
Panchet Hydel	2.47	1.64	4.11
Talaiya Hydel	0.13	0.08	0.21
Transmission system	24.83	16.42	41.24
Total	159	105	264

62. In terms of the directions of the Appellate Tribunal to include the assets in the capital cost, the depreciation allowed by the Commission as above on such assets/activities has been taken out from O&M expenses.

63. The petitioner in its Interlocutory Application No.19/2009 has claimed O&M expenses on actuals for the years 2006-07 and 2007-08 and as per estimates for the year 2008-09. The petitioner has also submitted that O&M expenses for the period 2006-09, as indicated below, should be considered in its entirety instead of accounting only for the expenditure incurred on power during the period 1998-99 to 2002-03. The summary of claim of the petitioner is as under:

	(Rs in lakh)		
	2006-07	2007-08	2008-09
1. Basic O&M expenses for power (as per orders of Commission/Appellate Tribunal)	49976	51945	54020
a. Additional O&M expenses for pay revision	5500	5500	10000
b. Additional O&M expenses for old units	12267	6286	16330
c. Additional O&M on account of Amortization	0.00	2845	3809
d. Additional expenses towards Ash evacuation	1891	2781	2587
e. Additional O&M expenses of Mega insurance	0.00	869	603
f. Additional O&M expenses on subsidiary activities	263	1597	1660
Total	69897	71823	89009

64. The judgment of the Appellate Tribunal dated 23.11.2007, contain a specific direction for provision of escalation of the O&M expenses of thermal generating stations as it was not considered by the Commission in its order dated 3.10.2006. In view of this, the submission of the petitioner for consideration of O&M expenses based on actual expenses cannot be entertained since the directions given by the Appellate Tribunal on the issues which had already been decided by the Commission in by its order dated 3.10.2006, is only to considered *denovo*. However, the petitioner is at liberty to approach the Commission with a separate application, which would be considered in accordance with law.

65. In view of the above discussion, the revised O&M expenses have been computed as under, after excluding the depreciation on assets in the nature of common assets and providing for escalation on O&M expenses at 4% annually for thermal generating stations also w.e.f. 1.4.2004.

(Rs in lakh)

Sl. No.	Name of Station	O&M excluding Pension & gratuity Fund & Pension relief on cash basis and including recurring actuarial liability @30.41%		
		2006-07	2007-08	2008-09
A	Thermal Stations			
1	Bokaro TPS			
	O&M claimed	16823	17496	18196
	O&M allowed	11566	12028	12509
2	Chandrapur TPS			
	O&M claimed	18199	18927	19684
	O&M allowed	11817	12290	12781
3	Durgapur TPS			
	O&M claimed	13891	14447	15025
	O&M allowed	9872	10267	10678

4	Mejia TPS			
	O&M claimed	11498	11958	12436
	O&M allowed	9872	10267	10678
5	Maithon GPS			
	O&M claimed	1053	1095	1138
	O&M allowed	0.00	0.00	0.00
	Total Thermal			
	O&M claimed	61464	63923	66479
	O&M allowed	40273	41884	43559
B	Hydel Stations			
6	Maithan Hydel			
	O&M claimed	1615	1680	1747
	O&M allowed	1088	1131	1176
7	Panchet Hydel			
	O&M claimed	1199	1247	1297
	O&M allowed	718	746	776
8	Tilaiya Hydel			
	O&M claimed	332	345	359
	O&M allowed	314	326	340
	Total Hydel			
	O&M claimed	3146	3272	3403
	O&M allowed	2119	2204	2292
C	Transmission system 132 kV and above			
	O&M claimed	4582	4765	4955
	O&M allowed	4278	4449	4627
D	Transmission system below 132 kV			
	O&M claimed	685	712	740
	O&M allowed	639	665	691
E	Grand Total			
	O&M claimed	69877	72672	75577
	O&M allowed	47309	49201	51169

66. While computing the O&M charges above, the O&M expenses for new generating unit(s) including Mejia units 4, 5 and 6 and the transmission and distribution lines declared under commercial operation on or after 1.4.2004 has not been considered, as the tariff in respect of Mejia TPS is to be determined separately.

67. Commission vide its order dated 3.10.2006 had worked out O&M norms for per ckt-km and per bays for the transmission system of 132 kV and above based on the number of transmission lines in kilometer and number of bays in the ratio of 85:15 (sub-station lines) as on 1.4.2004. The same principle has been followed in order to work out O&M norms for per ckt-km and per bay for Inter-state system of 33 KV & below. The O&M norms for per ckt-km and per bay for Inter-state transmission systems are as under:

Norms for O&M expenses per bay and per Ckt-km of Inter-state transmission system of 132 KV & above:

	2004-05	2005-06	2006-07	2007-08	2008-09
O&M expenses (Rs. In lakh per ckt-km)	0.131	0.136	0.141	0.147	0.153
O&M expenses (Rs. In lakh per bay)	13.45	13.99	14.55	15.13	15.73

Norms for O&M expenses per bay and per Ckt-km of Inter-state transmission system of below 132 KV:

	2004-05	2005-06	2006-07	2007-08	2008-09
O&M expenses (Rs. In lakh per ckt-km)	0.077	0.080	0.084	0.087	0.090
O&M expenses (Rs. In lakh per bay)	2.46	2.56	2.66	2.77	2.88

68. In order to arrive at O&M norms for lines and bay of for inter-State transmission system below 132 kV, the total number of bays and total ckt-km of lines considered are 204 and 1147.6 respectively, as submitted by the petitioner.

Pension and Gratuity Contribution

69. The Commission in its order dated 3.10.2006 had worked out an amount of Rs. 153449 lakh towards pension and gratuity fund and directed that 60% of the aforesaid

amount be recovered from the consumers over a period of three years starting from the year 2006-07 to 2008-09. The balance 40% of the gratuity fund was to be borne by the petitioner as it was allowed a transition period for two years i.e. 2004-05 and 2005-06 and the petitioner was allowed to retain the surplus fund during the years. Though tariff was allowed to the petitioner from 1.4.2004 due to the transition period, the petitioner was allowed to recover tariff at the rates fixed by it for the period from 1.4.2004 to 31.3.2006 and thereafter at the rates allowed by the Commission by its order dated 3.10.2006. Since the petitioner was allowed to recover tariff at the rates determined by it for 40% of the tariff period and retain the surplus so generated, the Commission took a conscious view that the petitioner should contribute to the extent of 40% of the pension and gratuity fund out of the surplus generated during the years 2004-05 and 2005-06. The relevant extract of the order dated 3.10.2006 are quoted below:

"81. Accordingly, we approve the proposal of the petitioner Corporation for creation of the fund. However, entire burden should not be passed on to the consumers. We direct that the liability in this regard shall be shared between the petitioner Corporation and the consumers in the ratio of 40:60. The share of the consumers shall be recovered in three annual equal installments starting from 2006-07.

82. Out of the projected liability of Rs.1709 crore, as recommended by the actuary for DVC as a whole, Rs.1690.15 crore has been allocated to power business. Of this amount, Rs.6.13 crore pertains to distribution business and Rs.149.52 crore pertains to Unit-4 of the MTPS (4 unit). Since the tariff for distribution will be determined by the concerned SERCs, pension liability allocated to Distribution system will be dealt with by them. So far unit-4 of Mejia TPS is concerned, the tariff for the same is yet to be decided and liability towards pension and gratuity allocated to the said unit will be considered while approving the tariff. Accordingly, the calculation of pension fund to be charged to the consumers is given as under:

Sl.No.	Description	Amount (Rs.in lac)
1.	Pension Liability as per the submission of DVC allocated to power business	169015.00
2.	Less Liability to Distribution system	614.00
3.	Less Liability pertaining to 4th unit of MTPS	14952.00
4.	Net Amount	153449.00
5.	Less 40% to be borne by the utility	61380.00
6.	Balance 60% to be borne by consumers in 3 annual installments	92069.00
7	Amount of Installment	30690.00

83. However, as a corollary to the creation of the Pension and Gratuity fund, there is a need to take out all pension, gratuity and leave encashment liabilities on cash basis from the normalized O&M. A provision of 30.41% of basic pay plus DA merged plus DA as contribution to the fund for the existing employees shall be provided in normalized O&M. Further, proportionate apportionment of depreciation on capital investment on central offices, director's offices and other offices and subsidiary activities amongst various generating stations and transmission system has been considered to be allowed additionally in O&M."

70. The Appellate Tribunal in its judgment dated 23.11.2007, observed as under:

“D.1 DVC has submitted that based on the actuarial valuation, entire funds need to create the Pension and Gratuity Contribution Fund should be allowed to be recovered through the process of determination of tariff. The Central Commission in its Order has worked out that a sum of Rs. 1534.49 crore is required to create such a fund. The Commission has held that entire burden for creation of the fund should not be passed on to the consumers and accordingly directed that 60% be recovered through the tariff from the consumers and 40% be contributed by the DVC. We find that this decision is not backed by any justification given in the order. We feel the claim of the Appellant to recover the entire cost for creation of the fund through tariff is justified provided the recovery is staggered in a manner that it does not create tariff-shock to consumers.

D.2 The huge liability for the fund has arisen as earlier DVC was adopting the policy of “pay as you go”. A major part of the liability pertains to previous years.

D.3 As a general rule, once the Commission, after prudence check, has agreed with the need for funding the Pension and Gratuity Contribution funds, DVC should have been allowed to recover entire amount from the consumers through the tariff. Asking DVC to contribute out of its own resources would tantamount to denying it the return on equity as assured in terms of Tariff Regulations. However, if we look at it from the point of view of the consumers, the consumers, particularly the industrial and commercial ones, have now no option to adjust their sale price to take into consideration the need for meeting the accumulated liability. It is, therefore, an accepted fact that due to postponing of the creation of such fund, the consumers were enjoying lesser tariff than the legitimate tariff otherwise applicable to them.

D.4 Some of the Respondents have contended that Accounting Standard AS –15 is not applicable to the Appellant. As a prudent accounting practice, whether AS-15 is applicable to DVC or not, an adequate provision is required to be made for employees related liabilities by DVC. Postponing creation of such funds would again lead to non-determination of appropriate cost of supply of electricity.

D.5 In view of the above we find it unreasonable to allocate 40% of the burden on DVC. We are of the opinion that entire expenditure, as determined after prudence check by the Commission, is to be borne by the consumers.

D.6 Some of the Respondents in the matter have questioned the very basis of working out the quantum of funds of Rs. 1534.49 crores.

D.7 The Respondent No. 4, the State of West Bengal has, in the context of Central Commission’s directive that 60% of the unfunded liability relating to generation and transmission functions are to be paid by the consumers, contended that Central Commission has no jurisdiction to determine tariff of the distribution segment and has averred that such directions of payment by the consumers is encroachment in the jurisdiction of the State Electricity Regulatory Commission and is illegal.

D.8 In our opinion recovery of costs incurred by DVC in respect of generation and transmission functions falls squarely in the jurisdiction of the Central Commission. Tariff so determined by the CERC shall form the basis for determining the tariff at the retail end of the distribution segment.

D.9 Government of West Bengal has drawn our attention to Annual Report of DVC for 2002-03 where “an amount of Rs. 66 crore have been charged towards Pension and Gratuity Fund and a further amount of Rs. 23 crore have been charged as relief paid to the pensioners.It is not uncommon for Government organizations to divert its funds created for staff welfare to meet other non-planned expenditure. It appears in the present case also that DVC had diverted its funds earmarked for pension fund for which an enquiry was required to be made by CERC, unfortunately the same was not done.”

D.10 It is possible, if the amount charged to the profit and loss account of a particular year is revenue in nature, the same would not be reflected in the balance sheet. The allegations levelled by the Government of West Bengal are serious in nature and if true, would reflect very poorly on the Appellant. The Central Commission is directed to satisfy itself about provisions already made towards Pension and Gratuity Fund and the amount already collected by DVC be adjusted in this regard. We are of the firm view that the Government of West Bengal being a part owner of DVC and represented on the Board for

managing the affairs of DVC, ought to have taken appropriate steps to rectify the matter when the matter came to its knowledge”

71. It is noticed that the Appellate Tribunal while agreeing with the order of the Commission allowing transition period for two years to the petitioner, has, however rejected the non-allowance of 40% of the pension contribution and observed that the petitioner is entitled to recover the entire amount of pension fund from its consumers, provided that such recovery was staggered and do not create tariff shock to the consumers.

72. It could be observed from the books of accounts of the petitioner that the petitioner had generated a surplus amount of Rs 79487 lakh during the year 2004-05 and Rs. 188634 lakh during the year 2005-06. After adjustments on account of taxes and prior period, the surplus amount was Rs. 69044 lakh for year 2004-05 and Rs.108282 lakh for the year 2005-06. Considering the equity worked out in terms of the direction of the Appellate Tribunal and the additional capitalization allowed, the Return on equity at the rate of interest @ 14% works out to Rs.17700 lakh for 2004-05 and Rs.18000 lakh for 2005-06.

73. Accordingly, in compliance with the directions contained in the judgment of the Appellate Tribunal, it has been decided to stagger the balance 40% of the pension fund over a period of five years during the tariff period 2009-14, without any revision in the pension fund allocated in tariff for the period 2006-09. Based on the above, calculations have been made and the amount to be recovered in five installments during the tariff period 2009-14 is Rs. 61379.60 lakh, with an annual installment of Rs. 12275.92 lakh.

Sinking Fund

74. Section 40 of the DVC Act provides that the petitioner shall make provision for depreciation and for reserve and other funds at such rates and on such terms as may be specified by the C&AG in consultation with the Central Government.

75. As regards sinking fund, the Appellant Tribunal in its judgment dated 23.11.2007 has observed as under:

“E.15. As regards sinking funds which is established with the approval of Comptroller and Accountant General of India vide letter dated December 29, 1992 under the provision of Section 40 of the DVC Act is to be taken as an item of expenditure to be recovered through tariff, as brought out in Para 82 earlier”

76. It is noticed from the books of accounts of the petitioner that sinking fund has been created out of appropriation of profits and has not been considered as expenditure. However, in line with the decision of the Appellate Tribunal, tariff has been calculated considering sinking fund as expenditure.

Interest on Working capital

77. For the purpose of calculation of working capital, the operating parameters including the price of fuel components considered in the original order dated 3.10.2006 has been kept unaltered. The “receivables” component of the working capital has been revised for the reason of revision of return on equity, interest on loan etc. The necessary details in support of calculation of interest on working capital are as under:

(Rs in lakh)

BOKARO TPS	2004-05	2005-06	2006-07	2007-08	2008-09
Coal Stock- 2 months	3994	3994	4332	4587	4924
Oil stock -2 months	374	374	360	335	281
O & M expenses	891	927	964	1002	1042
Spares	552	585	620	657	697
Receivables	7649	7725	7978	7818	8193
Total Working Capital	13460	13605	14255	14400	15137
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest on Working capital	1380	1394	1461	1476	1552
CHANDRAPURA TPS					
Coal Stock- 2 months	1994	1994	1994	1999	2175
Oil stock -2 months	183	183	183	184	200
O & M expenses	911	947	985	1024	1065
Spares	237	251	266	282	299
Receivables	4721	4798	4879	4712	4931
Total Working Capital	8044	8173	8306	8200	8669
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest on Working capital	824.55	837.71	851.39	840.54	888.55
DURGAPUR TPS					
Coal Stock- 2 months	2596	2596	2761	2920	3088
Oil stock -2 months	322	322	301	216	201
O & M expenses	761	791	823	856	890
Spares	187	198	210	223	236
Receivables	5046	5121	5118	5235	5464
Total Working Capital	8911	9028	9212	9449	9878
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest on Working capital	913	925	944	969	1013
MEJIA TPS (Units 1 to 3)					
Coal Stock- 2 months	5567	5567	5734	5748	5630
Oil stock -2 months	541	541	563	414	330
O & M expenses	541	562	585	608	633
Spares	1576	1670	1770	1877	1989
Receivables	11208	11044	11112	10837	10496
Total Working Capital	19433	19385	19765	19484	19078
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest on Working capital	1992	1987	2026	1997	1955
MAITHON					
O & M expenses	84	87	91	94	98

Spares	53	56	59	63	66
Receivables	309	313	317	319	321
Total Working Capital	446	456	466	475	485
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest on Working capital	46	47	48	49	50
PANCHET					
O & M expenses	55	58	60	62	65
Spares	49	52	55	58	62
Receivables	220	225	228	187	192
Total Working Capital	324	334	343	308	319
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest on Working capital	33	34	35	32	33
TILAIYA					
O & M expenses	24	25	26	27	28
Spares	3	3	3	3	3
Receivables	54	56	58	60	62
Total Working Capital	80	84	87	90	94
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest on Working capital	8	9	9	9	10
TRANSMISSION SYSTEM					
O & M expenses	379	394	410	426	443
Spares	564	598	634	672	713
Receivables	2024	2051	2112	2137	2168
Total Working Capital	2967	3043	3155	3235	3324
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest on Working capital	304	312	323	332	341

78. Based on the above, the annual fixed charges for the period from 1.4.2006 to 31.3.2009 in respect of the generating stations /transmission systems of the petitioner is summarized as under:

(Rs. in lakh)

Annual Fixed Charges	2006-07	2007-08	2008-09
Thermal stations			
Bokaro			
Depreciation	2816.85	0.00	0.00
Interest on Loan	0.00	0.00	0.00
Return on Equity	3873.18	3873.18	3873.18
Interest on Working Capital	1461.09	1475.97	1551.52
O & M Expenses	11566.00	12028.00	12509.00
Sub-total (A)	19717.13	17377.16	17933.70
Additional Charges on account of Return on Equity, Interest on loan, Depreciation of Director's/Central/other offices & Subsidiary activities	184.86	175.07	167.11
Total	19901.99	17552.22	18100.81
Chandrapura			
Depreciation	1879.53	378.51	0.00
Interest on Loan	0.00	0.00	0.00
Return on Equity	1667.45	1667.45	1667.45
Interest on Working Capital	851.39	840.54	888.55
O & M Expenses	11817.00	12290.00	12781.00
Sub-total (A)	16215.38	15176.50	15337.00
Additional Charges on account of Return on Equity, Interest on loan, Depreciation of Director's/Central/other offices & Subsidiary activities	79.26	75.06	71.65
Total	16294.64	15251.56	15408.65
Durgapur			
Depreciation	167.88	0.00	0.00
Interest on Loan	0.00	0.00	0.00
Return on Equity	1358.90	1358.90	1358.90
Interest on Working Capital	944.25	968.56	1012.54
O & M Expenses	9872.00	10267.00	10678.00
Sub-total (A)	12343.03	12594.46	13049.43
Additional Charges on account of Return on Equity, Interest on loan, Depreciation of Director's/Central/other offices & Subsidiary activities	62.60	59.28	56.59
Total	12405.63	12653.74	13106.02
Mejia (Units 1 to 3)			
Depreciation	9754.61	9754.61	9754.61
Interest on Loan	3437.15	2350.87	1264.36
Return on Equity	6650.65	6650.65	6650.65
Interest on Working Capital	2025.87	1997.13	1955.47

O & M Expenses	7018.00	7298.00	7590.00
Sub-total (A)	28886.27	28051.26	27215.09
Additional Charges on account of Return on Equity, Interest on loan, Depreciation of Director's/Central/other offices & Subsidiary activities	527.89	499.93	477.19
Total	29414.16	28551.19	27692.28
Annual Capacity Charges	2006-07	2007-08	2008-09
Hydro stations			
Maithon			
Depreciation	290.22	290.22	290.22
Interest on Loan	95.31	63.17	31.29
Return on Equity	378.00	378.00	378.00
Interest on Working Capital	47.80	48.73	49.75
O & M Expenses	1088.00	1131.00	1176.00
Sub-total (A)	1899.33	1911.12	1925.25
Additional Charges on account of Return on Equity, Interest on loan, Depreciation of Director's/Central/other offices & Subsidiary activities	13.18	12.49	11.92
Total	1912.52	1923.61	1937.17
Panchet			
Depreciation	268.25	0.00	0.00
Interest on Loan	0.00	0.00	0.00
Return on Equity	345.22	345.22	345.22
Interest on Working Capital	35.11	31.52	32.67
O & M Expenses	718.00	746.00	776.00
Sub-total (A)	1366.58	1122.74	1153.89
Additional Charges on account of Return on Equity, Interest on loan, Depreciation of Director's/Central/other offices & Subsidiary activities	13.62	12.90	12.32
Total	1380.21	1135.65	1166.21
Tilaiya			
Depreciation	6.25	6.25	6.25
Interest on Loan	0.00	0.00	0.00
Return on Equity	17.95	17.95	17.95
Interest on Working Capital	8.90	9.23	9.62
O & M Expenses	314.00	326.00	340.00
Sub-total (A)	347.10	359.43	373.82
Additional Charges on account of Return on Equity, Interest on loan, Depreciation of Director's/Central/other offices & Subsidiary activities	0.42	0.40	0.38
Total	347.52	359.83	374.20

Annual T&D charges			
Depreciation	4811.01	4811.01	4811.01
Interest on Loan	27.49	0.00	0.00
Return on Equity	3229.39	3229.39	3229.39
Interest on Working Capital	323.44	331.61	340.68
O & M Expenses	4278.00	4449.00	4627.00
Sub-total (A)	12669.32	12821.01	13008.08
Additional Charges on account of Return on Equity, Interest on loan, Depreciation of Director's/Central/other offices & Subsidiary activities	189.09	179.08	170.93
Total	12858.41	13000.08	13179.01
Annual Fixed Charges			
Depreciation	19994.60	15240.59	14862.08
Interest on Loan	3559.95	2414.04	1295.65
Return on Equity	17520.73	17520.73	17520.73
Interest on Working Capital	5697.85	5703.32	5840.80
O & M Expenses	46671.00	48535.00	50477.00
Sub-total (A)	93444.14	89413.68	89996.26
Additional Charges on account of Return on Equity, Interest on loan, Depreciation of Director's/Central/other offices & Subsidiary activities	1070.94	1014.21	968.08
Pension and Gratuity Contribution	30689.80	30689.80	30689.80
Provision towards Sinking Fund	4043.39	3071.51	2755
Grand Total	129248.26	124189.20	124409.14

Operational norms

79. The operational norms and parameters, the energy charges and the fuel component for thermal generating stations as considered in order dated 3.10.2006 has been considered.

Fuel Price Adjustment

80. The Commission in para 94 of the order dated 3.10.2006 has approved the formula for fuel price adjustment in respect of thermal generating stations of the petitioner. The Appellate Tribunal in para L of the judgment dated 23.11.2007 has observed that "the

applicable fuel price adjustment is to be decided by the Commission determining the applicable generation tariff". Since the formula for fuel price adjustment has not been interfered by the Appellate Tribunal, our order dated 3.10.2006 with regard to fuel price adjustment would be applicable.

Interlocutory Application No. 23/2009

81. Some of the objectors namely, Bhaskar Shrachi Alloys Ltd & four others, filed Interlocutory Application No. 23/2009 challenging the escalation of fuel price by petitioner by 31 paise/kWh from April,2008 to September 2008 and by 55 paise/kWh from October 2008 to March 2009 by increasing the fuel surcharge. A prayer was also made to restrain the petitioner from disconnecting electric supply to the factories of the objectors, if the bills are not cleared at the enhanced rate. The petitioner has objected to the interlocutory application on the ground that in terms of clause 4 of Section 62 of the Act, the petitioner could make fuel surcharge adjustments more than once in a year. During the hearing, the counsel for the petitioner also clarified that the fuel surcharge formula was being applied from the year 2000 with adjustments from time to time, in terms of the interim order of the Commission dated 21.6.2005 which allowed the petitioner to charge provisional tariff applicable as on 31.3.2004, pending final determination of tariff by the Commission.

82. On perusal of the judgment dated 23.11.2007 of the Appellate Tribunal, it is revealed that there is no direction with regard to the fuel price adjustment on merit. However, with reference to the submission of the State Government of West Bengal, with regard to the jurisdiction of the Commission, the Appellate Tribunal has observed as under:

“L. As regards applicability of fuel price adjustment, GoWB has contended that the same is in the jurisdiction of State Commissions. We find no substance in this argument as the applicable fuel price adjustment is to be decided by the Commission determining the applicable generation tariff.”

83. The Commission had already approved the fuel price adjustment along with formula in its order dated 3.10.2006 and the same would continue to apply. The petitioner is directed to apply the formula as approved, for determination of tariff from 1.4.2006 till 31.3.2009 and accordingly pass on its impact in tariff. This will take care of the grievance of the respondents and objectors. The interlocutory application is disposed of as above.

84. The difference between the fixed charges approved vide order dated 3.10.2006 and those approved now, shall be adjusted by the parties.

85. With this order, the directions contained in the judgment of the Appellate Tribunal dated 23.11.2007 in Appeal No. 273/2006 and other connected appeals, stands implemented.

Sd/-	Sd/-	Sd/-	Sd/-
(V.S VERMA)	(S.JAYARAMAN)	(R.KRISHNAMOORTHY)	(DR.PRAMOD DEO)
MEMBER	MEMBER	MEMBER	CHAIRPERSON

New Delhi dated the 6th August, 2009.