

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 184/TT/2015**

**Coram:**

**Shri A.S. Bakshi, Member  
Dr. M.K. Iyer, Member**

**Date of Hearing : 14.03.2016  
Date of Order : 23.03.2016**

**In the matter of:**

Determination of transmission tariff of for 400 kV D/C Barh-II TPS-Gorakhpur line along with associated bays at Gorakhpur under Immediate Evacuation System associated with Barh-II TPS in Eastern Region for the 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

**And in the matter of:**

Power Grid Corporation of India Ltd.  
'SAUDAMINI', Plot No-2,  
Sector-29, Gurgaon -122 001 (Haryana).

.....**Petitioner**

**Versus**

1. Bihar State Power (Holding) Company Ltd.,  
(Formerly Bihar State Electricity Board), Vidyut Bhawan,  
Bailey Road, Patna-800001
2. West Bengal State Electricity Distribution Company  
Bidyut Bhawan, Bidhan Nagar, Block DJ, Sector-II,  
Salt Lake City, Calcutta-700091
3. Grid Corporation of Orissa Ltd.,  
Shahid Nagar, Bhubaneshwar-751007
4. Damodar Valley Corporation, DVC Tower,  
Maniktala, Civic Centre, VIPO Road,  
Calcutta-700054



5. Power Department, Govt. of Sikkim,  
Gangtok-737101
  6. Jharkhand State Electricity Board,  
In front of Main Secretariat,  
Doranda, Ranchi-834002
  7. Rajasthan Rajya Vidyut Prasaran Nigam Ltd.  
Vidyut Bhawan, Vidyut Marg,  
Jaipur-302 005
  8. Ajmer Vidyut Vitran Nigam Ltd.  
400 kV GSS Building (Ground Floor), Ajmer Road  
Heerapura, Jaipur
  9. Jaipur Vidyut Vitran Nigam Ltd.  
400 kV GSS Building (Ground Floor), Ajmer Road  
Heerapura, Jaipur
  10. Jodhpur Vidyut Vitran Nigam Ltd.  
400 kV GSS Building (Ground Floor), Ajmer Road  
Heerapura, Jaipur
  11. Himachal Pradesh State Electricity Board,  
Vidyut Bhawan,  
Kumar House Complex Building II  
Shimla-171004
  12. Punjab State Electricity Board,  
The Mall, Patiala-147001
  13. Haryana Power Purchase Centre  
Shakti Bhawan, Sector-6  
Panchkula (Haryana) 134 109
  14. Power Development Deptt.  
Govt. of Jammu & Kashmir  
Mini Secretariat, Jammu
  15. Uttar Pradesh Power Corporation Ltd.  
Shakti Bhawan, 14, Ashok Marg  
Lucknow- 226001
  16. Delhi Transco Ltd.  
Shakti Sadan, Kotla Road  
New Delhi- 110002
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17. BSES Yamuna Power Ltd.  
BSES Bhawan, Nehru Place  
New Delhi
18. BSES Rajdhani Power Ltd.  
BSES Bhawan, Nehru Place  
New Delhi
19. North Delhi Power Ltd.  
Power Trading & Load Dispatch Group  
Cennet Building  
Pitampura, New Delhi-110034
20. Chandigarh Administration  
Sector-9, Chandigarh
21. Uttarakhand Power Corporation Ltd.  
Urja Bhawan, Kanwali Road  
Dehradun
22. North Central Railway  
Allahabad
23. New Delhi Municipal Council  
Palika Kendra, Sansad Marg  
New Delhi-110002
24. National Thermal Power Corporation  
4<sup>TH</sup> Floor, 6<sup>TH</sup> Core, NTPC Bhawan,  
Scope Complex, Institutional Area, Lodhi Road,  
Delhi-110003

.....Respondents

The following were present:

For Petitioner:       Shri S.S. Raju, PGCIL  
                              Shri Rakesh Prasad, PGCIL  
                              Shri Jasbir Singh, PGCIL  
                              Shri Aryaman Saxena, PGCIL  
                              Shri M.M. Mondal, PGCIL

For Respondent:       None



## **ORDER**

The present petition has been preferred by Power Grid Corporation of India Ltd. (“the petitioner”) for determination of tariff for 400 kV D/C Barh-II TPS-Gorakhpur line along with associated bays at Gorakhpur under Immediate Evacuation System associated with Barh-II TPS in Eastern Region (hereinafter referred as “transmission asset”) under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period from COD, i.e. 7.6.2015 to 31.3.2019.

2. The respondents are distribution licensees or electricity departments or power procurement companies of States, who are procuring transmission service from the petitioner, mainly beneficiaries of Eastern Region and Northern Region.

3. The petitioner has served the petition to the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of Electricity Act, 2003 (“the Act”). No comments have been received from the public in response to the notices published by the petitioner under Section 64 of the Act. Uttar Pradesh Power Corporation Limited (UPPCL), Respondent No.15 has filed its reply vide affidavit dated 19.9.2015. The petitioner was directed to submit Auditor Certificate and the revised tariff forms for the subject transmission asset as per the actual commissioning of the asset. In response, the petitioner vide its affidavit dated 17.12.2015, has submitted the Auditor’s Certificate dated



5.12.2015 and the revised tariff forms for the asset. The hearing in this matter was held on 14.3.2016.

4. The brief facts of the case are as follows:-

(a) The administrative approval and expenditure sanction to the transmission project was accorded by Board of Directors of POWERGRID, vide the Memorandum No. C/CP/Barh-II TPS dated 27.12.2011 at an estimated cost of ₹90177 lakh, which included IDC of ₹5650 lakh (based on 3<sup>rd</sup> Quarter 2011 price level). Subsequently, Revised Cost Estimate (RCE) was approved by Board of Directors of POWERGRID, vide the Memorandum No. C/CP/RCE-ER dated 23.2.2015 at an estimated cost of ₹102528 lakh, which included IDC of ₹8899 lakh (based on August 2014 price level). The approved apportioned cost is ₹97691.86 lakh for the said asset.

(b) The scope of work covered under the project is as follows:-

**Transmission Lines:**

(i) 400 kV D/C Barh-II TPS-Gorakhpur (QUAD) line

**Substations:**

(ii) Extension of Gorakhpur 400 kV Sub-station

a) 2 nos. 400 kV line bays including 2 nos. 80 MVAR line reactor

b) 1 no. 400 kV, 125 MVAR bus reactor including bays

(iii) 400 kV Switchyard at Barh (under the scope of generation switchyard of NTPC)

(c) The transmission asset was scheduled to be commissioned within 32 months from the date of investment approval i.e. 27.12.2011. Therefore,



the scheduled date of commissioning (SCOD) of the transmission system works out to 27.8.2014 against which the transmission asset was put under commercial operation with effect from 7.6.2015. Accordingly, there is time over-run of 9 months and 11 days.

(d) Provisional tariff from COD (7.6.2015) to 31.3.2016 for the asset in the instant petition i.e. 400 kV D/C Barh-II TPS-Gorakhpur line along with associated bays at Gorakhpur under Immediate Evacuation System associated with Barh-II TPS in Eastern Region for 2014-19 tariff period was allowed vide order dated 22.9.2015 in Petition No. 184/TT/2015.

5. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

#### **DETERMINATION OF ANNUAL TRANSMISSION CHARGES FOR 2014-19**

6. The petitioner has claimed the transmission charges as under:-

Particulars	(₹ in lakh)			
	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Depreciation	4109.04	5142.15	5152.88	5158.25
Interest on Loan	4720.50	5495.15	5042.45	4587.79
Return on equity	4577.36	5728.14	5740.10	5746.08
Interest on Working Capital	325.88	398.55	389.39	379.94
O & M Expenses	312.82	395.62	408.89	422.50
<b>Total</b>	<b>14045.60</b>	<b>17159.61</b>	<b>16733.71</b>	<b>16294.56</b>

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



**(₹ in lakh)**

Particulars	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	57.46	59.34	61.33	63.38
O & M Expenses	31.92	32.97	34.07	35.21
Receivables	2866.45	2859.94	2788.95	2715.76
Total	2955.83	2952.25	2884.35	2814.35
Rate of Interest	13.50	13.50	13.50	13.50
Interest	399.04	398.55	389.39	379.94
<b>Pro-rata Interest</b>	<b>325.88</b>	<b>398.55</b>	<b>389.39</b>	<b>379.94</b>

### **Capital Cost**

8. The petitioner has claimed capital cost of ₹93280.51 lakh as on date of commercial operation i.e.7.6.2015 vide Auditor certificate dated 5.12.2015. The petitioner has also clarified that the capital cost also includes the cost of initial spares, interest during construction and incidental expenditure during construction. The petitioner has submitted item wise break up of each element of capital cost in form 5 of the petition. The petitioner claim of capital cost is as under:-

**(₹ in lakh)**

<b>Approved apportioned cost: ₹97691.86 lakh</b>					
Expenditure upto COD	Additional Capital Expenditure				Total estimated completion cost
	2015-16 (Pro-rata)	2016-17	2017-18	Total	
93280.51	3985.53	203.31	203.30	4392.14	97672.65

9. Regulations 9 and 10 of the 2014 Tariff Regulations specify as follows:-

**“9. Capital Cost:** (1) The Capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of determination of tariff for existing and new projects.

(2) The Capital Cost of a new project shall include the following:

- a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;
- b) Interest during construction and financing charges, on the loans (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 funds deployed;

- c) Increase in cost in contract packages as approved by the Commission;
- d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;
- e) capitalised Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;
- f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations;
- g) adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and
- h) adjustment of any revenue earned by the transmission licensee by using the assets before COD.

...

(6) The following shall be excluded or removed from the capital cost of the existing and new project:

- a) The assets forming part of the project, but not in use;
- b) Decapitalisation of Asset;
- c) In case of hydro generating station any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State government by following a two stage transparent process of bidding; and
- d) the proportionate cost of land which is being used for generating power from generating station based on renewable energy:

Provided that any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment shall be excluded from the Capital Cost for the purpose of computation of interest on loan, return on equity and depreciation;

**10. Prudence Check of Capital Expenditure:** The following principles shall be adopted for prudence check of capital cost of the existing or new projects:

(1) In case of the thermal generating station and the transmission system, prudence check of capital cost may be carried out taking into consideration the benchmark norms specified/to be specified by the Commission from time to time: Provided that in cases where benchmark norms have not been specified, prudence check may include scrutiny of the capital expenditure, financing plan, interest during construction, incidental expenditure during construction for its reasonableness, use of efficient technology, cost over-run and time over-run, competitive bidding for procurement and such other matters as may be considered appropriate by the Commission for determination of tariff.”





10. UPPCL has submitted that the petitioner in Form-5 of the original petition has submitted the actual capital cost of ₹97382.76 lakh against the approved estimate of ₹87827.83 lakh. Thus, there is cost over-run of ₹9554.93 lakh. UPPCL has further submitted that there is sharp increase of 41% in cost of erection. UPPCL has submitted that the petitioner has stated that increase is due to increase in pile foundation and no. of angle towers. UPPCL has submitted that this statement needs to be corroborated with further facts and documentary evidence as the increase in no. of angle towers is only 8%. As regards overheads, actual expenditure is only 6.3% of estimate resulting in saving of ₹5712 lakh. This reduction in overheads is unexplained. It needs to be assessed whether variation is primarily on account of error in project planning or because some actual expenditure has not been accounted. UPPCL has requested the Commission to direct the petitioner to explain reasons for such significant variation from estimates.

11. We have considered the submissions of UPPCL. It is observed that the respondent has filed its reply on the basis of the submissions made by the petitioner in original petition, which was based on Management Certificate. However, the petitioner has submitted RCE and according to it, the capital cost on COD is within the approved apportioned cost of ₹97691.86 lakh. As such the objection raised by UPPCL does not sustain.

12. The petitioner was directed to provide the certificate issued by RLDC as per Regulation 5 (2) of the 2014 Tariff Regulations in support of trial operation or



commercial operation date and the Single Line Diagram (SLD) of BARH-II TPS and Gorakhpur Sub-station. In response, the petitioner, vide affidavit dated 17.12.2015, has submitted the SLDC and that the RLDC certificate is under process and it will be submitted. The petitioner is directed to submit the RLDC certificate at the time of truing up.

### **TIME OVER-RUN**

13. As per the investment approval dated 27.12.2011, the scheme was scheduled to be commissioned within 32 months from the date of investment approval. Accordingly, the schedule completion date works out to 27.8.2014. However, the actual commissioning of the subject asset was 7.6.2015. There is a time over-run of 9 months and 11 days.

14. The petitioner, vide affidavit dated 14.7.2015, has submitted the following reasons for delay:-

- a) The work of tower foundation, erection and stringing was considerably delayed in the section 294/0 to 295/0 due to a court case pending with the Hon'ble High Court Allahabad. The case was filed by M/s Gupta Automobiles, which owns a Petrol Pump, in the month of March 2014 before the Hon'ble Allahabad High Court requesting diversion of route of the line. The matter was twice referred to DM, Gorakhpur. The petitioner approached Hon'ble Allahabad High Court on 16.1.2015 against the Order of DM Gorakhpur. Hon'ble Allahabad High Court allowed the petitioner vide order dated 19.1.2015 to carry out the balance stringing work with a



condition that the line would not be energized without the permission of the Court. The matter was finally disposed on 29.5.2015. Another case before the Civil Court, Gorakhpur with respect to location No 263/2 was disposed on 29.5.2015 and with Allahabad High court was regarding dispute at location No 219/0 was disposed on dated 7.10.2014.

- b) There are altogether 9 nos. of Railway Crossing encountered in this line. There had been delay in obtaining approval of railway crossing from concerned Railway Divisions. The petitioner has submitted the date of submission of proposal, date of joint inspection and date of approval. According to the petitioner, the approval process took longer time more than two year in case of Maharajganj-Mashrak crossing.
- c) The proposal for aviation clearance was initially submitted on 3.6.2013. However, as per advice of Aviation Department, AAI, the proposal was resubmitted at Delhi and Kolkata office. NOC for the Bihar section was issued on 17.1.2014. As regards UP section, AAI advised the petitioner to reroute the line near Gorakhpur. However, the petitioner took up the matter with AAI and informed about the status of work and their inability to modify the route. Subsequently after a lot of persuasion, Aviation Clearance was accorded by AAI in January, 2015. For want of this clearance 1 no Pile Foundation at Loc. No 270/2 was kept under hold till December, 2014. Finally, the clearance was received on 14.1.2015.
- d) The social forestry was encountered during construction of this line even though final clearance has not been obtained the work was not



affected except for one number railway crossing where trees are to be cut for carrying out the stringing. The forest proposal was submitted on 29.6.2012 ("Bihar and UP"). Stage I clearance for UP portion received on 30.9.2013 and the same for Bihar portion was received on 6.5.2015.

- e) The ROW problem was encountered at 2 no of Locations (1/0 and 15/15) in Bihar. The villagers were not allowing the work and the matter was taken up with DM Patna and Samastipur as per reference correspondence made on 2.2.2015 and 12.2.2015.

15. During the hearing, the petitioner has submitted that the time over-run was on account of court cases, approval of railway crossings from Department of Railway, obtaining clearance of aviation department and ROW problems. The petitioner has submitted that these developments were not envisaged at the implementation stage and was beyond the control of the petitioner. The petitioner has further submitted that they have submitted the supporting documents and correspondences seeking the condonation of the time over-run.

16. The petitioner has submitted the following documents in support of the claim of the time over-run:-

- (i) Hon'ble Civil Court, Gorakhpur order dated 29.5.2015 with respect to location No 263/2 , Hon'ble Allahabad High Court, order dated 7.10.2014 regarding location No 219/0, Hon'ble Allahabad High Court, order dated 26.3.2014, 7.10.2014, 19.1.2015 and other relevant correspondence.



- (ii) Correspondence in respect of delay in obtaining approval of railway crossing from concerned Railway Divisions.
- (iii) NOC letter dated 14.1.2015 by Aviation Headquarter, New Delhi, and correspondence in respect of aviation clearance.
- (iv) Forest clearance dated 13.5.2015 for Bihar portion and correspondences in respect of forest clearance.
- (v) Correspondence in respect of delay due to ROW problem.

17. We have considered the submissions of the petitioner. The time over-run of 9 months and 11 days in the commissioning of the asset has been attributed to delay in obtaining forest clearance, court cases, approval of railway crossings from Department of Railway, clearance from aviation department and ROW problem. The instant transmission line is passing through the forest land in Patna, Samastipur, Saran and Gopalganj Forest Division in Bihar Gorakhpur District of Uttar Pradesh and 3.8134 ha of forest land in Bihar was to be diverted for the construction of the line. The petitioner has approached the Divisional Forest Officer, Gorakhpur on 26.6.2012 and the final approval for diversion of forest land in Bihar was issued by the Ministry of Environment, Forests & Climate Change was issued on 13.5.2015. Thus, it took 32 months for obtaining the clearance of the forest department. The time taken by the petitioner for obtaining aviation clearance, railway crossing approvals, RoW issues and court cases are subsumed by the time taken for obtaining forest clearance. As such, we are not going to the other reasons of time over-run submitted by the petitioner. The petitioner could obtain forest clearance after a period of 32 months on 13.5.2015.

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The petitioner could not take up the stringing work without the mandatory forest clearance. The petitioner has commissioned the instant asset on 7.6.2015 after obtaining the mandatory forest clearance and the disposal of a case filed by one of the land by the Hon'ble Allahabad High Court on 29.5.2015. We are of the view that the time over-run in commissioning of the instant asset cannot be attributed to the petitioner.

18. The question therefore arises whether under the facts and circumstances of the case, the time over-run shall be attributable to the petitioner. The Hon'ble Appellate Tribunal for Electricity in its Judgment dated 27.4.2011 in Appeal No.72/2010 has laid down the principle to be followed to determine the liability for time over-run in three scenarios as under:-

- (a) Due to factors entirely attributable to the project developer;
- (b) Due to the factors beyond the control of project developer; and
- (c) Not covered under (a) and (b).

In the first scenario, the additional cost due to time over-run would be entirely borne by the project developer and the LD amount, if any, would be retained by them. In the second scenario, the additional cost due to time over-run shall be capitalized, however, the benefit of LD and the insurance proceeds, if any, to be reduced from the capital cost. In the last scenario, the additional cost due to time over-run including LD and insurance proceeds could be shared between the project developer and the beneficiaries.



17. The time over-run 9 months and 11 days in commissioning of the instant asset is beyond the control of the petitioner and it cannot be attributed to the petitioner. As per the judgement of Hon'ble Tribunal, the additional cost due to time over-run not attributable to the petitioner shall be capitalized. Accordingly, the time over-run in case of the instant assets is condoned and accordingly IDC and IEDC for 9 months and 11 days are allowed to be capitalised.

### **IDC and IEDC**

18. As per investment approval dated 27.12.2011, the asset was scheduled to be commissioned within 32 months from the date of investment approval. Therefore, the SCOD of the transmission system works out to 27.8.2014 against which the transmission asset was put under commercial operation with effect from 7.6.2015, i.e., delay of 9 months 11 days than the scheduled COD as per investment approval.

19. The petitioner has claimed the IDC and IEDC of ₹7592.96 lakh and ₹351.04 lakh upto COD. In this regard, the petitioner was directed to provide the computation of IDC/IEDC on cash basis (i) from date of infusion of debt fund to scheduled COD and (ii) from scheduled COD to actual COD along with the liquidated damages recovered or recoverable, if any. The petitioner in response vide its affidavit dated 17.12.2015 submitted the breakup of IDC and IEDC as follows:



(₹ in lakh)

Statement showing IDC & IEDC	IDC	IEDC
Total IDC/IEDC as per certificate	7592.96	351.04
IDC/IEDC discharged upto SCOD	5735.45	265.16
IDC/IEDC discharged from SCOD to actual COD	1857.51	85.88

20. The petitioner was further directed to submit the undischarged liability portion of IDC and IEDC and clarify whether the same has been included in the projected additional capital expenditure claimed. In response, the petitioner vide its affidavit dated 17.12.2015, has submitted that out of the total IDC of ₹7592.96 lakh, the IDC discharged upto COD is ₹6003.77 lakh. The balance IDC of ₹1589.19 lakh has been discharged during 2015-16. Further, total IEDC of ₹351.04 lakh has been discharged upto COD.

### **Initial Spares**

21. Regulation 13(d) of the 2014 Tariff Regulations provides that initial spares shall be capitalised as a percentage of plant and machinery cost upto cut-off date, subject to following ceiling norms:-

“(d) Transmission System	
Transmission line:	1.00%
Transmission sub-station (Green Field):	4.00%
Transmission sub-station (Brown Field):	6.00%”

22. The petitioner has claimed initial spares of ₹893.00 lakh for transmission line and ₹5.99 lakh for sub-station. The petitioner’s claim is within the norms specified in the 2014 Tariff Regulations and accordingly the initial spares claimed by the petitioner are allowed.





23. The petitioner has submitted capital expenditure of ₹93280.51 lakh (=₹94869.70 lakh – accrual IDC of ₹1589.19 lakh to be discharged in 2015-16) as on COD. In addition to this, the petitioner has claimed additional capital expenditure of ₹3985.53 lakh (= ₹2396.34 lakh + accrual IDC of ₹1589.19 lakh to be discharged in 2015-16), ₹203.31 lakh and ₹203.30 lakh during 2015-16, 2016-17 and 2017-18 respectively, in the tariff period 2014-19. The petitioner has submitted Auditor's Certificate dated 5.12.2015 in support of capital cost incurred upto COD and additional capitalization projected for 2014-19 tariff period.

24. The petitioner, vide its affidavit dated 8.9.2015, has submitted the RCE dated 23.2.2015. The approved apportioned cost of the instant transmission asset is ₹97691.86 lakh. The estimated capital cost of ₹93280.51 lakh as on COD is within the approved apportioned cost of ₹97691.86 lakh. Accordingly, the capital cost of ₹93280.51 lakh as on COD is allowed and considered for the purpose of tariff computation for 2014-19 tariff period on provisional basis, which shall be trued up based on actual capital expenditure incurred at time of truing up of tariff for 2014-19 period.

### **Additional Capital Expenditure**

25. The petitioner has claimed additional capital expenditure of ₹3985.53 lakh (= ₹2396.34 lakh + accrual IDC of ₹1589.19 lakh to be discharged in 2015-16), ₹203.31 lakh and ₹203.30 lakh during 2015-16, 2016-17 and 2017-18 respectively, towards balance and retention payments under Clause 1 of Regulation 14 of the 2014 Tariff Regulations.



26. Clause 1, sub-clause (i) of Regulation 14 of the 2014 Tariff Regulations provides as follows:

“(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:

.....

(i) Undischarged liabilities recognized to be payable at a future date;

27. We have considered the submissions of the petitioner. As the accrual IDC of ₹1589.19 lakh is to be discharged in 2015-16, therefore, we have considered the same and have allowed the additional capital expenditure of ₹3985.53 lakh (= ₹2396.34 lakh + accrual IDC of ₹1589.19 lakh to be discharged in 2015-16), ₹203.31 lakh and ₹203.30 lakh during 2015-16, 2016-17 and 2017-18 respectively. It is observed that the total estimated completion cost of ₹97672.65 lakh (including additional capital expenditure during 2014-19 tariff period) is within the approved apportioned cost of ₹97691.86 lakh. Hence, we have considered capital cost of ₹93280.51 lakh (= ₹94869.70 lakh – accrual IDC of ₹1589.19 lakh to be discharged in 2015-16) as on COD 7.6.2015 and additional capital expenditure of ₹3985.53 lakh (= ₹2396.34 lakh + accrual IDC of ₹1589.19 lakh to be discharged in 2015-16), ₹203.31 lakh and ₹203.30 lakh during 2015-16, 2016-17 and 2017-18, respectively, for tariff computation for the 2014-19 tariff period as follows on provisional basis. The additional capitalization during 2014-19 will be considered subject to prudence check while carrying out the truing up of tariff for 2014-19 period.



(₹ in lakh)

Approved apportioned cost: ₹97691.86 lakh						
Name of the element	Expenditure upto COD	Additional Capital Expenditure				Total estimated completion cost
		2015-16 (Pro-rata)	2016-17	2017-18	Total	
Asset	93280.51 (94869.70 – accrual IDC of 1589.19)	3985.53 (=2396.34 + accrual IDC of ₹1589.19)	203.31	203.30	4392.14	97672.65

### Debt:EquityRatio

28. Clause 3 of Regulation 19 of the 2014 Tariff Regulations specifies as under:-

**“19. Debt-Equity Ratio:** (1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. 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:

- i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
- ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
- iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio.”

29. The petitioner has considered debt:equity ratio as 70:30 both for capital cost as on COD and for additional capitalization during the tariff period 2014-19.

30. The details of the debt:equity as on COD and for the additional capital expenditure considered for the purpose of tariff for the 2014-19 tariff period is as follows:-



₹ in lakh)

Particulars	Capital cost as on COD		Estimated completion cost including additional capitalization	
	Amount	(%)	Amount	(%)
Debt	65296.36	70.00	68370.86	70.00
Equity	27984.15	30.00	29301.80	30.00
<b>Total</b>	<b>93280.51</b>	<b>100.00</b>	<b>97672.65</b>	<b>100.00</b>

### **Interest on Loan (“IOL”)**

31. Clause (5) & (6) of Regulation 26 of the 2014 Tariff Regulations are reproduced as under:-

“(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:

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.”

32. The weighted average rate of IOL has been considered on the basis of rate prevailing as on COD. The petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during 2014-19 tariff period will be adjusted at the time of true up.

33. We have considered the petitioner’s submissions. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. Further, with regard to floating rate of interest, variation in interest rate if any shall be considered at the time of true up. The details of weighted average rate of



interest are placed at **Annexure-I** and the IOL has been worked out and allowed as follows:-

(₹ in lakh)				
Details of Loan	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Gross loan opening	65296.36	68086.23	68228.55	68370.86
Cumulative Repayment upto DOCO/previous year	0.00	4110.41	9252.56	14405.43
Net Loan-Opening	65296.36	63975.82	58975.99	53965.42
Additions during the year	2789.87	142.32	142.31	0.00
Repayment during the year	4110.41	5142.14	5152.88	5158.25
Net Loan-Closing	63975.82	58975.99	53965.42	48807.17
Average Loan	64636.09	61475.90	56470.70	51386.30
Rate of Interest (%)	8.9426	8.9385	8.9291	8.9278
<b>Interest</b>	<b>4722.01</b>	<b>5495.00</b>	<b>5042.35</b>	<b>4587.65</b>

### **Return on Equity("ROE")**

34. Clause (1) & (2) of Regulation 24 and Clause (2) of Regulation 25 of the 2014 Tariff Regulations specify as under:-

**“24. Return on Equity:** (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.  
(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system...

Provided that:

- i. in case of projects commissioned on or after 1st April, 2014, an additional return of **0.50 %** shall be allowed, if such projects are completed within the timeline specified in **Appendix-I**:
- ii. the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:
- iii. additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:”

**“25. Tax on Return on Equity:**



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

Rate of pre-tax return on equity = Base rate / (1-t)

Where “t” is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), “t” shall be considered as MAT rate including surcharge and cess.”

35. The petitioner has computed ROE at the rate of 19.610% after grossing up the ROE with MAT rate as per the above Regulation. The petitioner has further submitted that the grossed up ROE is subject to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax including the interest received from IT authorities, pertaining to the tariff period 2014-19 on actual gross income of any financial year. Any under-recovery or over-recovery of grossed up ROE after truing up shall be recovered or refunded to the beneficiaries on year to year basis.

36. The petitioner has further submitted that adjustment due to any additional tax demand including interest duly adjusted for any refund of the tax including interest received from IT authorities shall be recoverable/adjustable after completion of income tax assessment of the financial year.

37. We have considered the submissions made by the petitioner. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on



equity. It further provides that in case the generating company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. The petitioner has submitted that MAT rate is applicable to the petitioner's company. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. Accordingly, the ROE determined by the Commission is given below:-

(₹ in lakh)				
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Opening Equity	27984.15	29179.81	29240.81	29301.80
Addition due to Additional Capitalisation	1195.66	60.99	60.99	0.00
Closing Equity	29179.81	29240.81	29301.80	29301.80
Average Equity	28581.98	29210.31	29271.30	29301.80
Return on Equity (Base Rate ) (%)	15.50	15.50	15.50	15.50
MAT rate for the year (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax)(%)	19.610	19.610	19.610	19.610
<b>Return on Equity (Pre Tax)</b>	<b>4578.89</b>	<b>5728.14</b>	<b>5740.10</b>	<b>5746.08</b>

### Depreciation

38. Clause (67) of Regulation 3 of the 2014 Tariff Regulations defines useful life as follows:-

“**useful life**’ in relation to a unit of a generating station and transmission system from the COD shall mean the following, namely:-

.....

- (c) AC and DC Sub-station: 25 years
- (d) Gas Insulated Sub-station: 25 years
- (e) Transmission line (including HVAC & HVDC): 35 years”



39. Clause (2), (5) and (6) of Regulation 27 of the 2014 Tariff Regulations provide as follows:-

**"27. Depreciation:**

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. 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"

"(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in **Appendix-II** 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 the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

(6) In case of the existing projects, the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2014 from the gross depreciable value of the assets."

40. The petitioner in its petition has computed depreciation considering capital cost of ₹93280.51 lakh as on COD and additional capitalization of ₹3985.53 lakh, ₹203.31 lakh and ₹203.30 lakh during 2015-16, 2016-17 and 2017-18 respectively.

41. As per Clause 67 of Regulation 3 of the 2014 Tariff Regulations, weighted average value of asset as on COD has been considered to work out the weighted average life of the transmission system as 35 years.

42. We have computed depreciation considering capital cost of ₹93280.51 lakh as on COD and additional capital expenditure of ₹3985.53 lakh, ₹203.31





lakh and ₹203.30 lakh during 2015-16, 2016-17 and 2017-18 respectively, in the tariff period 2014-19. Depreciation is allowed as provided under Regulation 27 of the 2014 Tariff Regulations. The details of the depreciation claimed and allowed are given hereunder:-

(₹ in lakh)				
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	93280.51	97266.04	97469.35	97672.65
Additional Capitalization	3985.53	203.31	203.30	0.00
Closing Gross block	97266.04	97469.35	97672.65	97672.65
Average Gross block	95273.28	97367.70	97571.00	97672.65
Rate of Depreciation (%)	5.281	5.281	5.281	5.281
Depreciable Value	85745.95	87630.93	87813.90	87905.39
Elapsed Life of the asset at beginning of the year	0	1	2	3
Weighted Balance Useful life of the asset	35	34	33	32
Remaining Depreciable Value	85745.95	83520.51	78561.34	73499.95
<b>Depreciation</b>	<b>4110.41</b>	<b>5142.14</b>	<b>5152.88</b>	<b>5158.25</b>

### **Operation & Maintenance Expenses (“O&M Expenses”)**

43. The petitioner has computed normative O&M Expenses as per sub-clause (a) of clause (3) of Regulation 29 of the 2014 Tariff Regulations. Accordingly, the petitioner’s entitlement to O&M expenses has been worked out as given hereunder:-



		(₹ in lakh)			
Particulars		2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Actual	Double Circuit (Bundled conductor with four or more sub-conductors) (₹lakh/km)	349.177	1	1	1
Norms as per Regulation	220 kV Bays (₹ lakh/bay)	1.097	1.133	1.171	1.210
<b>Total</b>		<b>312.93</b>	<b>395.62</b>	<b>408.89</b>	<b>422.50</b>

44. The petitioner has submitted that norms for O&M Expenses for the tariff period 2014-19 have been arrived on the basis of normalized actual O&M Expenses during the period 2008-13. The petitioner has further submitted that the wage revision of the employees of the petitioner Company is due during the 2014-19 tariff period and actual impact of wage hike, which will be effective at a future date, has not been factored in fixation of the normative O&M rate specified for the tariff period 2014-19. The petitioner has prayed to be allowed to approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase.

45. The O&M Expenses have been worked out as per the norms of O&M Expenses specified in the 2014 Tariff Regulations. As regards impact of wage revision, any application filed by the petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations.

46. The details of O&M Expenses allowed are given hereunder:-



(₹ in lakh)

Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Asset	<b>312.93</b>	<b>395.62</b>	<b>408.89</b>	<b>422.50</b>

**Interest on Working Capital (“IWC”)**

47. Clause 1 (c) of Regulation 28 and Clause 5 of Regulation 3 of the 2014 Tariff Regulations specify as follows:

**“28. Interest on Working Capital**

- (c)(i) Receivables equivalent to two months of fixed cost;  
(ii) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 29; and  
(iii) Operation and maintenance expenses for one month”

“(5)Bank Rate’ means the base rate of interest as specified by the State Bank of India from time to time or any replacement thereof for the time being in effect plus 350 basis points;”

48. The petitioner has submitted that it has computed Interest on working capital for the tariff period 2014-19 considering the SBI Base Rate as on 1.4.2014 plus 350 basis points. The rate of interest on working capital considered is 13.50%.

49. The interest on working capital is worked out in accordance with Regulation 28 of the 2014 Tariff Regulations. The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points). The interest on working capital as allowed is shown in the table below:-

(₹ in lakh)

Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	46.94	59.34	61.33	63.38
O & M expenses	26.08	32.97	34.07	35.21
Receivables	2341.70	2859.91	2788.93	2715.74
Total	2414.72	2952.22	2884.34	2814.32



Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Rate of Interest (%)	13.50	13.50	13.50	13.50
<b>Interest</b>	<b>325.99</b>	<b>398.55</b>	<b>389.39</b>	<b>379.93</b>

### Annual Transmission Charges

50. The detailed computation of the various components of the annual fixed charges for the transmission asset for the tariff period 2014-19 is summarised below:-

(₹ in lakh)				
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
<b>Gross Block</b>				
Opening Gross Block	93280.51	97266.04	97469.35	97672.65
Additional Capitalization	3985.53	203.31	203.30	0.00
Closing Gross Block	97266.04	97469.35	97672.65	97672.65
Average Gross Block	95273.28	97367.70	97571.00	97672.65
Rate of Depreciation	5.281	5.281	5.281	5.281
Depreciable Value	85745.95	87630.93	87813.90	87905.39
Elapsed Life of the asset at beginning of the year	0	1	2	3
Weighted Balance Useful life of the asset	35	34	33	32
Remaining Depreciable Value	85745.95	83520.51	78561.34	73499.95
Depreciation	4110.41	5142.14	5152.88	5158.25
<b>Interest on Loan</b>				
Gross Normative Loan	65296.36	68086.23	68228.55	68370.86
Cumulative Repayment upto Previous Year	0.00	4110.41	9252.56	14405.43
Net Loan-Opening	65296.36	63975.82	58975.99	53965.42
Additions	2789.87	142.32	142.31	0.00
Repayment during the year	4110.41	5142.14	5152.88	5158.25
Net Loan-Closing	63975.82	58975.99	53965.42	48807.17
Average Loan	64636.09	61475.90	56470.70	51386.30
Weighted Average Rate of Interest on Loan (%)	8.9426	8.9385	8.9291	8.9278
Interest	4722.01	5495.00	5042.35	4587.65
<b>Return on Equity</b>				
Opening Equity	27984.15	29179.81	29240.81	29301.80
Additions	1195.66	60.99	60.99	0.00



Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Closing Equity	29179.81	29240.81	29301.80	29301.80
Average Equity	28581.98	29210.31	29271.30	29301.80
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	4578.89	5728.14	5740.10	5746.08
<b>Interest on Working Capital</b>				
Maintenance Spares	46.94	59.34	61.33	63.38
O & M expenses	26.08	32.97	34.07	35.21
Receivables	2341.70	2859.91	2788.93	2715.74
Total	2414.72	2952.22	2884.34	2814.32
Interest	325.99	398.55	389.39	379.93
<b>Annual Transmission Charges</b>				
Depreciation	4110.41	5142.14	5152.88	5158.25
Interest on Loan	4722.01	5495.00	5042.35	4587.65
Return on Equity	4578.89	5728.14	5740.10	5746.08
Interest on Working Capital	325.99	398.55	389.39	379.93
O & M Expenses	312.93	395.62	408.89	422.50
<b>Total</b>	<b>14050.22</b>	<b>17159.45</b>	<b>16733.60</b>	<b>16294.41</b>

### **Filing Fee and the Publication Expenses**

51. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 52 of the 2014 Tariff Regulations. The petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with clause (1) of Regulation 52 of the 2014 Tariff Regulations.

### **Licence Fee and RLDC Fees and Charges**

52. The petitioner has requested to allow the petitioner to bill and recover License fee and RLDC fees and charges, separately from the respondents. The



petitioner shall be entitled for reimbursement of licence fee and RLDC fees and charges in accordance with Clause (2)(b) and (2)(a) respectively of Regulation 52 of the 2014 Tariff Regulations.

### **Service Tax**

53. The petitioner has sought to recover Service Tax on Transmission Charges separately from the Respondents, if at any time service tax on transmission is withdrawn from negative list in future. We are of the view that the petitioner's prayer is premature.

### **Sharing of Transmission Charges**

54. 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, as provided in Regulation 43 of the 2014 Tariff Regulations.

55. This order disposes of Petition No. 184/TT/2015.

Sd/-  
**(Dr. M. K. Iyer)**  
**Member**

Sd/-  
**(A.S. Bakshi)**  
**Member**



**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO**

(₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
SBI (21.3.2012)-DOCO Loan 6	10.10	4848.39	0.00	4848.39
SBI (21.3.2012)-DOCO Loan 7	10.10	724.61	0.00	724.61
Bond XL- DOCO Loan	9.30	1121.00	0.00	1121.00
Bond XLI- DOCO Loan 1	8.85	11773.00	0.00	11773.00
Bond XLII- DOCO Loan 1	8.80	2650.00	0.00	2650.00
Bond XLIII- DOCO Loan 3	7.93	1436.00	0.00	1436.00
Bond XLIV- DOCO Loan 4	8.70	14946.00	0.00	14946.00
Bond XLV- DOCO Loan 5	9.65	3669.00	0.00	3669.00
SBI (2014-15)- DOCO Loan 8	9.95	1882.91	0.00	1882.91
Bond XLVI- DOCO Loan 9	9.30	7060.29	0.00	7060.29
Bond XLVII- DOCO Loan 10	8.93	5197.40	0.00	5197.40
Bond XLVIII- DOCO Loan 11	8.20	9182.38	0.00	9182.38
Proposed loan (2015-16) (8.40%)- DOCO Loan 13	8.40	805.37	0.00	805.37
<b>Total</b>		<b>65296.35</b>	<b>0.00</b>	<b>65296.35</b>

**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR TARIFF PERIOD 2014-19**

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	65296.35	65296.35	65296.35	65296.35
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	1581.13	3587.68
Net Loans Opening	65296.35	65296.35	63715.22	61708.67
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.00	1581.13	2006.55	6988.55
Net Closing Loan	65296.35	63715.22	61708.67	54720.12
Average Net Loan	65296.35	64505.79	62711.95	58214.40
Interest on Loan	5839.16	5765.82	5599.64	5197.25
Rate of Interest on Loan (%)	8.9426	8.9385	8.9291	8.9278

