

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 102/TT/2012

Coram:

**Shri V.S. Verma, Member
Shri M. Deena Dayalan, Member**

Date of Hearing: 24.09.2013

Date of Order : 02.12.2013

In the matter of:

Approval under Regulation-86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2009 for determination of Transmission Tariff from DOCO to 31.3.2014 for Combined Assets for transmission system associated with Northern Region Bus Reactor Scheme in Northern Region for tariff block 2009-14.

And in the matter of:

Power Grid Corporation of India Limited
"Saudamani", Plot No.2,
Sector-29, Gurgaon -122 001.

.....Petitioner

Vs

- 1 Rajasthan Rajya Vidyut Prasaran Nigam Ltd
Vidyut Bhawan, Vidyut Marg, Jaipur-302 005
2. Ajmer Vidyut Vitran Nigam Ltd
400 kV GSS Building (Ground Floor), Ajmer road,
Heerapura, Jaipur
3. Jaipur Vidyut Vitran Nigam Ltd
400 kV GSS Bulding (Ground Floor), Ajmer Road,
Heerapur,Jaipur
4. Jodhpur Vidyut Vitran Nigam Ltd
400 kV GSS Bulding (Ground Floor), Ajmer Road,
Heerapur,Jaipur
5. Himachal Pradesh State Electricity Board
Vidyut Bhawan
Kumar House Complex Building II
Shimala-171004
6. Punjab State Electricity Board



The Mall, Patiala-147 001

7. Haryana Power Purchase Centre
Shakti Bhawan, Sector-6 Panchkula(Haryana) 134 109
8. Power Development Deptt, Govt of Jammu and Kashmir
Govt. of jammu & Kashmir
Mini Secretariat,Jammu
9. Uttar Pradesh Power Corporation Ltd
Shakti Bhawan, 14, Ashok Marg
Lucknow-226 001
10. Delhi Transco Ltd
Shakti Sadan, Kotla Road,
New Delhi-110 002
11. BSES Yamuna Power Ltd
BSES Bhawan, Nehru Place,
New Delhi
12. BSES Rajdhani Power Ltd
BSES Bhawan, Nehru Place,
New Delhi
13. North Delhi Power Ltd
Power trading & Load Dispatch Group
Cennet Building
Adjacent to 66/11 kV Pitampura-3
14. Chandigarh Administration
Grid Building, Near PP Jewellers
Pitampura, New Delhi-110 034
15. Uttrakhand Power Corporation Ltd
Urja bhawan
Kanwali Road
Dehradun
16. North Central Railway
Allahabad
17. New Delhi Municipal Council
Palika Kendra, Sansad Marg,
New Delhi-110 002

.....**Respondents**

Representatives of the Petitioner : Shri S S Raju, PGCIL
Shri A. Bhangar, PGCIL
Mrs. Sangeeta Edwards
Shri M.M. Mondal, PGCIL

Counsel for the Respondents : Shri Padamjit Singh, PSPCL



Shri R.B. Sharma, Advocate for
BRPL

ORDER

The petition has been filed by Power Grid Corporation of India (PGCIL) seeking approval of the transmission charges in respect of 400 kV, 125 MVAR Bus Reactor at Jalandhar (**Asset-I**), 400 kV, 80 MVAR Bus Reactor at Amritsar (**Asset-II**), 400 kV, 125 MVAR Bus Reactor at Hissar (**Asset-III**) and 400 kV, 125 MVAR Bus Reactor at Nalagarh (**Asset-IV**), collectively referred to as the assets, forming part of the transmission system associated with Northern Region Bus Reactor Scheme (**the scheme**) from the date of commercial operation of the respective asset to 31.3.2014 based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (the 2009 Tariff Regulations).

2. Investment approval for the scheme was accorded by the Board of Directors of the PGCIL vide letter dated 15.12.2010 for ₹9003 lakh, including Interest During Construction (IDC) of ₹391 lakh based on 3rd Quarter, 2010 price level. The scope of works covered under the scheme broadly includes:

- (i) Extension of 400/220 kV Gorakhpur (POWERGRID) Sub-station-1 No. 400 kV, 125 MVAR bus reactor,
- (ii) Extension of 400/220 kV Allahabad (POWERGRID) Sub-station-1 No. 400 kV, 125 MVAR bus reactor,
- (iii) Extension of 400/220 kV Mainpuri (POWERGRID) Sub-station-1 No. 400 kV, 125 MVAR bus reactor,

- (iv) Extension of 400/220 kV Hissar (POWERGRID) Sub-station-1 No. 400 kV, 125 MVAR bus reactor (**Asset-III**),
- (v) Extension of 400/220 kV Jalandhar (POWERGRID) Sub-station-1 No. 400 kV, 125 MVAR bus reactor (**Asset-I**),
- (vi) Extension of 400/220 kV Amritsar (POWERGRID) Substation-1 No. 400 kV, 80 MVAR bus reactor (**Asset-II**),
- (vii) Extension of 400/220 kV Kankroli (POWERGRID) Substation-1 No. 400 kV, 125 MVAR bus reactor,
- (viii) Extension of 400/220 kV Nalagarh (POWERGRID) Substation-1 No. 400 kV, 125 MVAR bus reactor (**Asset-IV**), and
- (ix) Extension of 400/220 kV Vindhyachal (NR Bus) (POWERGRID) Substation-2 No. 400 kV, 125 MVAR bus reactor.

3. The scheduled, initial anticipated and actual dates of commercial operation of the respective asset are indicated hereunder:-

Asset	Scheduled date of commercial operation	Initial anticipated date of commercial operation	Actual date of commercial operation
Asset-I	1.9.2012	1.6.2012	1.4.2012
Asset-II	1.9.2012	1.6.2012	1.4.2012
Asset-III	1.9.2012	1.6.2012	1.5.2012
Asset-IV	1.9.2012	1.6.2012	1.5.2012

4. The transmission charges claimed by the petitioner based on the actual date of commercial operation are as under:-

(₹ in lakh)

Particulars	Asset - I		Asset - II		Asset - III		Asset - IV	
	2012-13	2013-14	2012-13	2013-14	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Depreciation	32.42	41.60	15.12	27.33	23.38	33.64	20.76	32.20
Interest on Loan	37.94	45.47	17.25	29.70	27.62	37.46	24.24	35.36
Return on Equity	32.20	41.32	15.02	27.15	23.22	33.42	20.62	31.99
Interest on working capital	5.78	6.57	4.51	5.56	4.84	6.02	4.65	5.91
O & M Expenses	61.92	65.46	61.92	65.46	56.76	65.46	56.76	65.46
Total	170.26	200.42	113.82	155.20	135.82	176.00	127.03	170.92

5. The details submitted by the petitioner in support of its claim for interest on working capital are given hereunder:-

(₹ in lakh)

Particulars	Asset - I		Asset - II		Asset - III		Asset - IV	
	2012-13	2013-14	2012-13	2013-14	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Maintenance Spares	9.29	9.82	9.29	9.82	9.29	9.82	9.29	9.82
O & M Expenses	5.16	5.46	5.16	5.46	5.16	5.46	5.16	5.46
Receivables	28.38	33.40	18.97	25.87	24.69	29.33	23.10	28.49
Total	42.83	48.68	33.42	41.15	39.14	44.61	37.55	43.77
Rate of Interest	13.5%	13.5%	13.5%	13.5%	13.5%	13.5%	13.5%	13.5%
Interest	5.78	6.57	4.51	5.56	4.84	6.02	4.65	5.91

6. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act. The replies to the petition have been filed by Jaipur Vidyut Vitran Nigam Ltd (Respondent No. 3) and BSES Rajdhani Power Ltd (Respondent No. 12).

7. We have heard the representatives of the parties present at the hearing and have perused the material available on record. We proceed to dispose of the petition. While doing so, the submissions of the respondents shall be duly taken note of.

Capital cost

8. Regulation 7 of the 2009 Tariff Regulations so far as relevant provides as under:-

“(1) Capital cost for a project shall include:-

- (a) The expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan – (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the

excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the fund deployed, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check.

(b) capitalised initial spares subject to the ceiling rates specified in regulation 8; and

(c) additional capital expenditure determined under regulation 9:

Provided that the assets forming part of the project, but not in use shall be taken out of the capital cost.

(2) The capital cost admitted by the Commission after prudence check shall form the basis for determination of tariff:

Provided that in case of the thermal generating station and the transmission system, prudence check of capital cost may be carried out based on the benchmark norms to be specified by the Commission from time to time:

Provided further that in cases where benchmark norms have not been specified, prudence check may include scrutiny of the reasonableness of the capital expenditure, financing plan, interest during construction, use of efficient technology, cost over-run and time over-run, and such other matters as may be considered appropriate by the Commission for determination of tariff.”

9. The details of apportioned approved cost and the claims in respect of capital cost as on the actual dates of commercial operation and estimated additional capital expenditure projected to be incurred for the assets are given hereunder:-

(₹ in lakh)

Particulars	Apportioned approved cost	Actual cost on date of commercial operation	Projected additional capital expenditure		Estimated completion cost
			2012-13	2013-14	
Asset-I	1234.16	522.96	182.20	165.41	870.57
Asset-II	928.36	84.36	404.18	58.33	546.87
Asset-III	988.89	405.94	154.21	154.08	714.23
Asset-IV	1252.98	331.06	195.67	166.38	693.11
Total	4404.39	1344.32	936.26	544.20	2824.78

#Capital cost as on date of commercial operation is inclusive of initial spares.

Treatment of initial spares

10. The capital cost on the date of commercial operation claimed by the petitioner is inclusive of the cost of initial spares.

11. Regulation 8 of the 2009 Tariff Regulations provide for ceiling norms for capitalization of initial spares in respect of the transmission system as under:

“8. Initial spares : Initial spares shall be capitalised as a percentage of the original project cost, subject to following ceiling norms:

(iv) Transmission system

(a) Transmission line - 0.75%

(b) Transmission Sub-station - 2.5%

(c) Series Compensation devices and HVDC Station - 3.5%

Provided that where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost under first proviso to clause (2) of regulation 7, such norms shall apply to the exclusion of the norms specified herein."

12. Since in the present petition the petitioner has not claimed the ,initial spares for transmission line, the initial spares in accordance with the norms applicable to Sub-station have been considered. It is seen that the cost of initial spares claimed by the petitioner in respect of Asset I, III & IV are within the ceiling limits specified in the 2009 Tariff Regulations. However, in respect of Asset –II, initial spares claimed is in excess of the norms specified in the 2009 Tariff Regulations and no justification has been furnished by the petitioner in this regard. Therefore, the initial spares have been restricted to 2.5% of the estimated completion cost of Asset-II. The cost of initial spares claimed by the petitioner and allowed as part of capital cost are given overleaf:-

(₹ in lakh)

Particulars	Estimated completion cost	Initial spares claimed	Ceiling norm	Initial spares allowed	Excess initial spares claimed
Asset-I	870.57	20.14	2.50%	21.81	-1.67
Asset-II	546.87	15.01	2.50%	13.64	1.37
Asset-III	714.23	17.24	2.50%	17.87	-0.63
Asset-IV	693.11	16.74	2.50%	17.34	-0.60

13. Accordingly, after deducting the excess initial spares from the capital cost of Asset-II, capital cost as on the date of commercial operation works out as under:-

(₹ in lakh)			
Asset	Capital cost on date of commercial operation	Excess initial spares	Net capital cost on date of commercial operation
Asset-I	522.96	0.00	522.96
Asset-II	84.36	1.37	82.99
Asset-III	405.94	0.00	405.94
Asst-IV	331.06	0.00	331.06

Projected additional capital expenditure

14. Clause (1) of Regulation 9 of the 2009 Tariff Regulations provides as under:-

“9. Additional Capitalisation: (1) The capital expenditure incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

- (i) Undischarged liabilities;
- (ii) Works deferred for execution;
- (iii) Procurement of initial capital Spares within the original scope of work, subject to the provisions of Regulation 8;
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and
- (v) Change in Law.”

15. Clause (11) of Regulation 3 of the 2009 Tariff Regulations defines “cut-off” date as under:

“cut-off date” means 31st March of the year closing after 2 years of the year of commercial operation of the project, and in case the project is declared under commercial operation in the last quarter of the year, the cut-off date shall be 31st March of the year closing after 3 years of the year of commercial operation”.

16. After taking in to account the dates of commercial operation of the assets, cut-off date arrived at is 31.3.2014 in respect of Asset-I and Asset-II and 31.3.2015 in respect of Asset-III and Asset-IV.

17. The additional capital expenditure during 2012-13 and 2013-14 claimed by the petitioner, as at Paragraph No. 9 above, is within the cut-off date and is allowed.

18. Based on the above, gross block as given below has been considered for the purpose of computation of the transmission charges for the assets, after allowing additional capitalization as claimed, within the limits of apportioned approved cost:-

(₹ in lakh)

Particulars	Cost on date of commercial operation	Projected additional capital expenditure		Capital cost on 31.3.2014
		2012-13	2013-14	
Asset-I	522.96	182.20	165.41	870.57
Asset-II	82.99	404.18	58.33	545.50
Asset-III	405.94	154.21	154.08	714.23
Asset-IV	331.06	195.67	166.38	693.11
Total	1344.32	936.26	544.20	2823.41

Cost variation

19. The estimated completion cost is lower than the apportioned approved cost of each asset. The petitioner has explained that the variation is on account

of open competitive bidding route adopted by it for execution of works. The petitioner has stated that it was possible to procure goods and services at lower prices as compared to the ruling market prices at the time of preparation of FR since a large number of firms were able to participate in the open competitive bidding process. We are of the view that there is huge over-estimation of the cost of the transmission assets by the petitioner. It appears that the petitioner has not adopted prudent procedure while estimating the cost and the procedure adopted by the petitioner in estimating the cost is not realistic. The petitioner is directed to adopt a prudent procedure while estimating the cost of different elements of the transmission projects.

Debt- equity ratio

20. Regulation 12 of the 2009 Tariff Regulations provides as under:-

“12. Debt-Equity Ratio (1) For a project declared under commercial operation on or after 1.4.2009, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff:

Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment.

Explanation- The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.

(2) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2009, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2009 shall be considered.

(3) Any expenditure incurred or projected to be incurred on or after 1.4.2009 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life

extension shall be serviced in the manner specified in clause (1) of this regulation.”

21. Details of debt-equity in respect of the assets as on respective date of commercial operation and 31.3.2014 are given hereunder:-

(₹ in lakh)

Particulars	Cost on date of commercial operation				Cost on 31.3.2014			
	Asset-I	Asset-II	Asset-III	Asset-IV	Asset-I	Asset-II	Asset-III	Asset-IV
Debt	366.07	58.09	284.16	231.74	609.40	381.85	499.96	485.18
Equity	156.89	24.90	121.78	99.32	261.17	163.65	214.27	207.93
Total	522.96	82.99	405.94	331.06	870.57	545.50	714.23	693.11

22. Debt and equity in all cases are in ratio of 70:30 and therefore equity deployed by the petitioner has been considered for the purpose of determination of Return on Equity (RoE).

Return on equity

23. Regulation 15 of the 2009 Tariff Regulations provides as under:-

“15. (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 12.

(2) Return on equity shall be computed on pre-tax basis at the base rate of 15.5% for thermal generating stations, transmission system and run of the river generating station, and 16.5% for the storage type generating stations including pumped storage hydro generating stations and run of river generating station with pondage and shall be grossed up as per clause (3) of this regulation:

Provided that in case of projects commissioned on or after 1st April, 2009, an additional return of 0.5% shall be allowed if such projects are completed within the timeline specified in **Appendix-II**:

Provided further that the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever.

(3) The rate of return on equity shall be computed by grossing up the base rate with the Minimum Alternate/Corporate Income Tax Rate for the year 2008-09, as per the Income Tax Act, 1961, as applicable to the concerned generating company or the transmission licensee, as the case may be:

(4) Rate of return on equity shall be rounded off to three decimal points and be computed as per the formula given below:

$$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$$

Where t is the applicable tax rate in accordance with clause (3) of this regulation.

(5) The generating company or the transmission licensee as the case may be, shall recover the shortfall or refund the excess Annual Fixed charge on account of Return on Equity due to change in applicable Minimum Alternate/ Corporate Income Tax Rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission;

Provided further that Annual Fixed charge with respect to the tax rate applicable to the generating company or the transmission licensee, as the case may be, in line with the provisions of the relevant Finance Acts of the respective financial year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations".

24. The petitioner has claimed RoE at the rate of 15.5% in accordance with clause (2) of Regulation 15 of the 2009 Tariff Regulations. Initially, the petitioner claimed additional RoE at the rate of 0.5% in accordance with first proviso to clause (2) of Regulation 15. However, when it submitted the revised calculations of the transmission charges under affidavit dated 8.8.2013, it has not claimed additional RoE. Therefore, RoE has been allowed at base rate of 15.5%. RoE allowed for the years 2012-2013 and 2013-2014 is given below:-

(₹ in lakh)

Description	Equity on date of commercial operation	Average equity - 2012-13	Return on equity for 2012-13	Average equity - 2013-14	Return on equity for 2013-14
Asset-I	156.89	184.22	32.20	236.36	41.32
Asset-II	24.90	85.52	14.95	154.90	27.08
Asset-III	121.78	144.91	23.22	191.16	33.42
Asset-IV	99.32	128.67	20.62	182.98	31.99

Interest on loan

25. Regulation 16 of the 2009 Tariff Regulations provides as under:-

“16. **Interest on loan capital** (1) The loans arrived at in the manner indicated in regulation 12 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2009 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2009 from the gross normative loan.

(3) The repayment for the year of the tariff period 2009-14 shall be deemed to be equal to the depreciation allowed for that year:

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed.

(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the project:

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.

(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.

(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.

(8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.

(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute:

Provided that the beneficiary or the transmission customers shall not withhold any payment on account of the interest claimed by the generating company

or the transmission licensee during the pendency of any dispute arising out of re-financing of loan.”

26. In keeping with the provisions of Regulation 16 of the 2009 Tariff Regulations, the petitioner’s entitlement to interest on loan has been calculated on the following basis:-

(a) Gross amount of loan, repayment of instalments and rate of interest and weighted average rate of interest on actual average loan have been considered as per the petition.

(b) The repayment for the tariff period 2009-14 shall be deemed to be equal to the depreciation allowed for that period.

(c) Weighted average rate of interest on actual average loan worked out as per (a) above is applied on the notional average loan during the year to arrive at the interest on loan.

27. Detailed calculations in support of the weighted average rates of interest have been given in Annexure I to IV of this order.

28. Based on the above, interest on loan has been calculated as given overleaf:-

(₹ in lakh)

Particulars	Asset - I		Asset - II		Asset - III		Asset - IV	
	2012-13	2013-14	2012-13	2013-14	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Gross Normative Loan	366.07	493.61	58.09	341.02	284.16	392.11	231.74	368.71
Cumulative Repayment upto previous year	0.00	32.42	0.00	15.05	0.00	23.38	0.00	20.76
Net Loan-Opening	366.07	461.19	58.09	325.97	284.16	368.73	231.74	347.95
Addition due to additional capital expenditure	127.54	115.79	282.93	40.83	107.95	107.86	136.97	116.47
Repayment during the year	32.42	41.60	15.05	27.26	23.38	33.64	20.76	32.20
Net Loan-Closing	461.19	535.38	325.97	339.53	368.73	442.94	347.95	432.21
Average Loan	413.63	498.28	192.03	332.75	326.44	405.83	289.85	390.08
Weighted Average Rate of Interest on Loan	9.1735%	9.1252%	8.9397%	8.9011%	9.2291%	9.2291%	9.1248%	9.0644%
Interest	37.94	45.47	17.17	29.62	27.62	37.45	24.24	35.36

Depreciation

29. Regulation 17 of the 2009 Tariff Regulations provides as under:-

“17. **Depreciation** (1) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission.

(2) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.

Provided that in case of hydro generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation of the site;

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond

to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff.

(3) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

(4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-III to these regulations for the assets of the generating station and transmission system:

Provided that, the remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the assets.

(5) In case of the existing projects, the balance depreciable value as on 1.4.2009 shall be worked out by deducting the cumulative depreciation as admitted by the Commission up to 31.3.2009 from the gross depreciable value of the assets.

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

30. The petitioner has claimed actual depreciation. In our calculations, depreciation has been calculated in accordance with clause (4) of Regulation 17 extracted above.

31. Asset-I and Asset-II were put under commercial operation on 1.4.2012 and Asset-III and Asset-IV on 1.5.2012. Accordingly, both the assets will complete 12 years beyond 2013-14 and hence depreciation has been calculated annually based on Straight Line Method at the rate of depreciation of 5.28% specified in Appendix-III to the 2009 Tariff Regulations for sub-station, as per details given overleaf:-

(₹ in lakh)

Particulars	Asset - I		Asset - II		Asset - III		Asset - IV	
	2012-13	2013-14	2012-13	2013-14	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Opening Gross Block	522.96	705.16	82.99	487.17	405.94	560.15	331.06	526.73
Addition due to Projected Additional Capitalisation	182.20	165.41	404.18	58.33	154.21	154.08	195.67	166.38
Closing Gross Block	705.16	870.57	487.17	545.50	560.15	714.23	526.73	693.11
Average Gross Block	614.06	787.87	285.08	516.33	483.05	637.19	428.90	609.92
Rate of Depreciation	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%
Depreciable Value	552.65	709.08	256.57	464.70	434.74	573.47	386.01	548.93
Remaining Depreciable Value	552.65	676.66	256.57	449.65	434.74	550.09	386.01	528.17
Depreciation	32.42	41.60	15.05	27.26	23.38	33.64	20.76	32.20

Operation & maintenance expenses

32. Clause (g) of Regulation 19 of the 2009 Tariff Regulations prescribes the norms for operation and maintenance expenses for the transmission system based on the type of sub-station and the transmission line. Norms prescribed in respect of the elements covered in the instant petition are as under:-

Element	2009-10	2010-11	2011-12	2012-13	2013-14
400 kV bays (₹ lakh per bay)	52.40	55.40	58.57	61.92	65.46

33. The allowable O&M expenses for the assets are given hereunder:-

(₹ in lakh)

Element	2012-13	2013-14
Asset-I: 1 no. 400 kV bay	61.92	65.46
Asset-II: 1 no. 400 kV bay	61.92	65.46
Asset-III: 1 no. 400 kV bay	56.76	65.46
Asset: IV: 1 no. 400 kV bay	56.76	65.46

34. The petitioner has stated that O&M expenditure for 2009-14 tariff block had been arrived on the basis of normalized actual O&M expenses of the petitioner during the year 2003-04 to 2007-08. The wage hike of 50% on account of pay revision of the employees of public sector undertaking was also considered while calculating the O&M charges for tariff period 2009-14. The petitioner has submitted that it reserved the right to approach the Commission for suitable revision in the norms for O&M expenditure in case the impact of wage hike w.e.f 1.1.2007 is more than 50%.

35. While specifying the norms for Operation and Maintenance Expenses, the Commission has in the 2009 Tariff Regulations already factored 50% on account of pay revision of the employees of PSUs after extensive consultation with the stakeholders. At this stage there does not seem to be any justification for deviating from the norms. However, in case the petitioner separately approaches the Commission by making an appropriate application, the same shall be dealt with in accordance with law.

Interest on working capital

36. The petitioner is entitled to claim interest on working capital as per the 2009 Tariff Regulations. The components of the working capital and the petitioner's entitlement to interest thereon are discussed hereunder:-

(i) Receivables

As per Regulation 18(1) (c) (i) of the 2009 Tariff Regulations, receivables as a component of working capital will be equivalent to two months' of fixed cost. The petitioner has claimed the receivables on the basis of 2 months' of annual transmission charges claimed in the petition. In the tariff

being allowed, receivables have been worked out on the basis of 2 months' transmission charges.

(ii) Maintenance spares

Regulation 18 (1) (c) (ii) of the 2009 Tariff Regulations provides for maintenance spares @ 15% of the O & M expenses specified in Regulation 19 of the 2009 Tariff Regulations, as part of the working capital from 1.4.2009. The value of maintenance spares has accordingly been worked out.

(iii) O & M expenses

Regulation 18(1) (c) (iii) of the 2009 Tariff Regulations provides for operation and maintenance expenses for one month to be included in the working capital. The petitioner has claimed O&M expenses for one month of the respective year. This has been considered in the working capital.

(iv) Rate of interest on working capital

In accordance with clause (3) of Regulation 18 of the 2009 Tariff Regulations, as amended, rate of interest on working capital shall be on normative basis and shall be equal to State Bank of India Base Rate of 10.00% plus 350 bps as on 1.4.2011 (13.50%). The interest on working capital for the assets covered in the petition has been worked out accordingly.

37. Necessary computations in support of interest on working capital are given overleaf:-

(₹ in lakh)

Particulars	Asset - I		Asset - II		Asset - III		Asset - IV	
	2012-13	2013-14	2012-13	2013-14	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Maintenance Spares	9.29	9.82	9.29	9.82	9.29	9.82	9.29	9.82
O & M Expenses	5.16	5.46	5.16	5.46	5.16	5.46	5.16	5.46
Receivables	28.38	33.40	18.93	25.83	24.69	29.33	23.10	28.49
Total	42.83	48.68	33.38	41.10	39.14	44.61	37.54	43.76
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	5.78	6.57	4.51	5.55	4.84	6.02	4.65	5.91

Transmission charges

38. The transmission charges being allowed for the assets are summarized hereunder:-

(₹ in lakh)

Particulars	Asset - I		Asset - II		Asset - III		Asset - IV	
	2012-13	2013-14	2012-13	2013-14	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Depreciation	32.42	41.60	15.05	27.26	23.38	33.64	20.76	32.20
Interest on Loan	37.94	45.47	17.17	29.62	27.62	37.46	24.24	35.36
Return on Equity	32.20	41.32	14.95	27.08	23.22	33.42	20.62	31.99
Interest on Working Capital	5.78	6.57	4.51	5.55	4.84	6.02	4.65	5.91
O & M Expenses	61.92	65.46	61.92	65.46	56.76	65.46	56.76	65.46
Total	170.26	200.42	113.60	154.97	135.82	176.00	127.03	170.92

39. The transmission charges allowed for Asset-III and Asset-IV for the year 2012-13 are on proportionate basis for 11 months. Except in case of Asset-II, the transmission charges claimed by the petitioner and those allowed are same. As regards Asset-II, the transmission charges allowed are slightly lower as compared to those claimed by the petitioner. This is for the reason of reduction in

capital cost of Asset-II on account of adjustment of the initial spares in excess of normative ceiling limit capitalized by the petitioner.

40. The transmission charges allowed are subject to truing up in accordance with the 2009 Tariff Regulations.

Filing fee and the publication expenses

41. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. In accordance with the Commission's order dated 11.1.2010 in Petition No. 109/2009, the petitioner shall be entitled to recover the filing fee directly from the beneficiaries on *pro-rata* basis. The petitioner shall also be entitled for reimbursement of the publication expenses in connection with the present petition, directly from the beneficiaries on *pro-rata* basis.

Licence fee

42. The petitioner has submitted that in O&M norms for tariff block 2009-14 the cost associated with license fees had not been captured and the license fee may be allowed to be recovered separately from the respondents.

43. The petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 42 A (1) (b) of the 2009 Tariff Regulations

Service tax

44. The petitioner has made a prayer to be allowed to bill and recover the service tax on transmission charges separately from the respondents, if it is

subjected to such service tax in future. We consider petitioner's prayer premature and accordingly this prayer is rejected.

Sharing of Transmission Charges

45. The billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of inter-state transmission charges and losses) Regulations, 2010, as amended from time to time.

46. This order disposes of Petition No. 102/TT/2012.

sd/-

(M. Deena Dayalan)
Member

sd/-

(V.S. Verma)
Member

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

	Details of Loan	2012-13	2013-14
1	Bond XXXVIII		
	Gross loan opening	306.07	306.07
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	306.07	306.07
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	306.07	306.07
	Average Loan	306.07	306.07
	Rate of Interest	9.25%	9.25%
	Interest	28.31	28.31
	Rep Schedule	Bullet Payment on 09.03.2027	
2	Bond XXXIV		
	Gross loan opening	20.00	20.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	20.00	20.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	20.00	20.00
	Average Loan	20.00	20.00
	Rate of Interest	8.84%	8.84%
	Interest	1.77	1.77
	Rep Schedule	12 annual instalments from 21.10.2014	
3	Bond XXXVI		
	Gross loan opening	40.00	40.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	40.00	40.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	40.00	40.00
	Average Loan	40.00	40.00
	Rate of Interest	9.35%	9.35%
	Interest	3.74	3.74
	Rep Schedule	15 annual instalments from 29.08.2016	
4	Bond XLII (Add cap for 2012-2013)		
	Gross loan opening	0.00	127.54
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	127.54
	Additions during the year	127.54	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	127.54	127.54
	Average Loan	63.77	127.54
	Rate of Interest	8.80%	8.80%
	Interest	5.61	11.22
	Rep Schedule	Bullet payment on 13.03.2023	

Total Loan		
Gross loan opening	366.07	493.61
Cumulative Repayment upto DOCO/previous year	0.00	0.00
Net Loan-Opening	366.07	493.61
Additions during the year	127.54	0.00
Repayment during the year	0.00	0.00
Net Loan-Closing	493.61	493.61
Average Loan	429.84	493.61
Rate of Interest	9.1735%	9.1252%
Interest	39.43	45.04

Annexure II

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

	Details of Loan	2012-13	2013-14
1	Bond XXXVIII		
	Gross loan opening	39.05	39.05
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	39.05	39.05
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	39.05	39.05
	Average Loan	39.05	39.05
	Rate of Interest	9.25%	9.25%
	Interest	3.61	3.61
	Rep Schedule	Bullet Payment on 09.03.2027	
2	Bond XXXIV		
	Gross loan opening	14.00	14.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	14.00	14.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	14.00	14.00
	Average Loan	14.00	14.00
	Rate of Interest	8.84%	8.84%
	Interest	1.24	1.24
	Rep Schedule	12 annual instalments from 21.10.2014	
3	Bond XXXVI		
	Gross loan opening	6.00	6.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	6.00	6.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	6.00	6.00
	Average Loan	6.00	6.00
	Rate of Interest	9.35%	9.35%
	Interest	0.56	0.56
	Rep Schedule	15 annual instalments from 29.08.2016	
4	Bond XLII (Add cap for 2012-2013)		
	Gross loan opening	0.00	19.90
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	19.90
	Additions during the year	19.90	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	19.90	19.90
	Average Loan	9.95	19.90
	Rate of Interest	8.80%	8.80%
	Interest	0.88	1.75
	Rep Schedule	Bullet payment on 13.03.2023	

5	Bond XLI (Add cap for 2012-2013)		
	Gross loan opening	0.00	263.03
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	263.03
	Additions during the year	263.03	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	263.03	263.03
	Average Loan	131.52	263.03
	Rate of Interest	8.85%	8.85%
	Interest	11.64	23.28
	Rep Schedule	12 annual instalments from 19.10.2016	
	Total Loan		
	Gross loan opening	59.05	341.98
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	59.05	341.98
	Additions during the year	282.93	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	341.98	341.98
	Average Loan	200.52	341.98
	Rate of Interest	8.9397%	8.9011%
	Interest	17.93	30.44

Annexure III

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

	Details of Loan	2012-13	2013-14
1	Bond XXXVIII		
	Gross loan opening	232.53	232.53
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	232.53	232.53
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	232.53	232.53
	Average Loan	232.53	232.53
	Rate of Interest	9.25%	9.25%
	Interest	21.51	21.51
	Rep Schedule	Bullet Payment on 09.03.2027	
2	Bond XXXIV		
	Gross loan opening	19.90	19.90
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	19.90	19.90
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	19.90	19.90
	Average Loan	19.90	19.90
	Rate of Interest	8.84%	8.84%
	Interest	1.76	1.76
	Rep Schedule	12 annual instalments from 21.10.2014	
3	Bond XXXVI		
	Gross loan opening	30.00	30.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	30.00	30.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	30.00	30.00
	Average Loan	30.00	30.00
	Rate of Interest	9.35%	9.35%
	Interest	2.81	2.81
	Rep Schedule	15 annual instalments from 29.08.2016	
4	Bond XLII		
	Gross loan opening	1.73	1.73
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	1.73	1.73
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	1.73	1.73
	Average Loan	1.73	1.73
	Rate of Interest	8.80%	8.80%
	Interest	0.15	0.15
	Rep Schedule	Bullet payment on 13.03.2023	
	Total Loan		

Gross loan opening	284.16	284.16
Cumulative Repayment upto DOCO/previous year	0.00	0.00
Net Loan-Opening	284.16	284.16
Additions during the year	0.00	0.00
Repayment during the year	0.00	0.00
Net Loan-Closing	284.16	284.16
Average Loan	284.16	284.16
Rate of Interest	9.2291%	9.2291%
Interest	26.23	26.23

Annexure IV

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

	Details of Loan	2012-13	2013-14
1	Bond XXXVIII		
	Gross loan opening	185.56	185.56
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	185.56	185.56
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	185.56	185.56
	Average Loan	185.56	185.56
	Rate of Interest	9.25%	9.25%
	Interest	17.16	17.16
	Rep Schedule	Bullet Payment on 09.03.2027	
2	Bond XXXIV		
	Gross loan opening	20.00	20.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	20.00	20.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	20.00	20.00
	Average Loan	20.00	20.00
	Rate of Interest	8.84%	8.84%
	Interest	1.77	1.77
	Rep Schedule	12 annual instalments from 21.10.2014	
3	Bond XXXVI		
	Gross loan opening	24.00	24.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	24.00	24.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	24.00	24.00
	Average Loan	24.00	24.00
	Rate of Interest	9.35%	9.35%
	Interest	2.24	2.24
	Rep Schedule	15 annual instalments from 29.08.2016	
4	Bond XLII		
	Gross loan opening	2.18	139.15
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	2.18	139.15
	Additions during the year	136.97	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	139.15	139.15
	Average Loan	70.67	139.15
	Rate of Interest	8.80%	8.80%
	Interest	6.22	12.25
	Rep Schedule	Bullet payment on 13.03.2023	

Total Loan		
Gross loan opening	231.74	368.71
Cumulative Repayment upto DOCO/previous year	0.00	0.00
Net Loan-Opening	231.74	368.71
Additions during the year	136.97	0.00
Repayment during the year	0.00	0.00
Net Loan-Closing	368.71	368.71
Average Loan	300.23	368.71
Rate of Interest	9.1248%	9.0644%
Interest	27.39	33.42