

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram:

- 1. Shri Ashok Basu, Chairman**
- 2. Shri Bhanu Bhushan, Member**
- 3. Shri A.H. Jung, Member**

Petition No. 66/2005

In the matter of

Tariff for generation and inter-State Transmission of Electricity by Damodar Valley Corporation

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. Ministry of Power, New Delhi

..... Respondents

The following was present:

1. Shri Asim Kr. Barman, DVC
2. Shri S.P. Kanwar, DVC
3. Shri A. Biswas, DVC
4. Shri G.Mukherjee, DVC
5. Shri T.K. Gupta, DVC
6. Shri Ashok Mukherjee, DVC
7. Shri Ajit Panja, Sr. Advocate, Shyam Ferro Alloys Ltd.
8. Shri Pratap Chatterjee, Sr, Advocate, Bhaskar Shrachi Alloys Ltd
9. Shri K.P. Ray, Bhaskar Shrachi Alloys Ltd
10. Shri Shyamal Sarkar, Bhaskar Shrachi Alloys Ltd
11. Shri Gautam Shroff, Bhaskar Shrachi Alloys Ltd
12. Shri M Prahlada, Bhaskar Shrachi Alloys Ltd
13. Shri Devashish Bhanu, BCFL
14. Ms. Ruchi Konu Advocate, BCFL
15. Shri Sakya Choudhary, Advocate, JSEB

ORDER
(DATE OF HEARING 10.8.2006)

Introduction

This petition has been filed by the petitioner, Damodar Valley Corporation under sections 61, 62 and 86 of the Electricity Act, 2003 (hereinafter referred to as “the 2003 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.

Background

2. Damodar Valley Corporation 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; the Central Government and two State Governments, namely, Government of West Bengal and Government of Bihar. After the re-organisation of State of Bihar, Government of Bihar has been substituted by the Government of Jharkhand. The representatives of the Governments of Jharkhand and West Bengal are in the Board of the petitioner Corporation.

3. In terms of provisions of the DVC Act, the Participating Governments had contributed a sum of Rs. 214.72 crore up to the year 1968-69. Thereafter, DVC

has been ploughing back the surplus revenues generated by it from its operations instead of distributing the same to the participating Governments.

4. Section 12 of the DVC Act provides for the following functions, namely:

“(a) the promotion and operation of schemes for irrigation, water supply and drainage,

(b) the promotion and operation of schemes for the generation, transmission and distribution of electrical energy, both hydroelectric and thermal.

(c) the promotion and operation of schemes for flood control in the Damodar river and its tributaries and the channels, if any, excavated by the Corporation in connection with the scheme and for the improvement of flow conditions in the Hooghly river,

(d) the promotion and control of navigation in the Damodar river and its tributaries and channels, if any,

(e) the promotion of afforestation and control of soil erosion in the Damodar valley, and

(f) the promotion of public health and the agricultural, industrial, economic and general well-being in the Damodar valley and its area of operation”.

5. As seen from para 4 above, the petitioner Corporation performs multifarious functions. Apart from the generation, transmission and sale/supply of electricity, the petitioner Corporation is also responsible for the promotion and operation of schemes for irrigation, water supply and drainage, flood control and improvement of flow conditions in the Hooghly river, navigation in the Damodar river and its tributaries and channels, if any, afforestation and control of soil erosion in the Damodar Valley and promotion of public health and agricultural,

industrial, economic and general well being in the Damodar Valley under its areas of operation.

6. It is also seen that many of the activities such as drainage, flood control, improvement in the flow conditions, navigation, afforestation and control of soil erosion or the promotion of public health, in which the petitioner Corporation is engaged, are not commercial in nature, or are not generating any significant revenue from the users of services. The main revenue earning activity of the petitioner Corporation is the generation and supply of electricity.

7. In so far as the electricity sector is concerned, 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
Tilaiya Hydel	4	August 1953
Transmission system	220/132 kV lines	Existing as on 31.3.2004
Distribution system		Existing as on 31.3.2004

8. Under Section 20 of the DVC Act, the schedule of charges for the supply of electrical energy, including the rates for bulk supply and retail distribution was fixed by the Corporation itself. However, after coming into force of the Electricity Act, 2003 because of its over-riding effect, the tariff related matters are governed by this Act. Accordingly, the present application has been made wherein the

petitioner Corporation has prayed to be allowed revenue requirement based on actual cost along with recovery of return and interest of the order of Rs.250/KVA/month, and for a transition period of 4 to 5 years to be put on normative regime.

9. At this stage itself, we make it clear that this Commission is concerned with determining tariff for generation and inter-State transmission of electricity undertaken by the petitioner Corporation. We have not addressed the issue of distribution tariff since this matter falls within the jurisdiction of the State Commissions.

10. The terms and conditions for determination of tariff for the period from 1.4.2004 to 31.3.2009 are notified in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2004 (hereinafter referred to as "the 2004 regulations") under Section 61 read with Section 178 of the 2003 Act. The norms for O&M expenses and the operational norms, contained in the 2004 regulations were notified after study of the data of the utilities under the regulatory jurisdiction of this Commission. However, at the time of framing of the 2004 regulations, the data relating to the petitioner Corporation was not available before this Commission. Therefore, by virtue of powers under the 2004 regulations, the Commission is considering norms for O&M expenses and the operational norms specific to the generating stations and the transmission assets owned by the petitioner Corporation.

11. The petitioner Corporation vide order dated 21.6.2005 was allowed to continue to charge tariff as applicable on 31.3.2004 on provisional basis subject to final adjustment.

12. It was observed that the petition raised several complicated issues, which included determination of norms for O&M expenses and operational norms . In view of this, it was decided vide order dated 18.10.2005, that in the first instance these issues be examined by Shri K. N. Sinha, Member (hereinafter referred to as “the one-member bench”), who was to “submit his report and recommendations to the Commission for its consideration and further appropriate action”, after opportunity of hearing to the parties.

13. The one-member bench, after granting opportunity of hearing to the parties including the consumers who intervened, formulated its recommendations and submitted its report vide order dated 5.5.2006. The one-member bench considered the principles adopted by the petitioner Corporation in the earlier tariff settings and the investment by the petitioner Corporation in other functional areas and identified the following issues before making its recommendations on the following aspects, namely:

- (a) Whether to follow NFA approach or GFA approach,
- (b) Capital cost to be considered for the purpose of tariff,
- (c) Debt-equity ratio,
- (d) Interest on Loan,

- (e) O&M expenses,
- (f) Depreciation,
- (g) Interest on Working Capital, and
- (h) Operational norms for thermal and hydro generating stations, as also the transmission system.

14. The report made by the one-member bench form the basis for determination of tariff for the generating stations and the transmission system owned by the petitioner. Therefore, the recommendations made by the one-member bench were forwarded to all concerned for their suggestions/comments thereon. M/S Bihar Foundary and Casting Ltd, M/S Bhaskar Shrachi Alloys Ltd, , State Government of West Bengal, and the petitioner Corporation have filed their views and comments on the recommendations of the one-member bench.

15. We first consider the comments received from the respondents and the consumers-interveners.

BIHAR FOUNDRY AND CASTING LIMITED (BFCL)

16. Bihar Foundary and Casting Ltd (BFCL) has pointed out that the one-member bench has not considered the distribution tariff. It is stated that the objector receives supply direct from sub-stations through the lines constructed by it. It is stated that its position is similar to the State Electricity Boards receiving power from the petitioner Corporation. According to it, it should not be liable to

pay distribution tariff since it does not involve any distribution cost as regards this objector.

17. The objection raised by BFCL does not merit any consideration since the Commission is not determining distribution tariff which will be determined by the respective State Commissions. The objector may be at liberty to raise the issue when the petitioner Corporation approaches the concerned State Commission for approval of distribution tariff.

BHASKAR SARACHI ALLOYS LIMITED

18. Relying upon proviso to Regulation 1 of the 2004 regulations, the objector has stated that tariff should first be determined for the period 10.6.2003 to 31.3.2004. The capital cost should first be determined on 10.6.2003 and the Commission should thereafter arrive at capital cost as on 31.3.2004. It has stated that income earned by the petitioner Corporation from undertaking trading in electricity and also UI charges should be adjusted while approving its revenue requirement. The objector has stated that the actual equity employed is of the order of Rs.15104 lakh based on certain figures extracted from the annual reports of the petitioner Corporation and therefore debt equity ratio should be of the order of 95.2:4.8 against the total capital cost of Rs.314601 lakh. O&M expenses recommended by the one-member bench are on the higher side and this should be in the range of 10-12 lakh/MW for 200 MW generating stations.

The objector has stated that the operational norms for thermal stations are liberal as compared to the norms contained in the 2004 regulations.

19. Proviso to Regulation 1 of the 2004 regulations was added as a matter of caution in order to ensure that there was no dispute regarding applicability of the 2004 regulations for determination of tariff in respect of the generating stations in whose cases tariff petitions for the period ending 31.3.2004, were pending on 1.4.2004. It was, therefore, provided that tariff should first be determined based on the 2001 regulations for the period ending 31.3.2004. At that time tariff of the petitioner Corporation was not even in contemplation. As stated above, the tariff for the generation and supply of electricity by the petitioner Corporation was determined under Section 20 of the DVC Act. However, the position changed after the enactment of the 2003 Act when the tariff for the generation and supply of electricity by the petitioner Corporation came to be determined under the 2003 Act, which came into effect on 10.6.2003. It is, therefore, appropriate that reasonable transitory period is made available to the petitioner Corporation for switching over to regulatory regime under the 2003 Act. On that view of the matter, there should be no objection to determination of tariff for the generation and transmission system with effect from 1.4.2004, the current tariff period under consideration of the Commission.

20. As regards other issues raised, the Commission is not determining the total revenue requirement of the petitioner Corporation. Therefore, adjustment of

income accruing to the petitioner Corporation for undertaking trading etc. may be taken into account by the State Commissions who will be approving distribution tariff.

21. Apart from making the general statement, the objector-intervenor has not given any basis for computation of O&M expenses and the operational norms for thermal generating stations. The comments made are therefore, not of any assistance to the Commission for computation of O&M expenses and operational norms.

GOVERNMENT OF WEST BENGAL

22. It has been stated that the capital cost should be apportioned between transmission and distribution activities in the same ratio as of line length, that is, 77:23. It has been further stated that the cost of intra-State transmission system should also be excluded from the capital cost of the transmission system recommended by the one-member bench since the Commission is empowered to determine tariff of inter-State transmission system only.

23. The sharing of capital cost between transmission and distribution business based on line lengths of the two systems is of no relevance. Further, it is not possible to segregate between intra-State transmission and inter-State transmission cost, since the transmission system owned by the petitioner

Corporation is an integrated one. Even the State Government has not given any details of cost of the two systems separately.

24. The Commission has considered transmission system for 220 KV and 132 KV transmission lines, sub-stations and associated bays, in line with the definition of inter-State transmission system as per Section 2(36) (i) (ii) & (iii) of the Act. The main grid in the transmission assets of the petitioner Corporation consists of 132 KV and above voltage level. On the issue of consideration of ratio of 87:13 for bifurcation of capital cost between transmission and distribution system, the approach taken by the one-member bench is found to be reasonable in the absence of clear demarcation of assets for transmission and distribution. Therefore, recommendation of the one-member bench for bifurcation of capital cost between transmission and distribution system in the ratio of 87:13 is accepted.

25. The submissions of the petitioner Corporation in response to the recommendations of the one-member bench are as under:

- (a) Existing tariff be continued till the year 2007-08 to ensure generation of resources for the projects already committed during 10th and 11th plan periods,
- (b) Both capital and reserves be allowed on actual basis as equity component of the gross fixed assets as on 1.4.2004 for arriving at the capital structure,

- (c) Interest on capital as payable in terms of Section 38 of the DVC Act be allowed in addition to 14% post-tax return on the same capital investment,
- (d) Allowance be provided for creation of pension fund,
- (e) Plant operational norms be made effective from 2007-08,
- (f) Special allowance be provided in the computation of O&M expenses,
- (g) Operating expenses of subsidiary activities on average from 1998-99 to 2002-03 be allowed as an element of tariff, and
- (h) Allowance be made for return on capital assets invested in Director's office, central office and other offices.

26. As we have noted above, M/s Bhaskar Shrachi Alloys Limited initially filed its views and comments on the findings of the one-member bench seeking some modifications thereon. Later, it was contended on its behalf that the recommendations of the one-member bench are binding on the Commission and are not subject to review by the Commission unless set aside by the adverse finding in an appeal filed by any person against the order of the one-member bench. Since this contention of the objector is of the nature of the preliminary objection, we deal with this objection also before examination of the substantive issue of tariff determination.

27. It was submitted that the Commission does not have any power to adjudicate on the issue after the order dated 5.5.2006 by the one-member bench since the Commission decided that the issues involved should be *adjudicated* by the one-member bench. Thus, by the order dated 18.10. 2005, the Commission has directed the one-member bench to resolve the complicated issues finally. The one-member bench is a part of the Commission and the order dated 5.5.2006 passed by the one-member bench is an order passed by this Commission. It is stated that the Commission can only consider the said order dated 5.5.2006 passed by the one-member bench and in the guise of consideration the whole matter cannot be re-adjudicated or reviewed. The contention is that a quasi –judicial authority who passed the order can only rectify errors apparent, or if the said order is perverse on some issue, or if there is any fraud committed, or if the order recorded that hearing has been given, but in fact, no hearing had been given and such power can only be exercised by the said one-member bench which is also not possible because Shri K. N. Sinha, Member has retired in the meantime. Only remedy available was appeal as in the absence of any provision in statute, this Hon'ble Commission cannot exercise any power of review, suo motto or without any application by any party, assigning grounds similar to Order – 47 of the Code of Civil Procedure 1908. The Commission cannot review or revise or sit in appeal over the order passed by the one-member bench with the consent of the parties, except some minor issues. Reliance was placed on the judgement of the Hon'ble Supreme Court in Roop Chand Vs. State of Punjab & Another (AIR 1963 SC 1503) according to which

once a delegated authority has discharged the delegated function, the original authority cannot sit in judgment over the action of the delegate.

28. We have carefully considered the submissions of the objector. It is found that contrary to the contention of the objector, the Commission's short order dated 18.10.2005 does not use the word 'adjudication' – nor any of its cognate variants - at all. The matter was referred to the one-member bench for "his report and recommendations to the Commission for its consideration and further appropriate action". The extent of delegation to the one-member bench under Section 97 of the 2003 Act was to make recommendations to the Commission for its consideration and appropriate action. It is also significant that as per Rule 21 of the Central Electricity Regulatory Commissions (Conduct of Business) Regulations, 1999, as amended, the quorum for the proceedings before the Commission shall be two. Accordingly, finality cannot be attached to the recommendations of the one-member bench, unless these are considered by this Commission with atleast two members constituting the coram, who passes an appropriate order which is final and binding in accordance with law. Thus, the orders passed by the one-member bench cannot be construed as an order of the Commission.

29. The contention of the objector-intervenor that the order dated 5.5.2006 is a consent order is also not borne by records. The above order has been passed for resolving the issues contested by the parties. It is also seen that the objector-

intervenor vide its submissions dated 29.6.2006 has sought modification on a number of parameters recommended by the one-member bench. For example, in regard to debt-equity ratio, the objector-intervenor had submitted "With appropriate change in the admitted capital, the debt-equity Ratio shall undergo change. It is humbly prayed that the Hon'ble Commission may kindly look into this aspect and finally arrive at the Capital by prudence check which can be admitted". In regard to O&M expenses, the objector-intervenor has submitted that "it is difficult to appreciate the very high expenses recommended"; the objector-intervenor had submitted that Chandrapur TPS, Maithan Hydel Project and Tilaiya Hydel Project be not considered for the purpose of depreciation. Under this factual matrix, there is no justification for holding the order dated 5.5.2006 by the one-member bench as a consent order.

30. In view of the above, the questions of law raised by the objector-intervenor in fact do not arise for consideration in the present case. Further, the case law cited by the objector-intervenor is also not relevant for the purpose. In *Roop Chand Vs. State of Punjab and another* (AIR 1963 SC 1503), the power was delegated by the State Government under Section 41(1) of the East Punjab Holdings (Consolidation and Prevention of Fragmentation) Act 1948. Relevant section provided as under:

"The State Government may for the administration of this Act, appoint such persons as it thinks fit, and may by notification delegate any of its powers or functions under this act to any of its officers either by name or designation"

31. Exercising the power under Section 41(1), the State Government delegated its power under 21(4) of the Act (to dispose off the appeal) to Assistant Director Consolidation of Holdings, Ambala. The Hon'ble Supreme Court held that the order of the Assistant Director amounts to the order of the Government. This case does not apply to the present matter before the Commission. In Petition No. 66/2005, the matter was referred to the one member bench for examination of the complicated issues and making recommendation for consideration and further necessary action by the Commission. In the case cited by the objector-intervenor, it was delegation of the powers by the State Government to one of its officers, with an instruction to finally decide the matter. In the present case it was the assignment of a specific task with provision for consideration and appropriate action by the Commission based on the recommendations.

32. It is also significant that the objector-intervenor had while participating in the proceedings before the one-member bench had, through its application dated 13.2.2006, made a specific request that the one-member bench may not finalise certain issues and leave the same to be determined by the larger bench of the Commission. Having taken this stand before the one-member bench, the objector is estopped from contending that the Commission has no jurisdiction to modify the order of the one-member bench.

33. Accordingly we hold that the preliminary objections raised by the objector-inteviewer are not sustainable and proceed to determine tariff, taking into consideration the recommendations of the one-member bench as contained in order dated 5.5.2006 and the views and suggestions filed thereupon by the parties.

Special Features

34. Before proceeding to determine tariff, we wish to clarify that we are conscious of the special factors pertaining to the petitioner Corporation viz. its statutory status, multifarious responsibilities, the tariff fixation procedure hitherto followed, and the past financial and other commitments with the legitimate expectations borne out of the earlier procedures for tariff fixation. We would like to deal with these aspects before we tackle the issue of tariff fixation.

35. The petitioner Corporation in its affidavit dated 28.7.2006 has submitted that in the past, it was allowed to determine tariff, in an integrated manner on cost plus basis covering generation, transmission, distribution and subsidiary activities. On the contrary, the petitioner Corporation is now required to carry out its activities related to generation, transmission and distribution of electricity as independent activities. Based on the past practice, it has initiated the following proposals involving heavy investment and has made substantial financial commitments.

(a) Projects for a capacity of 1210 MW (Mejia- 1x210 MW+ 2x 250 MW, Chandrapur- 2x250 MW) in the X Plan involving investment of Rs. 4800 crore.

(b) Renovation & modernization project initiated in respect of Bokaro 'B'- 630 MW (3X210 MW), Chandrapura Thermal Power Station – 390 MW (3X130 MW) and Durgapur Thermal Power Station – 350 MW (Unit No.3 – 140 MW, Unit No.4 – 210 MW). This involves a further investment of about Rs.655 crore.

(c) Augmentation of the existing old T&D network which is in progress involving further investment of about Rs.600 crore.

(d) Capacity Addition of 4500 MW directly and 1500 MW through Joint Venture planned during the XI Plan period, and already operationalised with a total investment commitment of approximately Rs.18610 crore.

(e) A Financial Plan has also been firmed up to ensure adequate fund comfort for the XI Plan Projects considering that the existing Tariff fixed in September, 2000 will continue at least till the year 2007-08.

36. Accordingly, the petitioner Corporation has prayed that without prejudice to other contentions, a transition period may be allowed to enable the petitioner Corporation to get into the new dispensation. The petitioner Corporation has requested for continuation of the existing Tariff till the year 2007-08. The petitioner Corporation has further prayed that the Plant Operational Norms for the

year 2004-05 and 2005-06 as fixed by the one-member bench of the Commission for the existing units be made applicable from the years 2007-08 and 2008-09 respectively and onwards. According to the petitioner, requisite improvement will be possible only from the year 2007-08, after the augmentation and improvement of the existing thermal units which has been initiated during the current year 2006-07.

37. We appreciate the need for such a transition period. In the past, the Commission had recognized the need for such transition for Central Sector Utilities such as NTPC Limited, NHPC, Power Grid Corporation Limited for the period till 31.3.2001. Though this Commission was established in 1998 and started exercising jurisdiction, the norms as earlier applied by the Central Government was continued to be applied. It is also noteworthy that the above mentioned companies were commercial entities and were not carrying any social and other activities as is the case with the petitioner Corporation in the instant case.

38. We are also seized of the matter that the petitioner Corporation requires an overall Extension & Improvement of the old generating station. Under this situation, adoption of tariff based on the 2004 regulations since 1.4.2004 will unsettle the position already settled. We are therefore, convinced that the petitioner Corporation should be allowed to continue with the existing tariff for a reasonable period to readjust itself with the tariff norms before enforcement of

generation and inter-State transmission tariff under the prevailing norms. In the absence of such a special dispensation, the petitioner Corporation is likely to suffer substantial loss and this is not considered to be in public interest, especially in the light of the socio-economic activities entrusted to the petitioner Corporation.

39. We have given our thoughtful consideration to the issue. We find some merit in the contentions of the petitioner. Firstly, we are in agreement that it would not be possible for the petitioner Corporation to rationalize O&M expenses from the back date or to improve norms from the back date. These are possible only prospectively. Further, in the light of the sudden change in the approach and methodology of tariff setting by applying the Commission's Regulations, with effect from 1.4.2004, it would not be possible for the petitioner Corporation to make amends for the loss in revenue if any, by cutting costs. However, we are not convinced that the prevailing tariff should be allowed to continue till 2007-08. As early as in June 2005, the petitioner Corporation was aware that it would be regulated by Commission so far as its generating stations and transmission system are concerned. The norms applicable, being contents of public documents, were also known. We also observe that the petitioner Corporation has already initiated steps to bring about improvements in operational norms. This is evident by the improvement in norms suggested by it in its own submission which were considered by the one-member Bench. In view of above, we allow the petitioner Corporation to continue the prevailing tariff till 2005-06.

The tariff with effect from 1.4.2006 shall be determined based on the terms and conditions duly taking into account the deliberations before and the recommendations in the one-member Bench Order dated 5.5.2006.

Choice between GFA and NFA method

40. The one-member bench vide its order dated 5.5.2006 has recommended as follows with regard to the method to be followed for determination of tariff:

“ 19. As per the methodology adopted by DVC so far for tariff fixation, returns were computed on the total capital and resources deployed. This is slightly different from GFA concept adopted by the Commission in the 2004 regulations where returns are computed on the equity component corresponding to gross fixed assets found admissible by the Commission. For the sake of uniformity, I recommend that the Commission may follow return on equity approach on GFA concept in line with the 2004 regulations based on the reasonable debt-equity mix.”

41. None of the parties has objected to the above recommendation of the one-member bench. The recommendation is in line with the provisions of the 2004 regulations and, therefore, the same is accepted.

CAPITAL COST

42. The one-member bench has computed the capital cost, taking the following factors into account:

- (a) Starting point – whether to be guided by the book of accounts or to trace it from the date of commercial operation of the asset,

- (b) Treatment of investment in the Director's Office, Central Offices, other offices and subsidiary activities,
- (c) Treatment of the capacity or asset not in use.

43. For the reasons given in its order dated 5.5.2006, the one-member bench has recommended the following capital cost:

(Rs, in crore)

Name of the Station/ system	Capital cost
Bokaro TPS	551.78
Chandrapur TPS	236.58
Durgapur TPS	186.85
Mejia TPS	1575.67
Maithon GPS	0
Maithon Hydel	52.64
Panchet Hydel	48.91
Tilaiya Hydel	2.53
Transmission system	491.05
Total	3146.01

44. None of the parties has raised any objection on the approach and recommendations of the one-member bench regarding the capacity not in use and the capital cost to be considered for the purpose of tariff for the capacity in use in case of generating stations. We, therefore, accept the approach and recommendation of the one-member bench regarding the capacity not in use and the capital cost to be considered for the purpose of tariff for the capacity in use, in so far as the generating assets are concerned.

Extra Rupee Liability

45. Regulation 1.13 (a) of CERC (Terms and Conditions of Tariff) Regulations, 2001 provides:

(a) Extra rupee liability towards interest payment and loan repayment actually incurred, in the relevant year shall be admissible; provided it directly arises out of foreign exchange rate variation and is not attributable to Utility or its suppliers or contractors. Every utility shall follow the method as per the Accounting Standard-11 (Eleven) as issued by the Institute of Chartered Accountants of India to calculate the impact of exchange rate variation on loan repayment

(b) Any foreign exchange rate variation to the extent of the dividend paid out on the permissible equity contributed in foreign currency, subject to the ceiling of permissible return shall be admissible. This as and when paid, may be spread over the twelve-month period in arrears

46. CERC (Terms and Conditions of Tariff) Regulations, 2001 further provides that recovery of foreign exchange rate variation shall be done directly by the utilities from the beneficiaries without filing a petition before the Commission. In case of any objections by the beneficiaries to the amounts claimed on these counts, they may file an appropriate petition before the Commission.

47. The Commission has already decided that “the amount of FERV as claimed in the petitions of tariff period 2001-04 (without going into the details thereof) would be allowed to work out the capital cost as on 1.4.2004, if no objections are raised by the respondents to the amount of FERV claimed in the petition” .

48. It is seen that the petitioner Corporation had only 12.89 million dollars as US Exim Bank Loan, which at the exchange rate of drawal (1986) amounted to Rs.16.44 crore. Loss incurred during last five years due to exchange rate variation against repayment of US EXIM Bank loan as under

(Rs. in lakh)					
Year	1999-2000	2000-01	2001-02	2002-03	2003-04
FERV	198.22	212.49	225.84	230.06	160.59

49. The petitioner Corporation has been collecting the impact of FERV on repayment basis directly from the consumers and hence separate treatment of FERV is not required to be considered.

Additional Capitalisation

50. The petitioner Corporation has not claimed any additional capitalization for the period 2004-2009.

51. Based on the above consideration the capital cost of the generation and transmission assets of the petitioner Corporation as on 1.4.2004 has been computed as under:

(Rs. in lakh)		
Sr. No.	Project Particulars	Capital cost
1	Bokaro	55178.00
2	Chandrapura	23658.00
3	Durgapur	18685.00
4	Mejia	157567.00
5	Maithon	5264.00
6	Panchet	4891.00
7	Tilaiya	253.00
8	Trans System	49105.00
		314601.00

Debt- Equity Ratio

52. The 2004 regulations, as amended, provide that

(1) In case of the existing generating stations or transmission projects debt-equity ratio considered by the Commission for the period ending 31.3.2004 shall be considered for determination of tariff with effect from 1.4.2004:

Provided that in cases where the tariff for the period ending 31.3.2004 has not been determined by the Commission, debt-equity ratio shall be as may be decided by the Commission:

Provided further that in case of the existing generating stations or transmission projects where additional capitalisation has been completed on or after 1.4.2004 and admitted by the Commission under Regulation 18, equity in the additional capitalization to be considered shall be,-

(a) 30% of the additional capital expenditure admitted by the Commission;
or

(b) equity approved by the competent authority in the financial package,
for

additional capitalization; or

(c) actual equity employed,

whichever is the least:

Provided further that in case of additional capital expenditure admitted under the second proviso, the Commission may consider equity of more

than 30% if the generating company or the transmission licensee is able to satisfy the Commission that deployment of such equity of more than 30% was in the interest of general public.

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.

Return on Equity

54. The 2004 regulations stipulate that return on equity shall be computed @ 14% per annum and where equity invested in foreign currency shall be allowed a return up to the prescribed limit in the same currency and the payment on this account shall be made in Indian Rupees based on the exchange rate prevailing on the due date of billing.

55. Accordingly, the petitioner Corporation has adopted rate of return on equity @14% in the petition and the same is allowed. Return on equity has been

allowed on 30% of the capital cost considered above as given in the table hereunder:

(Rs. In lakh)

Sr. No.	Project Particulars	Capital cost	Equity	Return on equity
1	Bokaro	55178.00	16553.40	2317.48
2	Chandrapura	23658.00	7097.40	993.64
3	Durgapur	18685.00	5605.50	784.77
4	Mejia	157567.00	47270.10	6617.81
5	Maithon	5264.00	1579.20	221.09
6	Panchet	4891.00	1467.30	205.42
7	Tilaiya	253.00	75.90	10.63
8	Trans System	49105.00	14731.50	2062.41
		314601.00	94380.30	13213.25

Interest on Loan

56. The 2004 regulations stipulate that

(a) Interest on loan capital shall be computed loan-wise on the loans arrived at;

(b) The loan outstanding as on 1.4.2004 shall be worked out as the gross loan minus cumulative repayment as admitted by the Commission or any other authority having power to do so, up to 31.3.2004. The repayment for the period 2004-09 shall be worked out on a normative basis;

(c) The generating company or the transmission licensee shall make every effort to re-finance the loan as long as it results in net benefit to the beneficiaries. The costs associated with such re-financing shall be borne by the beneficiaries;

(d) The changes to the loan terms and conditions shall be reflected from the date of such re-financing and benefit passed on to the beneficiaries;

(e) In case of dispute, any of the parties may approach the Commission with proper application. However, the beneficiaries shall not withhold any payment ordered by the Commission to the generating company during pendency of any dispute relating to re-financing of loan;

(f) In case any moratorium period is availed of by the generating company or the transmission licensee, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly;

(g) The generating company or the transmission licensee shall not make any profit on account of re-financing of loan and interest on loan;

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

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

57. Majority of the loans raised by the petitioner Corporation are not project specific. The normative loan outstanding for individual station, as on 31.3.2004, has been computed by applying the normative debt-equity structure of 70:30 (as mentioned above) to the capital cost with weighted average rate of interest of the loan for the petitioner Corporation as a whole. The cumulative depreciation as on 31.3.2004 or notional loan amount, whichever is lower, has been deemed as loan repayment and balance amount, if any, has been allowed to be serviced till it is fully repaid. Annual depreciation amount has been treated as normative loan repayment. The weighted average rate of interest as claimed by the petitioner Corporation and as adopted for the tariff calculations is as follows

Calculation of weighted average rate of interest

Total Loan	2004-05	2005-06	2006-07	2007-08	2008-09
Gross Loan opening	77095	77095	77095	77095	77095
Cumulative re-payment of loan up to previous year	6143	14948	22281	29614	39858
Net Loan opening	70952	62147	54814	47481	37237
Increase./Decrease due to FERV	0	0	0	0	0
Increase./Decrease due to ACE	0	0	0	0	0
Total	70952	62147	54814	47481	37237
Re-payment of loan during the year	8819	7333	7333	10244	5165
Net Loan closing	62133	54801	47468	37224	32059
Average Net loan	66543	58467	51134	42346	34641
Rate of Interest on loan including Guarantee fee	11.19%	10.67%	10.50%	10.23%	9.56%
Interest on Loan	7445	6239	5367	4332	3311

58. Weighted average rate of interest as arrived at from the above table is considered for calculation of interest on normative loan of each generating station and the transmission system. Accordingly, interest on normative loan is

calculated considering weighted average rate of interest as stated above. Interest on loan for various projects is given hereunder:

Statement of Interest on Loan

(Rs. In lakh)

Bokaro	2004-05	2005-06	2006-07	2007-08	2008-09
Gross loan-Opening	38625	38625	38625	38625	38625
Cumulative repayments of Loans up to previous year	38625	38625	38625	38625	38625
Net loan-Opening	0	0	0	0	0
Repayments of Loans during the year	0	0	0	0	0
Net loan-Closing	0	0	0	0	0
Average Net Loan	0	0	0	0	0
Rate of Interest on Loan	11.19%	10.67%	10.50%	10.23%	9.56%
Interest on loan	0	0	0	0	0
Chandrapur					
Gross loan-Opening	16561	16561	16561	16561	16561
Cumulative repayments of Loans up to previous year	15544	16395	16561	16561	16561
Net loan-Opening	1017	165	0	0	0
Repayments of Loans during the year	852	165	0	0	0
Net loan-Closing	165	0	0	0	0
Average Net Loan	591	83	0	0	0
Rate of Interest on Loan	11.19%	10.67%	10.50%	10.23%	9.56%
Interest on loan	66.14	8.81	0.00	0.00	0.00
Durgapur					
Gross loan-Opening	13080	13080	13080	13080	13080
Cumulative repayments of Loans up to previous year	13080	13080	13080	13080	13080
Net loan-Opening	0	0	0	0	0
Repayments of Loans during the year	0	0	0	0	0
Net loan-Closing	0	0	0	0	0
Average Net Loan	0	0	0	0	0
Rate of Interest on Loan	11.19%	10.67%	10.50%	10.23%	9.56%
Interest on loan	0	0	0	0	0
Mejia					
Gross loan-Opening	110297	110297	110297	110297	110297
Cumulative repayments of Loans up to previous year	53787	59459	65132	70804	76477
Net loan-Opening	56510	50837	45165	39493	33820
Repayments of Loans during the year	5672	5672	5672	5672	5672
Net loan-Closing	50837	45165	39493	33820	28148
Average Net Loan	53674	48001	42329	36656	30984

Rate of Interest on Loan	11.19%	10.67%	10.50%	10.23%	9.56%
Interest on loan	6006	5122	4445	3750	2962
Maithon					
Gross loan-Opening	3684.80	3684.80	3684.80	3684.80	3684.80
Cumulative repayments of Loans up to previous year	1169.00	1304.28	1439.57	1574.85	1710.14
Net loan-Opening	2516	2381	2245	2110	1975
Repayments of Loans during the year	135	135	135	135	135
Net loan-Closing	2381	2245	2110	1975	1839
Average Net Loan	2448	2313	2178	2042	1907
Rate of Interest on Loan	11.19%	10.67%	10.50%	10.23%	9.56%
Interest on loan	274	247	229	209	182
Panchet					
Gross loan-Opening	3423.70	3423.70	3423.70	3423.70	3423.70
Cumulative repayments of Loans up to previous year	3423.70	3423.70	3423.70	3423.70	3423.70
Net loan-Opening	0	0	0	0	0
Repayments of Loans during the year	0	0	0	0	0
Net loan-Closing	0	0	0	0	0
Average Net Loan	0	0	0	0	0
Rate of Interest on Loan	11.19%	10.67%	10.50%	10.23%	9.56%
Interest on loan	0	0	0	0	0
Talaya					
Gross loan-Opening	177.10	177.10	177.10	177.10	177.10
Cumulative repayments of Loans up to previous year	139.00	145.50	152.00	158.51	165.01
Net loan-Opening	38	32	25	19	12
Repayments of Loans during the year	6.50	6.50	6.50	6.50	6.50
Net loan-Closing	32	25	19	12	6
Average Net Loan	35	28	22	15	9
Rate of Interest on Loan	11.19%	10.67%	10.50%	10.23%	9.56%
Interest on loan	4	3	2	2	1
Transmission System					
Gross loan-Opening	34373.50	34373.50	34373.50	34373.50	34373.50
Cumulative repayments of Loans up to previous year	25190.00	26663.15	28136.30	29609.45	31082.60
Net loan-Opening	9184	7710	6237	4764	3291
Repayments of Loans during the year	1473.15	1473.15	1473.15	1473.15	1473.15
Net loan-Closing	7710	6237	4764	3291	1818
Average Net Loan	8447	6974	5501	4027	2554
Rate of Interest on Loan	11.19%	10.67%	10.50%	10.23%	9.56%
Interest on loan	945	744	578	412	244
Total Loan					
Gross loan-Opening	220220.70	220220.70	220220.70	220220.70	220220.70

Cumulative repayments of Loans up to previous year	150956.50	159095.54	166548.10	173835.45	181122.80
Net loan-Opening	69264.20	61125.16	53672.60	46385.25	39097.90
Repayments of Loans during the year	8139.04	7452.56	7287.35	7287.35	7287.35
Net loan-Closing	61125.16	53672.60	46385.25	39097.90	31810.56
Average Net Loan	65194.68	57398.88	50028.93	42741.58	35454.23
Rate of Interest on Loan	11.19%	10.67%	10.50%	10.23%	9.56%
Interest on loan	7295.28	6124.46	5253.04	4372.46	3389.42

Depreciation including Advance Against Depreciation

59. Identical provisions relating to depreciation are contained in sub-clause (a) of Clause (ii) of Regulation 21 in respect of Thermal Power Generating Stations, in sub-clause (a) of Clause (ii) of Regulation 38 in respect of Hydro Power Generating Stations and in sub-clause (a) of Clause (ii) of Regulation 21 in respect of Transmission assets. The same are extracted as under:

(i) The value base for the purpose of depreciation shall be the historical cost of the asset.

(ii) Depreciation shall be calculated annually based on straight line method over the useful life of the asset and at the rates prescribed in Appendix II to these regulations. The residual value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the historical capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded from the capital cost while computing 90% of the historical cost of the asset. The historical capital cost of the asset shall include additional capitalisation on account of Foreign Exchange Rate Variation up to 31.3.2004 already allowed by the Central Government/Commission.

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

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

60. As regards Advance Against Depreciation, identical provisions are contained in sub clause (b) of clause (ii) of Regulation 21 in respect of Thermal Power Generating Stations, in sub-clause (b) of Clause (ii) of Regulation 38 in respect of Hydro Power Generating Stations and in sub-clause (b) of Clause (ii) of Regulation 21 in respect of Transmission assets. The same are extracted as under:

AAD = Loan repayment amount as per regulation 56 (i) subject to a ceiling of 1/10th of loan amount as per regulation 54 minus depreciation as per schedule.

Provided that Advance Against Depreciation shall be permitted only if the cumulative repayment up to a particular year exceeds the cumulative depreciation up to that year.

Provided further that Advance Against Depreciation in a year shall be restricted to the extent of difference between cumulative repayment and cumulative depreciation up to that year.

61. For the detailed justifications given in its order dated 5.5.2006, the one-member bench has held that:

“Cumulative depreciation of Rs.461 lakh has been recovered up to 31.3.2004 out of the capital investment of Rs.3469 lakh on Subsidiary Activities. The capital investment on soil conservation activities and associated cumulative depreciation recovered is not available separately. The balance cumulative depreciation against investment on soil conservation activities may be allowed in O&M additionally to be recovered at 3.6% provided details are furnished by DVC in this regard”

62. The petitioner Corporation has no objection to the approach and recommendations of the one-member bench regarding recovery of depreciation for the thermal generating stations, hydro generating stations and the transmission system and recovery of depreciation on capital investment on central offices, director’s office & other offices additionally in the O&M. The recommendation of the one-member bench is, therefore, adopted in respect of these assets.

63. However, as regards allowing depreciation recovery additionally in O&M on the capital investment on soil conservation activities alone out of the four subsidiary activities, petitioner Corporation has submitted as follows:

“The Subsidiary Activities of DVC as mandated statutorily in terms of the DVC Act include the following:-

- i) Soil Conservation and Afforestation.*
- ii) Public Health and Sanitation.*
- iii) Socio-Economic Development.*
- iv) Development of Tourism and Navigation.*

The above activities are carried out by the DVC in the command area of DVC including villages within 10 KM radius of its command area. These expenditures are in no way different from Rehabilitation expenses that are incurred for development of Power Projects in the Valley. To put in a different way, the sacrifices made by the villagers in terms of land acquisition for the Power Projects adjacent to these villages and within 10 KM radius of the command area of DVC are compensated by DVC as a

responsible Corporate Citizen by way of not only Soil Conservation and Afforestation measures but also by way of promoting various upliftment schemes on account of Education, Health, Sanitation, Self-Employment etc. Such expenses are therefore, in the overall interest of the Power Projects set up by DVC within its command area and, therefore, merit strong justification for recovery through Tariff.

Based on the foregoing justifications, it is prayed before the Hon'ble Commission to allow the amount of Rs.19.06 cr. as incurred by DVC on average during five years from 1998-99 to 2002-03 as an element of Tariff."

64. While we do agree that public health and sanitation and socio-economic development of the DVC area is linked with development of power generation and transmission of power in the DVC area, we are not convinced that the development of tourism and navigation is in any way connected with the generation of power or transmission business of the petitioner. We, therefore, hold that, in addition to recovery of depreciation on capital investment on soil conservation activities, depreciation on capital investment on public health and sanitation and socio-economic development of DVC area shall also be considered additionally in the O&M. We also allow O&M expenses on these activities.

65. The capital investment indicated by the petitioner Corporation and corresponding depreciation recovery in tariff on central offices, director's offices and other offices and subsidiary activities is worked out as follows:

(Rs. In lakh)

	Capital investment	Depreciation @ 3.6%
Central Offices. Director's Offices & other offices	4418	159
Subsidiary activities excluding Tourism and Navigation	2922	105
Total	7340	264

66. Accordingly, following 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:

(Rs. In lakh)

Name of the station/ system	capital cost	Depreciation on Central offices, Director's offices & other offices allowed in O & M	Depreciation on Subsidiary activities allowed in O & M	Total
Bokaro TPS	55178	27.90	18.45	46.35
Chandrapur TPS	23658	11.96	7.91	19.87
Durgapur TPS	18685	9.45	6.25	15.69
Mejia TPS	157567	79.66	52.69	132.34
Maithon GPS	0	0.00	0.00	0.00
Maithon Hydrel	5264	2.66	1.76	4.42
Panchet Hydrel	4891	2.47	1.64	4.11
Tillaiya Hydrel	253	0.13	0.08	0.21
Transmission System	49105	24.83	16.42	41.24
Total	314601	159	105	264

O&M Expenses

67. The petitioner Corporation has claimed the following O&M Charges, based on the actual expenditure during 1998-99 to 2002-03 and proportionate expenses of Directors' Offices, share of general overheads, share of operating expenses of fuel (for thermal) and subsidiary activities:

(Rs. In crore)

Sl. No.	Name of Station	2004-05	2005-06	2006-07	2007-08	2008-09
A	Thermal Stations					
1	Bokaro TPS	155.54	161.76	168.23	174.96	181.96
2	Chandrapur TPS	168.26	174.99	181.99	189.27	196.84
3	Durgapur TPS	128.43	133.57	138.91	144.47	150.25
4	Mejia TPS	106.30	110.55	114.98	119.58	124.36
5	Maithon GPS	9.73	10.12	10.53	10.95	11.38
	Total Thermal	568.26	590.99	614.64	639.23	664.79
B	Hydro Stations					
6	Maithan Hydel	14.93	15.53	16.15	16.80	17.47
7	Panchet Hydel	11.09	11.53	11.99	12.47	12.97
8	Talaiya Hydel	3.07	3.19	3.32	3.45	3.59
	Total Hydel	29.09	30.25	31.46	32.72	34.03
C	Transmission	42.36	44.05	45.82	47.65	49.55
D	Distribution	6.33	6.58	6.85	7.12	7.40
	Total O&M Claimed	646.04	671.87	698.77	726.72	755.77

68. The one-member bench observed that there was no similarity in O&M expenses/MW between one generating station and the other and O&M expenses are very high compared to the generating stations belonging to NTPC and NHPC. This was attributed to the small unit size and their old vintage, high man/MW ratio deployed at the stations and due to high overhead expenses which include provision for contribution to pension & gratuity fund and relief paid to the pensioners on the basis of “pay as you go”.

69. The petitioner Corporation has pleaded for creation of the pension and gratuity fund. The petitioner Corporation had submitted before the one-member bench that as per directions of the C&AG, it was required to make provision of pension liabilities on “Actuarial Valuation” in terms of Accounting Standard 15 which implies matching investment. Total estimated financial implications on this account were indicated as Rs.1500 crore.

70. With regard to the issue of creation of pension and gratuity fund, the one-member bench consciously refrained from making any recommendations. It held that

“it may not be appropriate to make any specific recommendations regarding creation of pension liability fund additionally only on the strength of above certificate. However, present pension and gratuity fund liability and pension relief may be accounted for to arrive at the reasonable O&M expenses for the generating stations/transmission”

71. In the process of normalization of O&M expenses, the one-member bench recommended that the following expenses which are part of actual O&M expenses shall not be considered apart from normalization of abnormal increase in specific heads of accounts in the absence of suitable justification.

(a) **Festival Advances:** Such expenditures are recoverable and as such need not be considered for normalization purpose.

(b) **Arrears:** It is a common knowledge that 5th Pay Commission recommendations were finalized in 1997 and were made effective from 1.4.1996. Arrears of pay were generally paid in the year 1997-98. As such, payments relating to arrears of pay even if paid beyond 1997-98 could possibly be for the past period and therefore, should not be considered for normalization purpose.

(c) **Productivity incentive:** This expenditure cannot be loaded on the beneficiaries and is required to be met through incentive earned or profit.

(d) **Bonus Equivalent:** Such expenditures are beyond the statutory bonus granted by Govt. of India and as such can not be considered for normalization purpose.

(e) **Adhoc to staff/officers:** The payment of interim relief should stop after revision of pay based on the recommendations of the Pay Commission or adjusted for in the arrear of pay and hence such expenditures can not be considered for normalization purpose.

(f) **Loss of assets/stores:** These though accounting requirement, cannot be loaded on the beneficiaries for normalization purpose.

(g) **Allocation of share of subsidiary activities other than soil conservation:** Such expenditures are not directly related to power and as such cannot be considered for normalization purpose.

72. With regard to the above recommendation of the one-member bench, the submissions made petitioner Corporation vide its affidavit dated 28.6.2006 and our decisions thereon are as under:

(a) **Arrears of pay allowances, Adhoc payment to staff /officers & Adhoc DA relief:** It is likely that the one-member bench did not consider these expenses for the normalization of O&M expenses viewing them to be pertaining to the period prior to 1998-99. The petitioner Corporation has since clarified that the entire arrears of pay & allowances for the year 1998-99 were not for the prior period and were also including arrears of

pay of 7 month of 1998-99. They have further explained that the adhoc payment to staff /officers and Adhoc DA relief in the year 1998-99 belong to the same year and not for the prior period. They have further submitted that the arrears of pay were paid net of adhoc payment to staff /officers & Adhoc DA relief. The petitioner Corporation was directed vide our Order dated 21.7.2006 to give separate details for thermal, Hydro and transmission system station-wise and the same have been filed vide affidavit dated 28.7.2006. We are satisfied that the same needs to be considered for the normalization of O&M expenses.

(b) Honorarium: The one-member bench had not considered these expenses for the normalization of O&M expenses considering them to be in the nature of incentive. The petitioner Corporation has now submitted that this comprises overtime paid to workers etc. We therefore hold that these be considered for the normalization of O&M expenses.

(c) Disallowance of overhauling expenses: The amount of Rs. 844 lakh deducted in case of DTPS in the year 2001-02 was for reblading of turbines which was considered of R&M nature and not likely to reoccur during the next tariff period. However, the petitioner Corporation has now clarified that this pertained to normal repairs & maintenance. Accordingly, there is no objection to consider this for the purpose of normalization. As regards the deduction in case of Majia TPS in 2002-03, it was on account of restricting the increase to 20% due to lack of proper justification for

increase in manpower. In view of the clarification now provided by the petitioner Corporation that the expenditure is chargeable to repair & maintenance, we propose to consider the same for normalization purpose.

(d) Loss on stores/ spares: The petitioner Corporation sought to include these in O&M. These expenses cannot be loaded on the beneficiaries for normalization purpose as per the practice in vogue in respect of other generating companies such as NHPC, NTPC and NEEPCO. Accordingly, we do not consider these losses/ spares for the normalization of O&M.

(e) Double Deduction: The petitioners Corporation vide its affidavit dated 28.6.2006 has brought to notice double incidence of deduction of loss of stores in case of thermal generating stations. Such double incidence of deduction of loss of stores has been reconciled and corrected.

Pension and gratuity fund

73. As mentioned above, the petitioner Corporation had contended that it is required to create a pension and gratuity fund as per the instructions of C&AG. This proposal has been strongly objected to by the objector-intervenor, M/s Bhaskar Shrachi Alloys Ltd and others. The averments of the objector-intervenor in this regard are that AS 15 is applicable only to companies registered under the Companies Act, 1956 and since the petitioner Corporation is not a company

registered under the Companies Act, the said Accounting Standard was not mandatory for the petitioner Corporation. It has been stated that Sections 46 and 47 of the DVC Act provide that the accounts should be prepared in such form and in such manner as may be prescribed by the rules made by the Central Government. However, by the rules made by the Central Government, AS-15 has not been extended to the petitioner Corporation. It is further contended that Section 59 of the DVC Act empowers the Central Government by notification in the Official Gazette to make Rules, inter alia, providing for the forms of Budget and the manner in which the Accounts of DVC shall be maintained. According to the objector-intervenor, unless prescribed by Rules framed by Central Government under section 59 of the DVC Act and duly published in the official Gazette, the petitioner Corporation cannot introduce AS-15 or any Accounting Standard and cannot change its accounting method.

74. The petitioner has, however, contended that it is bound by the instructions of the C&AG and there is a mandatory requirement for creating the pension fund in terms of the requirement of AS-15. We address this issue presently.

75. We observe that Section 59(5) of the DVC Act confers a power on the Central Government to make rules. DVC Rules 1948 framed in exercise of the powers conferred by Section 59 of the DVC Act 1948, prescribe the manner in which the accounts are to be prepared (Rules 19 to 17). Further, Rules 28-33 of the above Rules lay down the procedure relating to Audit. Rule 28 of the

Damodar Valley Corporation Rules 1948 places the petitioner Corporation under the jurisdiction of the C&AG for the purpose of audit of the accounts of the petitioner Corporation. A perusal of the Rules indicates that the same only lay down broad guidelines and do not deal with the details of the manner in which the accounts are to be maintained i.e. whether terminal benefits are to be provided on payment basis or actuarial valuation basis. The objector-intervenor has not established that switch over from the present mode of payment basis to actuarial valuation basis will be in violation of the Rules prescribed.

76. In addition to the above, Section 40 of the DVC Act provides as under:

(1) The Corporation shall make provision for depreciation and for reserve and other funds at such rates and on such terms as may be specified by the Auditor General of India in consultation with the Central Government.

(2) The net profit for the purposes of section 37 shall be determined after such provision has been made.

77. It is evident from the above provision that the petitioner Corporation is under a statutory duty to make provisions for the funds as directed by the Auditor General of India. Since the present case involves making provision for a terminal benefits fund, the Corporation is bound to act under the directions of the C&AG.

78. It is also observed from various provisions of the Act that the petitioner Corporation is under the overall control and superintendence of the Central

Government. Section 48 specifically provides that “1) in discharge of its functions the Corporation shall be guided by such instructions on questions of policy as may be given to it by the Central Government.” Section 48 (2) further provides that “If any dispute arises between the Central Government and Corporation as to whether a question is or is not a question of policy, the decision of the Central Government shall be final”. As the petitioner Corporation is under a statutory duty to abide by the instructions of the Central Government on questions of policy, in the instant case it has no option but to provide for the terminal benefits in the manner instructed by the Central Government.

79. The following provisions of the DVC Act 1948 also establish that the petitioner Corporation is functioning under the overall superintendence of the Central Government:

- (a) The date on which the Corporation was established is based on the gazette notification of the Central Government [Section 3(1)]
- (b) The Chairman and the two other members of the Corporation are appointed by the Central Government [Section 4(1)]
- (c) Secretary and the financial adviser of the Corporation are appointed by the Central Government [Section 6(1)]
- (d) The limits of the Damodar Valley are notified by the Central Government [Section 11(1)]
- (e) Central Government has powers to direct the manner in which the funds of the Corporation shall be deposited [Section 29(2)]

(f) Section 51 of the Act empowers the Central Government to remove any member from the Corporation

(g) If the Corporation fails to carry out its functions or follow the directions issued by the Central Government under this Act, the Central Government shall have power to remove the Chairman and the members of the Corporation and appoint a Chairman and members in their places [Section51(6)]

(h) Central Government has the powers to make rules on several matters in relation to the Corporation [Section 59]

80. We, therefore, hold that in view of the overwhelming powers of the Central Government to issue instructions on the manner in which retirement funds are to be maintained cannot be questioned unless the instructions are shown to be violative of any statutory provision.

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:

Rs. In Lakhs

Sl.No.	Description	Amount
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 4 th 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 the consumers in three annual instalments	92069.00
7.	Amount of Instalment	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.

84. Accordingly, the following O&M expenses has been worked out in case of thermal, & hydro generating stations and transmission systems for the period from 2005-06 to 2008-09:

(Rs. In crore)

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			
	Claimed	168.23	174.96	181.96
	O&M	111.67	111.67	111.67
2	Chandrapur 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	Mejia 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
B	Hydel Stations			
6	Maithan Hydel			
	Claimed	16.15	16.80	17.47
	O&M	10.92	11.36	11.81
7	Panchet Hydel			
	Claimed	11.99	12.47	12.97
	O&M	7.22	7.50	7.80
8	Tilaiya Hydel			
	Claimed	3.32	3.45	3.59
	O&M	3.14	3.26	3.40
	Total Hydel			
	Claimed	31.46	32.72	34.03
	Admissible O&M	21.28	22.12	23.01
C	Transmission			
	Claimed	45.82	47.65	49.55
	Admissible O&M	43.19	44.90	46.68
	Total O&M Claimed	698.77	726.72	755.77
	Admissible O&M	453.85	456.40	459.07

85. The one-member bench had also recommended norms of O&M expenses per bay and per ckt-km basis for the transmission system to be added subsequently in its order dated 5.5.2006. With the revision of O&M expenses of transmission system as above, the norms has also been revised as follows for the year 2006-07 to 2008-09

	2006-07	2007-08	2008-09
O&M expenses (Rs in lakh per ckt-km)	0.141	0.147	0.153
O&M expenses (Rs in lakh per bay)	14.55	15.13	15.73

INTEREST ON WORKING CAPITAL

86. The 2004 regulations provide for computation of working capital in the following manner:

Thermal Generating Station

Coal based/Lignite-fired generating stations

- (i) Cost of coal or lignite for 1½ months for pit-head generating stations and two months for non-pit-head generating stations, corresponding to the target availability;
- (ii) Cost of secondary fuel oil for two months corresponding to the target availability;
- (iii) Operation and Maintenance expenses for one month;
- (iv) Maintenance spares @ 1% of the historical cost escalated @ 6% per annum from the date of commercial operation; and
- (v) Receivables equivalent to two months of fixed and variable charges for sale of electricity calculated on the target availability.

Gas Turbine/Combined Cycle generating stations

- (i) Fuel cost for one month corresponding to the target availability duly taking into account the mode of operation of the generating station on gas fuel and liquid fuel;
- (ii) Liquid fuel stock for ½ month;

- (iii) Operation and maintenance expenses for one month;
- (iv) Maintenance spares at 1% of the historical cost escalated @ 6% per annum from the date of commercial operation ; and
- (v) Receivables equivalent to two months of fixed and variable charges for sale of electricity calculated on target availability.

Hydro Generating Stations

- (i) Operation and Maintenance expenses for one month;
- (ii) Maintenance spares @ 1% of the historical cost escalated @ 6% per annum from the date of commercial operation; and
- (iii) Receivables equivalent to two months of fixed charges for sale of electricity, calculated on normative capacity index.

Transmission System

- (i) Operation and Maintenance expenses for one month;
- (ii) Maintenance spares @ 1% of the historical cost escalated @ 6% per annum from the date of commercial operation; and
- (iii) Receivables equivalent to two months of fixed charges for sale of electricity, calculated on normative capacity index.

87. Rate of interest on working capital shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on 1.4.2004. Interest on working capital shall be payable on normative basis notwithstanding that the generating company or the transmission licensee has not taken working capital loan from any outside agency.

88. In line with the 2004 regulations, the rate of interest of 10.25% as on 1.4.2004 has been considered. The summary of interest on working capital allowed is given below:

Asset	2006-07	2007-08	2008-09
Bokaro TPS	1409	1461	1524
Chandrapur TPS	810	813	855
Durgapur TPS	933	939	972
Mejia TPS	1802	1763	1708
Maithon HE	44.80	45.98	47.08
Panchet HE	30.31	31.38	32.53
Tilaiya HE	8.82	9.16	9.51
Transmission System	241.62	246.65	252.04

Operational Norms

89. The one-member bench had recommended the following operational norms for the thermal power generation stations as under:

Operational Parameter	2004-05	2005-06	2006-07	2007-08	2008-09
Bokaro TPS "B" (3x 210 MW)					
Target Availability (%)	50	50	55	65	75
Target PLF (%)	50	50	55	65	75
SHR (kCal/kWh)	3300	3300	3100	2900	2700
AEC (%)	10.8	10.5	10.5	10.25	10.25
SFC (ml/kWh)	4	4	3.5	2.75	2.00
Chandrapur TPS (3x130 MW)					
Target Availability (%)	55	55	55	55	60
Target PLF (%)	55	55	55	55	60
SHR (kCal/kWh)	3100	3100	3100	3100	3100
AEC (%)	11.5	11.5	11.5	11.5	11.5
SFC (ml/kWh)	3	3	3	3	3
Durgapur TPS (1x140 MW)					
Target Availability (%)	60	60	65	70	72.5
Target PLF (%)	60	60	65	70	72.5
SHR (kCal/kWh)	3100	3100	3100	3000	3000
AEC (%)	11.5	11.5	11.5	11	11
SFC (ml/kWh)	3.5	3.5	3.5	3	3
Durgapur TPS (1x 210 MW)					
Target Availability (%)	55	55	57.5	65	75
Target PLF (%)	55	55	57.5	65	75
SHR (kCal/kWh)	3100	3100	3100	2900	2700
AEC (%)	11.5	11.5	11.0	10.50	11.0
SFC (ml/kWh)	6	6	3.5	2.75	2.00

Mejia TPS (3x 210 MW)					
Target Availability (%)	75	75	78	80	80
Target PLF (%)	75	75	78	80	80
SHR (kCal/kWh)	2650	2650	2600	2550	2500
AEC (%)	11	11	10.4	9.6	9.00
SFC (ml/kWh)	3.5	3.5	3.00	2.50	2.00

90. The petitioner Corporation expressed its difficulty in achieving the above norms for the year 2006-07. During the hearings on 14.7.2006 and 10.8.2006, the petitioner Corporation submitted that with R&M undertaken, it should be possible to achieve above mentioned operational norms for the year 2007-08 & 2008-09. We take note of the difficulty expressed by the petitioner Corporation and accordingly allow the operational norms claimed by the petitioner Corporation in its subsequent submissions. Accordingly, the following operational norms are allowed for the year 2006-07 to 2008-09 for the thermal generating stations:

Operational Parameter	2006-07	2007-08	2008-09
Bokaro TPS "B" (3x 210 MW)			
Target Availability (%)	55	65	75
Target PLF (%)	55	65	75
SHR (kCal/kWh)	3250	2900	2700
AEC (%)	10.5	10.25	10.00
SFC (ml/kWh)	3.5	2.75	2
Chandrapur TPS (3x130 MW)			
Target Availability (%)	55	55	60
Target PLF (%)	55	55	60
SHR (kCal/kWh)	3100	3100	3100
AEC (%)	11.5	11.5	11.5
SFC (ml/kWh)	3	3	3
Durgapur TPS (350 MW)			
Target Availability (%)	60.5	67	74
Target PLF (%)	60.5	67	74
SHR (kCal/kWh)	3100	2940	2820
AEC (%)	11.5	10.7	10.55
SFC (ml/kWh)	4.4	2.85	2.4
Mejia TPS (3x 210 MW)			
Target Availability (%)	78	80	80
Target PLF (%)	78	80	80
SHR (kCal/kWh)	2625	2550	2500
AEC (%)	11	9.6	9
SFC (ml/kWh)	3.5	2.5	2

91. The auxiliary energy consumption in case of Bokaro TPS for the year 2008-09 has been restricted to 10% as claimed by the petitioner.

Energy Charges and the Fuel component for the thermal generating stations

92. The petitioner Corporation has considered following weighted average prices and GCV of coal and secondary fuel oil for the months of January 2004, February 2004 and March 2004 for the computation of energy charges:

Description	Units	Bokaro TPS	Chandrapur TPS	Durgapur TPS	Mejia TPS
Weighted Average GCV of Oil	kCal/l	9600.00	9396.00	9457.00	9493.00
Weighted Average GCV of Coal	kCal/Kg	4432.00	4676.00	4867.00	4150.67
Weighted Average Price of Oil	Rs./KL	20337.00	19482.00	22099.00	22423.80
Weighted Average Price of Coal	Rs./MT	1180.00	969.00	1421.00	1280.03

93. Based on the above norms, prices and GCV of fuels, the energy charges and fuel component of the working capital for 2006-07 to 2008-09 are worked out for the respective stations. Accordingly, rate of energy charges of various thermal generating stations is calculated as under:

Rate of Energy charge ex-bus per kWh sent (Paise/kWh)

Description	2006-07	2007-08	2008-09
Bokaro TPS	103.63	91.48	83.82
Chandrapur TPS	78.53	78.53	78.53
Durgapur TPS	111.88	102.29	97.23
Mejia TPS	98.63	92.38	89.01

Fuel Price Adjustment

94. The basic energy charges have been calculated based on base value of GCV, base price of fuel and normative operating parameters as indicated in the above table and are subject to fuel price adjustment. The notification dated 26.3.2004 provides for fuel price adjustment for variation in fuel price and GCV of fuels. Accordingly, the base energy charges approved shall be subject to adjustment.

95. The formula applicable for fuel price adjustment in respect of the coal based stations shall be as given below: -

FPA = A + B

Where,

- FPA** – Fuel price Adjustment for a month in Paise/kWh Sent out
- A** – Fuel price adjustment for Secondary Fuel oil in Paise/kWh sent out
- B** – Fuel price adjustment for Coal in Paise/kWh sent out

And,

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

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

Where,

- SFC_n** – Normative Specific Fuel Oil consumption in l/kWh

- SHR_n – Normative Gross Station Heat Rate in kCal/kWh
- AC_n – Normative Auxiliary Consumption in percentage
- P_{om} – Weighted Average price of fuel oil on as consumed basis during the month in Rs./KL.
- K_{om} – Weighted average GCV of fuel oils fired at boiler front for the month in Kcal/Litre
- P_{os} – Base value of price of fuel oils as taken for determination of base energy charge in tariff order in Rs. / KL.
- K_{os} – Base value of gross calorific value of fuel oils as taken for determination of base energy charge in tariff order in Kcal/Litre
- P_{cm} – Weighted average price of coal procured and burnt during the month at the power station in Rs. / MT.
- K_{cm} – Weighted average gross calorific value of coal fired at boiler front for the month in Kcal/Kg
- P_{cs} – Base value of price of coal as taken for determination of base energy charge in tariff order in Rs. /MT
- K_{cs} – Base value of gross calorific value of coal as taken for determination of base energy charge in tariff order in kCal/Kg

96. Total tariff calculated in respect of the generating stations and transmission system of the petitioner Corporation is given in the summary sheet annexed to this order.

97. The petitioner Corporation is also engaged in the power trading business. The objector-intervenor has pointed out that the revenue earned by the petitioner Corporation through the inter-State and intra-State trading business should be adjusted against its Aggregate Revenue Requirement (ARR). We direct that the

revenue earned by the petitioner Corporation through its business of trading shall be accounted for while projecting ARR before the Sate Regulatory Commissions.

98. The petitioner Corporation has also sought reimbursement of filing fee of Rs.25 lakh paid. A final view on reimbursement of filing fee is yet to be taken by the Commission for which views of the stakeholder have been called for. The view taken on consideration of the comments received shall apply in the present case as regards reimbursement of filing fee.

99. In addition to the charges approved above, the petitioner Corporation is entitled to recover other charges also like incentive, claim for reimbursement of Income-tax, other taxes, cess levied by a statutory authority, and other charges in accordance with the 2004 regulations, as applicable.

100. The petitioner Corporation is already billing the respondents on provisional basis in accordance with the Commission's interim directions. The provisional billing of tariff shall be adjusted in the light of final tariff now approved by us.

101. This order disposes of Petition No.66/2005.

Sd/-

**(A.H. JUNG)
MEMBER**

Sd/-

**(BHANU BHUSHAN)
MEMBER**

Sd/-

**(ASHOK BASU)
CHAIR PERSON**

New Delhi, dated the 3rd October, 2006

SUMMARY SHEET

(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			
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 FOR TRANSMISSION SYSTEM

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 INCL. PENSION LIABILITY	110696.30	109475.93	108850.27
--	------------------	------------------	------------------