

**CENTRAL ELECTRICITY REGULATORY COMMISSION**

**NEW DELHI**

**Petition No. 125/TT/2016**

**Coram:**

**Shri Gireesh B. Pradhan, Chairperson**

**Shri A.K. Singhal, Member**

**Shri A.S. Bakshi, Member**

**Dr. M.K. Iyer, Member**

**Date of Hearing : 13.04.2017**

**Date of Order : 22.09.2017**

**In the matter of:**

Determination of transmission tariff for Asset 1: Central Sector portion (2186.339 km) and Asset 2 : BBMB (208.438 km) for establishment of fibre optic communication system in Northern Region from COD to 31.3.2019 under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

**And in the matter of:**

Power Grid Corporation of India Limited  
"Saudamini", Plot No.2,  
Sector-29, Gurgaon -122 001

**.....Petitioner**

**Vs**

1. Himachal Pradesh State Electricity Board,  
Vidyut Bhawan, Kumar House Complex Building II,  
Shimla-171 004
2. Punjab State Power Corporation Limited,  
Thermal Shed T-1A, Near 22 Phatak,  
Patiala-147 001
3. Haryana Power Purchase Centre,  
Shakti Bhawan, Sector-6,  
Panchkula, Haryana-134 109
4. Power Development Deptt.  
Janipura Grid Station,  
Jammu (Tawi) 180 007



5. Power Purchase Agreeent Directorate  
Uttar Pradess Power Corporation Ltd.  
10th Floor, Shakti Bhawan Extn.,  
14, Ashok Marg, Lucknow – 226 001.
6. Delhi Transco Limited,  
Shakti Sadan, Kotla Road,  
New Delhi-110 002
7. Chandigarh Administration,  
Sector-9, Chandigarh
8. Uttarakhand Power Corporation Limited,  
Urja Bhawan, Kanwali Road,  
Dehradun
9. Rajasthan Power Procurement Centre.  
Vidyut Bhawan, Janpath,  
Jaipur
10. Ajmer Vidyut Vitran Nigam Limited,  
400 kV GSS Building (Ground Floor),  
Ajmer Road, Heerapura, Jaipur
11. Jodhpur Vidyut Vitran Nigam Limited,  
400 kV GSS Building  
Ajmer Road, Heerapura, Jaipur
12. Jaipur Vidyut Vitran Nigam Limited,  
400 kV GSS Building (Ground Floor),  
Ajmer Road, Heerapura, Jaipur
13. North Central Railway,  
Allahabad
14. BSES Yamuna Power Limited,  
Shakti Kiran Building, Karkardooma,  
New Delhi – 110 092
15. BSES Rajdhani Power Limited,  
BSES Bhawan, Nehru Place,  
New Delhi
16. Tata Power Delhi Distributiion Ltd.  
33 kV Substation, Building  
Hudson lane  
Kingsway Camp  
North Delhi – 110 009



17. New Delhi Municipal Council,  
Palika Kendra, Sansad Marg,  
New Delhi-110 002

18. Bhakra Beas Management Board (BBMB)  
SLDC Complex, Industrial Area Phase -I  
Chandigarh - 160002

..... Respondents

**For petitioner** : Shri S.K. Venkatesan, PGCIL  
Shri S.S. Raju, PGCIL

**For respondents** : Shri Manoj Kumar Sharma, Advocate, Rajasthan Discoms  
Shri Pradeep Mishra, Advocate, Rajasthan Discoms  
Shri Shashi Kumar Jain, Rajasthan Discoms  
Shri Tarun Ahuja, Rajasthan Discoms  
Shri R.B. Sharma, Advocate, BRPL

**ORDER**

The instant petition has been filed by Power Grid Corporation of India Limited (PGCIL) under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulation 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, (hereinafter the 2014 Tariff Regulations) in respect of Asset 1: Central Sector portion (2186.339 km) and Asset 2 : BBMB (208.438 km) for establishment of fibre optic communication system in Northern Region from COD to 31.3.2019.

2. The details of the asset covered in the instant petition are as under:-

S. No.	Details of the Asset	Scheduled COD	Actual COD	Time over-run
1	Asset-I: Central sector portion (2186.339 Kms)	27.9.2014	1.4.2016	18 months 4 days
2	Asset-II: BBMB (208.438 Kms)			



3. In terms of proviso (i) of Regulation 7(7) of the 2014 Tariff Regulation, vide order dated 06.10.2016, the following Annual Transmission /Charges were allowed for the purpose of inclusion in POC charges.

Asset	DOCO	(Rs. in Lakh)	
		2016-17	2017-18
<b>Asset-I:</b> Central portion	01.04.2016	1148.30	1216.95
<b>Asset-II:</b> BBMB	01.04.2016	78.23	82.84

4. This order has been issued after considering petitioner's affidavits dated 6.7.2016, 19.9.2016, 11.11.2016, 2.12.2016, 16.2.2017, 1.3.2017 and 15.06.2017. The remaining scope of the work is covered in petition No 189/TT/2015.
5. The Investment Approval for Fibre Optic Communication System in Northern Region was accorded by the Board of the petitioner company at the Estimated Cost of Rs. 198.63 Crore including IDC of Rs. 12.19 Crore (at 4<sup>th</sup> quarter, 2011 price level) in its 270<sup>th</sup> meeting held on March 27, 2012. The scheme was approved in the 17<sup>th</sup> meeting of TCC & 18<sup>th</sup> meeting of NRPC held on 26<sup>th</sup> & 27<sup>th</sup> November, 2010. As per the investment approval dated 27.3.2012, the transmission asset was scheduled to be commissioned within 30 months, i.e. by 27.09.2014.
6. The broad scope of work covered under the project is as follows:-
- Installation of estimated 5667 km of OPGW fibre optic cable on the existing/new EHV transmission lines of POWERGRID and NR constituents;
  - Installation of 134 No. of Terminal equipments for communication based upon Synchronous Digital Hierarchy (SDH) technology in the substations/ generating stations of Central sector and NR constituents;



- iii) Installations of 196 nos. drop/ insert Multiplexers at the new wide band nodes of Central sector and NR constituents;
- iv) Network management Systems (NMS) to monitor the network is also envisaged;
- v) 103 nos. of DVC power supply has been envisaged at all the wideband locations; however, this requirement shall be optimized during detailed engineering.
- vi) In addition to above, 1098 km of POWERGRID Telecom existing Links shall also be utilized for this project on cost sharing basis.

### **Brief Background**

7. As per the directives of Government of India vide order dated 4.7.2008, Power System Operation Corporation Ltd. (POSOCO), a wholly owned subsidiary of Power Grid Corporation of India Ltd. was created and POSOCO is responsible for system operation of National Load Despatch Centre (NLDC) and Regional Load Despatch Centres (RLDCs). Pursuant to Satnam Singh Committee's report, the assets pertaining to system operations have been transferred to POSOCO for which separate tariff orders had been issued by the Commission.

8. Government of India had also constituted a Task Force to look into the financial aspects for augmentation and up-gradation of the State Load Despatch Centres and issues related to emoluments for the personnel engaged in the system operation. The Task Force made certain recommendations with regard to the ownership of the assets. The petitioner constituted committees at the regional level, subsequent to the Task Force's report, to identify the assets to be transferred to POSOCO. The recommendations of the committees for asset transfer were as under:-



**(A) Assets to be transferred to POSOCO:**

- (i) EMS/SCADA system (computer system, hardware and software)
- (ii) Auxiliary power supply system comprising of uninterrupted power supply, diesel generating set etc.
- (iii) Building and civil works.

**(B) Assets which will remain with petitioner:**

**I. Central Portion:**

- (i) Fibre Optic Cables (overhead and underground)
- (ii) Fibre Optic Communication Equipment
- (iii) Digital Microwave Communication System (Tower, Antenna, Equipment etc.)
- (iv) PABX
- (v) Power Line Carrier Communication System;
- (vi) Auxiliary power supply system.

**II. State Portion: Entire state portion which consists of the following equipment will remain with the petitioner:**

- (i) EMS/SCADA system
- (ii) Fibre Optic System
- (iii) Digital Microwave Communication System (Tower, Antenna, Equipment etc.)
- (iv) PABX
- (v) Power Line Carrier Communication System
- (vi) Auxiliary power supply system (part)

9. Thereafter the petitioner filed a Miscellaneous Petition No. 68/2010 under sub-section (4) of Section 28 of Electricity Act 2003 and Regulations 44 "Power to Relax" of the CERC (Terms and Conditions of Tariff) Regulations 2009 for fixation of tariff norms for recovery of cost for the assets ("Communication system" and "Sub-Load Dispatch Centre system") to be retained/to be installed by the petitioner after formation of POSOCO for the period 2009-14 block.

10. The Commission in Petition No. 68/2010 vide order dated 8.12.2011, had observed as under:-

"9.....Since the communication system and SLDC system form part of the assets of the CTU, there is a requirement to specify regulations for determination of tariff of these assets. We direct the staff of the Commission to undertake the exercise separately and include these assets of CTU in the tariff regulations applicable for the next tariff period i.e.2014-19. As regards the tariff of these assets for the period 2009-14, we are not inclined to determine the tariff of these assets by exercising our power to relaxation under Regulation 44 of the 2009 regulations since there is no provision for determination of tariff for the assets covered under the communication system and



ULDC system. We are of the view that the tariff of these assets shall be determined under our general power of determination of tariff for inter-State transmission system under section 79(1)(d) of the Act.....”

“.....It clearly emerges from the above judgment that the Central Commission can specify the terms and conditions of tariff even in the absence of the regulations. Since no regulation was specified for determination of tariff of the communication system and the ULDC system, the Commission determined the tariff of these assets during the period 2004-09 on levelised basis by adopting some of the parameters of 2004 tariff regulations. We have decided to continue with the levelised tariff for the existing assets in the absence of any provision in 2009 regulations regarding determination of tariff of communication system and ULDC system of the petitioner. For the new assets, the tariff will be decided as per the regulations for communication systems to be framed. Accordingly we direct the staff of the Commission to take necessary action to prepare draft regulations for determination of tariff for the communication system and ULDC system of the petitioner.”

“21. We have considered the submission of the petitioner and the respondents. We are of the view that replacement of microwave links with fibre optic links should be implemented as agreed by the beneficiaries to ensure safe and reliable operation of the power system. Moreover, the petitioner has submitted that surrender of the microwave frequencies would save substantial cost and the fibre optic system would be beneficial in the long run as the fibre optic communication network is required for implementation of new technologies like Wide Area Measurement System (WAMS), Special Protection Schemes (SPS) etc. in view of fast development and complexity of the power system in the country. As regards the regulatory approval, we are of the view that since the project has been agreed to be implemented by the constituents of each of the regions, regulatory approval is not considered necessary. The petitioner is granted liberty to approach the Commission for determination of tariff for the fibre optic network being installed in lieu of microwave links for each of the region separately. As regards the submission of UPPTCL, it is clarified that if the state portion is not being implemented by it separately as proposed earlier, the same shall be implemented by the petitioner and UPPTCL would be required to share the tariff in proportion to the assets being utilised by it. It is however made clear that the timeline for replacement of the digital microwave by optical fibre should be strictly complied with.”

11. However, the provision for determining tariff of communication system and ULDC system of the petitioner have now been specified in the 2014 Tariff Regulations as an element of a transmission system. Accordingly, the annual transmission charges of the optic fibre have been determined as per the provisions of the 2014 Tariff Regulations in this order.

12. The annual transmission charges claimed by the petitioner based on the actual date of commercial operation are as hereunder:-



(₹ in lakh)

Particulars	Central Portion		
	2016-17	2017-18	2018-19
Depreciation	283.62	316.00	330.30
Interest on Loan	250.43	254.94	241.10
Return on Equity	263.60	293.69	306.97
Interest on Working Capital	17.39	22.69	22.99
O & M Expenses	0.00	73.42	73.42
<b>Total</b>	<b>815.04</b>	<b>960.74</b>	<b>974.78</b>
BBMB Portion			
Particulars	BBMB Portion		
	2016-17	2017-18	2018-19
Depreciation	33.88	36.89	36.89
Interest on Loan	30.18	30.00	26.88
Return on Equity	31.64	34.45	34.45
Interest on Working Capital	2.09	2.21	2.14
O & M Expenses	0.00	0.00	0.00
<b>Total</b>	<b>97.79</b>	<b>103.55</b>	<b>100.36</b>

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

(₹ in lakh)

Particulars	Central Portion		
	2016-17	2017-18	2018-19
Maintenance Spares		11.01	11.01
O & M expenses	-	6.12	6.12
Receivables	135.84	160.12	162.46
<b>Total</b>	<b>135.84</b>	<b>160.12</b>	<b>162.46</b>
Interest Rate	12.80%	12.80%	12.80%
<b>Interest</b>	<b>17.39</b>	<b>22.69</b>	<b>22.99</b>
BBMB			
Particulars	BBMB		
	2016-17	2017-18	2018-19
Maintenance Spares	-	-	-
O & M expenses	-	-	-
Receivables	16.30	17.26	16.73
<b>Total</b>	<b>16.30</b>	<b>17.26</b>	<b>16.73</b>
Interest Rate	12.80%	12.80%	12.80%
<b>Interest</b>	<b>2.09</b>	<b>2.21</b>	<b>2.14</b>

14. 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. BRPL has submitted that the Fibre Optic Communication System has been approved in the 17th meeting for Investment decision and further on this issue, the discussions at the RPC meeting where all the Discoms are not even represented, to keep its size of RPC within manageable limits, cannot





be allowed to take the Investment decisions on the part of those Discoms who are expected to pay such tariff. Further, it has also submitted that as the petitioner has filed a separate petition for OPGW, it is necessary that the Petitioner may also file a 'Transmission service Agreement' between the transmission licensee and the designated Inter-State customers as per provisions of Regulation 3(63) of the Tariff Regulations, 2014 and thus the discussions at the ERPC meetings cited by the petitioner can at best be taken note of but cannot be treated as the "Transmission service Agreement". In response, the Petitioner has submitted that BRPL had already signed TSA on 19th Aug, 2011 and also submitted the documents to support the facts.

**15. Date of Commercial operation**

The Petitioner has claimed the COD of the instant assets as under:

Details of the Asset	SCOD	Actual COD	Delay
Asset-1: Central sector portion (2186.339 kms)	27.9.2014	1.4.2016	18 months 4 days
Asset-2: BBMB (208.438 kms)			

16. BRPL has submitted that additional information by Petitioner regarding Trial run and trial operation, Certificate from the CMD/CEO/MD of the company that the assets conform to the relevant Grid standard and Grid code in terms of Regulation 6.3A.4 (vi) of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) (fourth Amendment) Regulations, 2016, Report of the Electrical Inspector from safety considerations, DPR, CPT/PERT analysis and de-capitalization of earth wire are to be submitted by the petitioner. In response, the petitioner vide affidavit dated 2.12.2016 has submitted that it has submitted the trail-run certificate issued by RLDC and COD letter as per the 2014 Tariff Regulations.



17. The Commission vide its order dated 20.9.2016 directed the petitioner to explain whether the communication signal had been provided and whether the links were in commercial use. In case it was, details were to be furnished. In response, the petitioner vide affidavit dated 11.11.2016 has submitted that connectivity of links has been established upto NRLDC and a certification from NRLDC in this regard has been submitted along with the original petition. Further, NRLDC has certified in its certificate that 2394.777 kms OPGW with associated communication equipments in Northern Region have been put under commercial operation w.e.f. 00 hrs of 1.4.2016.

18. The petitioner vide letter dated 1.4.2016 submitted the self declaration certificate of COD. The petitioner vide affidavit dated 6.7.2016 has submitted the RLDC certificate issued by NRLDC (dated 21.4.2016) and submitted the details of various links for the instant Petition, totaling to 2394.770 Kms (Asset-1: Central sector portion (2186.339 kms) and Asset-2: BBMB (208.438 kms)) for NR. Further, in reply to the query of the Commission, the petitioner vide affidavit dated 11.11.2016 has also submitted that connectivity of links has been established upto NRLDC. As the petitioner has fulfilled the requirements of Regulation 5(2) of the 2014 Tariff Regulations, the COD of the assets is approved as 1.4.2016 for the purpose of tariff computation. However, the petitioner is directed to comply with the requirement of IEGC as pointed by the Respondent.

19. The Commission vide its ROP dated 13.04.2017 directed the petitioner to submit actual fiber usage in the OPGW link, written down value of the instant assets after adjustment of the scrap value of earth wire realized besides other information.



20. The petitioner vide affidavit dated 15.06.2017 submitted that the old earth wire that was replaced has no techno-commercial use other than scrap. Therefore it has prayed to allow the Written down Value as one time reimbursement subject to adjustment of scrap value of Earth Wire realization in the capital cost of the assets covered in the instant petition at the time of truing up in order to get back the capital investment.

It has further submitted that out of 24 fibers in OPGW link 6 fibers are getting used for ULDC requirement. Remaining 18 fibers can be used by constituents / Telecom projects. Wherever Telecom department is utilizing the remaining fibers, sharing of cost shall be carried on as per the following guidelines prescribed in order dated 08.12.2011 in petition no. 68/2010:

"Six (6) out of 12/24 fibres installed under this project shall be utilized for ULDC project only. The balance fibres shall be utilized by POWERGRID for telecom purpose. Accordingly, it is proposed to apportion (i) 50% of the optical fibre cost for 24 fibre cable and (ii) 25% of optical fibre cost for 12 fibre cable to the telecom venture. Apportionment as per the above methodology shall be made at the time of submission of tariff proposal to GOI/CERC."

It has further submitted that out of 28 links (Central Sector Portion) in the instant petition, 14 nos. of OPGW links are being utilized by POWERGRID Telecom department. Accordingly, cost of OPGW on all shared links has been apportioned and Optical fiber cost has been deducted from the DOCO cost of central sector portion. After deduction of the said capital cost revised Auditor Certificate for central sector portion along with the revised tariff forms after cash IDC adjustment have been submitted. It has further submitted that state sector portion Tariff will remain unchanged as no links of state sector portion are shared.



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

### **Capital cost**

22. Clause (1) and (2) of Regulation 9 of the 2014 Tariff Regulations provides as follows:-

“(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.”

23. The petitioner vide affidavit dated 6.7.2016 and auditor certificate dated 3.06.2016 has submitted details of actual expenditure incurred as on the date of commercial operation (COD) and additional capital expenditure incurred/projected to be incurred for the period from COD to 31.3.2019 and the same is as follows.



(₹ in lakh)

Name of Element	Approved Cost	Expenditure up to 31.3.2016	Est. Add. Cap from 1.4.2016 to 31.3.2017	Total Estimated Cost
<b>Asset-I:</b> Central sector portion (2186.339 kms)	6807.94	5242.82	920.57	6163.39
<b>Asset-II:</b> BBMB (208.438 kms)	629.95	499.30	83.44	582.74
<b>Total</b>	<b>7437.89</b>	<b>5742.12</b>	<b>1004.01</b>	<b>6746.13</b>

24. The petitioner vide affidavit dated 15.06.2017 and auditors' certificate dated 13.6.2017 has submitted the revised expenditure incurred as on the date of commercial operation (COD) and additional capital expenditure incurred/projected to be incurred for the period from COD to 31.3.2019 for the for the Asset-1 as under:-

(₹ in lakh)

Name of Element	Approved Cost	Expenditure up to COD (31.3.2016)	Est. Add. Cap from 1.4.2016 to 31.3.2017	Estimated Exp. From 1.4.2017 to 31.3.2018	Total Estimated completion cost
<b>Asset-I:</b> Central sector portion (2186.339 kms)	6807.94	4297.39	468.96	451.61	5217.96

### **Cost over-run**

25. The total estimated completion cost of the instant asset is `5217.96 lakh & `582.74 lakh for Central sector portion (Asset-I) & BBMB (Asset-II) respectively against the apportioned approved cost of `6807.94 lakh & `629.95 for Asset-I and Asset - II respectively. Thus, there is no cost over-run in the case of instant asset.

26. However, as per Form-4A submitted vide affidavit dated 26.06.2014 in original petition, there is no mention of any liability as on COD. Thereafter,



the petitioner vide Form-7 (i.e. "Statement of Additional Capitalization after COD) has submitted the justification that Additional capital expenditure is of 'balance & retention payment' nature. Hence, there is a mismatch between Form-4A and Form-7 with reference to the liability. We have considered the cost given in the Auditors' Certificate and accordingly tariff has been worked out. Therefore, the petitioner is directed to submit the correct Form-4A and Form-7 for both the instant assets, which would be subject to review at the time of truing-up.

### **Time over-run**

27. As per the investment approval dated 27.3.2012, the instant asset had to be commissioned within 30 months from the date of Investment Approval i.e. by 27.9.2014. The instant asset has been commissioned on 1.4.2016. Thus, there is time over-run of 18 months 4 days. The petitioner has submitted Justification in support of time delay as under:

### **Delay due to non-readiness of line**

28. The petitioner has submitted that the delay in execution of the project is due to delay in readiness of Kashipur-Bareilly and Kashipur-Roorkee lines on which OPGW were to be installed.

Further, as the lines were under construction, front were not available and OPGW could not be installed till the towers were erected. This led to delay in installation of OPGW on following links namely-(i) Kashipur-Bareilly and (ii) Kashipur-Roorkee. Both these lines are covered in Petition No.-263/TT/2015. The petitioner has submitted that delay occurred due to following reasons:-

### **Delay on account of Kashipur Bay Extension work by PTCUL**

- a) The petitioner has submitted that in the 27th SCM of Power system planning, it was decided that for import of power from North Karnpura and



other generating stations of ER, the petitioner would construct 400 kV D/C Bareilly-Kashipur-Roorkee-Saharanpur Quad line. In order to implement these lines, 4 nos. of 400 kV bays were required to be constructed at 400 kV Kashipur Sub-station of M/s Power Transmission Corporation of Uttarakhand Ltd. (PTCUL). After investment approval, the draft MoU was prepared by the petitioner and sent to PTCUL in February, 2011. PTCUL raised certain objections which were replied by the petitioner. However, since the matter was not resolved, in March 2012 the matter was raised to CEA (Central Electricity Authority) that suggested as under:

- i) PTCUL would take up the construction work of 4 nos. of 400 kV line bays at Kashipur, as deposit works of the PGCIL. After commissioning of the bays ownership was to be transferred to PGCIL and O&M would be carried out by PTCUL.
  - ii) PTCUL can allow the petitioner to construct the lines at Kashipur sub-station and PGCIL would have to pay the land lease, pro-rata charges, supervision charges at 15% of total cost and subsequent O&M charges.
- b) Since the decision from PTCUL was long awaited, the matter was raised in 24th Meeting of TCC and 27th NRPC Meeting held on 29.11.2012 and 30.11.2012 respectively. In this meeting the representative of PGCIL stated that the transmission lines are under construction where MOU for construction of 400 KV bays at 400/220 KV Kashipur Sub-station could not be finalized in spite of regular interaction with PTCUL; the whole process to finalize the MOU between PGCIL and PTCUL took around 30 months .

**Delay on account of statutory clearance for affected area of social forest under Rampur Division**



29. The petitioner had submitted proposal for tree cutting clearance on 8.10.2012. However, stage-I clearance was issued by MoEF, Lucknow on 16.12.2014. Thus, total time taken to get the clearance for tree cutting was 26 months. The chronology of events submitted by the Petitioner is as under:

Delay on Account of Statutory Clearances for 400 KV D/C (Quad) Bareilly-Kashipur Transmission Line		
Date/Month	Incident Description	Efforts /Actions taken by POWERGRID
8.10.2012	The proposal for tree clearance under conservation of forest act 1980 of 0.7084 affected area of social forest under Rampur forest div. was submitted to the office of DFO, Rampur	Survey of all forest area was done and joint inspection report was prepared for submission of the same with proposal and required for clearance and cutting of trees. The proposal was accepted by DFO, Rampur and signed accordingly.
	The proposal was moved forward to nodal level and nodal sought some information level and finally file put to secretary forest for final recommendation.	The compliance was prepared at site and submitted through proper channel
29.9.2013	DFO, Rampur issued letter to POWERGRID, Kashipur Transmission Line office and informed our office regarding foundation work done in Reserve Forest Zone (Peepli Block) and asked for complete details	POWERGRID narrated the reasons for no information of RF was given during survey of Transmission Line by forest authorities and as the concern area was totally green field and not even marked on forest map so the line was drawn and tower was installed.





Delay on Account of Statutory Clearances for 400 KV D/C (Quad) Bareilly-Kashipur Transmission Line		
Date/Month	Incident Description	Efforts /Actions taken by POWERGRID
1.10.2013	POWERGRID informed DFO, Rampur and sought for the resurvey of the line to evaluate total affected forest area.	As the previous survey was done jointly with forest person and even the forest person was not able to mark exactly the RF area under Line corridor.
14.11.2014	The re-survey work for forest area marking and counting of affected trees was done in entire length of line	POWERGRID jointly carried out re-survey work for actual evaluation of forest area and trees
15.10.2013	POWERGRID again submitted the new correct and fresh proposal for forest clearance under forest conservation act 1980 to DFO, Rampur office	The proposal was re followed and file forwarded from DFO to Nodal Lucknow and after recommended from secretary forest proposal file moved to MOEF, Lucknow. SAG was held on 20.10.2014.
16.12.2014	After SAG recommendation Stage-I clearance was issued from MOEF, Lucknow	Total delay of 16 months affect the work under Tehsil Swar,Rampur

**Delay on account of Right of Way (400 kV D/c Bareilly – Kashipur line):**

30. During laying of 1st and 2nd ckt of 400 KV D/C Bareilly (New)-Kashipur (PTCUL) lines and associated bays, the petitioner faced various ROW issues that started on 15.6.2013 at various locations of village Kanauri, Tehsil Bajpur. The petitioner intimated the ROW issue to SDM Bajpur on 15.6.2013 and 21.6.2013. After long persuasion with Govt. authorities the issue got resolved on 17.3.2015. The chronology submitted by the Petitioner is given as under:



Delay on Account of Row		
Date/Month	Incident Description	Efforts /Actions taken by POWERGRID
16.8.2014	As per the scheduled meeting with farmers for resolving ROW issue under bajpur, Tehsil. Farmers was not attended the meeting.	POWERGRID tries their best to convince the farmers individually by door to door visit.
1.9.2014	The matter delibetarely discussed with GM,Meerut and GM,Meerut intervene into the case to resolved the ROW issue under tehsil,Bajpur	Vide letter No. 1.9.2014 and personal visit ,GM Meerut intimated DM,Udham Singh nagar for resolving ROW problem. DM,Udham Singh nagar instructed SDM,Bajpur to look into the matter and solve case.
1.10.2014	The matter was brought to the notice of Chief Secretary Uttarakhand for resolving ROW Problem under tehsil,Bajpur of Disst. Udham Singh nagar	POWERGRID convinced the highest authority to take immediate action for solving the ROW Problem and to resume the work on immediate basis. MOM issued on passing instruction to concerning DM Udham singh nagar to take appropriate step to solve this problem
10.10.2014	The group of farmers wrote leter to PMO office for diversion of line from their land and produce false reason regarding diversion of line by 25 meter from their land	All related explanation and clarification have been submitted by POWERGRID through proper channel.
14.10.2014	The matter was not resolved with even after the so much follow up and after intervening of SDM Bajpur	GM Meerut again intimated DM Udhan singh nagar to solve the case on immediate basis to resolve the priority work for the construction of T/L.
16.10.2014	Following the matter at DM Udham Singh Nagar Office	DM Meerut inspected the site and vide leter no. 739/ST/2014 dated 16.10.2014 intimated POWERGRID to bring all concern approval Maps ,Tower schedule etc.



11.11.2014	After putting much pressure and even lots of administrative support from local administrator on tehsil basis the problem of ROW was not resolved. The matter was discussed with the higher ups and the work was very urgent to be completed to meet the target of commissioning of line 31.3.2015. POWERGRID intimated DM Udhm Singh Nagar regarding Loss.	POWERGRID held a meeting with DM Udhm Singh Nagar and explained that we are paying compensation for damages as per Indian Telegraph Act'1885 and Indian Electricity Act,2003. POWERGRID also wrote letter No. 1527 dated 11.11.2014 to DM Udhm Singh Nagar and requested for granting of permission for restraining landowners from creating resistance and obstruction.
19.11.2014	The farmers union known as Bhartiye-Kissan unions Rampur submitted their letter regarding higher compensation or otherwise to stop work. Farmers threatened to stop work.	POWERGRID tries to convince them but Farmer unions was not ready to accept any compensation less than rates for compensation as given by M/s. GAIL for right of Use and Tree/Crop compensation payment in transmission line corridor.
12.1.2015	After putting lots of effort to resolve the issue of compensation and had several discussions with farmers of village pipaliya the meeting was shut with farmers of ROW Loc. In presence of Local Administration to conclude the problems with farmers with proper solutions and with increased compensation on the consideration of new land cost of land beside Highways.	The issue was finally resolved and foundation casting work started at Loc NO. 53/0,54/0,54/1,54/2,54/3 and 55/0
26.1.2015	The farmers unions of Rampur stop the stringing work in the area of Dist-Rampur and forum started a Dharna at the Chief Development officer Rampur office at Rampur in support of their demands.	The CDO Rampur assured to agitate farmers for proper compensation
22.2.2015	The CDO Rampur instructed SDM Swar to look into the matter and solved the case of compensation as per the practice of POWERGRID.	POWERGRID sought a meeting with CDO Rampur to clear the issue of compensation.



17.3.2015	A meeting was organized in the office of SDM Swar in which large number of farmers were present in addition to other administrative officers and representatives of POWERGRID	In the meeting an agreement was signed between POWERGRID and Kissan unions and SDM rate of trees. The matter was finally solve and stringing works resumed. The trees compensation to the affected farmers shall be given as per agreement.
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The petitioner has submitted that Kashipur-Roorkee link was delayed by 32 months.

**Delay on account of Right of Way (400 kV Roorkee-Kashipur line)**

31. The work of 400 kV Roorkee-Kashipur transmission line commenced after finalization of bays termination at 400 kV sub-station, PTCUL, i.e. after signing of MoU on 27.8.2013.

Thereafter, severe ROW issues occurred at location no 110/0 for diversion of route alignment. The villagers filed a petition before Hon'ble High Court of Uttarakhand. The High Court directed the petitioner to approach the District Magistrate on 4.12.2013. The issue was finally resolved on 14.8.2014. Subsequently, ROW issues also occurred at different locations for land acquisition and compensation. The matter was finally resolved on 31.3.2015.

**Delay on account of critical weather conditions and disaster in Uttarakhand**

32. The Petitioner has submitted that there were high floods during 2013 in Haridwar which affected road communications. The effects of flood and water logging were till November 2013.

The floods and water logging affected transportation of materials as well as the erection works. The petitioner has provided the supporting documents and chronology of events for the same.



Further, the petitioner submits that the final line was commissioned on 25.12.2015 and delay in commissioning of Kashipur-Roorkee and Kashipur-Bareilly of 24 months and 32 months respectively was allowed in order dated 30.5.2016 in petition no. 263/TT/2015. The relevant extract is as under:-

*“33. The time over-run in case of the instant assets is due to reasons beyond the control of the petitioner and accordingly we condone the entire delay.”*

Further, the petitioner also submits that as OPGW lines could not be commissioned on these lines, subsequent other OPGW links, data from which was to be communicated through above mentioned links also could not be commissioned due to non-readiness of intermediate links.

33. The other reasons which led to delay in execution of the project are as follows:-

(a) Delay due to non-availability of Shutdown:-The Petitioner has submitted that Shutdown is required in stretches where earth wire is not available or they are in poor conditions or there is breakdown of earth wire during installation. However, shutdown was not available immediately when these situations arose. Keeping in mind this problems, NRLDC insisted for prior approval for shutdown. However, approval did not come from them timely resulting in manpower idling and stoppage of work. Further, Bareilly-Shahjahnpur-Lucknow link was ready but shutdown was required at Shahjahnpur end to cross Rosa-Bareilly line. The shutdown of all units at ROSA power plant took nearly 4 months. The Petitioner wrote letter dated 15.5.2015 to NRLDC regarding Shutdown required for Fibre Optic cabling work for NR Expansion Project in Northern Region, but finally got approval for Shutdown on 24.8.2015 i.e. after 3 months 9 days.



(b) Delay due to heavy foggy condition: The Petitioner has submitted that during Installation of OPGW, almost 9 months were lost due to heavy foggy conditions i.e. from Mid –December’13 to Mid Feb’14, Mid December’14 to Mid Feb’15 and Mid December’15 to Mid Feb’16.

34. The Commission vide its provisional order dated 06.10.2016 directed the petitioner to explain why it has attributed the total time overrun of 18 months and 5 days for 28 links of Asset-1 and 7 nos. of links of Asset-2 when the delay pertains only to 2 nos. of links i.e. Kashipur-Roorkee and Kashipur-Bareilly. In response, the petitioner vide affidavit dated 11.11.2016 has submitted that filing of petitions for all links separately requires filling of 35 petitions. Therefore, COD is declared for a chunk of links at a time including Kashipur-Roorkee and Kashipur-Bareilly links to reduce no. of petitions. Further, in the instant project, the first lot of COD was done for 11 links on 1.8.2014 covered under petition no. 189/TT/2015 and second lot of COD has been declared for 35 links which are covered under instant petition and efforts have been made to declare commercial operation for balance links in another lot. Hence, COD of Kashipur-Roorkee and Kashipur-Bareilly link along with other 33 links was done to minimize no of petitions. Further, petitioner has also submitted that even though the trial operation of the links was completed between 12.11.2014 to 12.3.2016, COD of all the 35 links was declared on 1.4.2016 together as the value of individual links was very less and didn't justify filing of separate petitions and this is also to reduce no. of petitions to be filed.

35. The Commission vide order dated 6.10.2016 has directed the petitioner to submit details of time over run in prescribed format. In response the petitioner vide affidavit dated 11.11.2016 has submitted the additional information.



36. The respondent, BSES Rajdhani Power Ltd vide affidavit dated 19.09.2016 has submitted that the Board of the petitioner had decided 30 months time schedule for completion of the work as per Investment Approval. The problems narrated by the petitioner are only an excuse for delay which is entirely attributable to the slackness in project management for which petitioner is solely responsible. The petitioner has not submitted DPR, CPM Analysis, PERT chart and bar Chart. BRPL has also submitted that the delay explained by the petitioner is within the controllable factor as per Regulation 12 of the Tariff Regulations, 2014 and the delay may not be condoned. In response the petitioner vide affidavit dated 02.12.2016 has submitted justification of delay. The petitioner has submitted that delay for Kashipur-Roorkee and Kashipur-Bareilly links got delayed due to delay in commissioning of 400KV D/C Kashipur-Roorkee line (COD: 25.12.2015) and 400KV D/C(Quad) Bareilly (New)-Kashipur (PTCUL) transmission line (COD:24.4.2015) covered in petition no. 263/TT/2015 under NRSS XXI. The delay for above two lines has already been condoned vide tariff order dated 30.5.2016. Further it took around 3 months to commission the last link: Kashipur-Roorkee and the same were declared under commercial operation w.e.f. 1.4.2016 along with all other links covered in the instant petition. The detailed justification has already been submitted in the original petition. The petitioner has also submitted PERT chart, bar chart and CPM analysis.

37. We have considered the submission of the petitioner and the respondent. The OPGW links pertain to Kashipur-Roorkee PG and Kashipur-Bareilly that was delayed due to non readiness of Kashipur-Bareilly and Kashipur-Roorkee line which were commissioned on 24.4.2015 and 25.12.2015 respectively. Subsequent other OPGW links also could not be commissioned due to delay in



statutory clearances, ROW problems, delay due to non-availability of shutdown, critical weather conditions and disaster in Uttarakhand.

38. Delay on account of non-finalization of payment mechanism for supervision charges by PTCUL and PGCIL also contributed to delay in COD. The MoU was finalized on 27.8.2013. The petitioner has submitted that with regard to statutory clearances for 400 kV D/C Barielly-Kashipur line, the petitioner has submitted the proposal for tree cutting on 08.10.2012 and also the unavailability of statutory clearances for affected areas of social forest under Rampur division till 16.12.2014. Therefore the time delay from 27.02.2012 to 27.09.2014 (30 months) on account of Kashipur bay extension works was beyond the control of the petitioner. The time delay due to ROW from 08.10.2012 to 27.09.2014 is subsumed in the delay of Kashipur bay extension works. Therefore the time delay from 27.09.2014 to 16.12.2014 (2 months 19 days) has been condoned for the OPGW links pertain to 765 kV Kashipur-Roorkee PG and Kashipur-Barelilly.

39. The reasons for delay in execution of the project was also due to delay on account of non availability of shutdown of Bareilly-Shahjanpur-Lucknow link which is required at Shajahnpur end to cross Rosa-Bareilly line. The petitioner had applied vide letter dated 15.05.2015 regarding shutdown and got final approval of shutdown on 24.08.2015. This resulted in delay from 15.05.2015 to 24.8.2015 (3 months 9 days) and was beyond the control of the petitioner.

40. The petitioner has submitted that due to heavy foggy condition, it was difficult to execute work during the time period from December-2013 to February, 2014; December-2014 to February 2015; and December 2015 to February 2016. We are of the view that the foggy conditions are normal phenomenon during the period December-February in the northern region and the petitioner should have





factored the same while planning the project. It is not clear for us as to how foggy condition would affect the laying of the fibre optic cable after completion of line. The petitioner is directed to submit explanation as to how foggy condition affected the commissioning of the fibre optic links covered in the instant petition at the time of true up. A final view regarding delay due to foggy condition shall be taken at the time of true up.

41. The petitioner also submitted that COD is declared for a chunk of links including Kashipur-Roorkee and Kashipur-bareilly links. The development of communication system is spread over the region and depends on commissioning of various lines (called as links in communication network) directly or indirectly. Therefore, it is difficult to correlate the delay of communication system with particular assets. We have observed that there is delay in the commissioning of the associated transmission system in varying degree. The petitioner has submitted for approval of trial operation of the links between 12.11.2014 to 12.3.2016 and for all the 35 links COD has been declared on 1.4.2016. In view of the above, the time delay of 18 months 4 days for the instant assets is held to be beyond the control of the petitioner subject to taking final view regarding delay due to foggy condition at the time of true up.

#### **Treatment of IDC and IEDC**

42. The petitioner has made a claim of ₹ 251.57 lakh and ₹29.02 lakh towards IDC for Central portion (Asset-I) and BBMB portion (asset –II) respectively duly certified by the Auditor. The petitioner vide affidavit dated 15.06.2017 has submitted that IDC for ₹ 149.11 lakh and ₹17.46 lakh has been discharged as on COD in respect of Central portion (Asset-I) and BBMB portion (Asset-II) respectively. However, with regard to claim of the petitioner for discharge of IDC



amounting to ₹102.45 lakh during 2016-17 for Central Portion (Asset -I), it is observed that as per the auditor's certificate dated 13.06.2017, the capital cost (excluding outstanding liabilities) as on COD for Asset-I has been mentioned at ₹ 4297.39 lakh, but the supporting statement includes above ₹ 102.45 lakh as on COD capital cost. Thus, there appears to be an apparent contradiction between submission of the petitioner and the auditor's certificate. Accordingly, discharge of ₹102.45 Lakh during 2016-17 in respect of Asset-1 and IDC of ₹11.56 Lakh for Asset-2 which is to be discharged as per submissions, both are being disallowed as of now, which shall be decided at the time of true up. Thus, for the purpose of tariff IDC has been allowed to the tune of ₹149.11 lakh and ₹17.46 lakh against the claim of the petitioner for Central portion and BBMB portion respectively.

43. Similarly, the petitioner has claimed ₹165.24 lakh and ₹19.06 lakh towards Incidental Expenditure during Construction (IEDC) as on COD for Central portion and BBMB portion respectively. The petitioner has not submitted any supporting document in relation to the IEDC claim. However, the claim is within the percentage of 10.75% on Hard Cost as indicated in the Abstract Cost Estimate submitted by the petitioner and thus allowed for the purpose of tariff.

### **Initial Spares**

44. The petitioner has not claimed initial spares.

### **Capital cost for tariff**

45. The capital cost as on COD considered for the purpose of annual transmission charges, after adjusting the disallowed amount of IDC is as follows:-

(₹ in lakh)						
Particulars	Total Capital Cost as on COD as per Auditor's Certificate dated:	Less: IDC disallowed	Add: IDC on cash basis allowed	Add: IEDC allowed	Less: Excess Initial Spares*	Capital cost considered for tariff calculation as



	13.06.2017					on COD
<b>Central portion</b>	4297.39	102.45	-	-	-	4194.94
<b>BBMB portion</b>	499.30	11.56	-	-	-	487.74

### **Projected additional capital expenditure**

46. Clause (1) of Regulation 14 of the 2014 Tariff Regulations provides as under:-

“ (1) The capital expenditure in respect of the new project or an existing project 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 recognised to be payable at a future date;
- (ii) Works deferred for execution;
- (iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and
- (v) Change in Law or compliance of any existing law.”

Provided that the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff.

47. Clause (13) of Regulation 3 of the 2014 Tariff Regulations defines “cut-off” date as under:

“cut-off date” means 31<sup>st</sup> March of the year closing after two years of the year of commercial operation of whole or part of the project, and in case the whole or part of 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 three years of the year of commercial operation”.

Provided that the cut-off date may be extended by the Commission if it is proved on the basis of documentary evidence that the capitalisation could not be made within the cut-off date for reasons beyond the control of the project developer;”



48. The cut-off date in the case of instant asset is 31.3.2018.

49. The petitioner has claimed the total additional capital expenditure of ₹920.57 lakh and ₹83.44 lakh for Central portion and BBMB portion respectively.

The break-up of claim is as follows:

(₹ in lakh)

Assets		2016-17	2017-18	2018-19	Total
Asset-1	Fiber Optic Cable and Accessories	404.48	358.47	0.00	762.95
	Communication Equipment Accessories	64.48	93.14	0.00	157.62
	Total	<b>468.96</b>	<b>451.61</b>	<b>0.00</b>	<b>920.57</b>
Asset-2	Fiber Optic Cable and Accessories	69.29	0.00	0.00	69.29
	Communication Equipment Accessories	14.15	0.00	0.00	14.15
	Total	<b>83.44</b>	<b>0.00</b>	<b>0.00</b>	<b>83.44</b>

50. The additional capital expenditure claimed is for balance and retention payment. Therefore, we allow the additional capital expenditure as claimed by the petitioner under regulation 14(1)(i). The actual completed cost shall be reviewed at the time of truing up. Thus, the details of capital cost considered as on COD and 31.3.2019 after consideration of additional capital expenditure in the instant petition are as given under:-

(₹ in lakh)

Particulars	Capital Cost allowed as on COD (After adj. of IDC)	Additional capitalisation- 2016-18	Capital Cost allowed as on 31.03.2019
Central portion	4194.94	920.57	5115.51
BBMB portion	487.74	83.44	571.18

### **Debt-equity ratio**

51. Clause 1 and 5 of Regulation 19 of the 2014 Tariff Regulations specifies as follows:-

“(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.

**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, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.”

“(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 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.”

52. The capital cost on the date of commercial operation and additional capital expenditure allowed have been considered in the normative debt-equity ratio of 70:30. Details of debt-equity as on date of commercial operation and 31.3.2019 considered on normative basis are as under:-

Particulars	As on COD				As on 31.3.2019			
	Central portion		BBMB portion		Central portion		BBMB portion	
	Amount	%	Amount	%	Amount	%	Amount	%
Loan/Debt	2936.46	70.00	341.42	70.00	3580.86	70.00	399.83	70.00
Equity	1258.48	30.00	146.32	30.00	1534.65	30.00	171.35	30.00
<b>Total</b>	<b>4194.94</b>	<b>100.00</b>	<b>487.74</b>	<b>100.00</b>	<b>5115.51</b>	<b>100.00</b>	<b>571.18</b>	<b>100.00</b>

### Return on equity

53. Clause (1) and (2) of Regulation 24 and Clause (1) and (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 and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

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:

(iv) the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:

(v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:

(vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometers.”

“25. Tax on Return on Equity:

(1) The base rate of return on equity as allowed by the Commission under Regulation 24 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax income on other income stream (i.e., income of non generation or non transmission business, as the case may be) shall not be considered for the calculation of “effective tax rate”.

“(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.”



54. The petitioner has submitted that RoE has been calculated at the rate of 19.610% after grossing up the RoE with MAT rate of 20.961% based on the rate prescribed as per illustration under Regulation 25 (2) (i) of the 2014 Tariff Regulations. 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.

55. 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.

56. 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 is as given under:-

(₹ in lakh)			
Particulars	Central Portion		
	2016-17	2017-18	2018-19
Opening Equity	1258.48	1399.17	1534.65
Addition due to Additional Capitalization	140.69	135.48	0.00
Closing Equity	1399.17	1534.65	1534.65
Average Equity	1328.83	1466.91	1534.65
Return on Equity (Base Rate )	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax )	19.610%	19.610%	19.610%
<b>Return on Equity (Pre Tax)</b>	<b>260.58</b>	<b>287.66</b>	<b>300.95</b>
<b>BBMB Portion</b>			
Particulars	BBMB Portion		
	2016-17	2017-18	2018-19
Opening Equity	146.32	171.35	171.35
Addition due to Additional Capitalization	25.03	0.00	0.00
Closing Equity	171.35	171.35	171.35
Average Equity	158.84	171.35	171.35
Return on Equity (Base Rate )	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax )	19.610%	19.610%	19.610%
<b>Return on Equity (Pre Tax)</b>	<b>31.15</b>	<b>33.60</b>	<b>33.60</b>

### Interest on loan

57. Regulation 26 of the 2014 Tariff Regulations with regard to Interest on Loan specifies as under:-

“(1) The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.

(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of decapitalisation of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of decapitalisation of such asset.





(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 depreciation allowed for the year or part of the year.

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.”

58. In keeping with the provisions of Regulation 26 of the 2014 Tariff Regulations, 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 2014-19 has been considered to be equal to the depreciation allowed for that period;

(c) 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.

59. The petitioner has submitted that the interest on loan has been considered on the basis of rate prevailing as on COD and the change in interest due to



floating rate of interest applicable, if any, for the project needs to be claimed/ adjusted over the tariff block 2014-19 directly from the beneficiaries. We would like to clarify that the interest on loan has been calculated on the basis of rate prevailing as on the date of commercial operation. Any change in rate of interest subsequent to the date of commercial operation will be considered at the time of truing-up.

60. Detailed calculations in support of interest on loan have been given at Annexure-1 to Annexure-2 of this order.

61. The details of Interest on Loan calculated are as under:-

**(₹ in lakh)**

Particulars	Central Portion		
	2016-17	2017-18	2018-19
Gross Normative Loan	2936.46	3264.73	3580.86
Cumulative Repayment upto Previous Year	0.00	280.38	589.90
Net Loan-Opening	2936.46	2984.35	2990.96
Addition due to Additional Capitalisation	328.27	316.13	0.00
Repayment during the year	280.38	309.52	323.81
Net Loan-Closing	2984.35	2990.96	2667.14
Average Loan	2960.40	2987.65	2829.05
Weighted Average Rate of Interest on Loan	8.363%	8.351%	8.349%
<b>Interest on Loan</b>	<b>247.57</b>	<b>249.49</b>	<b>236.20</b>
Particulars	BBMB Portion		
	2016-17	2017-18	2018-19
Gross Normative Loan	341.42	399.83	399.83
Cumulative Repayment upto Previous Year	0.00	33.51	69.67
Net Loan-Opening	341.42	366.31	330.16
Addition due to Additional Capitalisation	58.41	0.00	0.00
Repayment during the year	33.51	36.16	36.16
Net Loan-Closing	366.31	330.16	294.00
Average Loan	353.86	348.23	312.08
Weighted Average Rate of Interest on Loan	8.4377%	8.4377%	8.4350%
<b>Interest on Loan</b>	<b>29.86</b>	<b>29.38</b>	<b>26.32</b>



## **Depreciation**

62. Regulation 27 of the 2014 Tariff Regulations with regard to depreciation specifies as follows:-

### **"27. Depreciation:**

(1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof.

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.

(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

(3) 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 station, the salvage value shall be as provided in the agreement signed by the developers with the State Government for development of the Plant:

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

Provided also that any depreciation disallowed on account of lower availability of the generating station or generating unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life and the extended life.

(4) 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.



(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.”

63. The petitioner has claimed actual depreciation. In our calculations, depreciation has been calculated in accordance with Regulation 27 extracted above.

64. The instant asset was put under commercial operation during 2016-17. Accordingly, it will complete 12 years after 2028-29. As such, depreciation has been calculated annually based on Straight Line Method at the rates specified in Appendix-II to the 2014 Tariff Regulations.

65. The details of the depreciation worked out are as under:-

Particulars	Central Portion		
	2016-17	2017-18	2018-19
Gross Block as on COD	4194.94	4663.90	5115.51
Addition during 2014-19 due to Projected Additional Capitalisation	468.96	451.61	0.00
Gross Block as on 31 <sup>st</sup> March	4663.90	5115.51	5115.51
Average Gross Block	4429.42	4889.71	5115.51
Rate of Depreciation	6.33%	6.33%	6.33%
Depreciable Value	3986.48	4400.73	4603.96
Remaining Depreciable Value	3986.48	4120.35	4014.06
<b>Depreciation</b>	<b>280.38</b>	<b>309.52</b>	<b>323.81</b>
Particulars	BBMB Portion		
	2016-17	2017-18	2018-19
Gross Block as on COD	487.74	571.18	571.18
Addition during 2014-19 due to Projected Additional Capitalisation	83.44	0.00	0.00
Gross Block as on 31 <sup>st</sup> March	571.18	571.18	571.18



Average Gross Block	529.46	571.18	571.18
Rate of Depreciation	6.33%	6.33%	6.33%
Depreciable Value	476.51	514.06	514.06
Remaining Depreciable Value	476.51	480.55	444.39
<b>Depreciation</b>	<b>33.51</b>	<b>36.16</b>	<b>36.16</b>

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

66. Clause (4) (c) of Regulation 29 of the 2014 Tariff Regulations provides as follows:-

“The operation and maintenance expenses of communication system forming part of inter-state transmission system shall be derived on the basis of the actual O&M expenses for the period of 2008-09 to 2012-13 based on audited accounts excluding abnormal variations if any after prudence check by the Commission. The normalized O&M expenses after prudence check, for the years 2008-09 to 2012-13 shall be escalated at the rate of 3.02% for computing base year expenses for FY 2012-13 and 2013-14 and at the rate of 3.32% for escalation from 2014-15 onwards.”

67. The petitioner has submitted that O&M Expenses for the period 2016-19 have been calculated @7.5% of the capital cost in line with order in Petition No.139/2005 for NRULDC (communication portion) with escalation of 3.32% per annum in line with 2014 Tariff Regulations. The O&M Expenses for 2016-17, 2017-18 and 2018-19 is not allowed in the absence of actual O&M Expenses. The petitioner’s claim will be considered at the time of truing up and accordingly the petitioner is directed to submit actual O&M Expenses for the above period at the time of truing up.

68. The petitioner has further submitted that the wage revision of the employees is due during 2014-19 and actual impact of wage hike effective from a future date has not been factored in fixation of the normative O&M rates specified for the tariff block 2014-19. The petitioner has submitted that it would approach the Commission for suitable revision in norms for O&M Expenses for claiming the



impact of wage hike during 2014-19, if any. As regards impact of wage revision, we would like to clarify that any application filed by the petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations.

### **Interest on working capital**

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

“28. Interest on Working Capital: (1) The working capital shall cover:

(a)-----

(c) Hydro generating station including pumped storage hydro electric generating station and transmission system including communication system:

(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”

(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later”

“(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;”

70. 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 12.80% (SBI Base Rate as on 1.4.2014 i.e. 9.30% plus 350 basis points). The interest on working capital for the instant asset covered in the petition has been worked out accordingly.



71. Necessary computations in support of interest on working capital are as given under:-

(₹ in lakh)

Particulars	Central Portion		
	2016-17	2017-18	2018-19
Maintenance Spares	-	-	-
O & M expenses	-	-	-
Receivables	134.29	144.19	146.62
<b>Total</b>	<b>134.29</b>	<b>144.19</b>	<b>146.62</b>
Interest Rate	12.80%	12.80%	12.80%
<b>Interest</b>	<b>17.19</b>	<b>18.46</b>	<b>18.77</b>
Particulars	BBMB Portion		
	2016-17	2017-18	2018-19
Maintenance Spares	-	-	-
O & M expenses	-	-	-
Receivables	16.10	16.88	16.36
<b>Total</b>	<b>16.10</b>	<b>16.88</b>	<b>16.36</b>
Interest Rate	12.80%	12.80%	12.80%
<b>Interest</b>	<b>2.06</b>	<b>2.16</b>	<b>2.09</b>

### Annual Transmission charges

72. The transmission charges allowed for the instant transmission assets are summarized as follows:-

(₹ in lakh)

Particulars	Central Portion		
	2016-17	2017-18	2018-19
Depreciation	280.38	309.52	323.81
Interest on loan	247.57	249.49	236.20
Return on Equity	260.58	287.66	300.95
Interest on Working Capital	17.19	18.46	18.77
O&M Expenses	0.00	0.00	0.00
<b>Total</b>	<b>805.72</b>	<b>865.13</b>	<b>879.72</b>
Particulars	BBMB Portion		
	2014-15	2015-16	2016-17
Depreciation	33.51	36.16	36.16
Interest on loan	29.86	29.38	26.32
Return on Equity	31.15	33.60	33.60
Interest on Working Capital	2.06	2.16	2.09
O&M Expenses	0.00	0.00	0.00
<b>Total</b>	<b>96.58</b>	<b>101.30</b>	<b>98.18</b>



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

73. 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.

### 74. **Licence Fee and RLDC fees and Charges**

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**

75. The petitioner has made a prayer to be allowed to bill and recover the service tax on transmission charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list at any time in future. The petitioner has also prayed to allow the reimbursement of tax if any on account of implementation of GST. The petitioner has further prayed that if any taxes and duties including cess etc. are imposed by any statutory/Government/municipal authorities, it shall be allowed to be recovered from the beneficiaries. We consider petitioner's prayer pre-mature and accordingly this prayer is rejected.





## **Sharing of Annual Transmission (Communication) Charges**

76. The BSES Rajdhani Power Ltd. vide affidavit dated 19.9.2016 has submitted that petitioner has requested to precluded from sharing of the fee and charges @ 10% for communication system. On this issue, it is observed that the petitioner cannot escape the sharing being the major beneficiary of the communication system in securing his network. Thus, the petitioner must share the fees and charges for fiber optic communication system on similar lines as system operation charges by the users in the ration of 45:45:10 as per Regulation 22(1) of fees and charges of Regional Load Despatch Centre and other related matters Regulations, 2009.

77. This order disposes of Petition No. 125/TT/2016.

sd/-  
**(M.K. Iyer)**  
**Member**

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

sd/-  
**(A.K. Singhal)**  
**Member**

sd/-  
**(Gireesh B. Pradhan)**  
**Chairperson**



**CENTRAL PORTION – ASSET-I**

<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN</b>					
<b>Particulars</b>	<b>Central portion</b>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Bond XLV</b>					
Gross loan opening	-	-	46.04	<b>46.04</b>	<b>46.04</b>
Cumulative Repayment upto DOCO/previous year	-	-	0.00	<b>0.00</b>	<b>3.84</b>
Net Loan-Opening	-	-	46.04	46.04	42.20
Additions during the year	-	-	0.00	0.00	0.00
Repayment during the year	-	-	0.00	3.84	3.84
Net Loan-Closing	-	-	46.04	42.20	38.37
Average Loan	-	-	46.04	44.12	40.29
Rate of Interest	-	-	9.65%	9.65%	9.65%
Interest	-	-	4.44	4.26	3.89
Rep Schedule					
<b>Bond XLVI</b>					
Gross loan opening	-	-	29.13	29.13	29.13
Cumulative Repayment upto DOCO/previous year	-	-	0.00	0.00	0.00
Net Loan-Opening	-	-	29.13	29.13	29.13
Additions during the year	-	-	0.00	0.00	0.00
Repayment during the year	-	-	0.00	0.00	0.00
Net Loan-Closing	-	-	29.13	29.13	29.13
Average Loan	-	-	29.13	29.13	29.13
Rate of Interest	-	-	9.30%	9.30%	9.30%
Interest	-	-	2.71	2.71	2.71
Rep Schedule					
<b>Bond XLVII</b>					
Gross loan opening	-	-	50.00	50.00	50.00
Cumulative Repayment upto DOCO/previous year	-	-	0.00	0.00	0.00
Net Loan-Opening	-	-	50.00	50.00	50.00
Additions during the year	-	-	0.00	0.00	0.00
Repayment during the year	-	-	0.00	0.00	4.17
Net Loan-Closing	-	-	50.00	50.00	45.83
Average Loan	-	-	50.00	50.00	47.92
Rate of Interest	-	-	8.93%	8.93%	8.93%
Interest	-	-	4.47	4.47	4.28
Rep Schedule			Redeemable in 12 equal annual instalments from 20.10.2018		
<b>Bond XLVIII</b>					
Gross loan opening	-	-	1424.93	1424.93	1424.93
Cumulative Repayment upto DOCO/previous year	-	-	0.00	0.00	0.00
Net Loan-Opening	-	-	1424.93	1424.93	1424.93
Additions during the year	-	-	0.00	0.00	0.00
Repayment during the year	-	-	0.00	0.00	0.00
Net Loan-Closing	-	-	1424.93	1424.93	1424.93
Average Loan	-	-	1424.93	1424.93	1424.93
Rate of Interest	-	-	8.20%	8.20%	8.20%



Interest	-	-	116.84	116.84	116.84
Rep Schedule	Redeemable in 4 equal instalments on 23.01.2020, 23.01.2022, 23.01.2025 and 23.01.2030.				
<b>SBI 10000</b>					
Gross loan opening	-	-	88.51	<b>88.51</b>	<b>88.51</b>
Cumulative Repayment upto DOCO/previous year	-	-	0.00	<b>0.00</b>	<b>0.00</b>
Net Loan-Opening	-	-	88.51	88.51	88.51
Additions during the year	-	-	0.00	0.00	0.00
Repayment during the year	-	-	0.00	0.00	0.00
Net Loan-Closing	-	-	88.51	88.51	88.51
Average Loan	-	-	88.51	88.51	88.51
Rate of Interest	-	-	9.55%	9.55%	9.55%
Interest	-	-	8.45	8.45	8.45
Rep Schedule					
<b>Bond L</b>					
Gross loan opening	-	-	550.00	<b>550.00</b>	<b>550.00</b>
Cumulative Repayment upto DOCO/previous year	-	-	0.00	<b>0.00</b>	<b>0.00</b>
Net Loan-Opening	-	-	550.00	550.00	550.00
Additions during the year	-	-	0.00	0.00	0.00
Repayment during the year	-	-	0.00	0.00	0.00
Net Loan-Closing	-	-	550.00	550.00	550.00
Average Loan	-	-	550.00	550.00	550.00
Rate of Interest	-	-	8.40%	8.40%	8.40%
Interest	-	-	46.20	46.20	46.20
Rep Schedule					
<b>Bond LI</b>					
Gross loan opening	-	-	747.85	<b>747.85</b>	<b>747.85</b>
Cumulative Repayment upto DOCO/previous year	-	-	0.00	<b>0.00</b>	<b>0.00</b>
Net Loan-Opening	-	-	747.85	747.85	747.85
Additions during the year	-	-	0.00	0.00	0.00
Repayment during the year	-	-	0.00	0.00	0.00
Net Loan-Closing	-	-	747.85	747.85	747.85
Average Loan	-	-	747.85	747.85	747.85
Rate of Interest	-	-	8.40%	8.40%	8.40%
Interest	-	-	62.82	62.82	62.82
Rep Schedule					
<b>Bond LI</b>					
Gross loan opening	-	-	0.00	<b>71.71</b>	<b>71.71</b>
Cumulative Repayment upto DOCO/previous year	-	-	0.00	<b>0.00</b>	<b>0.00</b>
Net Loan-Opening	-	-	0.00	71.71	71.71
Additions during the year	-	-	71.71	0.00	0.00
Repayment during the year	-	-	0.00	0.00	0.00
Net Loan-Closing	-	-	71.71	71.71	71.71
Average Loan	-	-	35.86	71.71	71.71
Rate of Interest	-	-	8.40%	8.40%	8.40%
Interest	-	-	3.01	6.02	6.02
Rep Schedule					
<b>Bond LIII</b>					
Gross loan opening	-	-	0.00	<b>328.27</b>	<b>328.27</b>



Cumulative Repayment upto DOCO/previous year	-	-	0.00	<b>0.00</b>	<b>0.00</b>
Net Loan-Opening	-	-	0.00	328.27	328.27
Additions during the year	-	-	328.27	0.00	0.00
Repayment during the year	-	-	0.00	0.00	0.00
Net Loan-Closing	-	-	328.27	328.27	328.27
Average Loan	-	-	164.14	328.27	328.27
Rate of Interest	-	-	8.13%	8.13%	8.13%
Interest	-	-	13.34	26.69	26.69
Rep Schedule					
<b>Total Loan</b>					
Gross loan opening	-	-	2936.46	3336.44	3336.44
Cumulative Repayment upto DOCO/previous year	-	-	0.00	0.00	3.84
Net Loan-Opening	-	-	2936.46	3336.44	3332.60
Additions during the year	-	-	399.98	0.00	0.00
Repayment during the year	-	-	0.00	3.84	8.01
Net Loan-Closing	-	-	3336.44	3332.60	3324.60
Average Loan	-	-	3136.45	3334.52	3328.60
Rate of Interest	-	-	8.3626%	8.3508%	8.3490%
<b>Interest</b>	-	-	262.29	278.46	277.90



BBMB PORTION – ASSET-II

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN						
	Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
<b>1</b>	<b>Bond XLVI</b>	-	-	20.00	20.00	20.00
	Gross loan opening	-	-	0.00	0.00	0.00
	Cumulative Repayment upto DOCO/previous year	-	-	0.00	0.00	0.00
	Net Loan-Opening	-	-	20.00	20.00	20.00
	Additions during the year	-	-	0.00	0.00	0.00
	Repayment during the year	-	-	0.00	0.00	0.00
	Net Loan-Closing	-	-	20.00	20.00	20.00
	Average Loan	-	-	20.00	20.00	20.00
	Rate of Interest	-	-	9.30%	9.30%	9.30%
	Interest	-	-	1.86	1.86	1.86
	Rep Schedule	12 annual instalments from 31.05.2015.				
<b>2</b>	<b>Bond XLVII</b>	-	-			
	Gross loan opening	-	-	44.00	44.00	44.00
	Cumulative Repayment upto DOCO/previous year	-	-	0.00	0.00	0.00
	Net Loan-Opening	-	-	44.00	44.00	44.00
	Additions during the year	-	-	0.00	0.00	0.00
	Repayment during the year	-	-	0.00	0.00	0.00
	Net Loan-Closing	-	-	44.00	44.00	44.00
	Average Loan	-	-	44.00	44.00	44.00
	Rate of Interest	-	-	8.93%	8.93%	8.93%
	Interest	-	-	3.93	3.93	3.77
	Rep Schedule	15 annual instalments from 29.08.2016.				
<b>3</b>	<b>Bond XLVIII</b>					
	Gross loan opening	-	-	142.27	142.27	142.27
	Cumulative Repayment upto DOCO/previous year	-	-	0.00	0.00	0.00
	Net Loan-Opening	-	-	142.27	142.27	142.27
	Additions during the year	-	-	0.00	0.00	0.00
	Repayment during the year	-	-	0.00	0.00	0.00
	Net Loan-Closing	-	-	142.27	142.27	142.27
	Average Loan	-	-	142.27	142.27	142.27
	Rate of Interest	-	-	8.20%	8.20%	8.20%
	Interest	-	-	11.67	11.67	11.67
	Rep Schedule	12 annual instalments from 26.12.2015				
<b>4</b>	<b>Bond LI</b>					
	Gross loan opening	-	-	135.14	135.14	135.14
	Cumulative Repayment upto DOCO/previous year	-	-			
	Net Loan-Opening	-	-	135.14	135.14	135.14
	Additions during the year	-	-	0.00	0.00	0.00
	Repayment during the year	-	-	0.00	0.00	0.00
	Net Loan-Closing	-	-	135.14	135.14	135.14
	Average Loan	-	-	135.14	135.14	135.14
	Rate of Interest	-	-	8.40%	8.40%	8.40%



Interest	-	-	11.35	11.35	11.35
Rep Schedule	12 annual instalments from 28.06.2016				
<b>Total Loan</b>					
Gross loan opening	-	-	341.41	341.41	341.41
Cumulative Repayment upto DOCO/previous year	-	-	0.00	0.00	0.00
Net Loan-Opening	-	-	341.41	341.41	341.41
Additions during the year	-	-	0.00	0.00	0.00
Repayment during the year	-	-	0.00	0.00	3.67
Net Loan-Closing	-	-	341.41	341.41	337.74
Average Loan	-	-	341.41	341.41	339.58
Rate of Interest (weighted average)	-	-	8.4377%	8.4377%	8.4350%
<b>Interest</b>	-	-	<b>28.81</b>	<b>28.81</b>	<b>28.64</b>

