

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 450/TT/2014

Coram:

**Shri Gireesh B Pradhan, Chairperson
Shri A.K. Singhal, Member
Shri A.S. Bakshi, Member**

**Date of Hearing: 20.01.2015
Date of Order : 26.02.2016**

In the matter of:

Approval of transmission tariff for **Asset-I:** 3x80 MVAR Switchable line reactor for 765 kV S/C Gaya-Balia Transmission line at Gaya Sub-station (Anticipated COD: 15.11.2014), **Asset-II:** 3x80 MVAR Switchable line reactor for 765 kV S/C Ranchi-Dharamjaygarh Transmission line alongwith associated bays at Ranchi Sub-station as Bus reactor (Anticipated COD: 1.12.2014) and **Asset-III:** 3x80 MVAR Switchable line reactor for 765 kV S/C Gaya-Varanasi Transmission line alongwith associated bays at Gaya Sub-station as Bus reactor (Anticipated COD: 1.1.2015) under Transmission System for phase-I Generation Projects in Jharkhand and West Bengal Part A2 in Eastern Region for tariff block 2014-19 under Regulation-86 of Central Electricity Regulatory Commission (Conduct of Business) Regulation 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2014.

And in the matter of:

Power Grid Corporation of India Limited
"Soudamini", Plot No. 2, Sector 29
Gurgaon -122001

....Petitioner

Vs

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

.....Respondents

For petitioner : Shri M.M. Mondal, PGCIL
Shri S.K. Venkatesan, PGCIL
Shri S.S. Raju, PGCIL
Shri Jasbir Singh, PGCIL

For respondents: Shri Himanshu Shekhar, JSEB

ORDER

The present petition has been filed by Power Grid Corporation of India Limited (PGCIL) seeking approval of transmission charges for **Asset-I:** 3x80 MVAR Switchable line reactor for 765 kV S/C Gaya-Balia Transmission line at Gaya Sub-station, **Asset-II:** 3x80 MVAR Switchable line reactor for 765 kV S/C Ranchi-Dharamjaygarh Transmission line alongwith associated bays at Ranchi Sub-station as Bus reactor and **Asset-III:** 3x80 MVAR Switchable line reactor for 765 kV S/C Gaya-Varanasi Transmission line alongwith associated bays at Gaya Sub-station as Bus reactor (hereinafter referred to as “transmission assets”) under



Transmission System for phase-I Generation Projects in Jharkhand and West Bengal Part A2 in Eastern Region, from the date of commercial operation to 31.3.2019 based on the 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 PGCIL affidavits dated 27.3.2015 and 26.10.2015.

3. The petitioner has been entrusted with the implementation of Transmission System for phase-I Generation Projects in Jharkhand and West Bengal Part A2. The transmission system has been discussed with the regional constituents in the Standing Committee meetings of ER, WR and NR held on 20.9.2010, 10.9.2009 and 29.12.2010 respectively as a part of the strengthening scheme for transfer of power to ER, WR and NR. Further, the scheme has also been discussed in the Regional Power Committee (RPC) meetings of Eastern Region, Western Region and Northern Region held on 18.12.2010, 25.9.2009 and 4.1.2011 respectively. The Investment Approval (IA) and expenditure sanction for the transmission system was accorded by the Board of Directors of the petitioner vide Memorandum No C/CP/Jharkhand & West Bengal Projects (Ph-I)-Part-A2 dated 27.12.2011 at an estimated cost of ₹242266 lakh including an IDC of ₹14070 lakh (based on 3rd Qtr 2011 price level). The transmission system was scheduled to be commissioned within 32 months from the date of IA. Therefore, the scheduled date of commissioning of the transmission system was 26.8.2014. The scope of work



covered under the scheme is broadly as follows:-

Transmission Lines:

- 1) Ranchi New (765/400 kV S/s)-Dharamjaygarh/near Korba 765 kV S/c
- 2) Gaya-Varanasi 765 kV S/c
- 3) LILO of Gaya-Balia 765 kV S/c line at Varanasi

Sub-stations:

- 1) Establishment of 2x1500 MVA, 765/400 kV GIS Sub-station at Varanasi

Reactive Compensation (Scope covered in FR):

- 1) 1 No. 765 kV, 330 MVAR Bus Reactor at 765/400 kV GIS Varanasi S/s
- 2) 2 Nos. 765 kV, 240 MVAR Line Reactor at 765/400 kV GIS Varanasi S/s
- 3) 1 No. 765 kV, 330 MVAR Line Reactor at 765/400 kV Dharamjaygarh S/s

4. The petitioner initially in the original petition filed for approval of the transmission charges from the anticipated dates of commercial operation (COD) of the transmission assets based on Auditors' Certificate dated 30.9.2014. The details of assets for which transmission tariff was initially claimed are as under:-

Particulars	Anticipated COD
Asset-I: 3x80 MVAR Switchable line reactor for 765 kV S/C Gaya-Balia Transmission line at Gaya Sub-station	15.11.2014
Asset-II: 3x80 MVAR Switchable line reactor for 765 kV S/C Ranchi-Dharamjaygarh Transmission line alongwith associated bays at Ranchi Sub-station as Bus reactor	1.12.2014
Asset-III: 3x80 MVAR Switchable line reactor for 765 kV S/C Gaya-Varanasi Transmission line alongwith associated bays at Gaya Sub-station as Bus reactor	1.1.2015



5. The petitioner during hearing on 20.1.2015 was directed by the Commission to submit certain information and vide affidavit dated 26.10.2015 has submitted that while Asset-I and Asset-II have been commissioned on 8.1.2015 and 21.12.2014 respectively. As regards Asset-III, the petitioner submitted the revised anticipated date of commissioning as 15.10.2015. We note that the petitioner had filed the petition on 3.11.2014. As per the 2014 Tariff Regulations, the petition is allowed to be filed 180 days before the anticipated date of commissioning of assets. In the case of Asset-III, the 180 days expired on 3.5.2015 and as per affidavit dated 26.10.2015 filed by the petitioner, the revised anticipated date of commissioning in the case of Asset-III was 15.10.2015. In view of non-commissioning of Asset-III within time line, the petitioner is directed to file a fresh petition in the case of Asset-III as per Regulation 7(ii) of the 2014 Tariff Regulations. As such tariff for only Asset-I and Asset-II is allowed in this order.

6. The petitioner has filed revised calculations of tariff based on actual COD.

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

Particulars	Asset-I				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	23.69	128.94	152.95	162.56	162.56
Interest on Loan	28.81	149.45	165.79	162.94	147.94
Return on Equity	26.38	143.61	170.35	181.04	181.04
Interest on Working Capital	3.97	19.35	21.22	21.95	21.94
O & M Expenses	39.03	174.44	180.24	186.22	192.40
Total	121.88	615.79	690.55	714.71	705.88
Particulars	Asset-II				
	2014-15	2015-16	2016-17	2017-18	2018-19

(₹ In lakh)



	(pro-rata)				
Depreciation	18.46	128.28	206.28	237.48	237.48
Interest on Loan	21.88	143.76	220.89	237.72	216.26
Return on Equity	20.47	142.50	229.31	264.03	264.03
Interest on Working Capital	4.01	19.18	25.07	27.30	27.15
O & M Expenses	47.20	174.44	180.24	186.22	192.40
Total	112.02	608.16	861.79	952.75	937.32

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

(₹ In lakh)

Particulars	Asset-I				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	25.32	26.17	27.04	27.93	28.86
O & M expenses	14.07	14.54	15.02	15.52	16.03
Receivables	87.87	102.63	115.09	119.12	117.65
Total	127.26	143.34	157.15	162.57	162.54
Interest Rate	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	17.18	19.35	21.22	21.95	21.94
Particulars	Asset-II				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	25.32	26.17	27.04	27.93	28.86
O & M expenses	14.07	14.54	15.02	15.52	16.03
Receivables	66.78	101.36	143.63	158.79	156.22
Total	106.17	142.07	185.69	202.24	201.11
Interest Rate	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	14.33	19.18	25.07	27.30	27.15

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 and none of the respondents have filed any reply.



9. Having heard the representatives of the parties and perused the material available on record we proceed to dispose of the petition.

Capital cost

10. 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.”

11. The petitioner submitted Auditors' Certificate dated 10.9.2015 vide affidavit



dated 26.10.2015 alongwith revised tariff forms and other information and the details of the revised apportioned approved capital cost, capital cost as on the date of commercial operation and estimated additional capital expenditure incurred or projected to be incurred for the transmission assets as submitted by the petitioner are as given hereunder:-

(₹ in lakh)

Particulars	Apportioned approved cost	Cost as on COD	Additional capital expenditure Incurred/Projected			Total estimated completion cost upto 31.3.2018
			2014-15	2015-16	2016-17	
Asset-I	2211.60	1711.51	456.87	545.41	363.61	3077.40
Asset-II	4254.00	951.92	585.02	1770.61	1180.40	4487.95

Time over-run

12. The project was scheduled to be commissioned within 32 months from the date of investment approval of 27.12.2011. Accordingly, the scheduled COD works out to 26.8.2014 against which the Asset-I and Asset-II have been commissioned on 8.1.2015 and 21.12.2014 respectively. Thus, there is time over-run of 135 days and 117 days in the commissioning of Asset-I and Asset-II respectively.

13. The petitioner was directed to submit the actual COD of Assets and RLDC certificate for charging of Assets, CEA certificate under Regulation 43 of CEA (Measures Related to Safety & Electricity Supply) Regulations, 2010 within 15 days of declaration of COD, and the details of time overrun along with documentary evidence and chronology of the activities in respect of Asset-I, II & III as per the format.



14. In response, the petitioner vide affidavit dated 27.3.2015 has submitted the actual COD of Asset-I and II. However, the RLDC certificate for charging of assets and CEA certificate under Regulation, 43 of CEA (Measures Related to Safety & Electricity Supply) Regulations, 2010 were not submitted. As regards time over-run, the petitioner has submitted as under:-

(a) The 3x80 MVAR Switchable line reactor for 765 kV S/C Gaya-Balia T/L at Gaya Sub-station (Asset-I) was planned to be commissioned on 15.11.2014. As per the CEA/ERPC approval, the 765 kV Gaya-Balia line was to be charged at 765 kV level as a contingency arrangement in November, 2014. However, 3x80 MVAR Switchable line Reactor for 765 kV S/C Gaya-Balia line at Balia has been commissioned on 8.1.2015 and Gaya-Balia line was also commissioned on 8.1.2015. Thus, the line reactor has been delayed due to non-commissioning of the Gaya-Balia line.

(b) The 3x80 MVAR Switchable line reactor linked with 765 kV S/C Ranchi-Dharamjaygarh T/L along with associated bays Asset-II was to be commissioned at Ranchi Sub-station. The line was delayed due to forest clearance and RoW problem. The reactor was to be charged as Bus Reactor to upgrade voltage profile as discussed in 28th ERPC meeting held on 12.9.2014. The 765 kV Ranchi-Dharamjaygarh T/L has not yet been commissioned. However, the instant asset has been commissioned



on 21.12.2014. The line reactor will be used as bus reactor to control the voltage profile as agreed in ERPC meeting.

15. We have considered the submission of the petitioner and note that in the case of Asset-I, the petitioner has not submitted any valid reasons or documentary evidence for delay of the line. In the case of Asset-II, we are of the view that the Switchable line reactor has been charged as Bus reactor to control voltage profile without the line being commissioned but the petitioner has not submitted any documentary evidence for delay. Hence, we are not inclined to condone the delay of 135 days and 117 days in case of Asset-I and Asset-II respectively. Accordingly, IDC and IEDC for the said period is disallowed. However, the petitioner may justify the time over-run in case of the instant assets at the time of truing-up alongwith documentary evidence. We would like to make it clear that liberty is given in this case as an exception and it will not be quoted as a precedent. We would further like to state that the petitioner will not be eligible for any interest on the increase in the capital cost, if any, due to condonation of time over-run as the petitioner has failed to submit adequate justification for time over-run in case of the instant assets in the first instance.

Cost over-run

16. The petitioner in the original petition had submitted approved apportioned cost as ₹3750.91 lakh and ₹4530.42 lakh for Asset-I and Asset-II respectively. The petitioner vide affidavit dated 26.10.2015 has submitted the revised tariff forms,



according to which, the apportioned approved cost is ₹2211.60 lakh and ₹4254.00 lakh for Asset-I and Asset-II respectively. The estimated completion cost of the instant assets is ₹3077.40 lakh and ₹4487.95 lakh. Thus, there is cost over-run in the case of instant assets. The cost of the instant assets is restricted to the approved apportioned cost of ₹2211.60 lakh and ₹4254.00 lakh for Asset-I and Asset-II respectively. This approach has been upheld by the Appellate Tribunal for Electricity in its order dated 28.11.2013 in Appeal No. 165 of 2012, and subsequently the Commission, vide its order dated 18.2.2014 in Petition No. 216/TT/2012, has considered the apportioned approved cost of individual asset for restricting the capital expenditure due to cost over-run for the purpose of tariff determination. The same approach has been adopted in the present case and capital expenditure has been restricted to apportioned approved cost.

17. It is further observed that there is huge variation in cost of Asset-I and Asset-II, though they are of same configuration. This difference in cost is due to the number of bays attached to the assets. In case of Asset-I, the cost of one 765 kV bay is included and in case of Asset-II, cost of two 765 kV bays are included. As the variation in cost is due to number of bays attached to the assets, the cost variation is allowed.

Treatment of IDC and IEDC

18. The petitioner has claimed Interest During Construction (IDC) of ₹64.00 lakh and ₹46.50 lakh for Asset-I and Asset-II respectively. The petitioner has not



submitted details of IDC on cash basis and as such IDC on cash basis has been worked out based on the loans deployed for the instant assets as per Form-9C assuming that the petitioner has not made any default in the payment of interest. Further, as the delay in the commissioning of instant assets has not been condoned, IDC for the delayed period has been disallowed. Thus, IDC on cash basis allowed in respect of Asset-I and Asset-II upto scheduled date of commercial operation has been considered at ₹11.86 lakh and ₹15.83 lakh respectively. The petitioner is directed to submit details of undischarged liability pertaining to IDC at the time of truing-up subject to prudence check by the Commission.

19. The petitioner has claimed ₹33.04 lakh and ₹18.16 lakh for Asset-I and Asset-II respectively as Incidental expenditure During Construction (IEDC) as having being paid upto COD. Further, the petitioner has submitted that the IEDC for delayed period amounts to ₹6.70 lakh and ₹2.34 lakh for Asset-I and Asset-II respectively. Thus, the differential amount of claim i.e. ₹26.34 lakh and ₹15.82 lakh has been allowed for Asset-I and Asset-II respectively for the purpose of tariff in this order.

Initial Spares

20. Regulation 13 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 break up of head wise IDC & IEDC in its tariff application.

21. The petitioner has claimed initial spares amounting to ₹99.78 lakh and ₹176.00 lakh corresponding to sub-station for Asset-I and Asset-II respectively. Initial spares in respect of Asset-I are within the ceiling limit as specified in the 2014 Tariff Regulations. However, the claim of initial spares is higher than the limit specified in the 2014 Tariff Regulations. Accordingly, the details of excess initial spares claimed in respect of Asset-II are as under:-

(₹ in lakh)					
Particulars	Total capital cost (Plant and Machinery cost	Initial spares against	Ceiling limit as per the 2014 Tariff	Initial spares worked	Excess Initial spares



	excluding IDC, IEDC, cost of Land and civil works)	capital cost claimed	Regulations	out	claimed
Asset-II	3782.43	176.00	4.00%	150.27	25.73

22. However, the petitioner is directed to submit year wise details of liability discharged pertaining to initial spares at the time of truing-up.

23. Accordingly, capital cost as on the date of commercial operation for the instant transmission assets after adjustment of IDC/IEDC and excess initial spares is considered as per Regulation 9(2) of the 2014 Tariff Regulations as given under:-

(₹ in lakh)			
S. No.	Particulars	Asset-I	Asset-II
(i)	Capital cost claimed as on COD	1711.51	951.92
(ii)	(-) IDC claimed on accrual basis	64.00	46.50
(iii)	(+) IDC worked out and allowed	11.86	15.83
(iv)	(-) IEDC disallowed due to time over-run	6.70	2.34
(v)	(-) Excess Initial spares disallowed	-	25.73
(vi)	Total capital cost allowed as on COD	1652.67	893.17

Additional Capitalisation

24. 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.

25. 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”.

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;”

26. The cut-off date in the case of instant transmission assets is 31.3.2015.

27. The additional capital expenditure claimed by the petitioner during 2014-15, 2015-16 and 2016-17 amounting to ₹1365.89 lakh and ₹3536.03 lakh for Asset-I and Asset-II respectively is within the cut-off date and is on account of balance payments. However, the total completion cost as on 31.3.2019 exceeds the revised apportioned approved cost in the case of both the assets. Therefore, the additional capital expenditure is restricted to ₹558.94 lakh and ₹3360.83 lakh in case of Asset-I and Asset-II respectively, so that the capital cost as on 31.3.2019



does not exceed the approved apportioned capital cost. The additional capital expenditure considered for the purpose of tariff computation is as under:-

(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	Total
Asset-I	456.87	102.07	-	558.94
Asset-II	585.02	1770.61	1005.20	3360.83

28. Based on the above, gross block has been considered as per details given as follows:-

(₹ in lakh)					
Particulars	Cost as on COD	Additional capital expenditure Incurred/Projected			Total capital cost as on 31.3.2019
		2014-15	2015-16	2016-17	
Asset-I	1652.67	456.87	102.07	-	2211.60
Asset-II	893.17	585.02	1770.61	1005.20	4254.00

Debt- Equity ratio

29. 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.”

30. The capital cost on the dates of commercial operation arrived at as above and additional capitalization allowed have been considered in the normative debt-equity ratio of 70:30. The details of debt-equity as on dates of commercial operation and 31.3.2019 considered on normative basis are as under:-

Asset-I Particulars	As on COD		As on 31.3.2019	
	Amount (₹ in lakh)	% age	Amount (₹ in lakh)	% age
Debt	1156.87	70.00	1548.12	70.00
Equity	495.80	30.00	663.48	30.00
Total	1652.67	100.00	2211.60	100.00
Asset-II Particulars	As on COD		As on 31.3.2019	
	Amount (₹ in lakh)	% age	Amount (₹ in lakh)	% age
Debt	625.22	70.00	2977.80	70.00
Equity	267.96	30.00	1276.20	30.00
Total	893.17	100.00	4254.00	100.00



Return on equity

31. 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:

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

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.”

32. The petitioner has submitted that RoE has been calculated at the rate of 19.610% after grossing up the RoE with MAT rate as per the above 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.



33. 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.

34. 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 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 grossed up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. Accordingly, the RoE worked out is given below:-

Particulars	Asset-I				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	495.80	632.86	663.48	663.48	663.48
Addition due to Additional Capitalization	137.06	30.62	-	-	-
Closing Equity	632.86	663.48	663.48	663.48	663.48
Average Equity	564.33	648.17	663.48	663.48	663.48
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax)	19.610%	19.610%	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	25.16	127.11	130.11	130.11	130.11
Particulars	Asset-II				
	2014-15	2015-16	2016-17	2017-18	2018-19



	(pro-rata)				
Opening Equity	267.96	443.46	974.64	1276.20	1276.20
Addition due to Additional Capitalization	175.51	531.18	301.56	-	-
Closing Equity	443.46	974.64	1276.20	1276.20	1276.20
Average Equity	355.71	709.05	1125.42	1276.20	1276.20
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax)	19.610%	19.610%	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	19.30	139.05	220.70	250.26	250.26

Interest on loan

35. 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.”

36. 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 on actual loan have been considered as per the petition;

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

(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.

37. The petitioner has submitted that the interest on loan has been considered on the basis of rate prevailing as on respective CODs 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. 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.

38. Detailed calculations in support of interest on loan have been calculated as given at Annexure I to Annexure II of this order.

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

Particulars	Asset-I				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	1156.87	1476.68	1548.12	1548.12	1548.12
Cumulative Repayment upto Previous Year	-	22.59	136.71	253.53	370.35
Net Loan-Opening	1156.87	1454.08	1411.41	1294.59	1177.78
Addition due to Additional Capitalisation	319.81	71.45	-	-	-
Repayment during the year	22.59	114.12	116.82	116.82	116.82
Net Loan-Closing	1454.08	1411.41	1294.59	1177.78	1060.96
Average Loan	1305.48	1432.75	1353.00	1236.18	1119.37
Weighted Average Rate of Interest on Loan	9.2564%	9.2220%	9.2220%	9.2197%	9.2189%
Interest on Loan	27.48	132.13	124.77	113.97	103.19
Particulars	Asset-II				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	625.22	1034.73	2274.16	2977.80	2977.80
Cumulative Repayment upto Previous Year	-	17.41	142.57	341.09	566.15
Net Loan-Opening	625.22	1017.32	2131.59	2636.71	2411.65
Addition due to Additional Capitalisation	409.51	1239.43	703.64	-	-
Repayment during the year	17.41	125.16	198.51	225.06	225.06
Net Loan-Closing	1017.32	2131.59	2636.71	2411.65	2186.59
Average Loan	821.27	1574.45	2384.15	2524.18	2299.12
Weighted Average Rate of Interest on Loan	9.0802%	8.9127%	8.9119%	8.9039%	8.8911%
Interest on Loan	20.64	140.33	212.47	224.75	204.42



Depreciation

40. 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.”

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

42. The transmission assets were put under commercial operation during 2014-15. 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.

43. The details of the depreciation worked out are as overleaf:-



(₹ in lakh)

Particulars	Asset-I				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Block as on COD	1652.67	2109.54	2211.60	2211.60	2211.60
Addition during 2014-19 due to Projected Additional Capitalisation	456.87	102.07	-	-	-
Gross Block as on 31 st March	2109.54	2211.60	2211.60	2211.60	2211.60
Average Gross Block	1881.10	2160.57	2211.60	2211.60	2211.60
Rate of Depreciation	5.2819%	5.2819%	5.2820%	5.2820%	5.2820%
Depreciable Value	1692.99	1944.51	1990.44	1990.44	1990.44
Remaining Depreciable Value	1692.99	1921.92	1853.73	1736.91	1620.09
Depreciation	22.59	114.12	116.82	116.82	116.82
Particulars	Asset-II				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Block as on COD	893.17	1478.19	3248.80	4254.00	4254.00
Addition during 2014-19 due to Projected Additional Capitalisation	585.02	1770.61	1005.20	-	-
Gross Block as on 31 st March	1478.19	3248.80	4254.00	4254.00	4254.00
Average Gross Block	1185.68	2363.50	3751.40	4254.00	4254.00
Rate of Depreciation	5.3061%	5.2956%	5.2917%	5.2906%	5.2906%
Depreciable Value	1067.11	2127.15	3376.26	3828.60	3828.60
Remaining Depreciable Value	1067.11	2109.74	3233.69	3487.51	3262.45
Depreciation	17.41	125.16	198.51	225.06	225.06

Operation & maintenance expenses (O&M Expenses)

44. Regulation 29 (4) (a) of the 2014 Tariff Regulations specifies the norms for operation and maintenance expenses for the transmission system based on the type of sub-station and the transmission line. Norms specified in respect of the elements covered in the instant petition are as under:-

Elements	2014-15	2015-16	2016-17	2017-18	2018-19
765 kV bays (₹ lakh per bay)	84.42	87.22	90.12	93.11	96.20



45. The petitioner has claimed normative O&M Expenses as per sub-clause (a) of clause (4) of Regulation 29 of the 2014 Tariff Regulations. Accordingly, the petitioner's entitlement to O&M Expenses has been worked out as given hereunder:-

S. No.	Name of Element	Description
Asset-I	3x80 MVAR Switchable line Reactor for 765 kV S/C Gaya-Balia Transmission line at Gaya Sub-station,	1 No. 765 kV Switchable Line Reactor bay at Gaya (COD: 8.1.2015)
Asset-II	3x80 MVAR Switchable line Reactor for 765 kV S/C Ranchi-Dharamjaygarh Transmission Line along with associated bays at Ranchi Sub-station as Bus Reactor	2 Nos. 765 kV Switchable Line Reactor bays at Ranchi. (COD: 21.12.2014)

46. The allowable O&M expenses for the instant transmission assets are as under:-

Particulars	(₹ in lakh)				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Asset-I					
1 no. 765 kV bay	19.62	87.22	90.12	93.11	96.20
Asset-II					
2 nos. 765 kV bays	47.30	174.44	180.24	186.22	192.40

47. The petitioner has submitted that O&M Expenses for the tariff period 2014-19 had been arrived at on the basis of normalized actual O&M Expenses during the period 2008-09 to 2012-13. 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.

48. The O&M Expenses have been worked out as per the norms of O&M Expenses specified in the 2014 Tariff Regulations. As regards impact of wage revision, 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

49. 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:

(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;”

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

(₹ in lakh)

Particulars	Asset-I				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	12.94	13.08	13.52	13.97	14.43
O & M expenses	7.19	7.27	7.51	7.76	8.02
Receivables	71.59	79.00	79.23	77.91	76.62
Total	91.72	99.35	100.25	99.64	99.06
Interest Rate	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	2.82	13.14	13.53	13.45	13.37
Particulars	Asset-II				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	25.64	26.17	27.04	27.93	28.86
O & M expenses	14.24	14.54	15.02	15.52	16.03
Receivables	65.40	99.65	139.40	152.12	149.74
Total	105.28	140.36	181.46	195.57	194.63
Interest Rate	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	3.93	18.95	24.50	26.40	26.27

Transmission charges

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



(₹ in lakh)

Particulars	Asset-I				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	22.59	114.12	116.82	116.82	116.82
Interest on Loan	27.48	132.13	124.77	113.97	103.19
Return on Equity	25.16	127.11	130.11	130.11	130.11
Interest on Working Capital	2.82	13.41	13.53	13.45	13.37
O & M Expenses	19.62	87.22	90.12	93.11	96.20
Total	97.67	473.98	475.35	467.46	459.69
Particulars	Asset-II				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	17.41	125.16	198.51	225.06	225.06
Interest on Loan	20.64	140.33	212.47	224.75	204.42
Return on Equity	19.30	139.05	220.70	250.26	250.26
Interest on Working Capital	3.93	18.95	24.50	26.40	26.27
O & M Expenses	47.30	174.44	180.24	186.22	192.40
Total	108.58	597.92	836.42	912.70	898.42

Filing Fee and the Publication Expenses

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

Licence Fee and RLDC fees and Charges

53. 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

54. 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 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.

Deferred Tax Liability

55. The petitioner has sought recovery of deferred tax liability accrued before 1.4.2009 from the beneficiaries or long term consumers/DICs as and when materialized under Regulation 49 of the 2014 Tariff Regulations. However, the instant assets were commissioned on 8.1.2015 and 21.12.2014, the petitioner's prayer is infructuous.

Sharing of Transmission Charges

56. The billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses)



Regulations, 2010, as amended from time to time, as provided in Regulation 43 of the 2014 Tariff Regulations.

57. This order disposes of Petition No. 450/TT/2014.

sd/-
(A.S. Bakshi)
Member

sd/-
(A.K. Singhal)
Member

sd/-
(Gireesh B Pradhan)
Chairperson



(₹ in lakh)

Asset-I						
CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN						
	Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
1	Bond XLII					
	Gross loan opening	110.00	110.00	110.00	110.00	110.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	110.00	110.00	110.00	110.00	110.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	110.00	110.00	110.00	110.00	110.00
	Average Loan	110.00	110.00	110.00	110.00	110.00
	Rate of Interest	8.80%	8.80%	8.80%	8.80%	8.80%
	Interest	9.68	9.68	9.68	9.68	9.68
	Rep Schedule	Bullet payment on 13.03.2023				
2	Bond XLIV					
	Gross loan opening	25.00	25.00	25.00	25.00	25.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	25.00	25.00	25.00	25.00	25.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	8.33
	Net Loan-Closing	25.00	25.00	25.00	25.00	16.67
	Average Loan	25.00	25.00	25.00	25.00	20.83
	Rate of Interest	8.70%	8.70%	8.70%	8.70%	8.70%
	Interest	2.18	2.18	2.18	2.18	1.81
	Rep Schedule	Redeemable at par in 3 equal instalments on 15.07.2018, 15.07.2023 & 15.07.2028				
3	Bond XLV					
	Gross loan opening	200.00	200.00	200.00	200.00	200.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	16.67
	Net Loan-Opening	200.00	200.00	200.00	200.00	183.33
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	16.67	16.67
	Net Loan-Closing	200.00	200.00	200.00	183.33	166.67
	Average Loan	200.00	200.00	200.00	191.67	175.00
	Rate of Interest	9.65%	9.65%	9.65%	9.65%	9.65%
	Interest	19.30	19.30	19.30	18.50	16.89
	Rep Schedule	Redeemable in 12 equal annual instalments from 28.02.2018				
4	Bond XLVI					
	Gross loan opening	863.06	863.06	863.06	863.06	863.06



	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	863.06	863.06	863.06	863.06	863.06
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	863.06	863.06	863.06	863.06	863.06
	Average Loan	863.06	863.06	863.06	863.06	863.06
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	80.26	80.26	80.26	80.26	80.26
	Rep Schedule	Redeemable at par in 3 equal instalments on 04.09.2019, 04.09.2024 & 04.09.2029				
5	Bond XLVII					
	Gross loan opening	0.00	319.81	319.81	319.81	319.81
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	319.81	319.81	319.81	319.81
	Additions during the year	319.81	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	26.65
	Net Loan-Closing	319.81	319.81	319.81	319.81	293.16
	Average Loan	159.91	319.81	319.81	319.81	306.48
	Rate of Interest	8.93%	8.93%	8.93%	8.93%	8.93%
	Interest	14.28	28.56	28.56	28.56	27.37
	Rep Schedule	Redeemable in 12 equal annual instalments from 20.10.2018				
	Total Loan					
	Gross loan opening	1198.06	1517.87	1517.87	1517.87	1517.87
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	16.67
	Net Loan-Opening	1198.06	1517.87	1517.87	1517.87	1501.20
	Additions during the year	319.81	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	16.67	51.65
	Net Loan-Closing	1517.87	1517.87	1517.87	1501.20	1449.55
	Average Loan	1357.97	1517.87	1517.87	1509.54	1475.38
	Rate of Interest	9.2564%	9.2220%	9.2220%	9.2197%	9.2189%
	Interest	125.70	139.98	139.98	139.17	136.01



Annexure-II

(₹ in lakh)

Asset-II						
CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN						
	Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
1	Bond XL					
	Gross loan opening	50.00	50.00	50.00	50.00	50.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	4.17	8.33
	Net Loan-Opening	50.00	50.00	50.00	45.83	41.67
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	4.17	4.17	4.17
	Net Loan-Closing	50.00	50.00	45.83	41.67	37.50
	Average Loan	50.00	50.00	47.92	43.75	39.58
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	4.65	4.65	4.46	4.07	3.68
	Rep Schedule	Redeemable in 12 equal annual instalments from 28.06.2016				
2	Bond XLIV					
	Gross loan opening	75.00	75.00	75.00	75.00	75.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	75.00	75.00	75.00	75.00	75.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	25.00
	Net Loan-Closing	75.00	75.00	75.00	75.00	50.00
	Average Loan	75.00	75.00	75.00	75.00	62.50
	Rate of Interest	8.70%	8.70%	8.70%	8.70%	8.70%
	Interest	6.53	6.53	6.53	6.53	5.44
	Rep Schedule	Redeemable at par in 3 equal instalments on 15.07.2018, 15.07.2023 & 15.07.2028				
3	Bond XLV					
	Gross loan opening	225.00	225.00	225.00	225.00	225.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	18.75
	Net Loan-Opening	225.00	225.00	225.00	225.00	206.25
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	18.75	18.75
	Net Loan-Closing	225.00	225.00	225.00	206.25	187.50
	Average Loan	225.00	225.00	225.00	215.63	196.88
	Rate of Interest	9.65%	9.65%	9.65%	9.65%	9.65%
	Interest	21.71	21.71	21.71	20.81	19.00
	Rep Schedule	Redeemable in 12 equal annual instalments from 28.02.2018				
4	Bond XLVI					



	Gross loan opening	316.34	316.34	316.34	316.34	316.34
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	316.34	316.34	316.34	316.34	316.34
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	316.34	316.34	316.34	316.34	316.34
	Average Loan	316.34	316.34	316.34	316.34	316.34
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	29.42	29.42	29.42	29.42	29.42
	Rep Schedule	Redeemable at par in 3 equal instalments on 04.09.2019, 04.09.2024 & 04.09.2029				
5	Bond XLVIII					
	Gross loan opening	0.00	409.51	409.51	409.51	409.51
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	409.51	409.51	409.51	409.51
	Additions during the year	409.51	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	409.51	409.51	409.51	409.51	409.51
	Average Loan	204.76	409.51	409.51	409.51	409.51
	Rate of Interest	8.20%	8.20%	8.20%	8.20%	8.20%
	Interest	16.79	33.58	33.58	33.58	33.58
	Rep Schedule	Redeemable at par in 4 equal instalments on 23.01.2020, 23.01.2022, 23.01.2025 & 23.01.2030				
	Total Loan					
	Gross loan opening	666.34	1075.85	1075.85	1075.85	1075.85
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	4.17	27.08
	Net Loan-Opening	666.34	1075.85	1075.85	1071.68	1048.77
	Additions during the year	409.51	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	4.17	22.92	47.92
	Net Loan-Closing	1075.85	1075.85	1071.68	1048.77	1000.85
	Average Loan	871.10	1075.85	1073.77	1060.23	1024.81
	Rate of Interest	9.0802%	8.9127%	8.9119%	8.9039%	8.8911%
	Interest	79.10	95.89	95.69	94.40	91.12

