**CENTRAL ELECTRICITY REGULATORY COMMISSION**

**NEW DELHI**

**Petition No. 3/TT/2011**

**Coram: Dr. Pramod Deo, Chairperson**
**Shri V.S. Verma, Member**
**Shri M. Deena Dayalan, Member**

**Date of Hearing: 22.11.2011** **Date of Order:16.5.2012**

**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 anticipated date of commercial operation i.e. 1.12.2010 to 31.3.2014 for Combined assets of 500 MVA 400/220 kV ICT-III along with associated bay at Maharanibagh sub-station (date of commercial operation-1.12.2010) and 500 MVA 400/220 kV ICT-IV along with associated bays at Maharanibagh substation under Northern Region System Strengthening Scheme-XXIII (NRSS-XXIII) in Northern Region for tariff block 2009-14 period.

**And**

**In the matter of:**

Power Grid Corporation of India Ltd., Gurgaon **……Petitioner**

**Vs**

1. Delhi Transco Limited, New Delhi
2. BSES Yamuna Power Limited, New Delhi
3. BSES Rajdhani Power limited, New Delhi
4. North Delhi Power Limited, New Delhi
5. New Delhi Municipal Council, New Delhi **……Respondents**

**The following were present:**

1. Shri. S.S. Raju, PGCIL
2. Shri. Rakesh Prasad, PGCIL
3. Shri M. M. Mondal, PGCIL

## ORDER

This petition has been filed by Power Grid Corporation of India Limited (hereinafter referred to as "PGCIL") for determination of transmission tariff from anticipated date of commercial operation i.e. 1.12.2010 to 31.3.2014 for combined assets of 500 MVA 400/220 kV ICT-III along with associated bay at Maharanibagh sub-station and 500 MVA 400/220 kV ICT-IV along with associated bays at Maharanibagh sub-station under Northern Region System Strengthening Scheme-XXIII (NRSS-XXIII) (hereinafter referred to as "transmission assets") for tariff block 2009-14 period in Northern Region under Regulation 86 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as "2009 regulations").

2. The investment approval for transmission project was accorded by the Board of Directors of PGCIL, vide letter No. C/CP/NRSS-XXIII dated 10.12.2009, at an estimated cost of ₹10972 lakh, including IDC of ₹641 lakh, based on 2$^{nd}$ quarter of 2009 price level. The scope of the project included the following:-

<u>Sub-stations</u>

(a) Maharanibagh 400/220 kV GIS Sub-Station (Extension) – 2X500 MVA, 400/220 kV Transformer.

(b) Bahadurgarh 400/220 kV Sub-Station (Extension) – 1X500 MVA, 400/220 kV Transformer.

(c) Lucknow 400/220 kV Sub-Station (Extension) – 1X500 MVA, 400/220 kV Transformer.

3. The petitioner has filed the present petition covering the Maharanibagh 400/220 kV GIS Sub-Station (Extension) – 2X500 MVA, 400/220 kV Transformer. The sub-station has two assets and they are ICT III at Maharanibagh (Asset I) and ICT IV at Maharanibagh (Asset II). The actual date of commercial operation of both the assets is 1.12.2010. Since the assets have been clubbed for the purpose of tariff calculation, the notional date of commercial operation has been taken as 1.12.2010.

4. The details of apportioned approved cost, as on the actual date of commercial operation, and estimated additional capital expenditure projected to be incurred for the transmission assets covered in this petition are as follows:-

**(₹ in lakh)**

| **Name of asset** | **Apportioned & approved cost** | **Cost claimed as on date of commercial operation 1.12.2010** | **Projected expenditure from date of commercial operation to 31.3.11** | **Estimated completion cost** |
|---|---|---|---|---|
| 500 MVA 400/220 kV ICT-III along with associated bay at Maharanibagh sub-station | 3124.59 | 2343.40 | 960.69 | 3304.09 |
| 500 MVA 400/220 kV ICT-IV along with associated bays at Maharanibagh substation | 3052.62 | 1630.08 | 1252.89 | 2882.97 |
| **Combined Asset-1&2** | **6177.21** | **3973.48*** | **2213.58** | **6187.06** |

*Capital cost as on date of commercial operation is inclusive of initial spares of ₹533.22 lakh for the sub-station.

5. Estimated completion cost of Combined Asset-1&2 exceeds the apportioned approved cost by ₹9.85 lakh. However, the estimated completion cost of assets

covered in the instant petition i.e. ₹6187 lakh falls within the investment approval cost i.e. ₹10972 lakh for the project.

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

**(₹ in lakh)**

| **Combined Asset-1&2** | **2010-11 (pro-rata)** | **2011-12** | **2012-13** | **2013-14** |
|---|---|---|---|---|
| Depreciation | 87.62 | 325.38 | 325.38 | 325.38 |
| Interest on Loan | 99.83 | 354.26 | 326. 01 | 297. 71 |
| Return on equity | 90.06 | 334.92 | 334.92 | 334.92 |
| Interest on Working Capital | 8.55 | 29.81 | 29.79 | 29.81 |
| O & M Expenses | 62.79 | 199.14 | 210.52 | 222.56 |
| **Total** | **348.85** | **1243.51** | **1226.62** | **1210.38** |

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

**(₹ in lakh)**

| **Combined Asset-1&2** | **2010-11 (pro-rata)** | **2011-12** | **2012-13** | **2013-14** |
|---|---|---|---|---|
| Maintenance Spares | 28.26 | 29.87 | 31.58 | 33.38 |
| O & M expenses | 15.70 | 16.60 | 17.54 | 18.55 |
| Receivables | 174.43 | 207.25 | 204.44 | 201.73 |
| **Total** | **218.39** | **253.72** | **253.56** | **253.66** |
| Interest | 8.55 | 29.81 | 29.79 | 29.81 |
| Rate of Interest | 11.75% | 11.75% | 11.75% | 11.75% |

8. 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, 2003.

9. Having heard the representatives of the parties and perused the material on records, we proceed to dispose of the petition.

## COST OVER RUN

10. There was no overall cost over-run in ICT-IV at Maharanibagh. However, there was cost variation of about 30% in transformer cost. In case of ICT-III there was overall cost variation of 6% and about 56 % in transformer. It was also observed that there is cost difference of about ₹250 lakh in the two ICTs.

11. In response to the query regarding cost variation, the petitioner, vide affidavit dated 15.4.2011, has submitted that the estimates are prepared by the petitioner as per well defined procedures for cost estimate. The cost estimate is broad indicative cost worked out generally on the basis of average unit rates of recently awarded contracts. For procurement, open competitive bidding route is followed and by providing equal opportunity to all eligible firms, lowest possible market prices for required product/ services is obtained and contracts are awarded on the basis of lowest evaluated eligible bidder. The best competitive bid prices against tenders may happen to be lower or higher than the cost estimate depending upon prevailing market conditions. In the instant case the reason of cost variation in Form 5-B is due to variation in estimated and the awarded price.

12. The petitioner has further submitted, vide affidavit dated 30.1.2012, that at the time of filing petition a large part of expenditure was based on estimate and projections. Further, due to some inadvertence there was some variation in apportionment of the projected expenditure between the two assets covered in the petition.

13. Since the projected expenditure is subject to truing up at the time of revision of tariff, the petitioner has requested to approve tariff as per the projected expenditure submitted in the petition.

14. The cost over-run for the combined assets of the two ICTs is about 0.16%, but there is significant difference of cost of about ₹250 lakh between two ICTs. Since, a major portion of the cost indicated in Form 5 B is estimated cost in form of liabilities / provision, the actual cost is to be determined after submission of the actual cost of the assets by the petitioner. At present, the tariff is allowed on the basis of capital cost indicated in the petition subject to truing up of the capital cost on the basis of final cost for the assets.

**TREATMENT OF INITIAL SPARES**

15. The petitioner has claimed higher initial spares and requested to allow the spares in full for GIS system and include the cost of land and building in the initial project cost. The petitioner, vide affidavit dated 17.2.2012, submitted the following justification for higher initial spare cost:-

(a) All the series compensation devices and equipments in HVDC stations are highly specialized and costly equipments and much different from the equipments installed in conventional AC transmission sub-stations. Most of these equipments are imported. Gas Insulated Sub-stations (GIS) installations are also highly specialized and imported equipments. ICT-III and ICT IV are installed at Maharanibagh sub-station, which is a GIS.

(b) Different parts of GIS system are modular and designed with respect to location of the installation and the assembly of this modular system is done in the works. Unlike conventional AC system, these modular sections are location specific and hence cannot be used as a spare and cannot be replaced in some other location. Thus, inter-changeability of the modular system is limited resulting in higher initial spares for GIS system as compared to conventional AC system. Generally the GIS equipments are different from one supplier to another and in case of any requirement for replacement, the equipment has to be replaced by similar design of same manufacturer. In the absence of any spares, any failure of equipment would lead to longer outage as procurement of spare from offshore may stretch to one and half years.

(c) Bushings for GIS sub-stations are manufactured by a few manufacturers in the world and procurement of these bushings may require more time, i.e. up to around one year. For reliability, one set of bushings of each type and rating are to be kept as spares. These bushings are very costly in comparison to conventional bushings of same ratings.

16. The issue of higher initial spares for GIS is being considered by this Commission and any change to the existing norms specified in the 2009 regulations would be applicable in the instant petition and will be given effect at the time of truing up. Accordingly, initial spares for GIS is worked out as per the prevailing regulations @ 2.5%.

17. The initial spares, pertaining to sub-stations, has been allowed as the norms specified under Regulation 8 of 2009 regulations. Accordingly, excess initial spares have been deducted from the cost of sub-station as on date of commercial operation of respective assets. The initial spares are calculated as follows:-

(₹ in lakh)

| Description | Project cost pertaining to sub-station as on cut-off date | Initial spares claimed | Ceiling limits as per Regulation 8 2009 regulations | Initial spares worked out | Excess initial spares claimed |
|---|---|---|---|---|---|
| | (a) | (b) | (c) | (d)= *{(a)-(b)*c} /{100-c)% | (e)=(b)-(d) |
| Asset-1 | 3237.33 | 266.61 | 2.50% | 76.17 | 190.44 |
| Asset-2 | 2882.97 | 266.61 | 2.50% | 67.09 | 199.52 |
| Combined Asset-1&2 | 6120.30 | 533.22 | | 143.26 | 389.96 |

## CAPITAL COST

18. As regards capital cost, Regulation 7(1) (a) of the 2009 regulations provides that:-

> *"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."*

19. Capital expenditure of ₹3583.52 lakh (excluding excess initial spares claimed), as on the date of commercial operation has been considered for determination of transmission tariff for the 2009-14 period.

## PROJECTED ADDITIONAL CAPITAL EXPENDITURE

20. As per Regulation 9 (1) of 2009 regulations

> "*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) XXX*
> *(iii) XXX*
> *(iv) XXX*
> *(v) XXX"*

21. As per 2009 regulations,

> *"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"*.

Therefore, cut-off date for the above mentioned assets is 31.3.2013.

22. The petitioner has claimed additional capital expenditure of ₹1139.37 lakh for Asset-1 for 2010-11 period on the basis of anticipated date of commercial operation i.e. 1.11.2010. The actual date of commercial operation was 1.12.2010. The petitioner, vide affidavit dated 29.9.2011, has submitted the details of expenditure for the month of November, 2010. Accordingly, additional capital expenditure of ₹960.69 lakh (₹1139.37 lakh- ₹178.68 lakh) for Asset-1 and ₹ 1252.89 lakh for Asset-2 for 2010-11 (from the actual date of commercial operation to 31.3.2011) has been considered for the purpose of tariff calculation.

## DEBT- EQUITY RATIO

23. Regulation 12 of the 2009 regulations provides that,

*"(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.*

*(2) XXX."*

24. The details of debt-equity of asset considered for the purpose of tariff calculation as on the date of commercial operation is given below:-

**(₹ in lakh)**

| **Combined Asset-1&2** | **Approved** | | **Capital cost as on date of commercial operation(1.12.2010)** | |
|---|---|---|---|---|
| **Particulars** | **Amount** | **%** | **Amount** | **%** |
| Debt | 4324.05 | 70.00 | 2508.46 | 70.00 |
| Equity | 1853.16 | 30.00 | 1075.06 | 30.00 |
| **Total** | **6177.21** | **100.00** | **3583.52** | **100.00** |

25. Details of debt- equity ratio of details as on 31.3.2011 are as follows:-

**(₹ in lakh)**

| **Particulars** | **Capital cost as on 31.3.2014** | |
|---|---|---|
| | **Amount** | **%** |
| Debt | 4057.97 | 70.00 |
| Equity | 1739.13 | 30.00 |
| **Total** | **5797.10** | **100.00** |

26. Details of projected additional capital expenditure are given as under:-

**(₹ in lakh)**

| **Particulars** | **Additional capital expenditure as on 31.3.2014** | |
|---|---|---|
| | **(₹ in lakh)** | **%** |
| | **Normative** | |
| Debt | 1549.51 | 70.00 |
| Equity | 664.07 | 30.00 |
| **Total** | **2213.58** | **100.00** |

## RETURN ON EQUITY

27. Regulation 15 of the 2009 regulations provides that:-

> *"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% to 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:*
>
> *Provided that return on equity with respect to the actual 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 year during the tariff period shall be trued up separately for each year of the tariff period along with the tariff petition filed for the next tariff period.*
>
> *(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 = 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"*

28. The petitioner has claimed additional return on equity (RoE) of 0.5% on the ground that the ICTs were commissioned within the timeline specified in the 2009

regulations. The petitioner, vide affidavit dated 17.6.2011, has submitted the following justification for claiming additional RoE:-

a) The additional RoE is claimed for only those assets which are commissioned within the qualifying time. As per the Regulation 15(2) of 2009 regulations, the additional return of 0.5% shall be allowed if projects are completed within time line specified in Appendix-II of 2009 regulations.

b) The 2009 regulations do not stipulate that the additional return shall be eligible only of the total project is completed. Even if part of the project is completed within the specified timeline, the beneficiaries would be benefited by reduced IDC & IEDC components of the project cost and the Utility would also be incentivized for early completion of the given asset(s).

c) As per 2009 regulations the qualifying time schedule of the activity having maximum time period shall be considered for scheme as a whole. In line with this, the timeline for this project is 24 months for plain area from the date of investment approval.

d) The investment approval is for the whole project, the tariff petition is approved for the individual element/ system as the case may be as per provisions of Regulation 4(1) and 4(2) of 2009 regulations. The additional RoE is being claimed only for those assets which are commissioned within the qualifying timeline.

e) Other assets in the scheme i.e. ICT-II at Lucknow is anticipated to be commissioned on 1.12.2011 and ICT at Bahadurgarh is anticipated to be commissioned on 1.1.2012.

29. In response to query regarding utilization of the assets and justification for considering the time line specified for a new ICT for an existing sub-station, the petitioner, vide affidavit dated 27.9.2011, submitted the following:-

(a) Additional ICTs were planned at Lucknow, Bahadhurgarh and Maharanibagh sub-stations, considering the load growth, to provide reliability and augmentation of transformation capacity.

(a) The ICTs added are at different locations and they are not inter-dependent. For the downstream system at Maharanibagh sub-stations 4 Nos. 220 kV feeder has already been charged and other 4 nos. of 220 kV feeders are to be commissioned shortly.

(b) The 2009 regulations recognize that a transmission project is allowed to be completed gradually by commissioning different identifiable elements leading to the completion of entire project. It is essential that the transmission project should be completed in different stages as this would bring all the assets into gradual utilization as and when these elements are completed instead of waiting for all the assets to be commissioned at one go. Therefore, if the elements are completed before the time line allowed by the Commission it would result in reduction in overall cost of the project due to reduction in IDC/IEDC and PV, if any, the beneficiaries would also start utilizing these assets. Thus, stage wise commissioning of project envisaged in 2009 regulation, is in the interest of power sector as a whole, both in terms of reduction in cost as well as early utilization of the assets.

(c) Even though the work is carried out in an existing sub-station, the work in sub-station is part of new project and all activities from preparation of FR to commissioning are essentially that of a new project. All the equipments installed are new, hence the timeline for the new substations is considered for this element.

(e) In case the qualifying timeline as per Appendix-II is considered not to be applicable in this case, provisions of Regulation 44 (Power to Relax) may be invoked to relax Regulation 15(2), Appendix-II of the 2009 regulations, so that the existing provisions are made applicable for extension of an existing sub-station for the purpose of additional RoE.

30. In the present case, the asset is an ICT which has been commissioned in an existing sub-station. No timeline has been prescribed in the Appendix-II of the 2009 regulations for allowing 0.5% additional RoE for commissioning an ICT at an existing sub-station. The time line given in the regulation is for new AC sub-station. We are not inclined to relax the provisions of Appendix II to extend the timeline in case of

ICT in an existing sub-station. The construction of new sub-station involves activities like land acquisition, construction of control room, construction line bays and installation of auxiliaries like power supply arrangement, fire fighting equipments for the sub- station etc. which has been taken into account while fixing the time line for the new sub-station. However, these activities are not required in case of existing sub-station. Therefore the timeline specified in the regulations for the sub-station cannot be adopted in case of installation of ICT in an existing sub-station.

31. Further, maximum qualifying time for a combination of projects should be applicable for all the assets covered under the scheme and additional RoE can be allowed only if all the assets considered for calculating qualifying time line are commissioned within the stipulated time. In the instant case all the elements under the scheme have not been commissioned within the 24 months from the date of investment approval. Though the subject assets have been put into use, all the assets covered in the scheme are not commissioned as required under the 2009 regulations and hence the petitioner's prayer to allow additional RoE is rejected.

32. Petitioner's prayer to allow grossing up the base rate of return on equity based on tax rates viz., MAT, surcharge, any other cess, charges, levies etc., as per relevant Finance Act, shall be settled in accordance with the provisions of Regulation 15 of 2009 regulations.

33. The following amount of equity has been considered for calculation of return of equity:-

**(₹ in lakh)**

| **Description** | **Equity on date of commercial operation** | **Notional equity due to ACE for the period 2010-11** | **Total equity considered for tariff calculations for the period 2010-11** | **Notional equity due to ACE for the period 2011-14** | **Total equity considered for tariff calculations for the period 2011-14** |
|---|---|---|---|---|---|
| **Combined Asset 1&2** | 1075.06 | 664.07 | 1407.09 | 0.00 | 1739.13 |

34. In view of the above, the following amount of equity has been considered for calculation of return of equity:-

**(₹ in lakh)**

| **Combined Asset-1&2** | **2010-11 (pro-rata)** | **2011-12** | **2012-13** | **2013-14** |
|---|---|---|---|---|
| Opening Equity | 1075.06 | 1739.13 | 1739.13 | 1739.13 |
| Addition due to Additional Capitalisation | 664.07 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 1739.13 | 1739.13 | 1739.13 | 1739.13 |
| Average Equity | 1407.09 | 1739.13 | 1739.13 | 1739.13 |
| Return on Equity (Base Rate ) | **15.50%** | **15.50%** | **15.50%** | **15.50%** |
| Tax rate for the year 2008-09 (MAT) | 11.33% | 11.33% | 11.33% | 11.33% |
| Rate of Return on Equity (Pre Tax ) | 17.481% | 17.481% | 17.481% | 17.481% |
| **Return on Equity (Pre Tax)** | **81.99** | **304.02** | **304.02** | **304.02** |

## INTEREST ON LOAN

35. Regulation 16 of the 2009 regulations provides that-

*"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."*

36. In these calculations, interest on loan has been worked out are as under:-

(i) 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;

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

(iii) Moratorium period availed by the transmission licensee, the repayment of the loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed and

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

37. The methodology followed for the calculation of weighted average Rate of Interest in case of floating interest loans in Petition 132/2010, has been adopted in the instant petition. Accordingly, the interest on loan has been calculated on the basis of rate prevailing as on 1.4.2009/date of commercial operation. Any change in rate of interest subsequent to 1.4.2009/date of commercial operation will be considered at the time of truing up.

38. Detailed calculation of the weighted average rate of interest has been Annexure to this order.

39. Details of the interest on loan worked on the above basis are as follows:-

**(₹ in lakh)**

| **Combined Asset-1&2** | **2010-11 (pro-rata)** | **2011-12** | **2012-13** | **2013-14** |
|---|---|---|---|---|
| Gross Normative Loan | 2508.46 | 4057.97 | 4057.97 | 4057.97 |
| Cumulative Repayment upto Previous Year | 0.00 | 82.29 | 387.08 | 691.88 |
| Net Loan-Opening | 2508.46 | 3975.68 | 3670.89 | 3366.09 |
| Addition due to Additional Capital expenditure | 1549.51 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 82.29 | 304.79 | 304.79 | 304.79 |
| Net Loan-Closing | 3975.68 | 3670.89 | 3366.09 | 3061.30 |
| Average Loan | 3242.07 | 3823.28 | 3518.49 | 3213.70 |
| Weighted Average Rate of Interest on Loan | 8.6814% | 8.6814% | 8.6814% | 8.6814% |
| Interest | 93.82 | 331.91 | 305.45 | 278.95 |

**DEPRECIATION**

40. Regulation 17 (4) of the 2009 regulations provides as under:-

> *"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 31th 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 asset".*

41. Assets covered in the current petition were put under commercial operation on 1.12.2010 and accordingly will complete 12 years beyond 2013-14 and thus depreciation has been calculated annually based on Straight Line Method and at rates specified in Appendix-III of 2009 regulations.

42. Details of the depreciation worked out are as follows:-

**(₹ in lakh)**

| **Combined Asset-1 &2** | **2010-11 (pro-rata)** | **2011-12** | **2012-13** | **2013-14** |
|---|---|---|---|---|
| Opening Gross Block | 3583.52 | 5797.10 | 5797.10 | 5797.10 |
| Addition during 2009-14 due to Projected Additional Capitalisation | 2213.58 | 0.00 | 0.00 | 0.00 |
| Closing Gross Block | 5797.10 | 5797.10 | 5797.10 | 5797.10 |
| **Average Gross Block** | **4690.31** | 5797.10 | 5797.10 | 5797.10 |
| Rate of Depreciation | 5.2635% | 5.2577% | 5.2577% | 5.2577% |
| Depreciable Value | 4221.28 | 5217.39 | 5217.39 | 5217.39 |
| Remaining Depreciable Value | 4221.28 | 5135.10 | 4830.31 | 4525.51 |
| **Depreciation** | 82.29 | 304.79 | 304.79 | **304.79** |

**OPERATION & MAINTENANCE EXPENSES**

43. The petitioner has submitted that the 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 would 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%.

44. Clause (g) of Regulation 19 of the 2009 regulations prescribes the norms for operation and maintenance expenses based on the type of sub-station and transmission line. Norms prescribed in respect of the transmission assets in instant petition are as follows:-

| Element | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| 400 kV, bay (₹ in lakh / bay) | 55.40 | 58.57 | 61.92 | 65.46 |
| 220 kV, bay (₹ in lakh / bay) | 38.78 | 41.00 | 43.34 | 45.82 |

45. As per the above mentioned norms the allowable O & M expenses for the transmission assets covered in the petition are given as under:-

| Element (Asset-I) | 2010-11 (pro-rata for four month) | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| 2 nos., 400 kV, bays | 36.93 | 117.14 | 123.84 | 130.92 |
| 2 nos., 220 kV, bays | 25.85 | 82.00 | 86.68 | 91.64 |
| **Total O&M Expenditure** | **62.79** | **199.14** | **210.52** | **222.56** |

46. In the instant petition O&M expenses are allowed on the basis of existing norms. It is clarified that, if any, application for revision in the norms for O&M expenditure is filed by the petitioner in future, it will be dealt with in accordance with law.

**INTEREST ON WORKING CAPITAL**

47. As per the 2009 regulations the components of the working capital and the interest thereon are discussed are given as under:-

**(i) Receivables:** As per Regulation 18 (1) (c) (i) of the 2009 regulations, receivables will be equivalent to two months of fixed cost. The petitioner has claimed the receivables on the basis of 2 months 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 (i) (c) (ii) of the 2009 regulations provides for maintenance spares @ 15% per annum of the O& M expenses from 1.4.2009. The value of maintenance spares has been worked out accordingly.

**(iii) O & M expenses:** Regulation 18(1) (c) (iii) of the 2009 regulations provides for operation and maintenance expenses for one month as a component of 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:** As per the 2009 regulations, SBI Base Rate (7.50%) Plus 350Bps i.e. 11.00% has been considered as the rate of interest on working capital.

48. Necessary computations in support of interest on working capital are appended hereunder:-

**(₹ in lakh)**

| Combined Asset-1&2 | 2010- 11 (pro-rata) | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Maintenance Spares | 28.26 | 29.87 | 31.58 | 33.38 |
| O & M expenses | 15.70 | 16.60 | 17.54 | 18.55 |
| Receivables | 164.26 | 194.39 | 191.88 | 189.48 |
| **Total** | **208.22** | **240.86** | **241.00** | **241.41** |
| Interest | 7.63 | 26.49 | 26.51 | 26.56 |

## TRANSMISSION CHARGES

49. The transmission charges being allowed for the transmission lines are summarized below:-

**(₹ in lakh)**

| Combined Asset-1 &2 | 2010-11 (pro-rata) | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Depreciation | 82.29 | 304.79 | 304.79 | 304.79 |
| Interest on Loan | 93.82 | 331.91 | 305.45 | 278.95 |
| Return on equity | 81.99 | 304.02 | 304.02 | 304.02 |
| Interest on Working Capital | 7.63 | 26.49 | 26.51 | 26.56 |
| O & M Expenses | 62.79 | 199.14 | 210.52 | 222.56 |
| **Total** | **328.53** | **1166.36** | **1151.29** | **1136.87** |

**FILING FEE AND THE PUBLICATION EXPENSES:-**

50. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. In accordance with our 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 beneficiary on *pro-rata* basis.

**LICENCE FEE**

51. 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. The petitioner's prayer for licence fee shall be dealt with in accordance with our order dated 25.10.2011 in Petition No. 21/2011 and 22/2011.

**SERVICE TAX**

52. The petitioner has made a prayer 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 the prayer of the petitioner pre-mature and accordingly it is rejected.

**SHARING OF TRANSMISSION CHARGES**

53. The transmission charges allowed shall be recovered on monthly basis in accordance with Regulation 23 and shared by the beneficiaries in accordance with

Regulation 33 of the 2009 regulation up to 30.6.2011. With effect from 1.7.2011, the billing, collection & disbursement of the transmission charges shall be governed by the provision of Central Electricity Regulatory Commission (sharing of inter-state transmission charges and losses) Regulations, 2010 as amended.

54. This order disposes of Petition No. 3/TT/2011.

| | | |
|---|---|---|
| Sd/- | Sd/- | Sd/- |
| **(M. Deena Dayalan)** | **(V.S. Verma)** | **(Dr. Pramod Deo)** |
| **Member** | **Member** | **Chairperson** |

## Annexure

### CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

| | Details of Loan | 2010-2011 | 2011-2012 | 2012-2013 | 2013-14 |
|---|---|---|---|---|---|
| 1 | **Bond- XXXII** | | | | |
| | Gross loan opening | **550.00** | **550.00** | **550.00** | **550.00** |
| | Cumulative Repayment upto DOCO/previous year | **0.00** | **0.00** | **0.00** | **0.00** |
| | Net Loan-Opening | 550.00 | 550.00 | 550.00 | 550.00 |
| | Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 | 0.00 | 45.83 |
| | Net Loan-Closing | 550.00 | 550.00 | 550.00 | 504.17 |
| | Average Loan | 550.00 | 550.00 | 550.00 | 527.08 |
| | Rate of Interest | 8.84% | 8.84% | 8.84% | 8.84% |
| | Interest | 48.62 | 48.62 | 48.62 | 46.59 |
| | Rep Schedule | 12 Annual instalments from 29.03.2014 | | | |
| | | | | | |
| 2 | **Bond- XXXIII** | | | | |
| | Gross loan opening | **2106.36** | **2106.36** | **2106.36** | **2106.36** |
| | Cumulative Repayment upto DOCO/previous year | **0.00** | **0.00** | **0.00** | **0.00** |
| | Net Loan-Opening | 2106.36 | 2106.36 | 2106.36 | 2106.36 |
| | Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Net Loan-Closing | 2106.36 | 2106.36 | 2106.36 | 2106.36 |
| | Average Loan | 2106.36 | 2106.36 | 2106.36 | 2106.36 |
| | Rate of Interest | 8.64% | 8.64% | 8.64% | 8.64% |
| | Interest | 181.99 | 181.99 | 181.99 | 181.99 |
| | Rep Schedule | 12 Annual instalments from 08.07.2014 | | | |
| | | | | | |
| | **Total Loan** | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | Gross loan opening | **2656.36** | **2656.36** | **2656.36** | **2656.36** |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Net Loan-Opening | 2656.36 | 2656.36 | 2656.36 | 2656.36 |
| | Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 | 0.00 | 45.83 |
| | Net Loan-Closing | 2656.36 | 2656.36 | 2656.36 | 2610.53 |
| | Average Loan | 2656.36 | 2656.36 | 2656.36 | 2633.44 |
| | Rate of Interest | **8.6814%** | **8.6814%** | **8.6814%** | **8.6800%** |
| | **Interest** | 230.61 | 230.61 | 230.61 | 228.58 |