CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No. 108/2009

Coram: **Dr. Pramod Deo, Chairperson**
Shri S.Jayaraman, Member
Shri V.S.Verma, Member

Date of Hearing: 9.6.2011 **Date of Order: 15.9.2011**

In the matter of:

Determination of transmission tariff for the transmission system associated with Auraiya Gas Power project in Northern Region for the period from 1.4.2009 to 31.3.2014.

And
In the matter of

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

Vs

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited, Jaipur
2. Ajmer Vidyut Vitaran Nigam Ltd., Jaipur
3. Jaipur Vidyut Vitaran Nigam Ltd,Jaipur
4. Jodhpur Vidyut Vitaran Nigam Ltd, Jaipur
5. Himachal Pradesh State Electricity Board, Shimla
6. Punjab State Power Corporation Ltd., Patiala
7. Haryana Power Purchase Centre, Panchkula
8. Power Development Department, Govt. of J&K, Jammu
9. Uttar Pradesh Power Corporation Ltd, Lucknow
10. Delhi Transco Ltd, New Delhi
11. BSES Yamuna Power Limited, New Delhi
12. BSES Rajdhani Power Ltd., New Delhi
13. North Delhi Power Ltd., New Delhi
14. Chandigarh Administration, Chandigarh
15. Uttarakhand Power Corporation Ltd, Dehradun
16. North Central Railway, Allahabad
17. New Delhi Municipal Council, New Delhi **…..Respondents**

The following was present:

1. Shri S.Raju, PGCIL
2. Shri M.M. Mondal, PGCIL
3. Shri Rajeev Gupta, PGCIL

<u>**ORDER**</u>

This petition has been filed for approval of transmission tariff for the transmission system associated with Auraiya Gas Power project in Northern Region (hereinafter referred to as "the transmission system") for the 1.4.2009 to 31.3.2014, in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, (hereinafter referred to as "the 2009 regulations"). The petitioner has sought the following additional reliefs:

(a) Approve the additional capital expenditure during the years 2011-12 and 2012-13;

(b) Approve reimbursement of expenditure by the beneficiaries towards petition filing fee and publication of notices in the newspaper as per the 2009 regulations;

(c) Allow grossing up of base rate of return with the applicable tax rate as per the Finance Act for the relevant year and direct settlement of tax liability between the transmission licensee and long term transmission customers on year to year basis;

(d) Allow the petitioner to bill and recover Service Tax on transmission charges separately from the respondents, if at any time exemption from service tax is withdrawn and transmission is notified as at taxable service; and

(e) Allow the petitioner to bill and recover licence fee separately from the respondents.

2. The various elements of transmission system were put under commercial operation progressively from 1989 to 1991. Transmission charges for the transmission system for the period 1.4.2004 to 31.3.2009 were initially approved by the Commission vide its order dated 12.12.2005 in Petition No. 105/2004 based on the capital cost of ₹ 11733.84 lakh and were subsequently revised vide order dated 29.2.2008 by way of implementation of the Judgment of the Appellate Tribunal for Electricity dated 4.10.2006 in Appeal No. 135 of 2005.

3. The petitioner has claimed the following transmission charges:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	216.72	216.72	222.34	236.60	245.49
Interest on Loan	0.00	0.00	5.04	16.40	21.47
Return on equity	888.28	888.28	892.86	903.66	909.88
Interest on Working Capital	48.08	49.51	51.35	53.71	55.82
O & M Expenses	500.79	529.32	559.82	591.80	625.51
Total	**1653.87**	**1683.83**	**1731.41**	**1802.17**	**1858.17**

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

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	75.12	79.40	83.97	88.77	93.83
O & M expenses	41.73	44.11	46.65	49.32	52.13
Receivables	275.65	280.64	288.57	300.36	309.69
Total	**392.50**	**404.15**	**419.19**	**438.45**	**455.65**
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
Interest	**48.08**	**49.51**	**51.35**	**53.71**	**55.82**

5. 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. Reply to the petition has been filed by Punjab State Power Corporation Ltd (PSPCL), Uttar Pradesh Power Corporation Limited (UPPCL), Ajmer Vidyut Vitran Nigam Ltd. (AVVNL), Jodhpur Vidyut Vitran Nigam Ltd. (JdVVNL) and Jaipur Vidyut Vitran Nigam Ltd (JVVNL). The issues raised by respondents pertain to the petitioner`s claim for additional capital expenditure and O & M expenses. The issues have been addressed in relevant paras of this order.

6. Having heard the representatives of the parties and perused the material on records, we proceed to dispose of the petition. While doing so, we also take care of the submissions of the respondent and address them in the relevant paragraphs.

CAPITAL COST

7. The last proviso to Regulation 7 (2) of the 2009 regulations, as amended vide Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2011, provides as under:

> *"Provided also that in case of the existing projects, the capital cost admitted by the Commission prior to 1.4.2009 duly trued up by excluding un-discharged liability, if any, as on 1.4.2009 and the additional capital expenditure projected to be incurred for the respective year of the tariff period 2009-14, as may be admitted by the Commission, shall form the basis for determination of tariff."*

8. The details of approved capital cost and additional capital expenditure projected to be incurred during 2011-12 and 2012-13 are as under:

(₹ in lakh)

Admitted capital cost as on 31.3.2009 vide order dated 29.2.2008	Additional Capital expenditure proposed to be incurred		Total estimated cost as on 31.3.2014
	2011-12	2012-13	
11733.84	174.81	237.08	12145.73

ADDITIONAL CAPITAL EXPENDITURE

9. With regard to additional capital expenditure, Regulation 9(2) of the 2009 regulations as amended vide Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2011 provides as under:

> *"The capital expenditure incurred on the following counts after the cut-off date may, in its discretion, be admitted by the Commission, subject to prudence check:*
>
> *(i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court;*
>
> *(ii) Change in law;*
>
> *(iii) Deferred works relating to ash pond or ash handling system in the original scope of work;*
>
> *(iv) In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) including due to geological reasons after adjusting for proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation; and*
>
> *(v) In case of transmission system any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement of switchyard equipment due to increase of fault level, emergency restoration system, insulators cleaning infrastructure, replacement of damaged equipment not covered by*

insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system:

Provided that in respect sub-clauses (iv) and (v) above, any expenditure on acquiring the minor items or the assets like tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, fans, washing machines, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 1.4.2009.

(vi) In case of gas/ liquid fuel based open/ combined cycle thermal generating stations, any expenditure which has become necessary on renovation of gas turbines after 15 year of operation from its COD and the expenditure necessary due to obsolescence or non-availability of spares for successful and efficient operation of the stations.

Provided that any expenditure included in the R&M on consumables and cost of components and spares which is generally covered in the O&M expenses during the major overhaul of gas turbine shall be suitably deducted after due prudence from the R&M expenditure to be allowed.

(vii) Any capital expenditure found justified after prudence check necessitated on account of modifications required or done in fuel receipt system arising due to non-materialisation of full coal linkage in respect of thermal generating station as result of circumstances not within the control of the generating station.

(viii) Any undischarged liability towards final payment/withheld payment due to contractual exigencies for works executed within the cut-off date, after prudence check of the details of such deferred liability, total estimated cost of package, reason for such withholding of payment and release of such payments etc."

10. The details submitted by the petitioner in support of its claim for projected additional capital expenditure is given hereunder:

Years	Nature and details of expenditure	Amount (₹ in lakh)
2011-12	**Transmission line**-Tower Strengthening which has become necessary due to change in wind zone	174.81
2012-13	**Transmission line**- Tower Strengthening which has become necessary due to change in wind zone	237.08
	Total	**411.89**

11. The petitioner has claimed projected additional capital expenditure of ₹ 174.81 lakh and ₹ 237.08 lakh for the year 2011-12 and 2012-13 respectively. The projected additional capital expenditure

claimed in the current petition pertains to tower strengthening necessitated by change in the wind zone.

12. Punjab State Power Corporation Ltd. (PSPCL) in its reply has submitted that since tower strengthening would improve the availability of the lines and enable to petitioner to earn more incentive. It would be a double loading of charges on the beneficiaries if the additional capital expenditure on this account is allowed. PSPCL has suggested that the incentive earned by the petitioner due to higher availability should be utilized/ploughed back to fund the cost of tower strengthening and additional capital expenditure should not be allowed. The petitioner vide its rejoinder dated 28.7.2011 has submitted that the proposed additional capital expenditure is not part of the original scope of the project, but has become necessary for successful and efficient operation of the transmission system. The admissibility of proposed additional capital expenditure is to be dealt in accordance with the provisions of Regulation 9 (2) (v) of the 2009 regulations.

13. The petitioner has submitted that 400 kV S/C Agra-Ballabhgarh and 400 kV D/C Auriya-Agra transmission line where tower strengthening has been proposed, were designed as per IS:802-1977 in medium wind zone. The petitioner has further submitted that 54 incidents (of the total 163 400 kV towers) of tower failures having same

design were reported till 15.9.2010. As per revised design practice IS:802-1995, these transmission lines fall under wind zone 4. That the PGCIL had approached the Structural Engineering Research Centre (SERC), Chennai to suggest strengthening of towers of 400 kV Dadri-Ballabhgarh (designed for medium wind zone as per IS:802-1977 and now falling in wind zone 4 as per IS:802-1995) as a sample case and SERC suggested strengthening of towers.

14. The petitioner has further submitted that in the past, 6 tower failures were reported in 3 different incidents in 400 kV S/C Agra-Ballabhgarh transmission line and similarly, 2 tower failures were reported in one incident in 400 kV S/C Auriya-Agra transmission line. It has been submitted that 400 kV transmission lines transfer bulk amount of power for long distances and outage of these lines due to towers collapse would be of longer duration and may affect the grid stability. The strengthening of tower is to improve the stability/reliability of vulnerable lines and to enhance the stability of grid.

15. We have examined the issue of tower strengthening of towers keeping in view the latest code IS 802:1995, which has taken into consideration the 'Drag Coefficient' and 'Gust Response Factor' while calculating the forces on the towers, conductors and insulators. Based on these two additional factors, the forces calculated on towers, etc. as per IS 802:1995, are more than those calculated as per IS 802:1977.

16. In this regard, we reproduce hereunder the sample calculation for terrain Category 2:

> "Design Wind Pressure, P_d is given in the IS 802:1995 for each of the six wind zones. The wind load on tower body, F_{wt}, as per the IS 802:1995, is calculated by the following formula:
>
> Wind load on tower, $F_{wt} = P_d * C_{dt} * A_o * G_T$
>
> Where C_{dt} is the Drag Coefficient and the value of C_{dt} ranges from 2 to 3.6 depending upon the solidity ratio of the tower.
>
> G_T is the Gust Response Factor and value of G_T ranges from 1.7 to 3.8 depending upon the height of the panel and terrain category and
>
> A_o is the net surface area of the legs, bracings
>
> For terrain category 2 and average height of tower 20 metre, value of G_t is 2.2, approximate value of C_{dt} for lattice type of structures is 3 and P_d for Reliability Level 1for Terrain Category 2 for Wind Zone 3 is 614 Newton per square metre. [All these figures are available in various Tables in IS 802:1995]
>
> $F_{wt} = 2.2 * 3 * P_d * A_o = (6.6 * 614 * A_o) = 4052\ A_o$ Newton
>
> **[**As per the IS 802:1995**]**
>
> Wind load on tower as per as per the IS 802:1977 is calculated based on the Factor of Safety.
>
> Wind load on tower = (Factor of Safety) * Wind Pressure * A_o
>
> $= (1.5 * 1270 * A_o)$ N $= 1905\ A_o$ Newton
>
> **[**As per the IS 802:1977**]**
>
> Where 1270 N/m^2 is the wind pressure on towers for light intensity of pressure upto the 30 metre above Mean Retarding Surface and Factor of Safety is 1.5."

17. It may be seen from the foregoing that wind load on towers as per IS 802:1995 is more than the wind load on towers that as per the IS 802:1977. We are of the view that there is sufficient justification for the projected additional capital expenditure for tower strengthening.

18. Keeping in view the change of wind zone and the suggestion of the Structural Engineering Research Centre for strengthening of towers, we are of the view that projected additional capital expenditure towards strengthening of towers during the year 2011-12 and 2012-13 are considered essential for efficient and successful operation of the transmission system. Therefore, we allow capitalization of ₹ 174.81 lakh and ₹ 237.08 lakh during 2011-12 and 2012-13, respectively.

TOTAL CAPITAL COST

19. Based on the above, capital cost as given below has been considered for the purpose of tariff calculation for the transmission asset, after allowing projected additional capital expenditure:

(₹ in lakh)

Admitted capital cost as on 31.3.2009 vide order dated 29.2.2008	Additional Capital expenditure proposed to be incurred		Total capital cost as on 31.3.2014
	2011-12	2012-13	
11733.84	174.81	237.08	12145.73

DEBT- EQUITY RATIO

20. Clause (2) of Regulation 12 of the 2009 regulations provides that,-

> *"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 / modernize 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 / modernization expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation."

21. Details of debt-equity in respect of the transmission assets as admitted by the Commission for determination of tariff for the period ending 31.3.2009 are as under:

Admitted on 31.3.2009		
	Amount (₹ in lakh)	**%**
Debt	6652.41	56.69
Equity	5081.43	43.31
Total	**11733.84**	**100.00**

22. The above debt equity ratio has been considered for tariff determination in this order as provided by clause (2) of Regulation 12 of the 2009 regulations.

23. In respect of the additional capital expenditure debt-equity ratio of 70:30 has been adopted as mandated by clause (3) read with

(1) extracted hereinabove. Details of the debt–equity in respect of additional capital expenditure are given hereunder:

Normative additional capital expenditure		
2011-12	**Amount (₹ in lakh)**	**%**
Debt	122.37	70.00
Equity	52.44	30.00
Total	**174.81**	**100.00**
Normative additional capital expenditure		
2012-13	**Amount (₹ in lakh)**	**%**
Debt	165.96	70.00
Equity	71.12	30.00
Total	**237.08**	**100.00**

Cost as on 31.3.2014		
	Amount (₹ in lakh)	**%**
Debt	6940.73	57.15
Equity	5205.00	42.85
Total	**12145.73**	**100.00**

RETURN ON EQUITY

24. Regulation 15 of the 2009 regulations, as amended vide Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2011, 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.*
>
> *(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 year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations."

25. Return on Equity has been calculated based on pre- tax basis on 11.33% MAT in accordance with the tax rate applicable for 2008-09 and has been allowed @ 17.481%.

26. As regards the petitioner's claim for grossing up of Return of Equity as per the applicable tax rate in accordance with the relevant Finance Act, the petitioner shall be entitled to claim the shortfall on account of Return on Equity due to change in the applicable Minimum Alternate Tax in accordance with clause (5) of Regulation 15 of 2009 regulations.

27. Return on equity as admissible to the petitioner has been calculated are as under:

(₹ in lakh)

	2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**
Opening Equity	5081.43	5081.43	5081.43	5133.87	5205.00
Addition due to additional capital expenditure	0.00	0.00	52.44	71.12	0.00
Closing Equity	5081.43	5081.43	5133.87	5205.00	5205.00
Average Equity	5081.43	5081.43	5107.65	5169.44	5205.00
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09	11.330%	11.330%	11.330%	11.330%	11.330%
Rate of Return on Equity (Pre Tax)	17.481%	17.481%	17.481%	17.481%	17.481%
Return on Equity (Pre Tax)	**888.28**	**888.28**	**892.87**	**903.67**	**909.89**

INTEREST ON LOAN

28. 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."*

29. In the present case, it is noticed that as per para 21 of the order dated 12.12.2005 in Petition No. 105/2004 awarding tariff for the 2004-09 period, entire notional loan was repaid prior to 1.4.2004 and petitioner was not entitled to interest on loan.

30. Consequent to the additional capital expenditure during the current tariff period, there is an addition to the normative loan amounting to ₹ 122.37 lakh and ₹ 165.96 lakh, during 2011-12 and 2012-13 respectively. However, this loan too gets repaid during the same year as depreciation has been considered as repayment and the net loan closing is zero at the end of the above stated periods.

31. There is no actual loan corresponding to the projected additional capital expenditure. Accordingly, proposed domestic loan for additional capital expenditure for the years 2011-12 and 2012-13 has not been taken in to consideration for calculating weighted average rate of interest.

32. In view of the fact that the average loan during the aforesaid period is zero, the concept of weighted average rate of interest is not applicable in this case. Therefore, the interest on loan has been considered as nil.

DEPRECIATION

33. Regulation 17 of the 2009 regulations provides for computation of depreciation in the following manner, namely:

> *"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 stating for the purpose of computation of depreciable value shall correspond t 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."*

34. In these calculations, depreciation has been worked out on the basis of capital expenditure as on 1.4.2009 as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Gross Block	11733.84	11733.84	11733.84	11908.65	12145.73
Addition due to Projected Additional Capitalisation	0.00	0.00	174.81	237.08	0.00
Closing Gross Block	11733.84	11733.84	11908.65	12145.73	12145.73
Average Gross Block	11733.84	11733.84	11821.25	12027.19	12145.73
Rate of Depreciation	5.2819%	5.2819%	5.2818%	5.2818%	5.2818%
Depreciable Value	10560.46	10560.46	10639.12	10824.47	10931.16
Weighted Balance Useful life of the asset (As per CERC order in Petition No. 105/2004)	16	15	14	13	12
Remaining Depreciable Value	3467.53	3250.81	3112.75	3075.76	2945.85
Depreciation	**216.72**	**216.72**	**222.34**	**236.60**	**245.49**

OPERATION & MAINTENANCE EXPENSES

35. 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 line. Norms prescribed in respect of the elements covered in the instant petition are given hereunder:

Name of Elements	2009-10	2010-11	2011-12	2012-13	2013-14
400 Kv D/C, twin conductor transmission line (₹ lakh/per km.)	0.627	0.663	0.701	0.741	0.783
220 Kv, single conductor, D/C transmission line (₹ lakh/per km.)	0.269	0.284	0.301	0.318	0.336
400 Kv Twin conductor, S/C, transmission line (₹ lakh/ bay)	0.358	0.378	0.400	0.423	0.447
400 Kv Bays (₹ lakh/ bay)	52.40	55.40	58.57	61.92	65.46
220 Kv Bays (₹ lakh/ bay)	36.68	38.78	41.00	43.34	45.82

36. Based on the above norms, the petitioner has calculated the following operation and maintenance expense which is allowed:

(₹ in lakh)

Name of Elements	2009-10	2010-11	2011-12	2012-13	2013-14
400 Kv D/C, twin conductor transmission line (165.853 per km.)	103.98	109.95	116.25	122.88	129.85
220 k V, single conductor, D/C transmission line (₹ 182.176 per km.)	49.01	51.74	54.83	57.93	61.21
400 Kv Twin conductor, S/C, transmission line (₹ 181.137 per km.)	84.85	68.47	72.45	76.62	80.97
400 Kv Bays (4 bays)	209.60	221.60	234.28	247.68	261.84
220 Kv Bays (2 bays)	73.36	77.56	82.00	86.68	91.64
Total	**500.79**	**529.32**	**559.82**	**591.80**	**625.51**

37. The petitioner has submitted that O & M expenditure for 2009-14 tariff block had been arrived on the basis of normalized actual O & M expenses of the petitioner during the year 2003-04 to 2007-08. The wage hike of 50% on account of pay revision of the employees of public sector undertaking was also considered while calculating the O & M charges for 2009-14 periods. The petitioner has submitted that it would approach the Commission for suitable revision in the norms of O & M expenses in case the impact of wage hike w.e.f. 1.1.2007 is more than 50%. With reference to the submission of the petitioner, it is clarified that if any such application is made, it will be dealt with in accordance with law.

38. PSPCL has submitted that O & M should be allowed as per 2009 regulations. UPPCL, AVVNL, JdVVNL and JVVNL have submitted that according to petitioner the norms of O & M expenses have been

arrived at by the Commission considering certain factors. Once the 2009 regulations have been framed after detailed consultation, discussions and public hearing, further changes should not be made and the sanctity of same should be maintained. The petitioner in its rejoinder has submitted that O & M charges have been claimed as per the Regulation 19 (g) of 2009 regulations. The normative O & M are based on the actual O & M cost (with impact of 50% wage revision w.e.f 1.1.2007), line and bays details of its transmission system for the 5 years i.e. 2003- 04 to 2007-08. The compensation allowed in the 2009 regulations on account of employee cost is insufficient to meet the actual expenditure due to wage revision. It is clarified that the O & M expenses have been allowed strictly as per the 2009 regulations.

INTEREST ON WORKING CAPITAL

39. As per the 2009 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 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(1)(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 accordingly been worked out.

(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 1 month of the respective year as claimed in the petition. This has been considered in the working capital.

(iv) **Rate of interest on working capital** As per Regulation 18(3) of the 2009 regulations, rate of interest on working capital shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on 1.4.2009 or on 1st April of the year in which the project or part thereof (as the case may be) is declared under commercial operation, whichever is later. The petitioner has claimed interest on working capital @ 12.25% based on SBI PLR as on 1.4.2009, which is in accordance with the 2009 regulations and has been allowed.

40. Interest on working capital admissible to the petitioner has been worked out as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	75.12	79.40	83.97	88.77	93.83
O & M expenses	41.73	44.11	46.65	49.32	52.13
Receivables	275.65	280.64	287.71	297.57	306.04
Total	392.50	404.15	418.34	435.66	451.99
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
Interest	**48.08**	**49.51**	**51.25**	**53.37**	**55.37**

TRANSMISSION CHARGES

41. The petitioner shall be entitled to the following transmission charges in respect of the transmission asset:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	216.72	216.72	222.34	236.60	245.49
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on equity	888.28	888.28	892.87	903.67	909.89
Interest on Working Capital	48.08	49.51	51.25	53.37	55.37
O & M Expenses	500.79	529.32	559.82	591.80	625.51
Total	**1653.88**	**1683.83**	**1726.27**	**1785.43**	**1836.25**

Filing fee and the publication expenses

42. UPPCL has submitted that the filing fee should be governed by the Commission`s order dated 11.9.2008 in Petition No. 129/2005. It is clarified that the said decision was applicable to the tariff period 2004-09. Regulation 42 of the 2009 regulation provides for reimbursement of filing fees and expenses on publication of notices as may be allowed at the discretion of the Commission. In accordance with our decision in order dated 11.1.2010 in Petition No. 109/2009, the petitioner shall be entitled to recover the filing fee from the

beneficiaries on ***pro-rata*** basis. The petitioner shall also be entitled for reimbursement of publication expenses from the beneficiaries on ***pro-rata*** basis.

Licence fee

43. UPPCL has submitted that during the period 2004-08, no licence fee was levied on the petitioner, since it was a deemed licensee under Section 14 of the Electricity Act, 2003. The levy of license fee on the petitioner in 2008-09 onwards is apparently not rational. It is clarified that the matter is under consideration of the Commission and any decision on the issue as and when taken will be applicable to this petition.

Service Tax

44. The prayer of the petitioner to allow to bill and recover the service tax on transmission charges separately from the respondents, if at any time exemption from service tax is withdrawn and transmission is notified as a taxable service, has been opposed by the UPPCL. It is clarified that the prayer of the petitioner is premature in the absence of any demand for service tax and accordingly it is rejected.

45. The transmission charges allowed shall be recovered on monthly basis in accordance with Regulation 23 and shall be shared by the respondent in accordance with Regulation 33 of the 2009 regulations up to 30.6.2011. With effect from 1.7.2011, billing, collection and

disbursement of the transmission charges shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of inter-State transmission charges and losses) Regulations, 2010 and the Removal of Difficulties orders issued hereunder.

46. This order disposes of Petition No. 108/2009.

Sd/-	Sd/-	Sd/-
(V.S.Verma) **Member**	**(S.Jayaraman)** **Member**	**(Dr. Pramod Deo)** **Chairperson**