

CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No. 198/TT/2012

Coram:

**Shri Gireesh B. Pradhan, Chairperson
Shri M. Deena Dayalan, Member
Shri A. K. Singhal, Member**

Date of Hearing: 21.11.2013

Date of Order : 07.08.2014

In the matter of:

Approval of transmission tariff for Asset-I: 400 kV, 125 MVAR Bus Reactor-I at Sasaram S/S along with associated bays; Asset-II: 400 kV, 125 MVAR Bus Reactor -II at Sasaram S/S along with associated bays, and Asset-III: 2 Nos. 50 MVAR switchable Line Reactors at Maithon S/S under Common Scheme for 765 kV Pooling Stations and Network for NR, Import by NR from ER and from NER/SR/WR via ER and Common Scheme for network for WR and Import by WR from ER and from NER/SR/WR via ER in Eastern Region for tariff block 2009-14 period.

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 Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur
4. Jodhpur Vidyut Vitran Nigam Ltd.,
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur

5. Himachal Pradesh State Electricity Board,
Vidyut Bhawan, Kumar House Complex Building II,
Shimla-171 004
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 Department,
Govt. of Jammu and Kashmir,
Mini Secretariat, Jammu
9. UP 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 66/11kV Pitampura-3,
Grid Building, Near PP Jewelers,
Pitampura, New Delhi-110 034
14. Chandigarh Administration,
Sector-9, Chandigarh
15. Uttarakhand 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

The following were present:

1. Shri S S Raju, PGCIL
2. Ms. Sangeeta Edwards, PGCIL
3. Shri B.K. Sahoo, PGCIL
4. Shri A.M. Pavgi, PGCIL

ORDER

This petition has been filed by Power Grid Corporation of India Ltd. for approval of transmission tariff for Asset-I: 400 kV, 125 MVAR Bus Reactor-I at Sasaram Sub-station along with associated bays; Asset-II: 400 kV, 125 MVAR Bus Reactor-II at Sasaram Sub-station along with associated bays; and Asset-III: 2 Nos. 50 MVAR switchable Line Reactors at Maithon Sub-station under Common Scheme for 765 kV Pooling Stations and Network for NR, Import by NR from ER and from NER/SR/WR via ER and Common Scheme for network for WR and Import by WR from ER and from NER/SR/WR via ER in Eastern Region for the period from the respective dates of commercial operation to 31.3.2014, in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as “the 2009 Tariff Regulations”).

2. The Investment approval for the Common Scheme for 765 kV Pooling Stations and Network for NR, Import by NR from ER and from NER/SR/WR via ER and Common Scheme for network for WR and Import by WR from ER and from NER/SR/WR via ER in Eastern Region was accorded by Board of Directors of the Petitioner Company vide Memorandum No. C/CP/DVC and Maithon RB Project, dated 29th August, 2008, at estimated expenditure of ₹ 707533 lakh including an IDC of ₹ 71360 lakh, based on 1st Quarter 2008 price level.

3. The scope of work covered under the project is as follows:

Transmission Lines:

- (a) Maithon-Gaya 400 kV Quad D/C line – 235 Km
- (b) Gaya-Sasaram 765 kV S/C line – 148 Km
- (c) Gaya-Balia 765 kV S/C line – 235.10 Km
- (d) Balia-Lucknow 765 kV S/C line – 316 Km
- (e) Ranchi-WR Pooling Station 765 kV S/C line – 372 Km
- (f) Lucknow 765/400 kV new sub-station-Lucknow 400/220 kV existing sub-station 400kV quad D/C line – 40 Km
- (g) Ranchi 765/400 kV new sub-station-Ranchi 400/220 kV existing sub-station 400kV Quad 2xD/C line – 110 Km
- (h) LILO of both circuits of Allahabad-Mainpuri 400 kV D/C line at Fatehpur 765/400 kV sub-station of POWERGRID – 34 Km
- (i) LILO of Barh- Balia 400 kV quad D/C line at Patna – 25 Km

Sub-stations

- (a) Augmentation of Maithon 400/220 kV sub-station
 - 2 nos. 400 kV line bays (for terminating Maithon-Gaya D/C line)
 - 2 nos. 400 kV line bays (for terminating Mejia-Maithon D/C line)
 - (b) New 765/400 kV sub-station at Gaya
 - 3x1500 MVA, 765/400 kV Transformer alongwith associated bays
 - 2 nos. 765 kV line bays (for Gaya-Sasaram & Gaya-Balia 765 kV lines)
 - 4 nos. 400 kV line bays (for Maithon-Gaya line & Kodarma-Gaya line)
 - (c) New 765/400 kV sub-station at Sasaram
 - 2x1500 MVA, 765/400 kV Transformer along with associated bays
 - 2 nos. 765 kV line bays (for Gaya-Sasaram 765 kV S/C & Sasaram -Fatehpur 765 kV S/C)
 - 2 nos. 400 kV bays (for Biharsharif- Sasaram 400 kV quad D/C line)
- *NOTE: New 765 / 400 kV sub-station at Sasaram is to be accommodated in the premises of existing Sasaram sub-station.

- (d) Augmentation of Biharsharif 400/220 kV sub-station
- 2 nos. 400 kV bays (for Biharsharif- Sasaram 400 kV Quad D/C line)
- (e) New 765/400 kV Sub-station at Fatehpur
- 2x 1500 MVA, 765/400 kV Transformer alongwith associated bays
 - 2 nos. 765 kV line bays (for Sasaram-Fatehpur & Fatehpur-Agra 765 kV lines)
 - 4 nos. 400 kV line bays (for LILO of Allahabad-Mainpuri 400 kV D/C line)
- (f) Augmentation of 400 kV Agra sub-station to 765 kV
- 2x1500 MVA, 765/400 kV transformer along with associated bays
 - 1 no. 765 kV line bay (for Fatehpur-Agra 765 kV line)
- (g) Augmentation of 400 kV Balia sub-station to 765 kV
- 2x1500 MVA, 765/400 kV transformer along with associated bays
 - 2 nos. 765 kV line bays (for Gaya-Balia & Balia-Lucknow 765 kV lines)
- (h) New 765/400 kV Sub-station at Lucknow
- 2x1500 MVA, 765/400 kV transformer along with associated bays
 - 1 no. 765 kV line bay (for Balia-Lucknow 765 kV line)
 - 2 nos. 400 kV bays (for Lucknow 765/400 kV new Sub-station- Lucknow 400/220 kV existing Sub-station 400 kV quad D/C line)
- (i) Augmentation of existing Lucknow 400/220 kV Sub-station
- 2 nos. 400 kV bays (for Lucknow 765/400 kV new sub-station- Lucknow 400/220 kV existing Sub-station 400 kV quad D/C line)
- (j) New 2x1500 MVA, 765/400 kV sub-station at Ranchi
- 1 no. 765 kV line bays (for Ranchi-WR Pooling 765 kV S/C line)
 - 4 nos. 400 kV bays (for Ranchi 400 kV new Sub-station - Ranchi 400/220 kV existing sub-station 400 kV quad 2xD/C line)

- (k) Augmentation of Ranchi 400/220 kV Sub-station
- 6 nos. 400 kV bays (4 nos. for Ranchi 765/400 kV new sub-station - Ranchi 400/220 kV existing sub-station 400 kV quad 2xD/C line and 2 nos. for Raghunathpur TPS - Ranchi line)
- (l) 765/400 kV WR Pooling sub-station
- 1 no. 765 kV line bays (for Ranchi - WR Pooling 765 kV S/C line)
- (m) Augmentation of Patna 400/220 kV sub-station
- 4 nos. 400 kV line bay (for LILO of Barh- Balia 400 kV Quad line)

4. The scheme includes 9 transmission lines and 13 sub-stations, out of which only 3 assets i.e. 2 bus-reactors at Sasaram sub-station and 2 nos. 50 MVAR line reactors at Maithon sub-station are covered in the instant petition. Actual DOCO of the assets and their commissioning schedule as per Investment Approval is given hereunder:-

| Sl.No. | Name of the Asset | Schedule of commissioning as per FR | Actual DOCO |
|--------|--|-------------------------------------|-------------|
| 1 | Asset-I: 400 kV, 125 MVAR Bus Reactor –I at Sasaram Substation alongwith associated bays | 1.9.2012 | 1.6.2012 |
| 2 | Asset-II: 400 kV, 125 MVAR Bus Reactor –II at Sasaram Substation along with associated bays | 1.9.2012 | 1.4.2012 |
| 3 | Asset-III: 2 Nos. 50 MVAR switchable Line Reactors at Maithon substation | 1.9.2012 | 1.4.2012 |

5. The petitioner has submitted Auditor's Certificates dated 25.6.2012, 25.5.2012 and 27.7.2012 in support of the expenditure up to the actual DOCO of the Asset-I, Asset-II and Asset-III respectively. Details of apportioned approved cost, actual expenditure incurred as on date of commercial operation and additional capital expenditure incurred/ projected to be incurred for the period from dates of commercial operation to 31.3.2014, based on audited accounts up to 31.3.2012 is given overleaf:-

(₹ in lakh)

| Name of asset | Apportioned approved cost | Expenditure incurred up to DOCO | Estimated additional capital expenditure | | Total estimated completion cost |
|------------------|---------------------------|---------------------------------|--|---------|---------------------------------|
| | | | DOCO to 31.03.2013 | 2013-14 | |
| Asset-I | 1499.02 | 833.25 | 375.07 | 255.45 | 1463.77 |
| Asset-II | 1499.02 | 957.18 | 258.33 | 255.45 | 1470.96 |
| Asset-III | 3025.99 | 1824.15 | 197.00 | 0.00 | 2021.15 |

6. Details of the transmission charges claimed by the petitioner are as under:-

(₹ in lakh)

| Asset - I | | |
|-----------------------------|---------------|---------------|
| | 2012-13 | 2013-14 |
| Depreciation | 44.91 | 70.54 |
| Interest on Loan | 54.78 | 81.22 |
| Return on equity | 44.61 | 70.07 |
| Interest on Working Capital | 6.17 | 8.72 |
| O & M Expenses | 51.60 | 65.46 |
| Total | 202.07 | 296.01 |

(₹ in lakh)

| Asset - II | | |
|-----------------------------|---------------|---------------|
| | 2012-13 | 2013-14 |
| Depreciation | 57.36 | 70.92 |
| Interest on Loan | 69.39 | 80.36 |
| Return on equity | 56.97 | 70.44 |
| Interest on Working Capital | 7.65 | 8.72 |
| O & M Expenses | 61.92 | 65.46 |
| Total | 253.29 | 295.90 |

(₹ in lakh)

| Asset - III | | |
|-----------------------------|---------------|---------------|
| | 2012-13 | 2013-14 |
| Depreciation | 102.18 | 107.39 |
| Interest on Loan | 116.40 | 113.17 |
| Return on equity | 100.83 | 105.99 |
| Interest on Working Capital | 21.03 | 21.98 |
| O & M Expenses | 247.68 | 261.84 |
| Total | 588.12 | 610.37 |

7. Details submitted by the petitioner in support of its claim for interest on working capital are given overleaf:-

(₹ in lakh)

| Asset – I | | |
|--------------------|--------------|--------------|
| | 2012-13 | 2013-14 |
| Maintenance Spares | 9.29 | 9.82 |
| O & M expenses | 5.16 | 5.46 |
| Receivables | 40.41 | 49.34 |
| Total | 54.86 | 64.62 |
| Interest | 6.17 | 8.72 |
| Rate of Interest | 13.50% | 13.50% |

(₹ in lakh)

| Asset – II | | |
|--------------------|--------------|--------------|
| | 2012-13 | 2013-14 |
| Maintenance Spares | 9.29 | 9.82 |
| O & M expenses | 5.16 | 5.46 |
| Receivables | 42.22 | 49.32 |
| Total | 56.67 | 64.60 |
| Interest | 7.65 | 8.72 |
| Rate of Interest | 13.50% | 13.50% |

(₹ in lakh)

| Asset – III | | |
|--------------------|---------------|---------------|
| | 2012-13 | 2013-14 |
| Maintenance Spares | 37.15 | 39.28 |
| O & M expenses | 20.64 | 21.82 |
| Receivables | 98.02 | 101.73 |
| Total | 155.81 | 162.83 |
| Interest | 21.03 | 21.98 |
| Rate of Interest | 13.50% | 13.50% |

8. No comments have been received from the general public in response to the notices published in news papers by the petitioner under Section 64 of the Electricity Act, 2003. Ajmer Vidyut Vitran Nigam Ltd., Respondent No. 2, has filed reply, vide affidavit dated 16.10.2012, raising issues regarding initial spares, reasons for delay in filing the petition, etc.

9. We have heard the representatives of the parties present at the hearing and have perused the material 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

10. Regulation 7(1) of the 2009 Tariff Regulations so far as irrelevant 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.”

11. Details of capital cost as on the dates of commercial operation of the assets claimed by the petitioner as per the respective Auditor Certificates dated 25.06.2012, 25.05.2012 and 27.07.2012 and the period for which tariff has been awarded in this petition are as under:

(₹ in lakh)

| Assets | DOCO | Capital Cost as on DOCO | Applicable Period of Tariff |
|-----------|----------|-------------------------|-----------------------------|
| Asset-I | 1.6.2012 | 833.25 | 1.6.2012 to 31.3.2014 |
| Asset-II | 1.4.2012 | 957.18 | 1.4.2012 to 31.3.2014 |
| Asset-III | 1.4.2012 | 1824.15 | 1.4.2012 to 31.3.2014 |

Cost Over-run

12. Total estimated capital cost up to 31.3.2014 of all the assets covered in the instant petition falls within the apportioned approved cost. Accordingly, there is no cost over-run. We, however, direct the petitioner that in all tariff petitions to be submitted in future, the petitioner shall submit project details on the basis of which FR cost estimates in respect of the assets covered in the petition were prepared and actual cost along with reason for variation, if any as per the following format:-

| S No | Element | Basis forming FR Cost | | | | | | | | | FR Cost | | | Actual Cost | | | Remarks |
|------|---------|-----------------------|---|----|-----------|---|----|-----------|---|----|-----------|---|----|-------------|---|----|---------|
| | | Project-1 | | | Project-2 | | | Project-3 | | | Estimated | | | | | | |
| | | Q | R | PL | Q | R | PL | Q | R | PL | Q | R | PL | Q | R | PL | |
| 1 | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | |

Q-Quantity R-Rate PL-Price Level

Time Over-run

13. Further, as per investment approval, the Scheme was scheduled to be completed within 48 months, progressively from the date of investment approval, i.e., by 1.9.2012. Since the Asset I is commissioned on 1.6.2012 and Assets II and III on 1.4.2012, there is no delay in commissioning of the assets.

Initial Spares

14. Regulation 8 of 2009 Tariff Regulations provides for capitalization of initial spares as a percentage of the original project cost, subject to following ceiling norms:

| | |
|---|-------|
| Transmission line | 0.75% |
| Transmission Sub-station | 2.5% |
| Series compensation devices & HVDC Station | 3.5% |

15. The petitioner has claimed initial spares amounting to ₹ 35.00 lakh, ₹ 35.00 lakh and ₹ 57.13 lakh for Asset-I, Asset-II and Asset-III respectively. In respect of Asset-I and Asset-II, initial spares, as considered in the Auditor's Certificates dated 25.6.2012 and 25.5.2012, are within the ceiling norms prescribed in the 2009 Tariff Regulations. However, in respect of Asset-III, initial spares are in excess of the ceiling prescribed. The excess amount in this regard has been deducted to arrive at the capital cost admissible for the purpose of tariff for the said Asset-III. Detailed calculations are below:-

| (₹ in lakh) | | | | | |
|------------------|--------------------------------------|------------------------|---|---------------------------|-----------------------|
| Particulars | Capital Cost claimed as on 31.3.2014 | Initial spares claimed | Ceiling Limits as per 2009 Tariff Regulations | Initial spares worked out | Excess initial spares |
| Asset-I | 1463.77 | 35.00 | 2.50% | 36.64 | - |
| Asset-II | 1470.96 | 35.00 | 2.50% | 36.82 | - |
| Asset-III | 2021.15 | 57.13 | 2.50% | 50.36 | 6.77 |

16. Based on the above, capital cost computed for the purpose of tariff determination after adjustment towards excess initial spares in respect of Asset – III is as under:

| (₹ in lakh) | | | | |
|------------------|---|---|---|---|
| Particulars | Capital Cost before adjustment of IEDC/IDC & initial spares, as on DOCO | Deduction in respect of Excess IDC/IEDC | Deduction in respect of Excess Initial Spares | Capital Cost considered for the purpose of tariff after scrutiny of IEDC/IDC & Initial Spares, as on DOCO |
| Asset-I | 833.25 | 0.00 | 0.00 | 833.25 |
| Asset-II | 957.18 | 0.00 | 0.00 | 957.18 |
| Asset-III | 1824.15 | 0.00 | 6.77 | 1817.38 |

Additional Capital Expenditure

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

“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”

18. Further, Regulation 3(11) 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 of 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”.

19. Details of the projected additional capital expenditure claimed by the petitioner are as under:

| Particulars | Projected additional capital expenditure | | (₹ in lakh) Total |
|------------------|--|---------|----------------------|
| | 2012-13 | 2013-14 | |
| Asset-I | 375.07 | 255.45 | 630.52 |
| Asset-II | 258.33 | 255.45 | 513.78 |
| Asset-III | 197.00 | 0.00 | 197.00 |

20. Additional capital expenditure claimed by the petitioner falls within the cut-off date and is on account of balance and retention payments. Hence, the same has been allowed under Regulations 9 (1) of the 2009 Tariff Regulations.

Debt- Equity Ratio

21. 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.”

22. Details of debt-equity in respect of the assets covered in this petition as on date of commercial operation are as under:-

| (₹ in lakh) | | |
|-------------------|-----------------|---------------|
| Particulars | Cost as on DOCO | |
| | Amount | % |
| Asset-I | | |
| Debt | 583.28 | 70.00 |
| Equity | 249.97 | 30.00 |
| Total | 833.25 | 100.00 |
| Asset- II | | |
| Debt | 670.03 | 70.00 |
| Equity | 287.15 | 30.00 |
| Total | 957.18 | 100.00 |
| Asset- III | | |
| Debt | 1272.17 | 70.00 |
| Equity | 545.21 | 30.00 |
| Total | 1817.38 | 100.00 |

The add-cap has been considered in the debt-equity ratio of 70:30.

23. Details of debt-equity ratio of assets as on 31.3.2014 is as follows:-

(₹ in lakh)

| Particulars | Cost as on 31.3.2014 | |
|-------------------|----------------------|---------------|
| | Amount | % |
| Asset-I | | |
| Debt | 1024.64 | 70.00 |
| Equity | 439.13 | 30.00 |
| Total | 1463.77 | 100.00 |
| Asset- II | | |
| Debt | 1029.68 | 70.00 |
| Equity | 441.28 | 30.00 |
| Total | 1470.96 | 100.00 |
| Asset- III | | |
| Debt | 1410.07 | 70.00 |
| Equity | 604.31 | 30.00 |
| Total | 2014.38 | 100.00 |

Return on Equity

24. 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:

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".

25. In this order, Return on Equity has been calculated as per Regulation 15 of the 2009 regulations with pre-tax ROE of 17.481% based on the tax rate of 11.330% for the year 2008-09.

26. Return on equity allowed for the years 2012-13 and 2013-14 is given below:-

(₹ in lakh)

| Asset I | | |
|---|-----------------------|---------------|
| | 2012-13 (Pro-rata) | 2013-14 |
| Opening Equity | 249.97 | 362.49 |
| Addition due to Additional Capitalisation | 112.52 | 76.64 |
| Closing Equity | 362.49 | 439.13 |
| Average Equity | 306.23 | 400.81 |
| Return on Equity (Base Rate) | 15.50% | 15.50% |
| Tax rate for the year 2008-09 (MAT) | 11.33% | 11.33% |
| Rate of Return on Equity (Pre Tax) | 17.481% | 17.481% |
| Return on Equity (Pre Tax) | 44.61 | 70.07 |

(₹ in lakh)

| Asset II | | |
|---|---------------|---------------|
| | 2012-13 | 2013-14 |
| Opening Equity | 287.15 | 364.65 |
| Addition due to Additional Capitalisation | 77.50 | 76.64 |
| Closing Equity | 364.65 | 441.28 |
| Average Equity | 325.90 | 402.97 |
| Return on Equity (Base Rate) | 15.50% | 15.50% |
| Tax rate for the year 2008-09 (MAT) | 11.33% | 11.33% |
| Rate of Return on Equity (Pre Tax) | 17.481% | 17.481% |
| Return on Equity (Pre Tax) | 56.97 | 70.44 |

(₹ in lakh)

| Asset III | | |
|--|---------------|---------------|
| | 2012-13 | 2013-14 |
| Opening Equity | 545.21 | 604.31 |
| Addition due to Additional Capital Expenditure | 59.10 | 0.00 |
| Closing Equity | 604.31 | 604.31 |
| Average Equity | 574.76 | 604.31 |
| Return on Equity (Base Rate) | 15.50% | 15.50% |
| Tax rate for the year 2008-09 (MAT) | 11.33% | 11.33% |
| Rate of Return on Equity (Pre Tax) | 17.481% | 17.481% |
| Return on Equity (Pre Tax) | 100.47 | 105.64 |

Interest on Loan

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

“16. (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.”

28. In keeping with the provisions of Regulation 16, the petitioner's entitlement to interest on loan has been calculated on the following basis:-

- (i) Gross amount of loan, repayment of instalments and rate of interest on actual loans have been considered as per the petition.
- (ii) The yearly repayment for the tariff period 2009-14 has been considered to be equal to the depreciation allowed for that year.
- (iii) 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.

29. Detailed calculation in support of the weighted average rate of interest has been given in Annexures I to III to this order.

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

(₹ in lakh)

| Asset-I | | |
|---|-----------------------|--------------|
| | 2012-13 (Pro-rata) | 2013-14 |
| Gross Normative Loan | 583.28 | 845.83 |
| Cumulative Repayment upto Previous Year | 0.00 | 44.91 |
| Net Loan-Opening | 583.28 | 800.91 |
| Addition due to Additional Capitalisation | 262.55 | 178.82 |
| Repayment during the year | 44.91 | 70.54 |
| Net Loan-Closing | 800.91 | 909.19 |
| Average Loan | 692.10 | 855.05 |
| Weighted Average Rate of Interest on Loan | 9.4985% | 9.4992% |
| Interest | 54.78 | 81.22 |

(₹ in lakh)

| Asset II | | |
|---|--------------|--------------|
| | 2012-13 | 2013-14 |
| Gross Normative Loan | 670.03 | 850.86 |
| Cumulative Repayment upto Previous Year | 0.00 | 57.36 |
| Net Loan-Opening | 670.03 | 793.50 |
| Addition due to Additional Capitalisation | 180.83 | 178.82 |
| Repayment during the year | 57.36 | 70.92 |
| Net Loan-Closing | 793.50 | 901.39 |
| Average Loan | 731.77 | 847.45 |
| Weighted Average Rate of Interest on Loan | 9.4819% | 9.4824% |
| Interest | 69.39 | 80.36 |

(₹ in lakh)

| Asset-III | | |
|---|---------------|---------------|
| | 2012-13 | 2013-14 |
| Gross Normative Loan | 1272.17 | 1410.07 |
| Cumulative Repayment upto Previous Year | 0.00 | 101.82 |
| Net Loan-Opening | 1272.17 | 1308.25 |
| Addition due to Additional Capitalisation | 137.90 | 0.00 |
| Repayment during the year | 101.82 | 107.03 |
| Net Loan-Closing | 1308.25 | 1201.22 |
| Average Loan | 1290.21 | 1254.73 |
| Weighted Average Rate of Interest on Loan | 8.9897% | 8.9893% |
| Interest | 115.99 | 112.79 |

Depreciation

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

“17. (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.”

32. Assets covered in this petition were put under commercial operation on 1.6.2012 and 1.4.2012. Accordingly, they will complete 12 years beyond 2013-14, and hence depreciation has been calculated annually based on Straight Line Method and at rates specified in Appendix-III to the 2009 Tariff Regulations.

33. Details of the depreciation worked out are as under:-

(₹ in lakh)

| Asset I | | |
|---|-----------------------|--------------|
| | 2012-13 (Pro-rata) | 2013-14 |
| Opening Gross Block | 833.25 | 1208.32 |
| Addition during 2009-14 due to Projected Additional Capital Expenditure | 375.07 | 255.45 |
| Closing Gross Block | 1208.32 | 1463.77 |
| Average Gross Block | 1020.79 | 1336.05 |
| Rate of Depreciation | 5.2800% | 5.2800% |
| Depreciable Value | 918.71 | 1202.44 |
| Remaining Depreciable Value | 918.71 | 1157.53 |
| Depreciation | 44.91 | 70.54 |

(₹ in lakh)

| Asset II | | |
|---|--------------|--------------|
| | 2012-13 | 2013-14 |
| Opening Gross Block | 957.18 | 1215.51 |
| Addition during 2009-14 due to Projected Additional Capital Expenditure | 258.33 | 255.45 |
| Closing Gross Block | 1215.51 | 1470.96 |
| Average Gross Block | 1086.35 | 1343.24 |
| Rate of Depreciation | 5.2800% | 5.2800% |
| Depreciable Value | 977.71 | 1208.91 |
| Remaining Depreciable Value | 977.71 | 1151.55 |
| Depreciation | 57.36 | 70.92 |

(₹ in lakh)

| Asset III | | |
|---|---------------|---------------|
| | 2012-13 | 2013-14 |
| Opening Gross Block | 1817.38 | 2014.38 |
| Addition during 2009-14 due to Projected Additional Capital Expenditure | 197.00 | 0.00 |
| Closing Gross Block | 2014.38 | 2014.38 |
| Average Gross Block | 1915.88 | 2014.38 |
| Rate of Depreciation | 5.3147% | 5.3132% |
| Depreciable Value | 1724.29 | 1812.94 |
| Remaining Depreciable Value | 1724.29 | 1711.12 |
| Depreciation | 101.82 | 107.03 |

Operation & Maintenance Expenses (O&M Expenses)

34. Clause (g) of Regulation 19 of the 2009 Tariff Regulations prescribes the norms for O&M Expenses for the transmission system based on the type of sub-

station and line. Norms prescribed in respect of the elements covered in the instant petition are as under:-

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

35. The petitioner has claimed O&M Expenses in respect of 4 Nos. 400 kV bays at Maithon sub-station for installation of 2 Nos. Switchable Line Reactors. The petitioner has, vide affidavit dated 10.2.2014, submitted the following:-

(a) Two out of these four bays pertain to the bays meant for two transmission lines emanating from Maithon sub-station and the remaining two bays pertain to the switchable line reactors connected to these two lines at Maithon sub-station. Commissioning of these reactors is essential to contain the high voltage problem in Maithon sub-station, and to save the equipments from getting stressed. Percentage of time voltage remained high during two months prior to commissioning and two months after commissioning of the reactors are given below:-

| Month | % of duration in the month voltage was more than 420 kV (the max permissible limit as per IEGC) |
|--|---|
| January 2012 | 99.22% |
| February 2012 | 95.12% |
| March 2012 (Month of commissioning of the reactors) | 84.41% |
| April 2012 | 73.61% |
| May 2012 | 59.54% |

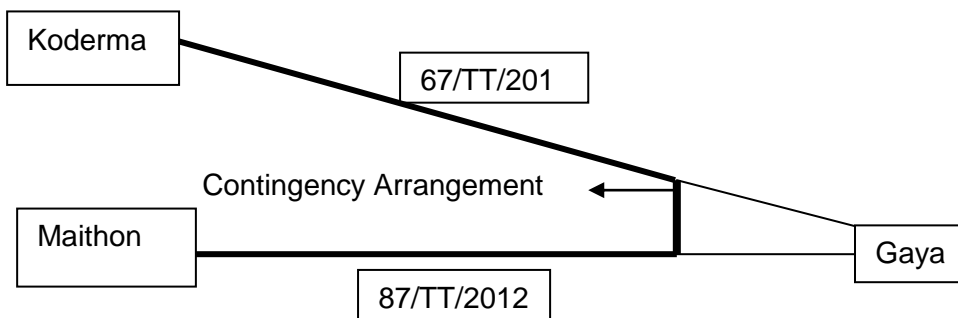
(b) The matter was also discussed in 15th ERPC meeting held in Sikkim on 27th and 28th September, 2010 which approved early commissioning of these two line reactors at Maithon sub-station for use as Bus Reactors.

(c) The two line reactors can only be taken into service after putting the connected line bays into service. Therefore, all four bays are being utilized for voltage control and maintenance is being done regularly for all four bays. Improvement in voltage profile after commissioning of these reactors not only reduced the stress level on equipments but also increased the reliability and stability of the grid.

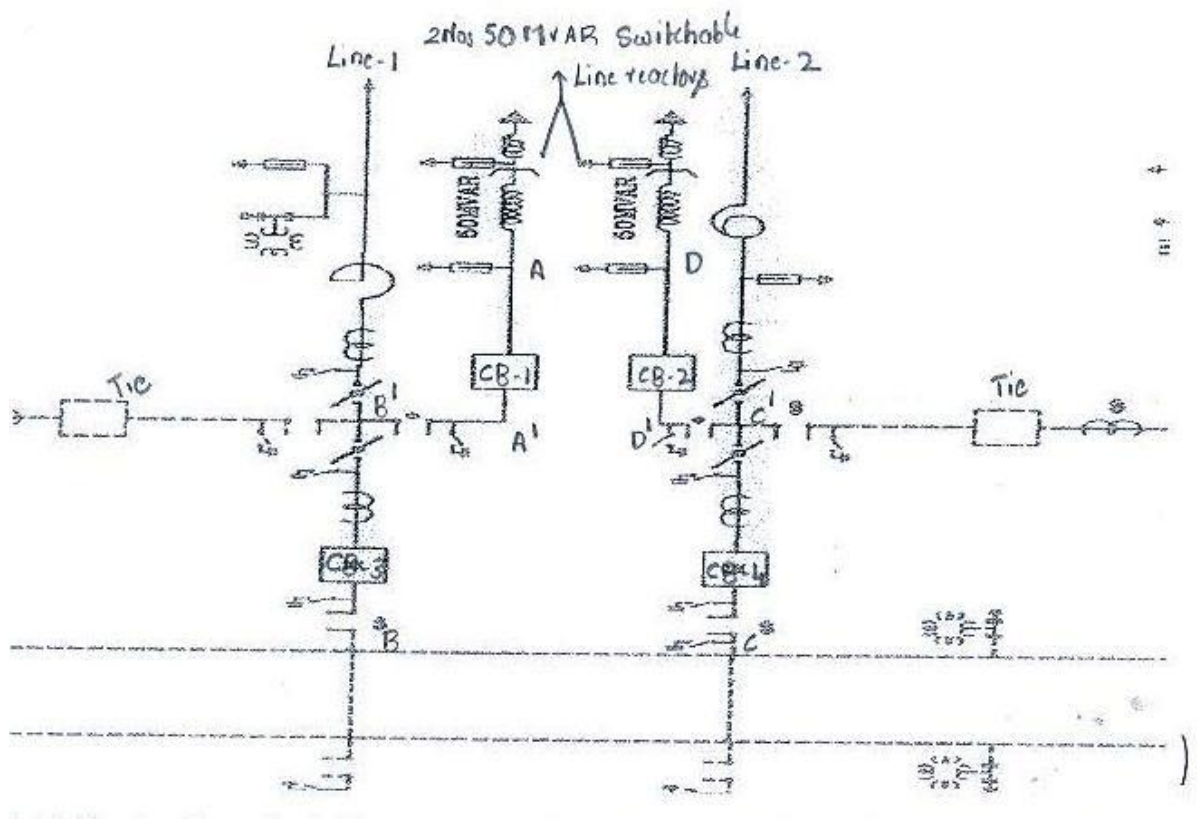
(d) As per the Statement of Object and Reasons for 2009 Tariff Regulations, AC switchyard bay and switchable line reactor bay are to be treated separately for the purpose of determination of O&M Expenses in tariff.

36. Since the switchable line reactors cannot be taken into service without putting the connected line bays (B-B¹ & C-C¹) into service and carrying out the maintenance activities of all these bays, the petitioner is entitled to O&M Expenses of all four bays (A-A¹, B-B¹, C-C¹ and D-D¹) in this case.

37. It is observed that the petitioner claimed 2 nos. 400 kV line bays for Maithon-Gaya D/C line, on 1.4.2012 whereas the line associated with these bays (B-B1, C-C1 and Tie) was commissioned on 1.2.2013 (10 months after the commissioning of line bays) with contingency arrangement of using Koderma-Gaya and Maithon-Gaya as Maithon- Koderma because of RoW issue. This contingency arrangement is as per diagram given hereunder:-



38. In the instant petition, the petitioner has mentioned to the constituents of Eastern Region that these 2 nos. 50 MVAR line reactors may be installed and commissioned as Bus reactor at Maithon Sub-Station to control the voltage problems, and these Reactors will be commissioned along with the line as a Line Reactors. The Schematic diagram is shown overleaf:-



39. The petitioner indicated in the RPC meeting that line reactors shall be used as Bus Reactors. We have gone through the proceedings of the above meetings.

The petitioner should have clearly stated that it was switchable line reactor and line bays would also be required to charge these reactors along with switchable line reactor bays. The interim arrangement would not fully utilize the line bays as for one & half breaker scheme requires 3 Circuit Breakers (CB-3, CB-4 and Tie). However, to charge the switchable line reactor, one main line circuit is sufficient along with reactor bay. Tie Breaker is provided for ensuring reliable operation of the line which is not required for using line reactor as Bus reactor. Hence, complete dia will not be fully utilized for the interim arrangement. Also, there are no guidelines at present to allow/disallow partial usage of line bay. Considering the discussion in RPC, we allow one line bay for interim arrangement. Although more elaborate details should have been shared with the members in the ERPC meeting, the fact remains that the members were apprised of the utilization of the two bays and the same are serving the utilities of the region. We also hope that for all future cases, the petitioner would clearly and transparently discuss with the constituents the cost implications and partial usage of the system for such interim arrangement also.

40. Based on the above, the following operation and maintenance expenses are allowed:-

| Element | ₹ in lakh | |
|---|------------------------------|---------------|
| | 2012-13 | 2013-14 |
| Asset-I: 400 kV bay for Bus Reactor-I at Sasaram sub-station (DOCO:1.6.2012) | 51.60 (Pro-rata) | 65.46 |
| Asset-II: 400 kV bay for Bus Reactor-II at Sasaram sub-station (DOCO:1.4.2012) | 61.92 | 65.46 |
| Asset-III: 4 Nos. 400 kV bays for installation of 2 Nos. Switchable Line Reactors at 400 kV at Maithon Sub-station (DOCO:1.4.2012) | 247.68 | 261.84 |

41. The petitioner has submitted that O&M Expenses for the period 2009-14 was arrived at on the basis of normalized actual O&M Expenses during the period 2003-04 to 2007-08. The wage hike of 50% on account of pay revision of the employees of public sector undertaking has also been considered while calculating the O&M Expenses for the tariff period 2009-14. The petitioner has further submitted that it would approach the Commission for additional manpower cost on account of wage revision (if any) during the tariff block 2009-14.

42. In this order, we have allowed O&M Expenses as per the existing norms only. We observe that it is premature to examine the issue raised by the petitioner. A view will be taken by the Commission as and when the petitioner approaches the Commission.

Interest on Working Capital

43. As per the 2009 Tariff Regulations the components of the working capital and the 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 transmission charges in the petition. In the tariff being allowed, receivables have been worked out on the basis of 2 months of transmission charges.

(ii) Maintenance Spares

Regulation 18 (1) (c) (ii) of the 2009 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M Expenses 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 1 month of the respective year. This has been considered in the working capital.

(iv) Rate of Interest on Working Capital

In accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2011 dated 21.6.2010, SBI Base Rate Plus 350 bps as on 1.4.2012 (13.50%) has been considered as the rate of interest on working capital for the asset. The interest on working capital for the assets covered in the petition has been worked out accordingly.

44. Necessary computations in support of interest on working capital are given hereunder:-

(₹ in lakh)

| Asset I | | |
|--------------------|-----------------------|--------------|
| | 2012-13 (Pro-rata) | 2013-14 |
| Maintenance Spares | 9.29 | 9.82 |
| O & M expenses | 5.16 | 5.46 |
| Receivables | 40.42 | 49.34 |
| Total | 54.86 | 64.61 |
| Rate of Interest | 13.50% | 13.50% |
| Interest | 6.17 | 8.72 |

(₹ in lakh)

| Asset II | | |
|--------------------|--------------|--------------|
| | 2012-13 | 2013-14 |
| Maintenance Spares | 9.29 | 9.82 |
| O & M expenses | 5.16 | 5.46 |
| Receivables | 42.21 | 49.32 |
| Total | 56.66 | 64.59 |
| Rate of Interest | 13.50% | 13.50% |
| Interest | 7.65 | 8.72 |

(₹ in lakh)

| Asset III | | |
|--------------------|---------------|---------------|
| | 2012-13 | 2013-14 |
| Maintenance Spares | 37.15 | 39.28 |
| O & M expenses | 20.64 | 21.82 |
| Receivables | 97.83 | 101.54 |
| Total | 155.62 | 162.64 |
| Rate of Interest | 13.50% | 13.50% |
| Interest | 21.01 | 21.96 |

Transmission Charges

45. The transmission charges being allowed for the transmission assets are summarized below:-

(₹ in lakh)

| Asset I | | |
|-----------------------------|-----------------------|---------------|
| | 2012-13 (Pro-rata) | 2013-14 |
| Depreciation | 44.91 | 70.54 |
| Interest on Loan | 54.78 | 81.22 |
| Return on equity | 44.61 | 70.07 |
| Interest on Working Capital | 6.17 | 8.72 |
| O & M Expenses | 51.60 | 65.46 |
| Total | 202.08 | 296.01 |

(₹ in lakh)

| Asset II | | |
|-----------------------------|---------------|---------------|
| | 2012-13 | 2013-14 |
| Depreciation | 57.36 | 70.92 |
| Interest on Loan | 69.39 | 80.36 |
| Return on equity | 56.97 | 70.44 |
| Interest on Working Capital | 7.65 | 8.72 |
| O & M Expenses | 61.92 | 65.46 |
| Total | 253.28 | 295.90 |

(₹ in lakh)

| Asset III | | |
|-----------------------------|---------------|---------------|
| | 2012-13 | 2013-14 |
| Depreciation | 101.82 | 107.03 |
| Interest on Loan | 115.99 | 112.79 |
| Return on equity | 100.47 | 105.64 |
| Interest on Working Capital | 21.01 | 21.96 |
| O & M Expenses | 247.68 | 261.84 |
| Total | 586.97 | 609.26 |

Filing Fee and Publication Expenses

46. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. The petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on *pro-rata* basis, in accordance with Regulation 42 A (1) (a) of the 2009 Tariff Regulations.

Licence Fee

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

48. 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

49. 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 pre-mature and accordingly this prayer is rejected.

Sharing of Transmission Charges

50. 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.

51. This order disposes of Petition No. 198/TT/2012.

Sd/-

(A.K. Singhal)
Member

Sd/-

(M. Deena Dayalan)
Member

Sd/-

(Gireesh B. Pradhan)
Chairperson

| CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN | | | |
|---|--|---|----------------|
| | | | (₹ in lakh) |
| | Details of Loan | 2012-13 | 2013-14 |
| 1 | Bond XXVIII | | |
| | Gross loan opening | 28.50 | 28.50 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 2.38 |
| | Net Loan-Opening | 28.50 | 26.13 |
| | Additions during the year | 0.00 | 0.00 |
| | Repayment during the year | 2.38 | 2.38 |
| | Net Loan-Closing | 26.13 | 23.75 |
| | Average Loan | 27.31 | 24.94 |
| | Rate of Interest | 9.33% | 9.33% |
| | Interest | 2.55 | 2.33 |
| | Rep Schedule | 12 annual installments from 15.12.2012 | |
| 2 | Bond XXXV | | |
| | Gross loan opening | 300.00 | 300.00 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 |
| | Net Loan-Opening | 300.00 | 300.00 |
| | Additions during the year | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 |
| | Net Loan-Closing | 300.00 | 300.00 |
| | Average Loan | 300.00 | 300.00 |
| | Rate of Interest | 9.64% | 9.64% |
| | Interest | 28.92 | 28.92 |
| | Rep Schedule | 12 annual installments from 31.05.2015. | |
| 3 | Bond XXXVI | | |
| | Gross loan opening | 254.78 | 254.78 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 |
| | Net Loan-Opening | 254.78 | 254.78 |
| | Additions during the year | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 |
| | Net Loan-Closing | 254.78 | 254.78 |
| | Average Loan | 254.78 | 254.78 |
| | Rate of Interest | 9.35% | 9.35% |
| | Interest | 23.82 | 23.82 |
| | Rep Schedule | 15 annual installments from 29.08.2016. | |
| | Total Loan | | |
| | Gross loan opening | 583.28 | 583.28 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 2.38 |
| | Net Loan-Opening | 583.28 | 580.91 |
| | Additions during the year | 0.00 | 0.00 |
| | Repayment during the year | 2.38 | 2.38 |
| | Net Loan-Closing | 580.91 | 578.53 |
| | Average Loan | 582.09 | 579.72 |
| | Rate of Interest | 9.4985% | 9.4992% |
| | Interest | 55.29 | 55.07 |

| CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN | | | |
|---|--|---|----------------|
| (₹ in lakh) | | | |
| | Details of Loan | 2012-13 | 2013-14 |
| 1 | Bond XXVIII | | |
| | Gross loan opening | 28.50 | 28.50 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 2.38 |
| | Net Loan-Opening | 28.50 | 26.13 |
| | Additions during the year | 0.00 | 0.00 |
| | Repayment during the year | 2.38 | 2.38 |
| | Net Loan-Closing | 26.13 | 23.75 |
| | Average Loan | 27.31 | 24.94 |
| | Rate of Interest | 9.33% | 9.33% |
| | Interest | 2.55 | 2.33 |
| | Rep Schedule | 12 annual installments from 15.12.2012 | |
| 2 | Bond XXXV | | |
| | Gross loan opening | 300.00 | 300.00 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 |
| | Net Loan-Opening | 300.00 | 300.00 |
| | Additions during the year | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 |
| | Net Loan-Closing | 300.00 | 300.00 |
| | Average Loan | 300.00 | 300.00 |
| | Rate of Interest | 9.64% | 9.64% |
| | Interest | 28.92 | 28.92 |
| | Rep Schedule | 12 annual installments from 31.05.2015. | |
| 3 | Bond XXXVI | | |
| | Gross loan opening | 306.57 | 306.57 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 |
| | Net Loan-Opening | 306.57 | 306.57 |
| | Additions during the year | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 |
| | Net Loan-Closing | 306.57 | 306.57 |
| | Average Loan | 306.57 | 306.57 |
| | Rate of Interest | 9.35% | 9.35% |
| | Interest | 28.66 | 28.66 |
| | Rep Schedule | 15 annual installments from 29.08.2016. | |
| 4 | Bond XXXIX | | |
| | Gross loan opening | 34.96 | 34.96 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 |
| | Net Loan-Opening | 34.96 | 34.96 |
| | Additions during the year | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 |
| | Net Loan-Closing | 34.96 | 34.96 |
| | Average Loan | 34.96 | 34.96 |
| | Rate of Interest | 9.40% | 9.40% |
| | Interest | 3.29 | 3.29 |
| | Rep Schedule | Bullet Payment as on 29.03.2027 | |
| | Total Loan | | |

| | | |
|--|----------------|----------------|
| Gross loan opening | 670.03 | 670.03 |
| Cumulative Repayment upto DOCO/previous year | 0.00 | 2.38 |
| Net Loan-Opening | 670.03 | 667.66 |
| Additions during the year | 0.00 | 0.00 |
| Repayment during the year | 2.38 | 2.38 |
| Net Loan-Closing | 667.66 | 665.28 |
| Average Loan | 668.84 | 666.47 |
| Rate of Interest | 9.4819% | 9.4824% |
| Interest | 63.42 | 63.20 |

| CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN | | | |
|---|--|--|----------------|
| (₹ in lakh) | | | |
| | Details of Loan | 2012-13 | 2013-14 |
| 1 | Bond XXX | | |
| | Gross loan opening | 100.00 | 100.00 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 |
| | Net Loan-Opening | 100.00 | 100.00 |
| | Additions during the year | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 8.33 |
| | Net Loan-Closing | 100.00 | 91.67 |
| | Average Loan | 100.00 | 95.83 |
| | Rate of Interest | 8.80% | 8.80% |
| | Interest | 8.80 | 8.43 |
| | Rep Schedule | 12 annual installments from 29.09.2013 | |
| 2 | Bond XXXI | | |
| | Gross loan opening | 100.00 | 100.00 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 |
| | Net Loan-Opening | 100.00 | 100.00 |
| | Additions during the year | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 8.33 |
| | Net Loan-Closing | 100.00 | 91.67 |
| | Average Loan | 100.00 | 95.83 |
| | Rate of Interest | 8.90% | 8.90% |
| | Interest | 8.90 | 8.53 |
| | Rep Schedule | 12 annual installments from 25.02.2014 | |
| 3 | Bond XXXIII | | |
| | Gross loan opening | 100.00 | 100.00 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 |
| | Net Loan-Opening | 100.00 | 100.00 |
| | Additions during the year | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 |
| | Net Loan-Closing | 100.00 | 100.00 |
| | Average Loan | 100.00 | 100.00 |
| | Rate of Interest | 8.64% | 8.64% |
| | Interest | 8.64 | 8.64 |
| | Rep Schedule | 12 annual installments from 08.07.2014 | |
| 4 | Bond XXXIV | | |
| | Gross loan opening | 600.00 | 600.00 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 |
| | Net Loan-Opening | 600.00 | 600.00 |
| | Additions during the year | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 |
| | Net Loan-Closing | 600.00 | 600.00 |
| | Average Loan | 600.00 | 600.00 |
| | Rate of Interest | 8.84% | 8.84% |
| | Interest | 53.04 | 53.04 |
| | Rep Schedule | 12 annual installments from 21.10.2014 | |
| 5 | Bond XXXV | | |
| | Gross loan opening | 100.00 | 100.00 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 |
| | Net Loan-Opening | 100.00 | 100.00 |

| | | | |
|----------|--|---|----------------|
| | Additions during the year | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 |
| | Net Loan-Closing | 100.00 | 100.00 |
| | Average Loan | 100.00 | 100.00 |
| | Rate of Interest | 9.64% | 9.64% |
| | Interest | 9.64 | 9.64 |
| | Rep Schedule | 12 annual installments from 31.05.2015. | |
| 6 | Bond XXXVI | | |
| | Gross loan opening | 100.00 | 100.00 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 |
| | Net Loan-Opening | 100.00 | 100.00 |
| | Additions during the year | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 |
| | Net Loan-Closing | 100.00 | 100.00 |
| | Average Loan | 100.00 | 100.00 |
| | Rate of Interest | 9.35% | 9.35% |
| | Interest | 9.35 | 9.35 |
| | Rep Schedule | 15 annual installments from 29.08.2016. | |
| 7 | Bond XXIX | | |
| | Gross loan opening | 100.00 | 100.00 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 8.33 |
| | Net Loan-Opening | 100.00 | 91.67 |
| | Additions during the year | 0.00 | 0.00 |
| | Repayment during the year | 8.33 | 8.33 |
| | Net Loan-Closing | 91.67 | 83.33 |
| | Average Loan | 95.83 | 87.50 |
| | Rate of Interest | 9.20% | 9.20% |
| | Interest | 8.82 | 8.05 |
| | Rep Schedule | 12 annual installments from 12.03.2013 | |
| 8 | Bond XXXIX | | |
| | Gross loan opening | 76.91 | 76.91 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 |
| | Net Loan-Opening | 76.91 | 76.91 |
| | Additions during the year | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 |
| | Net Loan-Closing | 76.91 | 76.91 |
| | Average Loan | 76.91 | 76.91 |
| | Rate of Interest | 9.40% | 9.40% |
| | Interest | 7.23 | 7.23 |
| | Rep Schedule | Bullet Payment as on 29.03.2027 | |
| | Total Loan | | |
| | Gross loan opening | 1276.91 | 1276.91 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 8.33 |
| | Net Loan-Opening | 1276.91 | 1268.58 |
| | Additions during the year | 0.00 | 0.00 |
| | Repayment during the year | 8.33 | 25.00 |
| | Net Loan-Closing | 1268.58 | 1243.58 |
| | Average Loan | 1272.74 | 1256.08 |
| | Rate of Interest | 8.9897% | 8.9893% |
| | Interest | 114.42 | 112.91 |