

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 108/TT/2012**

**Coram:**

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

**Date of Hearing: 24.09.2013  
Date of Order : 27.01.2014**

**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 for 2 no. of 220 kV Bays at Trivandrum (DOCO: 1.9.2011) for the period from DOCO to 31.3.2014 under transmission system associated with Kundankulam in Southern 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**

**VERSUS**

Kerla State Electricity Board,  
Vaidyuthi Bhavanam,  
Pattom, Thriuvananthapuram – 695004

...**Respondent**

For petitioner : Shri S.S Raju, PGCIL  
Shri A. Bhangar, PGCIL  
Mrs. Sangeeta Edwards, PGCIL  
Shri M.M. Mondal, PGCIL

For Respondent : None



## **ORDER**

The petition has been filed for approval of tariff for 2 nos. of 220 kV Bays at Trivandrum sub-station (the transmission asset) associated with Kudankulam transmission system (the transmission system) in Southern Region from 1.9.2011, the date of commercial operation of the transmission asset, to 31.3.2014 in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (the 2009 Tariff Regulations).

2. The investment approval for the transmission system was accorded by Ministry of Power vide letter dated 25.5.2005 at an estimated cost of ₹177929 lakh, including Interest During Construction (IDC) of ₹7141 lakh (based on 4<sup>th</sup> Quarter, 2004 price level). Subsequently, approval for the Revised Cost Estimate for the transmission system was accorded by the Board of Directors of the petitioner vide Memorandum dated 3.9.2010 at ₹215907 lakh, including IDC of ₹22342 lakh based on 1<sup>st</sup> Quarter 2010 price level. The scope of works covered under the transmission system broadly includes:-

### **Transmission Lines**

- (i) Kundankulam (NPC) – Tirunelveli (POWERGRID) 400 kV (QUAD) D/C Transmission Line-I,
- (ii) Kundankulam (NPC) – Tirunelveli (POWERGRID) 400 kV (QUAD) D/C Transmission Line-II,
- (iii) Tirunelveli (POWERGRID) - Udumalpet (POWERGRID) 400 kV D/C Transmission Line,
- (iv) Tirunelveli (POWERGRID) – Edmon (Kerala State Electricity Board) 400 kV Multi-circuit Transmission Line,
- (v) Edmon (Kerala State Electricity Board) – Muvattupuzha (POWERGRID) 400 kV (QUAD) D/C Transmission Line,

- (vi) Muvattupuzha (POWERGRID) – North Trichur (POWERGRID) 400 kV (QUAD) D/C Transmission Line, and
- (vii) LILO of both circuits of Madurai (POWERGRID) – Trivendrum (POWERGRID) 400 kV D/C Transmission Line at Tirunelveli.

**Sub-stations**

- (i) 400/220 kV Tirunelveli (POWERGRID) Sub-station (New),
- (ii) 400/220 kV Muvattupuzha (POWERGRID) Sub-station (New),
- (iii) 400/220 kV North Trichur (POWERGRID) Sub-station (Extension),
- (iv) 400/220 kV Udumalpet (POWERGRID) Sub-station (Extension), and
- (v) 400/220 kV Trivandrum (POWERGRID) Sub-station (Extension)

3. The scheduled and actual dates of commercial operation of the transmission asset are indicated hereunder:-

Scheduled Date of Commercial Operation	Actual Date of Commercial Operation	Delay
1.12.2008	1.9.2011	33 Months

4. The transmission charges claimed by the petitioner are as under:-

(₹ in lakh)

Particulars	2011-12	2012-13	2013-14
Depreciation	11.54	21.68	21.95
Interest on Loan	5.11	9.05	8.36
Return on Equity	11.42	21.47	21.73
Interest on Working Capital	2.85	5.20	5.43
O & M Expenses	47.83	86.68	91.64
<b>Total</b>	<b>78.75</b>	<b>144.08</b>	<b>149.11</b>

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

(₹ in lakh)

Particulars	2011-12	2012-13	2013-14
Maintenance Spares	12.30	13.00	13.75
O & M Expenses	6.83	7.22	7.64
Receivables	22.50	24.01	24.85
<b>Total</b>	<b>41.63</b>	<b>44.23</b>	<b>46.24</b>
Rate of Interest	11.75%	11.75%	11.75%
<b>Interest</b>	<b>2.85</b>	<b>5.20</b>	<b>5.43</b>

6. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act. The reply to the petition has been filed by the respondent, Kerala State Electricity Board (KSEB), vide its affidavit dated 19.9.2013. The petitioner has filed its rejoinder to the reply filed by KSEB, vide its affidavit dated 19.10.2012.

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

8. We would like to deal with the issue of approval of the date of commercial operation under Regulation 3(12) (c) of the 2009 Tariff Regulations raised by the petitioner, before we deal with the other issues. The petitioner, vide its affidavit dated 17.4.2013 and during the hearing on 24.9.2013 submitted that the instant assets were put under commercial operation on 1.9.2011 and was ready for intended use, but were unable to provide the intended services on account of non-readiness of 220 kV Lines to be constructed by KSEB. The petitioner has submitted that since the petitioner is unable to provide the services from the transmission assets due to reasons beyond its

control, the Commission may consider to approve the date of commercial operation from 1.9.2011 under Regulation 3(12)(c) of the 2009 Tariff Regulations.

9. Regulation 3 (12)(c) of the 2009 Tariff Regulations provides as follows:-

"(c) in relation to the transmission system, the date declared by the transmission licensee from 0000 hour of which an element of the transmission system is in regular service after successful charging and trial operation:

Provided that the date shall be the first day of a calendar month and transmission charge for the element shall be payable and its availability shall be accounted for, from the date:

Provided further that in case an element of the transmission system is ready for regular service but is prevented from providing such service for reasons not attributable to the transmission licensee, its suppliers or contractors, the Commission may approve the date of commercial operation prior to the element coming into regular service."

10. As per the above said regulation, the petitioner should have sought the prior approval of the Commission, if it was prevented from putting the transmission asset in regular service for the reasons not attributable to it. The petitioner has approached the Commission after having declared the commercial operation which is not in accordance with the regulation. In all future cases, the petitioner is directed to seek the prior approval of the Commission whenever the transmission system is ready for regular service but is prevented from doing so for reasons not attributable to it, as provided under the second proviso to Regulation 3(12)(c). In so far as the assets involved in this petition are concerned, it appears that the transmission asset was ready on 1.9.2011 and the petitioner was not able to provide the intended services because of the non-readiness 220 kV lines of KSEB. The petitioner cannot be made to suffer on account of the failure of KSEB to construct the 220kV lines to align with the instant transmission asset. The transmission was not put to intended use for reasons not attributable to the

petitioner and as such, we approve the date of commercial operation as 1.9.2011 as prayed by the petitioner.

### **Capital cost**

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

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

- (a) The expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan – (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the fund deployed, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check.
- (b) capitalised initial spares subject to the ceiling rates specified in regulation 8; and
- (c) additional capital expenditure determined under regulation 9:

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

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

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

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

12. The details of the revised apportioned approved capital cost, capital cost as on the date of commercial operation of the transmission asset and estimated additional capital

expenditure projected to be incurred are given hereunder:-

(₹ in lakh)

Revised apportioned approved capital cost	Actual cost on date of commercial operation	Projected additional capital expenditure		Estimated completion cost
		2011-12	2012-13	
559.00	342.34	62.03	10.00	414.37

### **Treatment of initial spares**

13. The actual cost of ₹342.34 lakh on the date of commercial operation claimed by the petitioner is inclusive of initial spares of ₹0.09 lakh pertaining to sub-station. The amount claimed is within the ceiling limit of 2.5% specified for capitalization of initial spares for sub-station under Regulation 8 of the 2009 Tariff Regulations and as such is in order.

### **Time Over-run**

14. As per investment approval, the transmission asset was to be completed within forty two months from the date of investment approval and therefore the transmission asset was scheduled to be put under commercial operation by 1.12.2008. However, the transmission asset has been put under commercial operation on 1.9.2011. Accordingly, there is a delay of thirty three months.

15. The petitioner in the petition has stated that delay was on account of the delay in commissioning of generating units of Kudankulam Nuclear Power Station. It has been stated that the matter of commissioning of Kudankulam Nuclear Power Station was discussed at 17<sup>th</sup> meeting of SRPC held on 5.9.2011, wherein Nuclear Power

Corporation Limited informed the synchronization of 1<sup>st</sup> unit of Kudankulam Nuclear Power Station by December 2011 and 2<sup>nd</sup> unit in August 2012.

16. In the first instance, the petitioner was directed, during technical validation to furnish the following information:-

- (i) Reasons and justification for not commissioning of 220 kV bays at Trivandrum along with ICT-III, commissioned on 1.7.2009.
- (ii) Action taken by the petitioner against the contractor for delay in commissioning of the transmission asset beyond 28.6.2009.

17. The petitioner under its affidavit dated 7.2.2012 has clarified the position. The petitioner has stated that construction of new 400/220 kV Cochin sub-station, Bay Extension works at existing Trivandrum sub-station [ICT-III and 2 nos. of 220 kV bays], Udumalpet sub-station [ICT-III and bays extension for Tirunelveli – Udumalpet transmission line] and Trichur sub-station [bays extension for 400 kV Cochin – Trichur transmission line] under the Kudankulam transmission system have been executed through a single composite contract awarded on M/s Jyothi Structures Ltd. It has been stated that the construction of ICT-III at Trivandrum was completed and put under commercial operation w.e.f. 1.7.2009. The petitioner has explained that considering the fact of availability of resources with the contractor handling the construction activity at four sub-stations including a new sub-station at Cochin, the contractor was to optimize its resources and complete the construction of the works awarded as per the grid requirements. Accordingly, the construction of the transmission asset was taken up to



coincide with the commissioning of 1<sup>st</sup> unit of Kudankulam Nuclear Power Station and was put under commercial operation w.e.f. 1.9.2011. On the question of action taken against the contractor, the petitioner has explained that construction of certain works at the Cochin sub-station awarded to the contractor as a part of the composite contract were in progress. The petitioner has stated that delays under the contract shall be reviewed on completion of the works awarded under the composite contract and levy of liquidated damages, including the delay in construction of 220 kV bays at Trivandrum sub-station, shall be finalized in accordance with the provisions of the contract.

18. The petitioner, vide its further affidavit dated 24.9.2012, has submitted that construction of the transmission asset at Trivandrum sub-station was envisaged with 315 MVA, 400/220 kV ICT-III for future outgoing feeders. It has been stated that ICT-III was put under commercial operation on 1.7.2009 and the Commission by order dated 20.7.2011 in Petition No. 258/2010 has already approved the transmission charges for ICT-III after condoning the delay in commissioning. The petitioner has stated that the down-stream 2 nos. 220 kV transmission lines were to be constructed by KSEB and their corresponding bays were to be constructed by the petitioner. The petitioner has further stated that on account of severe ROW issues, KSEB was not in a position to complete construction of the transmission lines in time and accordingly the petitioner slowed down the construction of the transmission asset. The petitioner has further explained that delay in commissioning of the transmission asset did not bottle up the power flow through ICT-III as the power was being evacuated at 220 kV level with the existing 4 no 220 kV feeders available with downstream lines (commissioned under 400

kV D/C Madurai-Thiruvananthapuram Transmission system and put under commercial operation on 1.8.2005). However, the petitioner has stated that keeping in view the contractual obligations, the commissioning of the transmission asset could not be further delayed and it was finally put under commercial operation w.e.f. 1.9.2011. Based on these submissions and explanations, the petitioner has sought condonation of delay and award the full tariff as claimed in the petition stating that the delay in commissioning was not intentional but was caused because of other constraints beyond the control of the petitioner.

19. During the hearing held on 24.9.2013, representative of the petitioner reiterated the submissions made in the affidavits dated 7.2.2012 and 24.9.2012. He pointed out that the Commission had already approved tariff for ICT-III at Trivandrum after condoning delay upto July 2009 and hence that delay should in any case be condoned.

20. We have considered the submissions made by the petitioner in the context of time-overrun. As per the investment approval, the transmission asset was to be put to commercial use by 1.12.2008. The transmission asset has been put to commercial use on 1.9.2011, with a delay of 33 months. The transmission asset is associated with ICT-III at Trivandrum sub-station. The delay of seven months (1.12.2008 to 1.7.2009) in commissioning of ICT-III has been already condoned vide the Commission's order dated 20.7.2011 in Petition No. 258/2010. The transmission asset could be put to use only after commissioning of ICT-III. Therefore, 7 months' delay is condoned in instant case too. KSEB has submitted that Commission in its order dated 1.6.2011 in Petition No.72/2010, pertaining to Trichy-Madurai line associated with Kudankulam

Transmission System, has disallowed the IDC and IEDC on account of delay in construction of transmission system and has requested to adopt similar approach and disallow IDC and IEDC in the instant case.

21. Now we examine the reasons explained by the petitioner in support of the delay of 26 months, 1.7.2009 to 1.9.2011. The petitioner in its affidavit dated 7.2.2012 has submitted as under:-

"..... As the executing agency has been handling the construction activity at four s/stns including a new s/stn at Cochin and given the availability of resources of the agency during execution of the contract, the agency was given priority to optimize their resources and complete the construction of the systems which would be commissioned and put to service as per the grid requirements. Accordingly, the construction of the 220 kV bays at Trivendrum was taken up and was commissioned during August, 2011 and put under commercial operation w.e.f. 1/9/2011. The delays in executing 220 kV bays at Trivendrum s/stns by the agency shall be dealt as per contract.....".

22. According to above affidavit, the delay was caused due to contractor's resource constraints and accordingly works were prioritized in consideration of the availability of resources. It is noted that one company was awarded contract for construction at four sub-stations, including the construction work of a new sub-station at Cochin. It appears that contracts were awarded by the petitioner without ascertaining the resources and capability of the contractor in execution of the work. Therefore, it follows that the petitioner was not prudent in awarding contracts. Under these circumstances, the respondents cannot be burdened with additional capital cost on account of the delay.

23. The petitioner's submission that the delay was on account of delay in construction of KSEB lines due to ROW problem is without merit. Firstly, the submission seems to be an afterthought since no such plea was taken in the affidavit dated 7.2.2012. Secondly, the petitioner has not placed on record any evidence to

show that it approached KSEB to expedite construction of the transmission lines which are said to have caused the delay. Thirdly, the transmission asset has been commissioned on 1.9.2011 even though the transmission lines to be constructed by KSEB were still not ready. Therefore, it can be concluded that the construction of the transmission lines was not essential for commissioning of the transmission asset. Thus, the delay in commissioning of the transmission asset cannot be said to be on account of delay by KSEB. Accordingly, the petitioner's plea that the construction of the transmission assets was linked to the construction of the corresponding line feeders of KSEB is rejected.

24. In view of the above discussion, the delay of 26 months is attributed to the petitioner. Accordingly, IDC and IEDC incurred by the petitioner during the period of delay (1.7.2009 to 1.9.2011) are disallowed.

25. The petitioner, vide affidavit dated 7.2.2012, has submitted that IDC for 60 months, from September 2006 to August 2011, amounted to ₹39.56 lakh and IEDC of ₹20.92 lakh was incurred for 47 months, from October 2007 to August 2011. IDC and IEDC for disallowed period have been computed on *pro rata* basis. The details of IDC and IEDC disallowed are as follows:-

Particulars	₹ in lakh	
	IDC	IEDC
Total IDC and IEDC till 31.8.2011	39.56	20.92
Number of Months from the date of advance paid in package (September, 2006 for IDC and October, 2007 for IEDC)	60	47
Period in months for disallowed period i.e. 26 months	26	26
Proportionate IDC and IEDC disallowed for 26 months	<b>17.14</b>	<b>11.57</b>

26. The amounts disallowed on account of IDC and IEDC have been deducted from the capital cost of the transmission asset as on the date of commercial operation. As IDC and IEDC for 26 months have been deducted from the capital cost, the petitioner may retain Liquidated Damage (LD) amount received from the contractor, if such amount does not exceed IDC and IEDC deducted. In case LD amount is more than IDC and IEDC deducted, additional amount will be adjusted in the capital cost of the transmission asset at the time of truing up.

27. Based on the above, after disallowing IDC and IEDC of ₹28.72 lakh gross block of ₹ 313.62 lakh as on the date of commercial operation has been considered for the purpose of computation of the transmission charges for the transmission asset. After accounting for the projected additional expenditure claimed, the gross block of ₹385.65 lakh as on 31.3.2014 has been arrived at.

### **Projected additional capital expenditure**

28. Clause (1) of Regulation 9 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.”

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

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

30. The respondent in its submission dated 19.9.2012 has opposed the petitioner’s claim for additional capitalization under Regulation 9 (1). The petitioner vide rejoinder dated 18.10.2012 has submitted that the projected additional capital expenditure has been claimed in line with Regulation 9(1). The petitioner has clarified that the claim for additional capitalization includes the progressive payments to be released under the contracts for the works/supplies completed immediately before commissioning and other balance minor works to be completed and also the final retention payments under the contracts which are to be released after commissioning, completion of minor pending works and compliance of various contractual conditions by the contracting agencies.

31. After taking into account the dates of commercial operation of the assets, cut-off date arrived at is 31.3.2015.

32. The projected additional capital expenditure claimed during 2011-12 and 2012-13 by the petitioner, as at Paragraph No.9 above, is within the cut-off date and is mainly on account of balance payments. Accordingly, the projected additional capital expenditure has been considered for the purpose of computation of tariff in the present petition.

## Debt- equity ratio

33. 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.”

34. Details of debt-equity ratio in respect of the assets as on date of commercial operation is as follows:-

(₹ in lakh)

Particulars	Capital cost on date of commercial operation	
	Amount	%
Debt	219.54	70.00
Equity	94.09	30.00
<b>Total</b>	<b>313.62</b>	<b>100.00</b>

35. Details of debt-equity ratio in respect of the assets as on 31.3.2014 is as given overleaf:-

(₹ in lakh)

Particulars	Capital cost on date of commercial operation	
	Amount	%
Debt	269.96	70.00
Equity	115.69	30.00
<b>Total</b>	<b>385.65</b>	<b>100.00</b>

36. Details of debt-equity ratio for projected additional capital expenditure as follows:-

(₹ in lakh)

Particulars	2011-12	
	Amount	%
	<b>Normative</b>	
Debt	43.42	70.00
Equity	18.61	30.00
<b>Total</b>	<b>62.03</b>	<b>100.00</b>
	2012-13	
	Amount	%
	<b>Normative</b>	
Debt	7.00	70.00
Equity	3.00	30.00
<b>Total</b>	<b>10.00</b>	<b>100.00</b>

37. Disallowed IDC and IEDC have been deducted proportionality from the capital cost of the elements as on date of commercial operation.

### **Return on equity**

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

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

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



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

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

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

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

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

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

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

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

39. The petitioner has claimed RoE at the rate of 15.5% in accordance with clause (2) of Regulation 15 ibid which has been allowed. RoE allowed for the years 2011-12, 2012-2013 and 2013-2014 is given hereunder:-

(₹ in lakh)

<b>Return on Equity</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Opening Equity	94.09	112.69	115.69
Addition due to Additional Capitalisation	18.61	3.00	0.00
Closing Equity	112.69	115.69	115.69
Average Equity	103.39	114.19	115.69
Return on Equity (Base Rate )	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (MAT)	11.330%	11.330%	11.330%
Rate of Return on Equity (Pre Tax )	17.481%	17.481%	17.481%
Return on Equity (Pre Tax)	10.54	19.96	20.22

## Interest on loan

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

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

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

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

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

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

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

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

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

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

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

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

Provided that the beneficiary or the transmission customers shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan.”

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

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

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

(c) Notwithstanding 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.

(d) 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.

42. Detailed calculations in support of the weighted average rate of interest have been given in Annexure to this order.

43. Based on the above, interest on loan has been calculated as given hereunder: -

(₹ in lakh)

Particulars	2011-12	2012-13	2013-14
Gross Normative Loan	219.54	262.96	269.96
Cumulative Repayment upto previous year	0.00	10.65	30.81
Net Loan-Opening	219.54	252.31	239.15
Addition due to additional capital expenditure	43.42	7.00	0.00
Repayment during the year	10.65	20.16	20.42
Net Loan-Closing	252.31	239.15	218.72
Average Loan	235.92	245.73	228.94
Weighted Average Rate of Interest on Loan	3.4252%	3.4253%	3.4011%
<b>Interest</b>	<b>4.71</b>	<b>8.42</b>	<b>7.79</b>

### Depreciation

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

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

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

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

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff.

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

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

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

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

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

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

46. The transmission asset was put under commercial operation on 1.9.2011. Accordingly, this asset will complete 12 years beyond 2013-14 and hence depreciation has been calculated annually based on Straight Line Method at the rates specified in Appendix-III to the 2009 Tariff Regulations, as per details given hereunder:-

(₹ in lakh)

Particulars	2011-12	2012-13	2013-14
Opening Gross Block	313.62	375.65	385.65
Addition due to Projected Additional Capitalisation	62.03	10.00	0.00
Closing Gross Block	375.65	385.65	385.65
Average Gross Block	344.64	380.65	385.65
Rate of Depreciation	5.2980%	5.2963%	5.2961%
Depreciable Value	310.18	342.59	347.09
Remaining Depreciable Value	310.18	331.94	316.28
<b>Depreciation</b>	<b>10.65</b>	<b>20.16</b>	<b>20.42</b>

### **Operation & maintenance expenses**

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

(₹ in lakh)

Element	2009-10	2010-11	2011-12	2012-13	2013-14
220 kV bay (₹ lakh/ bay)	36.68	38.78	41.00	43.34	45.82

48. The allowable O&M expenses for the transmission asset are as under:-

(₹ in lakh)

Element	2011-12	2012-13	2013-14
2 nos., 220 kV bays	47.83	86.68	91.64

49. The petitioner has stated that O&M expenditure for 2009-14 tariff block had been arrived on the basis of normalized actual O&M expenses of the petitioner during the year 2003-04 to 2007-08. The wage hike of 50% on account of pay revision of the employees of public sector undertaking was also considered while calculating the O&M charges for tariff period 2009-14. The petitioner has submitted that it 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%.

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

## **Interest on working capital**

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

### **(i) Receivables**

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

### **(ii) Maintenance spares**

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

### **(iii) O & M expenses**

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

#### (iv) Rate of interest on working capital

In accordance with clause (3) of Regulation 18 of the 2009 Tariff Regulations, as amended, rate of interest on working capital shall be on normative basis and shall be equal to State Bank of India Base Rate of 8.25% plus 350 bps as on 1.4.2011 (11.75%). The interest on working capital for the assets covered in the petition has been worked out accordingly.

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

(₹ in lakh)

Particulars	2011-12	2012-13	2013-14
Maintenance Spares	12.30	13.00	13.75
O & M Expenses	6.83	7.22	7.64
Receivables	21.87	23.39	24.24
Total	41.00	43.62	45.62
Rate of Interest	11.75%	11.75%	11.75%
Interest	2.81	5.12	5.36

#### Transmission charges

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

(₹ in lakh)

Particulars	2011-12	2012-13	2013-14
Depreciation	10.65	20.16	20.42
Interest on Loan	4.71	8.42	7.79
Return on Equity	10.54	19.96	20.22
Interest on Working Capital	2.81	5.12	5.36
O & M Expenses	47.83	86.68	91.64
Total	76.55	140.34	145.44



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

**Filing fee and the publication expenses**

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

**Licence fee**

56. 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.

57. 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**

58. 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**

59. 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.

60. This order disposes of Petition No. 108/TT/2012.

sd/-  
**(M. Deena Dayalan)**  
**Member**

sd/-  
**(V.S. Verma)**  
**Member**

## Annexure

**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN  
FOR 2 NOS. 220 KV BAYS AT TRIVANDRUM**

(₹ in lakh)

	Details of Loan	2011-12	2012-13	2013-14
<b>1</b>	<b>ADB-III (Exchange Rate ₹46.51/\$)</b>			
	Gross loan opening	192.09	192.09	192.09
	Cumulative Repayment upto DOCO/previous year	12.47	15.98	23.55
	Net Loan-Opening	179.62	176.11	168.54
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	3.52	7.57	8.34
	Net Loan-Closing	176.11	168.54	160.20
	Average Loan	177.87	172.32	164.37
	Rate of Interest	1.82656%	1.82656%	1.82656%
	Interest	<b>3.25</b>	<b>3.15</b>	<b>3.00</b>
	Rep Schedule	30 equal half yearly installments w.e.f. 15.01.2010		
<b>2</b>	<b>Bond XXVIII</b>			
	Gross loan opening	36.00	36.00	36.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	3.00
	Net Loan-Opening	36.00	36.00	33.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	3.00	3.00
	Net Loan-Closing	36.00	33.00	30.00
	Average Loan	36.00	34.50	31.50
	Rate of Interest	9.3300%	9.3300%	9.3300%
	Interest	<b>3.36</b>	<b>3.22</b>	<b>2.94</b>
	Rep Schedule	12 equal installments w.e.f. 15.12.2012		
<b>3</b>	<b>Bond XXXV</b>			
	Gross loan opening	11.55	11.55	11.55
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	11.55	11.55	11.55
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	11.55	11.55	11.55
	Average Loan	11.55	11.55	11.55
	Rate of Interest	9.6400%	9.6400%	9.6400%
	Interest	<b>1.11</b>	<b>1.11</b>	<b>1.11</b>
	Rep Schedule	12 equal installments w.e.f. 26.12.2015		
	<b>Total Loan</b>			
	Gross loan opening	239.64	239.64	239.64
	Cumulative Repayment upto DOCO/previous year	12.47	15.98	26.55
	Net Loan-Opening	227.17	223.66	213.09
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	3.52	10.57	11.34
	Net Loan-Closing	223.66	213.09	201.75
	Average Loan	225.42	218.37	207.42
	Rate of Interest	<b>3.4252%</b>	<b>3.4253%</b>	<b>3.4011%</b>
	Interest	7.72	7.48	7.05