

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 232/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 Order : 14.12.2017

In the matter of:

Approval of transmission tariff for Main SCADA EMS System-5 assets under project-“Expansion/ Upgradation of SCADA/EMS System of SLDCs of Eastern 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. Bihar State Power (Holding) Company Limited,
(erstwhile Bihar State Electricity Board),
Vidyut Bhawan, Bailey Road,
Patna-800 001
2. West Bengal State Electricity Distribution Company Limited,
Bidyut Bhawan, Bidhan Nagar,
Block DJ, Sector-II, Salt Lake City,
Kolkata-700 091
3. Grid Corporation of Orissa Limited,
Shahid Nagar,
Bhubaneswar-751 007



4. Jharkhand State Electricity Board,
In front of Main Secretariat,
Doranda, Ranchi-834 002
5. Damodar Valley Corporation,
DVC Tower, Maniktala
Civic Centre, VIP Road,
Kolkata-700 054
6. Power Department,
Govt. of Sikkim, Gangtok-737 101

.....Respondents

For petitioner : Shri Rakesh Prasad, PGCIL
Shri Jasbir Singh, PGCIL
Shri S.S. Raju, PGCIL
Shri S.K. Venkatesan, PGCIL

For respondents : Shri R.B. Sharma, Advocate for BSP(H)CL

ORDER

The present petition has been filed by Power Grid Corporation of India Limited (PGCIL) seeking approval of transmission tariff for Main SCADA EMS System - 5 assets (hereinafter referred to as "transmission assets") under "Expansion/Upgradation of SCADA/EMS System of SLDCs of Eastern Region" (hereinafter referred to as "transmission system") for 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations").

2. This order has been issued after considering petitioner's affidavits dated 26.10.2016, 10.1.2017, 17.2.2017, 26.4.2017, 14.6.2017 and 28.9.2017.



3. The approval for expansion/ upgradation of SCADA/EMS system of SLDCs of Eastern Region was discussed and approved in the 20th TCC and ERPC meeting held on 16.11.2011 and 17.11.2011 respectively at Bodhgaya and 21st TCC and ERPC meeting held on 20.4.2012 and 21.4.2012, respectively at Kolkata. The Investment Approval (IA) and expenditure sanctioned for the transmission system was accorded by the Board of Directors of the petitioner vide Memorandum No. C/CP/ER-SCADA dated 5.4.2013 at an estimated cost of ₹3972 lakh including IDC of ₹247 lakh (based on February, 2013 price level) in its 285th meeting dated 28.3.2013. The broad scope of work covered under the transmission system is as follows:-

- a) Installation of new EMS/SCADA platform equipped with hardware and software at SLDCs and back-up SLDC's.
- b) Installation of RTUs /SAS to main and back-up control centre on IEC 60870-5-101/104 protocol.
- c) Integration of main and back-up control centers of SLDCs with main and back-up ERLDC on ICCP protocol.
- d) Integration of distribution company (DISCOM) control centre with their respective main and back-up SLDCs.
- e) Installation of Auxiliary Power Supply (APS) system for control centers.
- f) RTUs for DVC, BSEB and Sikkim.
- g) Installation of New Video Projection System for all control centers envisaged in this project.
- h) Installation of Video Conferencing System for all control centers envisaged in this project.



4. The instant transmission assets were scheduled to be commissioned within 27 months from the date of approval of Board of Directors of petitioner i.e. 28.3.2013. Therefore, the scheduled date of commissioning of the transmission system was 27.6.2015. The details of the elements covered in the instant petition are as follows:-

Particulars	State	Name of the Asset	COD		Delay
			Scheduled	Actual	
Asset-I	DVC	Main SCADA EMS System of SLDCs	27.6.2015	8.1.2016	6 months & 10 days
Asset-II	Sikkim				
Asset-III	BSPTCL				
Asset-IV	JUSNL				
Asset-V	DVC Main Control Central (Howrah)		31.3.2016	9 months & 2 days	

5. The details of the transmission charges claimed by the petitioner are as under:-

(₹ in lakh)

Particulars	Asset-I			
	2015-16	2016-17	2017-18	2018-19
Depreciation	4.53	25.63	31.54	31.54
Interest on Loan	4.52	24.28	27.65	24.77
Return on Equity	4.21	23.82	29.31	29.31
Interest on working capital	0.31	1.70	2.04	1.97
O & M Expenses	0.00	0.00	0.00	0.00
Total	13.57	75.43	90.54	87.59
Particulars	Asset-II			
	2015-16	2016-17	2017-18	2018-19
Depreciation	4.24	23.41	26.88	26.88
Interest on Loan	4.19	22.07	23.28	20.84
Return on Equity	3.94	21.76	24.98	24.98
Interest on working capital	0.28	1.55	1.73	1.67
O & M Expenses	0.00	0.00	0.00	0.00
Total	12.65	68.79	76.87	74.37
Particulars	Asset-III			
	2015-16	2016-17	2017-18	2018-19
Depreciation	8.41	43.60	48.08	48.08
Interest on Loan	8.40	41.40	41.71	37.26
Return on Equity	7.81	40.52	44.68	44.68
Interest on working capital	0.57	2.89	3.10	2.99
O & M Expenses	0.00	0.00	0.00	0.00



Total	25.19	128.41	137.57	133.01
Particulars	Asset-IV			
	2015-16	2016-17	2017-18	2018-19
Depreciation	5.20	27.80	31.32	31.32
Interest on Loan	5.15	26.19	27.04	24.20
Return on Equity	4.83	25.80	29.07	29.07
Interest on working capital	0.35	1.84	2.01	1.95
O & M Expenses	0.00	0.00	0.00	0.00
Total	15.53	81.63	89.44	86.54
Particulars	Asset-V			
	2015-16	2016-17	2017-18	2018-19
Depreciation	0.05	22.36	28.05	29.94
Interest on Loan	0.05	22.39	25.96	25.20
Return on Equity	0.05	20.78	26.06	27.83
Interest on working capital	0.00	1.51	1.84	1.91
O & M Expenses	0.00	0.00	0.00	0.00
Total	0.15	67.04	81.91	84.88

6. The details of the "Interest on Working Capital" claimed by the petitioner are as under:-

(₹ in lakh)

Particulars	Asset-I			
	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00	0.00
Receivables	9.78	12.57	15.09	14.06
Total	9.78	12.57	15.09	14.06
Interest	0.31	1.70	2.04	1.97
Interest Rate	13.50%	13.50%	13.50%	13.50%
Particulars	Asset-II			
	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00	0.00
Receivables	9.12	11.47	12.81	12.40
Total	9.12	11.47	12.81	12.40
Interest	0.28	1.55	1.73	1.67
Interest Rate	13.50%	13.50%	13.50%	13.50%
Particulars	Asset-III			
	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00	0.00
Receivables	18.16	21.40	22.93	22.17



Total	18.16	21.40	22.93	22.17
Interest	0.57	2.89	3.10	2.99
Interest Rate	13.50%	13.50%	13.50%	13.50%
Particulars	Asset-IV			
	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00	0.00
Receivables	11.20	13.60	14.91	14.42
Total	11.20	13.60	14.91	14.42
Interest	0.35	1.84	2.01	1.95
Interest Rate	13.50%	13.50%	13.50%	13.50%
Particulars	Asset-V			
	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00	0.00
Receivables	9.30	11.17	13.65	14.15
Total	9.30	11.17	13.65	14.15
Interest	0.00	1.51	1.84	1.91
Interest Rate	13.50%	13.50%	13.50%	13.50%

7. The Commission, vide order dated 29.12.2016, had approved AFC under Regulation 7 (7) of the 2014 Tariff Regulations for the instant assets and directed the petitioner to submit the additional information. The petitioner has submitted additional information, vide affidavits dated 17.2.2017 and 26.4.2017.

8. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act, 2003. Bihar State Power (Holding) Company Limited (BSPHCL), Respondent No.1 has filed its reply vide affidavit dated 21.12.2016. BSPHCL has raised the issue of time over-run, Transmission Service Agreement, filing fee, etc. In response, the petitioner filed its rejoinder vide affidavit dated 10.1.2017. The issues raised by BSPHCL and the petitioner's response are dealt in the relevant paragraphs of this



order.

9. BSPHCL has submitted that any association or forum or group of consumers may be asked to represent the interest of consumer in the instant petition, as the representation and participation in the proceedings is integral part of hearing in terms of Section 94(3) of the Electricity Act, 2003. In response, the petitioner has submitted that there is no need to appoint any agency as the petitioner has provided a copy of the petition to the beneficiaries and published notices in newspapers inviting comments from general public. We have considered the submissions of the BSPHCL and the petitioner. As sufficient opportunity is given by inviting comments from general public as provided under Section 64 of the Electricity Act, 2003, we are of the view that there is no further need to implead an outside agency in the matter.

10. BSPHCL has submitted that the petitioner may be asked to file the Transmission Service Agreement as per Regulation 3(63) of the 2014 Tariff Regulations. In response, the petitioner has submitted that the BSPHCL has not signed the TSA inspite of repeated attempts and in the absence of TSA, the model TSA holds good. We have considered the submissions of the BSPHCL and the petitioner. The petitioner is directed to take up the same with the beneficiaries, including BSPHCL and settle at the earliest.

11. BSPHCL has submitted that the petitioner has not submitted the certificate from CEA as required under the 2014 Tariff Regulations. In response, the petitioner has submitted that Regulation 43 of CEA (Measures Related to Safety and Electricity



Supply) Regulations, 2010 is not applicable for the instant assets as they are merely a monitoring system with no involvement of electrical supply. We have considered the submissions of BSPHCL and the petitioner. The staff is directed to seek the comments of CEA on the applicability of the said regulation in the instant case and consider the same at the time of truing-up of the tariff of 2014-19 period.

12. During the hearing on 15.12.2016, BSPHCL submitted that the petitioner should decapitalise the replaced assets as per the book value. In response, the petitioner submitted that the value of the replaced assets was factored in the bid price and no further decapitalisation is required. The Commission directed the petitioner to explain whether the cost of buyback is as per the 2014 Tariff Regulations. The petitioner vide affidavit dated 17.2.2017 has submitted that the instant assets involve the replacement of existing SCADA/EMS Systems of DVC, JUSNL, Sikkim and BSPTCL and establishment of new SCADA/EMS Systems at each of them. As per the 'Letter of Award' for the instant assets, the dismantled equipment of the existing system are to be taken back by the contractor after replacement and the value of assets/equipment's has already been factored in the price bid and accordingly, the replaced assets' cost has been adjusted in the newly supplied/ commissioned assets. Therefore, no further details of the de-capitalization are required in the instant case.

13. We have considered the submissions of the petitioner and after perusal of the material available on record, we proceed to dispose of the petition.



Date of Commercial Operation (COD)

14. The petitioner has claimed date of commercial operation of Assets I to IV as 8.1.2016 and Asset V as 31.3.2016. The petitioner, vide affidavit dated 17.2.2017, has submitted that Eastern Regional Load Dispatch Centre certificate is not applicable in the instant case and has submitted self declaration certificate for Asset-I to V, in support of date of commercial operation. The petitioner has also submitted the charging certificate (from SLDC) of DVC, JUSNL and DVC main control center (Howrah) (Asset-I, IV and V) and charging certificate of Sikkim and BSPTCL (Asset-II and III) vide affidavit dated 26.4.2017.

15. Taking into consideration the submissions made by the petitioner and charging certificate issued by SLDC's, the date of commercial operation of instant assets are allowed as claimed. Accordingly, the date of commercial operation of the instant transmission assets is approved as 8.1.2016 for Assets I to IV and 31.3.2016 for Asset V, subject to confirmation and submission of certificate of the Electrical Inspector at the time of truing up.

Capital Cost

16. 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; 39
- (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.

17. The petitioner vide Auditor's Certificates dated 12.9.2016 and 19.5.2016 has submitted the details of capital cost as COD and estimated additional capital expenditure incurred or projected to be incurred for instant assets are as follows:-

Asset*	Approved apportioned cost	Expenditure as on actual COD	Estimated Expenditure			Total estimated completion Cost
			2015-16	2016-17	2017-18	
Asset I	545.75	312.18	0.00	186.10	0.00	498.28
Asset II	499.50	267.81	47.18	109.69	0.00	424.68
Asset III	881.28	530.93	87.24	141.37	0.00	759.54
Asset IV	515.90	332.35	51.37	111.23	0.00	494.95
Asset V	516.85	296.81	0.00	116.25	60.00	473.06

*The capital costs have been verified from the audited statements of accounts, by the Auditor up to 31.3.2016.



18. The total estimated completion cost of all the assets is within their respective approved apportioned cost. Accordingly, there is no cost over-run in case of the instant assets.

Time Over-run

19. As per the Investment Approval dated 5.4.2013, the instant assets were scheduled to be commissioned within 27 months from the date of approval of Board of Directors, which was 28.3.2013. Accordingly, the scheduled date of commercial operation of the instant assets was 27.6.2015. The details of COD of the instant assets and the respective time over-run are given below:-

Particulars	SCOD	COD	Time over-run (in months)
Asset I	27.6.2015	8.1.2016	6 months & 10 days
Asset II		8.1.2016	6 months & 10 days
Asset III		8.1.2016	6 months & 10 days
Asset IV		8.1.2016	6 months & 10 days
Asset V		31.3.2016	9 months & 2 days

20. There is a time over-run of 6 months and 10 days in case of Assets I to IV and 9 months and 2 days in case of Asset V. The petitioner has submitted that the work under instant assets comprised of database and display works, supply/installation of equipment control center works and finally site testing and commercial declaration and the coordination for the associated works in the scope of corresponding constituents. The associated works under the scope of constituents include telemetry data collection, obtaining necessary training for operation, completion of site/control center in all respects including back-up and AC facility where the SCADA/EMS equipment will be installed by the petitioner before commercial declaration of the same.



Subsequently, the execution commenced on award of works and the Letter of Award (LOA) was awarded on 31.5.2013. The petitioner has further submitted that as per the work matrix, the site works related to completion of respective control centers had to be finished at least four months before the schedule completion date of the subject assets i.e. by March 2015 (i.e. 4 months prior to completion schedule date of July 2015).

21. The petitioner has further submitted that it took up the matter with the constituents through Project Review Meetings (PRM) to expedite the work under the scope of the constituents and to give final shape to these control centers in a time bound manner before testing and commercial declaration of the instant assets. The petitioner has submitted that discussions and deliberations in the various PRMs were held on 28.1.2015, 8.4.2015 and 2.6.2015. The relevant excerpts are as under:-

Srl. No	Description	Remarks/Actual completion	Duration of delay w.r.t. March 2015
T.1	BSPTCL		
1	Air conditioning of control Center	1st PRM: BSPTCL confirmed and agreed to provide the air conditioner soon for proper operation of equipment 2nd PRM: BSPTCL yet to provide the system as committed 3rd PRM: BSPTCL informed that they were in the process of shifting air conditioner and it would be completed by 30.6.2015. However, the work could be completed by BSPTCL on 31.8.2015.	6 months
T.2	JUSNL		
1	Air conditioning of control Center	1st PRM: JUSNL confirmed that Air conditioning of UPS room will be ready at the earliest. 2nd PRM: JUSNL informed to use existing ACs and the rest to be procured within a month to support inadequate cooling	6 months



		3rd PRM: POWERGRID informed that there is no improvement in the AC in UPS room. Finally, the work has been completed by JUSNL on 25.8.2015	
T.3	DVC		
	Control center (Main)		
1	Control center Main	1st PRM: DVC confirmed that by Apr'2015 main control center will be ready.	8 months
		2nd PRM: DVC informed that location of main control center to be firmed up and will make the site ready soon	
		3rd PRM: DVC confirmed that their main control center will be at Andul road, Howrah. DVC also informed that it will be completed by 30.9.2015. However, the work has been completed by DVC on 5.11.2015.	
	Control center (Back UP)		
1	UPS room for Control center (back)	1st PRM: DVC was requested to make ready the control centers in all respect at the earliest.	7 months
		2nd PRM: DVC intimated work not yet completed due to administrative reasons.	
		3rd PRM: DVC informed that earthing works at Backup control center will be completed by 30.6.2015. However, the work has been completed by DVC on 6.9.2015	
2	Air conditioning for UPS room at back up control center	1st PRM: DVC confirmed that by Mar'2015 Air conditioning of UPS room will be ready.	6 months
		2nd PRM: DVC intimated that work not yet completed due to administrative reasons.	
		3rd PRM: DVC informed that LOA has been placed for new air conditioning. However, the work has been completed by DVC on 28.8.2015	
T.4	Sikkim		
1	DG foundation	1st PRM: Not attended	7 months
		2nd PRM: Work not yet done as intimated by Sikkim	
		3rd PRM: The issue was again discussed as the work to be executed by Sikkim was still pending. Finally the work has been completed by Sikkim on 4.9.2015.	

22. BSPHCL has submitted that the time over-run is attributable to the petitioner.

The delay due to works related to the completion of respective control centers in co-



ordination with the constituents is due to lack of proper planning and co-ordination, which is required under Section 38(2) of the Electricity Act, 2003. BSPHCL has further submitted that the instant assets included in the project have a very short useful life and with commissioning schedule of 27 months coupled with time over-run of 6 to 9 months reduces the useful life of the assets to a large extent and therefore, assets of this nature should have short schedule for commissioning. BSPHCL requested not to allow the time delay as it falls within the controllable factors mentioned in Regulation 12 of the Tariff Regulation 2014. In response, the petitioner has submitted that detailed justification for time over-run has already been given in main petition and requested to condone the same as the reasons for time over-run fall under Regulation 12(2)(i) of the 2014 Tariff Regulations.

23. We have considered the submissions of the petitioner and BSPHCL. The instant assets were scheduled for completion by 28.6.2015. However, there is a time over-run of 6 to 9 months in case of the instant assets. The Letter of Award (LOA) regarding the works under current scheme was placed on 31.5.2013 i.e. after 2 months 2 days of date of Investment Approval. As per the schedule, the site works related to completion of respective control centers was to be finished at least 4 months before the schedule completion date of the subject project i.e. by March 2015. It appears that the petitioner carried out the SCADA/EMS expansion/upgradation works under its scope in a time bound manner. However, the constituents like BSPTCL, JUSNL, DVC and Sikkim could not execute the work at the desired pace. The petitioner pursued with the constituents regularly for timely execution of the control centers and related works. But



despite persuasions and repeated reminders, the site work related to completion of the control center (main and back-up) to be executed by constituents could not meet the deadline, which was a pre-requisite for testing and commissioning of the SCADA EMS system. Subsequently, the petitioner took up the matter through PRMs to expedite the work in time bound manner before testing and commercial declaration.

24. After placing the LOA on 31.5.2013, the constituents completed their control center (main and backup). BSPTCL completed on 31.8.2015, JUSNL on 25.8.2015, DVC (MAIN) on 5.11.2015, DVC (backup) on 28.8.2015 and Sikkim on 4.9.2015. Thus, the control centers were ready only in the last quarter of 2015. Subsequently, the petitioner successfully commissioned the equipment for JUSNL on 7.1.2016, DVC Howrah on 28.3.2016, DVC on 6.1.2016, Sikkim on 7.1.2016 and of BSPTCL on 5.1.2016 and thereafter declared their COD. It is observed that the petitioner has completed the work under its scope soon after the completion of the work by the constituents. We are of the view that the time over-run cannot be attributed to the petitioner. Accordingly, the time over-run in case of the instant assets is condoned.

Treatment of IDC

25. The petitioner has submitted the information related to IDC in the original petition. The IDC discharged up to COD and the "IDC to be discharged" after COD i.e. in 2015-16, 2016-17 and 2017-18 have also been mentioned for all the assets.

26. The IDC on cash basis up to COD has been worked out based on the available information, i.e. loan details in Form-9C, as per the tariff forms submitted and has



been capitalized as on COD. Whereas, the “Balance IDC” as on COD, would be capitalized once the actual payment is made by the petitioner on cash basis for the assets. Accordingly, the IDC allowed for instant assets has been summarised as under:-

(₹ in lakh)

Asset	Claimed as on COD as per the respective Auditor's Certificate	Discharged up to COD (as claimed)	Allowed/ Worked out on Cash Basis as on COD	Balance IDC as on COD discharged during FY 2015-16 (as claimed)	Balance IDC discharged during FY 2015-16 for calculation purpose	Balance IDC to be discharged during FY 2016-17 (as claimed)	Balance IDC discharged during FY 2016-17 for calculation purpose
Asset I	9.01	4.47	4.47	3.78	3.78	0.77	0.00
Asset II	7.26	3.57	3.57	3.69	3.69	0.00	0.00
Asset III	11.11	11.11	11.11	0.00	0.00	0.00	0.00
Asset IV	9.06	4.47	4.47	4.60	4.60	0.00	0.00
Asset V	9.63	6.27	6.25	0.00	0.00	3.36	0.00

27. The IDC allowed/disallowed shall be verified at the time of truing up, subject to submission of the adequate information regarding IDC's actual disbursement/payment made against each of the instant assets. There is a difference in the Gross Loan claimed as on COD (as per Form-9C) and the Gross Loan considered for the working of IDC by the petitioner. The Gross Loan (as per Form-9C) is considered for the calculation of IDC, as it gives the details of actual loan deployed by the petitioner for the instant assets. Therefore, the petitioner is directed to reconcile the Gross Loan for the calculation of weighted average Rate of Interest (as in Form-9C) and for the calculation of IDC, and shall be reviewed at the time of truing-up.



Treatment of IEDC

28. The petitioner has submitted that in the instant assets, the entire claimed IEDC has been discharged as on COD. As has been considered, in the recent past, in other transmission tariff petitions, the 'IEDC limit' has been considered as indicated in the 'Abstract Cost Estimate' which is 10.75% of the Hard Cost, in the current case. As the IEDC claimed as on COD is lower than 10.75% of the hard cost in case of all the assets, the claimed IEDC corresponding to instant assets is being allowed to be capitalized in the present case.

29. The IEDC claimed and allowed are as follows:-

(₹ in lakh)		
Asset	Claimed	Allowed
Asset I	0.53	0.53
Asset II	0.42	0.42
Asset III	0.65	0.65
Asset IV	0.52	0.52
Asset V	0.57	0.57

Treatment of Initial Spares

30. Regulation 13(d) of the 2014 Tariff Regulations specifies ceiling norms for capitalization of initial spares in respect of transmission system as under:-

“13. Initial Spares

Initial spares shall be capitalised as a percentage of the Plant and Machinery cost upto cut-off date, subject to following ceiling norms:

(d) Transmission system

(i) Transmission line - 1.00%

(ii) Transmission Sub-station (Green Field) - 4.00%

(iii) Transmission Sub-station (Brown Field) - 6.00%

(iv) Series Compensation devices and HVDC Station - 4.00%



- (v) Gas Insulated Sub-station (GIS)-5.00%
- (vi) Communication system-3.5%

Provided that:

(i) where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost by the Commission, such norms shall apply to the exclusion of the norms specified above:

(ii) -----

(iii) Once the transmission project is commissioned, the cost of initial spares shall be restricted on the basis of plant and machinery cost corresponding to the transmission project at the time of truing up:

(iv) for the purpose of computing the cost of initial spares, plant and machinery cost shall be considered as project cost as on cut-off date excluding IDC, IEDC, Land Cost and cost of civil works. The transmission licensee shall submit the breakup of head wise IDC & IEDC in its tariff application.”

31. The petitioner has not claimed any initial spares for the instant assets and therefore, the initial spares are considered to be nil in the instant case. The details of the capital cost admitted for the purpose of transmission tariff considering the IEDC and IDC and initial spares is given below :-

(₹ in lakh)						
Assets	Capital cost as on COD	Less: Total IDC and IEDC claimed	Add: IDC allowed on cash basis as on COD	Add: IEDC allowed as on COD	Less: Excess initial spares as on COD	Capital cost as on COD considered for tariff
Asset-I	312.18	9.54	4.47	0.53	0.00	307.64
Asset-II	267.81	7.68	3.57	0.42	0.00	264.12
Asset-III	530.93	11.76	11.11	0.65	0.00	530.93
Asset-IV	332.35	9.58	4.47	0.52	0.00	327.76
Asset-V	296.81	10.20	6.25	0.57	0.00	293.43

Additional Capital Expenditure

32. 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.”

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

“cut-off date” means 31st 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 31st March of the year closing after three years of the year of commercial operation”.

34. The “cut-off date” in the case of instant assets is 31.3.2019.

35. The petitioner has claimed additional capital expenditure for the period from COD to 31.3.2019, as per Regulation 14(1) of the 2014 Tariff Regulations. The allowable additional capital expenditure expenses for the instant transmission asset are as under:-

Asset	Estimated Additional Capital expenditure				Total estimated completion cost
	2015-16	2016-17	2017-18	2018-19	
Asset-I	3.78	186.10	0.00	0.00	497.52
Asset-II	50.87	109.69	0.00	0.00	424.68



Asset-III	87.24	141.37	0.00	0.00	759.54
Asset-IV	55.97	111.23	0.00	0.00	494.96
Asset-V	0.00	116.25	60.00	0.00	469.68

Debt- Equity Ratio

36. 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.”

37. The petitioner has claimed debt:equity ratio of 70:30 as on the date of commercial operation. The debt:equity ratio of 70:30 is considered as provided in Regulation 19 of the 2014 Tariff Regulations. The details of debt:equity ratio in respect of the instant assets as on the date of commercial operation and as on 31.3.2019 are



as under:-

(₹ in lakh)

Asset-I				
Particulars	As on COD		As on 31.3.2019	
	Amount	%	Amount	%
Debt	215.34	70.00	348.26	70.00
Equity	92.29	30.00	149.25	30.00
Total	307.64	100.00	497.52	100.00
Asset-II				
Particulars	As on COD		As on 31.3.2019	
	Amount	%	Amount	%
Debt	184.89	70.00	297.28	70.00
Equity	79.24	30.00	127.40	30.00
Total	264.12	100.00	424.68	100.00
Asset-III				
Particulars	As on COD		As on 31.3.2019	
	Amount	%	Amount	%
Debt	371.65	70.00	531.68	70.00
Equity	159.28	30.00	227.86	30.00
Total	530.93	100.00	759.54	100.00
Asset-IV				
Particulars	As on COD		As on 31.3.2019	
	Amount	%	Amount	%
Debt	229.43	70.00	346.47	70.00
Equity	98.33	30.00	148.49	30.00
Total	327.76	100.00	494.96	100.00
Asset-V				
Particulars	As on COD		As on 31.3.2019	
	Amount	%	Amount	%
Debt	205.40	70.00	328.78	70.00
Equity	88.03	30.00	140.90	30.00
Total	293.43	100.00	469.68	100.00

Return on Equity (RoE)

38. Clause (1) and (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 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.”

39. The petitioner has submitted that RoE has been calculated at the rate of 19.61% after grossing up the RoE with MAT rate of 20.96% as per the above Regulations. The petitioner has further submitted that as per Regulation 25 (3) of the 2014 Tariff Regulations, 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. 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.

40. BSP(H)CL submitted that the petitioner may be directed to furnish details in the working of effective tax rate along with tax audit report for financial year 2014-15 and the reasons for opting MAT. The petitioner may also be directed to submit the details of deferred tax liability and its treatment in the books of account for the period 2014-19. Since, the petitioner is entitled for Tax Holiday for new transmission project, the



petitioner may be directed to supply the information from the date the petitioner intends to claim the benefits of section 80 IA of the Income Tax Act, 1961.

41. In response, the petitioner submitted that the rate of return of equity has been calculated as per Regulation 25 of the 2014 Tariff Regulation and indicated in Form-8 submitted with the petition. As per Regulation 25 (2) of the 2014 Tariff Regulation, the MAT rate shall be considered as the effective tax rate. Since the asset is commissioned during 2014-15, the final assessment of tax is yet to be finalized. As per Regulation 25 (3) of the 2014 Tariff Regulation, any over/under recovery of grossed up rate on ROE shall be adjusted at the time of truing up on the basis of actual tax paid including interest and additional demand by the IT authorities. Further as per clause 49 of the 2014 Tariff Regulation, the deferred tax liability before 1.4.2009 shall be recovered from the beneficiaries or long term transmission customers/ DICs as and when the same gets materialized. As the present asset is under 2014-19, the same is not applicable. Further with regard to claiming tax benefit under Section 80 IA of Income Tax, it is submitted that since the petitioner is grossing up the ROE with MAT, any tax benefit is already factored into it. Since, MAT is the minimum tax rate to be paid by the company.

42. We have considered the submissions of the petitioner. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provide 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 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. 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 allowed is given below:-

(₹ in lakh)				
Asset-I				
Particulars	2015-16	2016-17	2017-18	2018-19
Opening Equity	92.29	93.42	149.25	149.25
Addition due to Additional Capitalization	1.13	55.83	0.00	0.00
Closing Equity	93.42	149.25	149.25	149.25
Average Equity	92.86	121.34	149.25	149.25
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	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)	4.18	23.79	29.27	29.27
Asset-II				
Particulars	2015-16	2016-17	2017-18	2018-19
Opening Equity	79.24	94.50	127.40	127.40
Addition due to Additional Capitalization	15.26	32.91	0.00	0.00
Closing Equity	94.50	127.40	127.40	127.40
Average Equity	86.87	110.95	127.40	127.40
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	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)	3.91	21.76	24.98	24.98
Asset-III				
Particulars	2015-16	2016-17	2017-18	2018-19
Opening Equity	159.28	185.45	227.86	227.86
Addition due to Additional Capitalization	26.17	42.41	0.00	0.00
Closing Equity	185.45	227.86	227.86	227.86
Average Equity	172.37	206.66	227.86	227.86
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	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)	7.76	40.53	44.68	44.68
Asset-IV				
Particulars	2015-16	2016-17	2017-18	2018-19



Opening Equity	98.33	115.12	148.49	148.49
Addition due to Additional Capitalization	16.79	33.37	0.00	0.00
Closing Equity	115.12	148.49	148.49	148.49
Average Equity	106.72	131.80	148.49	148.49
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	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)	4.80	25.85	29.12	29.12
	Asset-V			
Particulars	2015-16	2016-17	2017-18	2018-19
Opening Equity	88.03	88.03	122.90	140.90
Addition due to Additional Capitalization	0.00	34.88	18.00	0.00
Closing Equity	88.03	122.90	140.90	140.90
Average Equity	88.03	105.47	131.90	140.90
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	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)	0.05	20.68	25.87	27.63

Interest on loan (IoL)

43. Regulation 26 of the 2014 Tariff Regulations are provides 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 65 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 decapitalization 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 66 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.”

44. The petitioner’s entitlement to IoL has been calculated as per the provisions of Regulation 26 of the 2014 Tariff Regulations as detailed below:-

(i) Gross amount of loan, repayment of installments and rate of interest on actual loans have been considered as per the petition;

(ii) The yearly repayment for the tariff period 2014-19 has been considered to be equal to the depreciation allowed for that year;

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

45. 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 period 2014-19. 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.

46. The IOL is worked out for the instant assets considering all the loans submitted in Form-9C. The petitioner is directed to reconcile the total Gross Loan for the calculation of weighted average rate of interest and for the calculation of IDC, which would be reviewed at the time of truing-up.

47. Detailed calculations in support of IoL in case of the instant assets are given at Annexure I to V of this order. The details of IoL allowed are as under:-

(₹ in lakh)

Asset-I				
Particulars	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	215.34	217.99	348.26	348.26
Cumulative Repayment upto Previous Year	0.00	4.50	30.10	61.59
Net Loan-Opening	215.34	213.49	318.16	286.67
Addition due to Additional Capitalisation	2.65	130.27	0.00	0.00
Repayment during the year	4.50	25.60	31.49	31.49
Net Loan-Closing	213.49	318.16	286.67	255.18
Average Loan	214.42	265.83	302.41	270.92
Weighted Average Rate of Interest on Loan	9.1254%	9.1280%	9.1280%	9.1299%
Interest	4.49	24.26	27.60	24.73
Asset-II				
Particulars	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	184.89	220.49	297.28	297.28
Cumulative Repayment upto Previous Year	0.00	4.21	27.62	54.50
Net Loan-Opening	184.89	216.29	269.66	242.78
Addition due to Additional Capitalisation	35.61	76.78	0.00	0.00
Repayment during the year	4.21	23.41	26.88	26.88
Net Loan-Closing	216.29	269.66	242.78	215.90
Average Loan	200.59	242.97	256.22	229.34



Weighted Average Rate of Interest on Loan	9.0450%	9.0857%	9.0857%	9.0869%
Interest	4.16	22.08	23.28	20.84
Asset-III				
Particulars	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	371.65	432.72	531.68	531.68
Cumulative Repayment upto Previous Year	0.00	8.35	51.95	100.03
Net Loan-Opening	371.65	424.37	479.73	431.65
Addition due to Additional Capitalisation	61.07	98.96	0.00	0.00
Repayment during the year	8.35	43.60	48.08	48.08
Net Loan-Closing	424.37	479.73	431.65	383.57
Average Loan	398.01	452.05	455.69	407.61
Weighted Average Rate of Interest on Loan	9.1289%	9.1586%	9.1534%	9.1428%
Interest	8.34	41.40	41.71	37.27
Asset-IV				
Particulars	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	229.43	268.61	346.47	346.47
Cumulative Repayment upto Previous Year	0.00	5.17	32.98	64.31
Net Loan-Opening	229.43	263.44	313.49	282.16
Addition due to Additional Capitalisation	39.18	77.86	0.00	0.00
Repayment during the year	5.17	27.81	31.33	31.33
Net Loan-Closing	263.44	313.49	282.16	250.83
Average Loan	246.44	288.47	297.83	266.50
Weighted Average Rate of Interest on Loan	9.0421%	9.0791%	9.0791%	9.0803%
Interest	5.11	26.19	27.04	24.20
Asset-V				
Particulars	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	205.40	205.40	286.78	328.78
Cumulative Repayment upto Previous Year	0.00	0.05	22.30	50.14
Net Loan-Opening	205.40	205.35	264.47	278.64
Addition due to Additional Capitalisation	0.00	81.38	42.00	0.00
Repayment during the year	0.05	22.25	27.83	29.73
Net Loan-Closing	205.35	264.47	278.64	248.91
Average Loan	205.38	234.91	271.56	263.77
Weighted Average Rate of Interest on Loan	9.4831%	9.4831%	9.4831%	9.4831%
Interest	0.05	22.28	25.75	25.01



Depreciation

48. 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.”

49. The instant assets were put under commercial operation during 2015-16. Accordingly, they will complete 12 years after 2018-19. As such, depreciation has been calculated annually based on Straight Line Method at the rates specified in Appendix-II to the 2014 Tariff Regulations.

50. Details of the depreciation allowed are as under:-

(₹ in lakh)

Asset-I				
Particulars	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	307.64	311.42	497.52	497.52
Additional Capital expenditure	3.78	186.10	0.00	0.00
Closing Gross Block	311.42	497.52	497.52	497.52
Average Gross Block	309.53	404.47	497.52	497.52
Rate of Depreciation	6.3300%	6.3300%	6.3300%	6.3300%
Depreciable Value	278.57	364.02	447.76	447.76
Remaining Depreciable Value	278.57	359.52	417.66	386.17
Depreciation	4.50	25.60	31.49	31.49
Asset-II				
Particulars	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	264.12	314.99	424.68	424.68
Additional Capital expenditure	50.87	109.69	0.00	0.00
Closing Gross Block	314.99	424.68	424.68	424.68
Average Gross Block	289.56	369.84	424.68	424.68



Rate of Depreciation	6.3300%	6.3300%	6.3300%	6.3300%
Depreciable Value	260.60	332.85	382.21	382.21
Remaining Depreciable Value	260.60	328.65	354.60	327.71
Depreciation	4.21	23.41	26.88	26.88
Asset-III				
Particulars	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	530.93	618.17	759.54	759.54
Additional Capital expenditure	87.24	141.37	0.00	0.00
Closing Gross Block	618.17	759.54	759.54	759.54
Average Gross Block	574.55	688.86	759.54	759.54
Rate of Depreciation	6.3300%	6.3300%	6.3300%	6.3300%
Depreciable Value	517.10	619.97	683.59	683.59
Remaining Depreciable Value	517.10	611.62	631.63	583.56
Depreciation	8.35	43.60	48.08	48.08
Asset-IV				
Particulars	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	327.76	383.73	494.96	494.96
Additional Capital expenditure	55.97	111.23	0.00	0.00
Closing Gross Block	383.73	494.96	494.96	494.96
Average Gross Block	355.75	439.35	494.96	494.96
Rate of Depreciation	6.3300%	6.3300%	6.3300%	6.3300%
Depreciable Value	320.17	395.41	445.46	445.46
Remaining Depreciable Value	320.17	390.24	412.49	381.15
Depreciation	5.17	27.81	31.33	31.33
Asset-V				
Particulars	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	293.43	293.43	409.68	469.68
Additional Capital expenditure	0.00	116.25	60.00	0.00
Closing Gross Block	293.43	409.68	469.68	469.68
Average Gross Block	293.43	351.56	439.68	469.68
Rate of Depreciation	6.3300%	6.3300%	6.3300%	6.3300%
Depreciable Value	264.09	316.40	395.71	422.71
Remaining Depreciable Value	264.09	316.35	373.41	372.58
Depreciation	0.05	22.25	27.83	29.73

51. Regulation 29(4)(a) of the 2014 Tariff Regulations specifies the norms for O&M Expenses for the transmission system based on the type of sub-station and the



transmission line. The petitioner has submitted that Annual Maintenance Contract (AMC) of SCADA/ EMS systems established under ULDC Scheme for all the constituents is the responsibility of the respective SLDCs in line with the ER-ULDC project and therefore not claimed O&M charges for the same. Therefore, no O&M Expenses are allowed for the instant assets.

Interest on Working Capital (IWC)

52. Clause 1 (c) and Clause 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:

(c) Hydro generating station including pumped storage hydroelectric 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 72 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;”

53. The petitioner is entitled to claim IWC as per the 2014 Tariff Regulations. The components of the working capital and the petitioner’s entitlement to interest thereon



are discussed hereunder:-

(i) Receivables

Receivables as a component of working capital will be equivalent to two months fixed cost. The petitioner has claimed the receivables on the basis of 2 months annual transmission charges. In the tariff being allowed, receivables have been worked out on the basis of 2 months transmission charges.

(ii) Maintenance spares

Regulation 28 of the 2014 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M Expenses. The value of maintenance spares has accordingly been worked out.

(iii) O & M Expenses

O&M Expenses have been considered for one month as a component of working capital. The petitioner has claimed O&M expenses for 1 month of the respective year as claimed in the petition. This has been considered in the working capital.

(iv) Rate of interest on working capital

As per Regulation 28(3) of the 2014 Tariff Regulations, SBI Base rate of 10.00% as on 1.4.2015 plus 350 Bps i.e. 13.50% has been considered for working out the rate of interest on working capital for the instant assets.

54. The IWC allowed for the instant assets is shown in the table given below:-



(₹ in lakh)

Particulars	Asset-I			
	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00	0.00
Receivables	9.78	12.56	15.07	14.58
Total	9.78	12.56	15.07	14.58
Interest	0.30	1.70	2.03	1.97
Interest Rate	13.50%	13.50%	13.50%	13.50%
Particulars	Asset-II			
	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00	0.00
Receivables	9.12	11.47	12.81	12.40
Total	9.12	11.47	12.81	12.40
Interest	0.28	1.55	1.73	1.67
Interest Rate	13.50%	13.50%	13.50%	13.50%
Particulars	Asset-III			
	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00	0.00
Receivables	18.16	21.40	22.93	22.17
Total	18.16	21.40	22.93	22.17
Interest	0.56	2.89	3.10	2.99
Interest Rate	13.50%	13.50%	13.50%	13.50%
Particulars	Asset-IV			
	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00	0.00
Receivables	11.21	13.61	14.92	14.43
Total	11.21	13.61	14.92	14.43
Interest	0.35	1.84	2.01	1.95
Interest Rate	13.50%	13.50%	13.50%	13.50%
Particulars	Asset-V			
	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00	0.00
Receivables	9.43	11.12	13.55	14.05
Total	9.43	11.12	13.55	14.05
Interest	0.003	1.50	1.83	1.90
Interest Rate	13.50%	13.50%	13.50%	13.50%



Transmission Charges

55. The transmission charges being allowed for the instant assets are summarized as under:-

(₹ in lakh)

Asset-I				
Particulars	2015-16	2016-17	2017-18	2018-19
Depreciation	4.50	25.60	31.49	31.49
Interest on Loan	4.49	24.26	27.60	24.73
Return on Equity	4.18	23.79	29.27	29.27
Interest on Working Capital	0.30	1.70	2.03	1.97
O & M Expenses	0.00	0.00	0.00	0.00
Total	13.47	75.36	90.40	87.46
Asset-II				
Particulars	2015-16	2016-17	2017-18	2018-19
Depreciation	4.21	23.41	26.88	26.88
Interest on Loan	4.16	22.08	23.28	20.84
Return on Equity	3.91	21.76	24.98	24.98
Interest on Working Capital	0.28	1.55	1.73	1.67
O & M Expenses	0.00	0.00	0.00	0.00
Total	12.56	68.79	76.88	74.38
Asset-III				
Particulars	2015-16	2016-17	2017-18	2018-19
Depreciation	8.35	43.60	48.08	48.08
Interest on Loan	8.34	41.40	41.71	37.27
Return on Equity	7.76	40.53	44.68	44.68
Interest on Working Capital	0.56	2.89	3.10	2.99
O & M Expenses	0.00	0.00	0.00	0.00
Total	25.01	128.42	137.57	133.02
Asset-IV				
Particulars	2015-16	2016-17	2017-18	2018-19
Depreciation	5.17	27.81	31.33	31.33
Interest on Loan	5.11	26.19	27.04	24.20
Return on Equity	4.80	25.85	29.12	29.12
Interest on Working Capital	0.35	1.84	2.01	1.95
O & M Expenses	0.00	0.00	0.00	0.00
Total	15.43	81.69	89.50	86.60
Asset-V				
Particulars	2015-16	2016-17	2017-18	2018-19
Depreciation	0.05	22.25	27.83	29.73
Interest on Loan	0.05	22.28	25.75	25.01



Return on Equity	0.05	20.68	25.87	27.63
Interest on Working Capital	0.00	1.50	1.83	1.90
O & M Expenses	0.00	0.00	0.00	0.00
Total	0.15	66.71	81.28	84.27

56. The petitioner has submitted that the claim for transmission charges and other charges is exclusive of incentive, late payment surcharge, FERV, any statutory taxes, levies, duties, cess filing fees, licence fees, RLDC fees and charges or any other kind of impositions, etc. The petitioner has further submitted that if the same is imposed shall be borne and additionally paid by the beneficiaries. We have considered the submissions of the petitioner. The petitioner is entitled for late payment surcharge and FERV as per Regulations 45 and 50 respectively of the 2014 Tariff Regulations.

Filing Fee and the Publication Expenses

57. 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. BSPHCL has submitted that filing fee and expenses incurred on publication of notices for approval of tariff, can be allowed at the discretion of the Commission under Regulation 52(1) of the 2014 Tariff regulations. Further as per Commissions order dated 11.9.2008 in Petition No. 129/2005, the Central Power Sector undertakings are statutory required to approach the Commission for determination and approval of the tariff and hence declined the claim of the Central power sector undertakings for allowing the reimbursement of the application filing fee. In response, the petitioner has submitted that filing fees and publication expense needs to be reimbursed in terms of Regulation 52 of the 2014 Tariff Regulation. Further, the Commission vide order dated



28.3.2016 in Petition No. 137/TT/2015 for determination of tariff for 2014-19 period allowed the recovery of petition filing fee and publication of notices from the beneficiaries on pro-rata basis. We have considered the submissions of the petitioner and BSPHCL. 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

58. 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 license fee and RLDC fees and charges in accordance with Clause (2)(b) and (2)(a), respectively, of Regulation 52 of the 2014 Tariff Regulations.

Sharing of charges

59. The transmission charges allowed in this order shall be recovered from respective States under the proviso to clause (2) of Regulation 43 of the 2014 Tariff Regulations.

60. This order disposes of Petition No. 232/TT/2016.

sd/-
(M.K. Iyer)
Member

sd/-
(A.S. Bakshi)
Member

sd/-
(A.K. Singhal)
Member

sd/-
(Gireesh B. Pradhan)
Chairperson



Annexure-I

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN					
(₹ in lakh)					
Asset-I					
	Details of Loan	2015-16	2016-17	2017-18	2018-19
1	Bond XLVII				
	Gross loan opening	50.00	50.00	50.00	50.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	50.00	50.00	50.00	50.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	4.17
	Net Loan-Closing	50.00	50.00	50.00	45.83
	Average Loan	50.00	50.00	50.00	47.92
	Rate of Interest	8.93%	8.93%	8.93%	8.93%
	Interest	4.47	4.47	4.47	4.28
	Rep Schedule	12 annual installments from 20.10.2018			
2	SBI 10000 (01.05.2014)				
	Gross loan opening	120.16	122.80	122.80	122.80
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	120.16	122.80	122.80	122.80
	Additions during the year	2.64	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	122.80	122.80	122.80	122.80
	Average Loan	121.48	122.80	122.80	122.80
	Rate of Interest	9.55%	9.55%	9.55%	9.55%
	Interest	11.60	11.73	11.73	11.73
	Rep Schedule	20 half yearly equal installments from 15.6.2019			
3	Bond XLVIII				
	Gross loan opening	45.18	45.18	45.18	45.18
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	45.18	45.18	45.18	45.18
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	45.18	45.18	45.18	45.18
	Average Loan	45.18	45.18	45.18	45.18
	Rate of Interest	8.20%	8.20%	8.20%	8.20%
	Interest	3.70	3.70	3.70	3.70
	Rep Schedule	Redeemable at par in 3 equal installments on 23.1.2020, 23.1.2022, 23.1.2025 and 23.1.2030			
	Total Loan				



Gross loan opening	215.34	217.98	217.98	217.98
Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
Net Loan-Opening	215.34	217.98	217.98	217.98
Additions during the year	2.64	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00	4.17
Net Loan-Closing	217.98	217.98	217.98	213.81
Average Loan	216.66	217.98	217.98	215.90
Rate of Interest	9.1254%	9.1280%	9.1280%	9.1299%
Interest	19.77	19.90	19.90	19.71



Annexure-II

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN					
(₹ in lakh)					
Asset-II					
	Details of Loan	2015-16	2016-17	2017-18	2018-19
1	Bond XLVII				
	Gross loan opening	40.00	40.00	40.00	40.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	40.00	40.00	40.00	40.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	3.33
	Net Loan-Closing	40.00	40.00	40.00	36.67
	Average Loan	40.00	40.00	40.00	38.33
	Rate of Interest	8.93%	8.93%	8.93%	8.93%
	Interest	3.57	3.57	3.57	3.42
	Rep Schedule	12 annual installments from 20.10.2018			
2	SBI 10000 (01.05.2014)				
	Gross loan opening	87.43	123.04	123.04	123.04
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	87.43	123.04	123.04	123.04
	Additions during the year	35.61	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	123.04	123.04	123.04	123.04
	Average Loan	105.24	123.04	123.04	123.04
	Rate of Interest	9.55%	9.55%	9.55%	9.55%
	Interest	10.05	11.75	11.75	11.75
	Rep Schedule	20 half yearly equal installments from 15.6.2019			
3	Bond XLVIII				
	Gross loan opening	57.46	57.46	57.46	57.46
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	57.46	57.46	57.46	57.46
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	57.46	57.46	57.46	57.46
	Average Loan	57.46	57.46	57.46	57.46
	Rate of Interest	8.20%	8.20%	8.20%	8.20%
	Interest	4.71	4.71	4.71	4.71
	Rep Schedule	Redeemable at par in 3 equal installments on 23.1.2020, 23.1.2022, 23.1.2025 and 23.1.2030			



Total Loan				
Gross loan opening	184.89	220.50	220.50	220.50
Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
Net Loan-Opening	184.89	220.50	220.50	220.50
Additions during the year	35.61	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00	3.33
Net Loan-Closing	220.50	220.50	220.50	217.17
Average Loan	202.70	220.50	220.50	218.83
Rate of Interest	9.0450%	9.0857%	9.0857%	9.0869%
Interest	18.33	20.03	20.03	19.89



Annexure-III

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN					
(₹ in lakh)					
Asset-III					
	Details of Loan	2015-16	2016-17	2017-18	2018-19
1	Bond XLVII				
	Gross loan opening	4.95	4.95	4.95	4.95
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	4.95	4.95	4.95	4.95
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.41
	Net Loan-Closing	4.95	4.95	4.95	4.54
	Average Loan	4.95	4.95	4.95	4.74
	Rate of Interest	8.93%	8.93%	8.93%	8.93%
	Interest	0.44	0.44	0.44	0.42
	Rep Schedule	12 annual installments from 20.10.2018			
2	SBI 10000 (01.05.2014)				
	Gross loan opening	90.00	151.07	151.07	151.07
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	90.00	151.07	151.07	151.07
	Additions during the year	61.07	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	151.07	151.07	151.07	151.07
	Average Loan	120.54	151.07	151.07	151.07
	Rate of Interest	9.55%	9.55%	9.55%	9.55%
	Interest	11.51	14.43	14.43	14.43
	Rep Schedule	20 half yearly equal installments from 15.6.2019			
3	Bond XLV				
	Gross loan opening	108.79	108.79	108.79	108.79
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	9.07
	Net Loan-Opening	108.79	108.79	108.79	99.72
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	9.07	9.07
	Net Loan-Closing	108.79	108.79	99.72	90.66
	Average Loan	108.79	108.79	104.26	95.19
	Rate of Interest	9.65%	9.65%	9.65%	9.65%
	Interest	10.50	10.50	10.06	9.19
	Rep Schedule	12 annual installments from 28.2.2018			
4	Bond XLVI				
	Gross loan opening	45.00	45.00	45.00	45.00



	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	45.00	45.00	45.00	45.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	45.00	45.00	45.00	45.00
	Average Loan	45.00	45.00	45.00	45.00
	Rate of Interest	9.30%	9.30%	9.30%	9.30%
	Interest	4.19	4.19	4.19	4.19
	Rep Schedule	Redeemable at par in 3 equal installments on 4.9.2019, 4.9.2024 and 4.9.2029			
5	Bond XLVIII				
	Gross loan opening	122.91	122.91	122.91	122.91
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	122.91	122.91	122.91	122.91
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	122.91	122.91	122.91	122.91
	Average Loan	122.91	122.91	122.91	122.91
	Rate of Interest	8.20%	8.20%	8.20%	8.20%
	Interest	10.08	10.08	10.08	10.08
	Rep Schedule	Redeemable at par in 3 equal installments on 23.1.2020, 23.1.2022, 23.1.2025 and 23.1.2030			
	Total Loan				
	Gross loan opening	371.65	432.72	432.72	432.72
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	9.07
	Net Loan-Opening	371.65	432.72	432.72	423.65
	Additions during the year	61.07	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	9.07	9.48
	Net Loan-Closing	432.72	432.72	423.65	414.18
	Average Loan	402.19	432.72	428.19	418.92
	Rate of Interest	9.1289%	9.1586%	9.1534%	9.1428%
	Interest	36.71	39.63	39.19	38.30



Annexure-IV

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN					
(₹ in lakh)					
Asset-IV					
	Details of Loan	2015-16	2016-17	2017-18	2018-19
1	Bond XLVII				
	Gross loan opening	50.00	50.00	50.00	50.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	50.00	50.00	50.00	50.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	4.17
	Net Loan-Closing	50.00	50.00	50.00	45.83
	Average Loan	50.00	50.00	50.00	47.92
	Rate of Interest	8.93%	8.93%	8.93%	8.93%
	Interest	4.47	4.47	4.47	4.28
	Rep Schedule	12 annual installments from 20.10.2018			
2	SBI 10000 (01.05.2014)				
	Gross loan opening	108.70	147.88	147.88	147.88
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	108.70	147.88	147.88	147.88
	Additions during the year	39.18	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	147.88	147.88	147.88	147.88
	Average Loan	128.29	147.88	147.88	147.88
	Rate of Interest	9.55%	9.55%	9.55%	9.55%
	Interest	12.25	14.12	14.12	14.12
	Rep Schedule	20 half yearly equal installments from 15.6.2019			
3	Bond XLVIII				
	Gross loan opening	70.73	70.73	70.73	70.73
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	70.73	70.73	70.73	70.73
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	70.73	70.73	70.73	70.73
	Average Loan	70.73	70.73	70.73	70.73
	Rate of Interest	8.20%	8.20%	8.20%	8.20%
	Interest	5.80	5.80	5.80	5.80
	Rep Schedule	Redeemable at par in 3 equal installments on 23.1.2020, 23.1.2022, 23.1.2025 and 23.1.2030			
	Total Loan				



Gross loan opening	229.43	268.61	268.61	268.61
Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
Net Loan-Opening	229.43	268.61	268.61	268.61
Additions during the year	39.18	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00	4.17
Net Loan-Closing	268.61	268.61	268.61	264.44
Average Loan	249.02	268.61	268.61	266.53
Rate of Interest	9.0421%	9.0791%	9.0791%	9.0803%
Interest	22.52	24.39	24.39	24.20



Annexure-V

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN					
(₹ in lakh)					
Asset-V					
	Details of Loan	2015-16	2016-17	2017-18	2018-19
1	SBI 10000 (01.05.2014)				
	Gross loan opening	150.42	150.42	150.42	150.42
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	150.42	150.42	150.42	150.42
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	150.42	150.42	150.42	150.42
	Average Loan	150.42	150.42	150.42	150.42
	Rate of Interest	9.55%	9.55%	9.55%	9.55%
	Interest	14.37	14.37	14.37	14.37
	Rep Schedule	20 Half yearly equal installments from 15.6.2019			
2	Bond XLVI				
	Gross loan opening	55.00	55.00	55.00	55.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	55.00	55.00	55.00	55.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	55.00	55.00	55.00	55.00
	Average Loan	55.00	55.00	55.00	55.00
	Rate of Interest	9.30%	9.30%	9.30%	9.30%
	Interest	5.12	5.12	5.12	5.12
	Rep Schedule	Redeemable at par in 3 equal installments on 4.9.2019, 4.9.2024 and 4.9.2029			
	Total Loan				
	Gross loan opening	205.42	205.42	205.42	205.42
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	205.42	205.42	205.42	205.42
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	205.42	205.42	205.42	205.42
	Average Loan	205.42	205.42	205.42	205.42
	Rate of Interest	9.4831%	9.4831%	9.4831%	9.4831%
	Interest	19.48	19.48	19.48	19.48

