

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 410/TT/2014

Coram:

Shri Gireesh B. Pradhan, Chairman

Shri A.K. Singhal, Member

Shri A.S. Bakshi, Member

Dr. M.K. Iyer, Member

Date of Hearing : 20.10.2015

Date of Order : 02.06.2016

In the matter of:

Determination of transmission tariff from COD to 31.3.2019 for (a) ICT 500 MVA 400/220 kV Bassi extension Sub-station (b) ICT 315 MVA 400/220 kV Allahabad Extension SUB-STATION (c) ICT 500 MVA 400/220 kV Meerut Extension Sub-station (d) 400/220 kV 105 MVA ICT along with associated bays at Wagoora Sub-station (e) 500 MVA 400/220/33 kV ICT along with associated bays at Ludhiana Sub-station (COD: 1.4.2014) and (f) 2 nos of 220 kV bays at Ludhiana sub-station under the "Augmentation of Transformers in Northern Region- Part-A" in Northern 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,
"Saudamani", Plot No.2,
Sector-29, Gurgaon -122 001

.....Petitioner

Vs

1. Rajasthan Rajya Vidyut Prasaran Nigam Ltd.,
Vidyut Bhawan, Vidyut Marg,
Jaipur- 302 005.
2. Ajmer Vidyut Vitran Nigam Ltd.,



400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur.

3. Jaipur Vidyut Vitran Nigam Ltd.,
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur.
4. Jodhpur Vidyut Vitran Nigam Ltd.,
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur.
5. Himachal Pradesh State Electricity Board,
Vidyut Bhawan, Kumar House Complex Building II,
Shimla-171 004.
6. Punjab State Electricity Board,
Thermal, Shed TIA,
Near 22 Phatak,
Patiala-147 001.
7. Haryana Power Purchase Centre,
Shakti Bhawan, Sector-6,
Panchkula (Haryana)-134 109.
8. Power Development Department,
Government of Jammu and Kashmir,
Mini Secretariat, Jammu.
9. UP Power Corporation Ltd.,
Shakti Bhawan, 14, Ashok Marg,
Lucknow-226 001.
10. Delhi Transco Ltd.,
Shakti Sadan, Kotla Road,
New Delhi-110 002.
11. BSES Yamuna Power Ltd.,
BSES Bhawan, Nehru Place,
New Delhi.



12. BSES Rajdhani Power Ltd.,
BSES Bhawan, Nehru Place,
New Delhi.
13. North Delhi Power Ltd.,
Power Trading & Load Dispatch Group,
Cennet Building, Adjacent to 66/11 kV Pitampura-3,
Grid Building, Near PP Jewellers
Pitampura, New Delhi-110 034.
14. Chandigarh Administration,
Sector-9, Chandigarh.
15. Uttarakhand Power Corporation Ltd.,
UrjaBhawan, Kanwali Road,
Dehradun.
16. North Central Railway,
Allahabad.
17. New Delhi Municipal Council,
Palika Kendra, Sansad Marg,
New Delhi-110 002.

.....**Respondents**

For Petitioner : Shri S.K. Venkatesan, PGCIL
Shri Rakesh Prasad, PGCIL
Shri S.S. Raju, PGCIL
Shri M.M. Mondal, PGCIL

For Respondents : None

ORDER

The instant petition has been filed by Power Grid Corporation of India Limited (hereinafter referred to as “the petitioner”) for determination of transmission tariff for



COD to 31.3.2019 for tariff block 2014-19 in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter "the 2014 Tariff Regulations").

2. The investment approval for the transmission project was accorded by the Board of Directors of the petitioner company in its 28th meeting held on 6.12.2012, communicated vide C/CP/Aug.of Transformers in NR-Part-A, dated 19.12.2012 at an estimated cost of ₹15604 lakh including IDC of ₹ 767 lakh based on October Quarter, 2012 price level. As per the investment approval, the transmission asset was scheduled to be commissioned within 22 months from the date of investment approval, i.e. by 5.10.2014.

3. The Scope of Work covered under the project "Augmentation of Transformation capacity in Northern Region-Part-A" is as follows:-

- i. Extension of 400/220 kV Allahabad Sub-station -315 MVA, 400/220 kV Transformer.
- ii. Extension of 400/220 kV Bassi (Jaipur) Sub-station -500 MVA, 400/220 kV Transformer.
- iii. Extension of 400/220 kV Meerut Sub-station -500 MVA, 400/220 kV Transformer.
- iv. Extension of 400/220 kV Ludhiana Sub-station -500 MVA, 400/220 kV Transformer.



- v. Extension of 400/220 kV Moga SUB-STATION -2x500 MVA, 400/220 kV Transformer (as replacement for 2x250 MVA ICTs which will be refurbished and used as spare) along with 2 nos. of 220 kV bays.
- vi. Extension of 400/220 kV Wagoora SUB-STATION -105 MVA, 400/220 kV Transformer single phase unit (to be kept as spare unit).
- vii. 500 MVA, 400/220 kV spare transformer for Northern Region located at Neemrana.

4. The instant petition covers following assets :-

Srl. No	Name of Asset
1	Asset A: ICT 500 MVA 400/220 kV Bassi Extension Sub-station
2	Asset B: ICT 315 MVA 400/220 kV Allahabad Extension Sub-station
3	Asset C: ICT 500 MVA 400/220 kV Meerut Extension Sub-station
4	Asset D: 400/220 kV, 105 MVA ICT along with associated bays at Wagoora Sub-station
5	Asset E: 500 MVA ICT along with associated bays at Ludhiana Sub-station
6	Asset F: 2 no. of 220 kV bays at Ludhiana Sub-station

5. AFC was approved vide order dated 24.12.2014, subject to adjustment as per subject to adjustment as per Regulation 7(7)(iii) and (iv) of the 2014 Tariff Regulations.

6. This order has been issued after considering the petitioner's affidavits dated



8.12.2014, 18.5.2015,15.10.2015 and 14.1.2016.

7. The petitioner has claimed transmission charges for the instant assets are given hereunder:-

(₹ in lakh)					
Asset-A					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	35.17	89.45	99.61	99.61	99.61
Interest on Loan	46.04	111.12	115.13	105.08	95.04
Return on equity	39.18	99.66	110.98	110.98	110.98
Interest on Working Capital	5.37	12.76	13.54	13.51	13.49
O & M Expenses	47.12	105.91	109.43	113.06	116.81
Total	172.88	418.90	448.69	442.24	435.93
Asset-B					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	24.67	71.74	81.48	81.48	81.48
Interest on Loan	31.06	85.92	90.83	82.70	74.59
Return on equity	27.49	79.94	90.78	90.78	90.78
Interest on Working Capital	4.26	11.32	12.10	12.11	12.13
O & M Expenses	42.43	105.91	109.43	113.06	116.81
Total	129.91	354.83	384.62	380.13	375.79
Asset-C					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	36.00	87.10	93.61	93.61	93.61
Interest on Loan	46.68	107.03	106.59	97.23	87.87
Return on equity	40.11	97.04	104.30	104.30	104.30
Interest on Working Capital	5.49	12.55	13.05	13.04	13.03
O & M Expenses	48.22	105.91	109.43	113.06	116.81
Total	176.50	409.63	426.98	421.24	415.62
Asset-D					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	8.02	41.87	48.75	52.73	52.73
Interest on Loan	10.00	49.64	53.93	54.06	49.02
Return on equity	8.94	46.65	54.31	58.75	58.75
Interest on Working Capital	0.62	3.18	3.61	3.81	3.69
O & M Expenses	0.00	0.00	0.00	0.00	0.00
Total	27.58	141.34	160.60	169.35	164.19



Asset-E					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	82.10	104.62	112.50	112.50	112.50
Interest on Loan	107.30	128.31	127.89	116.36	104.83
Return on equity	91.43	116.50	125.28	125.28	125.28
Interest on Working Capital	14.46	16.30	16.95	16.97	17.00
O & M Expenses	144.72	149.52	154.49	159.61	164.91
Total	440.01	515.25	537.11	530.72	524.52
Asset-F					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	6.84	23.31	24.50	24.50	24.50
Interest on Loan	8.46	27.22	26.40	24.02	21.64
Return on equity	7.53	25.66	26.97	26.97	26.97
Interest on Working Capital	2.04	6.57	6.77	6.88	7.00
O & M Expenses	27.46	87.22	90.12	93.10	96.20
Total	52.33	169.98	174.76	175.47	176.31

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

Asset-A					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	15.38	15.89	16.41	16.96	17.52
O & M expenses	8.54	8.83	9.12	9.42	9.73
Receivables	62.68	69.82	74.78	73.71	72.66
Total	86.60	94.53	100.31	100.09	99.92
Interest	11.69	12.76	13.54	13.51	13.49
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
Asset-B					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	15.38	15.89	16.41	16.96	17.52
O & M expenses	8.54	8.83	9.12	9.42	9.73
Receivables	52.31	59.14	64.10	63.36	62.63
Total	76.23	83.85	89.63	89.74	89.89
Interest	10.29	11.32	12.10	12.11	12.13
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%



Asset-C					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	15.38	15.89	16.41	16.96	17.52
O & M expenses	8.54	8.83	9.12	9.42	9.73
Receivables	62.53	68.27	71.16	70.21	69.27
Total	86.45	92.99	96.69	96.59	96.52
Interest	11.67	12.55	13.05	13.04	13.03
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
Asset-D					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00	0.00	0.00
Receivables	21.38	23.56	26.77	28.23	27.37
Total	21.38	23.56	26.77	28.23	27.37
Interest	2.89	3.18	3.61	3.81	3.69
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
Asset-E					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	21.71	22.43	23.17	23.94	24.74
O & M expenses	12.06	12.46	12.87	13.30	13.74
Receivables	73.74	85.88	89.52	88.45	87.42
Total	107.51	120.77	125.57	125.69	125.90
Interest	14.46	16.30	16.95	16.97	17.00
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
Asset-F					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	12.66	13.08	13.52	13.97	14.43
O & M expenses	7.04	7.27	7.51	7.76	8.02
Receivables	26.82	28.33	29.13	29.25	29.39
Total	46.52	48.68	50.16	50.97	51.84
Interest	6.28	6.57	6.77	6.88	7.00
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%

9. 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. A combined Reply has been filed by Ajmer Vidyut Vitran Nigam Limited (AVVNL), Jaipur Vidyut Vitran Nigam Limited (JVVNL) and Jodhpur



Vitran Nigam Limited(Jd.VVNL) Respondent No. 2,3 and 4 (hereinafter referred to as "Rajasthan Discoms") vide affidavit dated 17.12.2015. The respondents have raised the issues regarding cost variation, undischarged liabilities and time over-run. The objections raised by the Rajasthan Discoms in their reply are addressed in the relevant paragraphs of this order.

10. Having heard the representatives of the petitioner present at the hearing and perused the material on record, we proceed to dispose of the petition.

Capital cost

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

"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 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."

12. The petitioner vide affidavit dated 14.01.2016 has submitted the Auditor's Certificates for the capital cost of all the instant transmission assets, with their revised tariff forms. The details of the apportioned approved costs, costs as on COD and estimated/projected additional capital expenditure to be incurred for the assets, as per Auditor's Certificates dated 9.3.2015 (Assets A, B & C), 13.10.2015 (Assets D & F) and 3.6.2014 (Asset E) for all the instant transmission assets are as follows:-

(₹ in lakh)

Asset*	Apportioned approved Ccst	Cost as on COD	Estimated Additional Capital expenditure			Total estimated completion Cost
			COD to 31.3.2015	2015-16	2016-17	
Asset-A	2055.02	1400.98	102.40	383.17	-	1886.55
Asset-B	1793.91	1083.56	90.87	368.74	-	1543.17
Asset-C	2046.87	1382.26	151.34	239.40	-	1773.00
Asset-D	1232.97	696.90	50.25	100.62	150.93	998.70
Asset-E	2452.24	1277.12	554.07	298.34	-	2129.53
Asset-F	573.79	376.08	40.84	41.49	-	458.41

*The Capital Cost has been verified from the audited statements of accounts of PGCIL, up to 31.3.2014/31.3.2015.



Cost-variation

13. The total estimated completion cost of instant transmission assets is ₹8789.36 lakh against the apportioned approved cost of ₹10154.80 lakh. Hence, there is no cost over-run in commissioning of the instant transmission assets. However, there is cost-variation.

14. The petitioner was directed to submit the detailed reasons and explanation for higher cost variation under certain heads along with documentary evidence. In response, the petitioner vide affidavit dated 18.5.2015 has submitted that cost variation is mainly on account bidding policy of the petitioner. The reasons submitted by the petitioner are as follows:-

a) The bid prices are invited for the complete scope of work on overall basis. The break-up of these prices are for the purpose of on-account payment only. The comparison of prices for a particular package is also done with its cost estimate on overall basis.

b) The provision regarding policy inter-alia, stipulates that the qualified bidder, whose bid is determined as the lowest evaluated, techno-commercially responsive and, who is considered to have the capacity and capability to perform the contract based on the assessment, if carried out, will be recommended for award and the recommended price shall be compared with the approved cost estimate.



c) The comparison shall be done only between total recommended price and the total cost estimate. Price of individual items will not be compared for the above purpose. The procurement framework of the petitioner, which adopts best procurement practices, has been assessed by the World Bank.

d) Similar items may not always have the same rate in different contracts awarded during the same period or even within the same contract. The differences of rates may be because of various market forces and the pricing strategies followed by bidder(s) to decide the spread of their total prices over different items.

e) Further, pricing strategies may be different in case of different bidders and different packages. As such comparing the prices of individual items would not serve much purpose once the purpose of ensuring the comparative positions of bidder on overall basis gets served during the Evaluation Stage.

f) A more realistic approach for analyzing the prices would be to examine the prices for complete FR cost vis-à-vis the actual completed cost of the project instead of analyzing the same on price component-wise basis as the procurement in PGCIL is done on the overall basis.



g) Further, the items where percentage wise higher variation occurred are generally of small value and of lumpsum nature in the contract for which one to one comparison is generally not appropriate.

15. Rajasthan Discoms has submitted that the petitioner has failed to give any reason to justify for the high cost of 500 MVA ICT at bassi extension Sub-station, Merrut extension Sub-station, Ludhiana Sub-station, 315 MVA ICT at Allahabad extension Sub-station, 105 MVA ICT alongwith associated bays at wagoora Sub-station.

16. During the hearing on 20.10.2015, the petitioner was directed to file reason for high cost of 500 MVA ICT at Bassi extension Sub-station, Meerut Sub-station, Ludhiana Sub-station, 315 MVA ICT at Allahabad and 105 MVA ICT at Wagoora Sub-station. In response to it, the petitioner vide affidavit dated 14.1.2016 submitted that FR is prepared on the basis of various LOAs. The list of LOAs considered for preparation of FR for this project has been submitted vide affidavit dated 18.5.2015. cost of 500 MVA ICT at Bassi extension Sub-station, Meerut Sub-station, Ludhiana Sub-station, 315 MVA ICT at Allahabad and 105 MVA ICT at Wagoora Sub-station is within FR cost. Basis cost of transformers in the instant asset are given overleaf:-



(₹ in lakh)

Srl.No	Asset	Completion cost of Transformer as per form-5
1.	ICT 500 MVA 400/220 kV Bassi extension S/S	1092.00
2.	ICT 315 MVA 400/220 kV Allahabad Extension sub-station.	863.28
3.	ICT 500 MVA 400/220 kV Meerut Extension sub-station.	1044.28
4.	400/220 kV, 105 MVA ICT alongwith associated bays at Wagoora sub-station	342.25
5.	500 MVA, 400/220/33 ICT alongwith associated bays at Ludhiana sub-station.	980.14

17. The petitioner has further submitted that Asset-I, II & III i.e. ICT 500 MVA 400/220 kV Bassi extension Sub-station, ICT 315 MVA 400/220 kV Allahabad extension sub-station, ICT 500 MVA 400/220 kV Meerut Extension Sub-station has been awarded with same LoA. The difference in cost of transformer at Bassi & Meerut Sub-station is due to difference of entry tax in Meerut Sub-station as the entry tax is zero in case of Meerut Sub-station. Further 500MVA ICT at Ludhiana alongwith associated bays at Ludhiana has been awarded with different LoA, therefore the cost difference is inevitable due to competitive bidding process.

18. We have considered the reasons submitted by the petitioner and the documents available on record. The main reason for cost variation is award of various contracts through bidding .The reasons submitted by the petitioner is in order. The cost variation is allowed



Time over-run

19. As per the investment approval, the asset covered in the petition was scheduled to be commissioned within 22 months from the date of investment approval (i.e. 6.12.2012). The scheduled commissioning of the asset works out to 5.10.2014 against which Assets-E was commissioned on 1.4.2014 and Assets –A, B, C,D & F are anticipated to be commissioned with effect from 1.11.2014. There is no time over run in Asset-E and there is no anticipated time overrun in Assets –A, B, C,D & F.

20. During hearing on 24.11.2014 the petitioner was directed to submit actual COD of the instant transmission assets as per 2014 Tariff Regulations, trial operation certificate issued by NRLDC and reasons for delay along with documentary evidences, if any. In response to it petitioner vide affidavit dated 8.12.214 submitted actual COD of Asset A,B, C, E & F and anticipated COD of Asset-D. Further vide affidavit dated 18.5.2015, the petitioner has submitted status of commissioning of all assets with COD letters and letter of trial operations. Details of commissioning of all the assets are given hereunder:-

S.No	Assets	Scheduled COD	COD (Actual)	Delay
1	Asset A	5.10.2014	16.10.2014	11 days
2	Asset B		2.11.2014	28 days
3	Asset C		12.10.2014	7 days
4	Asset D		14.01.2015	101 days
5	Asset E		1.04.2014	Nil
6	Asset F		4.12.2014	60 days



21. During hearing on 20.10.2015, the petitioner was directed to file the trial operation certificate issued by NRLDC for Asset D,E &F and reason for delay in Asset D and F. In response to it, the petitioner vide affidavit dated 14.1.2016 submitted as under:-

- a) **Asset A, B and C:-**Regarding Assets A,B and C the petitioner has submitted that there is a minor delay and requested to condone the delay.
- b) **Asset D-** Reason for delay has been submitted vide affidavit dated 18.5.2015 in which delay of 2 months was inadvertently written instead of 3 months 9 days. The petitioner has requested to condone the error. The petitioner further submitted that during the month of August, 2014 there was flood in Kashmir valley. This natural calamity affected the construction work in the sub-stations. Due to devastating flash floods in Kashmir Valley in August' 2014 work could not be started till October' 2014. This resulted delay of 3 months 9 days in commissioning of the instant asset. Documentary support i.e. Newspaper cuttings regarding flood in Kashmir Valley has been submitted. The delay in commissioning of this asset was beyond the control of the petitioner due to natural calamity.
- c) **Asset E-** Regarding trial operation certificate issued by NRLDC ,the petitioner has submitted that "500MVA, 400/220/33 kV ICT along with



associated bays at Ludhiana Sub-station” was declared under commercial operation with effect from 1.4.2014 and the COD letter already submitted alongwith the petition. The 2014 Tariff Regulations are made applicable with effect from 1.4.2014 and accordingly all the relevant procedures/practices as per these Regulations are also made effective on or after 1.4.2014. Accordingly, the procedures/event of trial operation as defined in the 2014 Tariff Regulations, is also effective on or after 1.4.2014. In other words, if trial operation is done on 1.4.2014 logically COD could be at the earliest as per 2014 Tariff Regulations is only 2.4.2014. It is also submitted that for assets put under COD on 1.4.2014 (test charged in March’2014), if procedures of 2014 Tariff Regulations are to be made applicable (such as trial operation) then petitioner should have been allowed to declare COD immediately in March, 2014 but that is not permitted since these Regulation are made applicable only with effect from 1.4.2014. In view of above, it is humbly submitted that the procedure/event of trial operation as defined in the 2014 Tariff Regulations is only possible for assets put under COD on or after 2.4.2014. For the assets under COD on 1.4.2014, the activity (charging etc.) prior to COD was accomplished as per the then existed Regulations. It is submitted that Asset- E covered in the instant petition are declared under commercial operation with effect from 1.4.2014 and is under operation since its commissioning.



d) Asset F- The delay in commissioning of two number bays at Ludhiana Sub-station is due to delay in commissioning of downstream network of PSPCL. Further, it is submitted that one circuit i.e. transmission line 220 kV Ludhiana-DORAHA-1 having line length 27.8 km is charged on 1.12.2014. Another circuit i.e. transmission line 220 kV Ludhiana-DORAHA-2 having line length 27.8 km is charged on 2.12.2014. Subsequently “2 no. bays of Ludhiana” was commissioned on 4.12.2014. With regard to the communication with PSPCL, Powergrid vide letter dated 30.5.2014 to Chief (Engg.) PSPCL informed about construction of 2 nos bays at Ludhiana Sub-station and requested to PSPCL for construction and testing of 220 kV feeder for Aaraha-I & II to 400/220 kV Ludhiana Sub-station so that the system can be commissioned and letter dated 4.12.2014 to inform about charging of bays for Aaraha I &II lines of PSPCL has been submitted. Trial operation certificate for Asset F has been submitted.

22. Rajasthan Discoms has submitted that the petitioner has provided no reasons or details which led to the delay in commencement of commercial operation.

23. We have considered the submissions made by the petitioner and documents available on record. The analysis and decision of time over-run is as follows:-

a) Regarding Asset A, Asset B and Asset-C: There is time over run of 11 days in Asset A, 28 days in Asset B and 7 days in Asset C, the petitioner has not submitted specific reason for delay in commissioning of the assets.



However the petitioner has prayed to condone the minor delay in these assets. We are of the view that though the petitioner had not explained the reason of time over-run in sufficient details, the delay is minor and accordingly the time over-run is condoned. However the petitioner is directed to furnish all relevant information and supporting documents in support of its claims at the time of filing petitions so that need for seeking further information/documents is minimized. The petitioner is further directed to submit the reason even for a minor delay in future

b) Asset D: There is delay of 101 days in commissioning of asset. It is observed that due to devastating flash floods in Kashmir Valley in August 2014, work could not be executed till October, 2014. It resulted delay in commissioning of the asset. The natural calamity affected the execution of work which is beyond the control of the petitioner, Accordingly, total delay of 101 days in commissioning of the asset is condoned.

c) Asset E: There is no delay in commissioning of the Asset.

d) Asset F: There is delay of 60 days in commissioning of the asset. We have considered the submission of the petitioner and it is due to delay in commissioning of down- stream network of PSPCL. the petitioner has made efforts for simultaneous commissioning of bays along with down-stream network. The delay in commissioning of the asset due to non-availability of down-stream network which is beyond the control of the petitioner. Accordingly, the delay of 60 days is condoned.



Treatment of IDC and IEDC

24. Rajasthan Discoms has submitted that the petitioner has failed to submit details of incidental expenditure incurred during the period of delay in commissioning of assets

Treatment of of IDC

25. The petitioner vide affidavit dated 14.1.2016 has submitted the information related to IDC. The IDC discharged up to COD and the IDC to be discharged after COD i.e. in FY 2014-15 and FY 2015-16 have also been mentioned for all the instant transmission 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 revised forms submitted in the above said affidavit. These IDCs for each of the assets have been worked out after condoning all the time over in each of the assets the details submitted by the petitioner and allowable/ worked out IDC as on COD, on cash basis are as follows:-

(₹ in lakh)

Interest During Construction (IDC)					
Asset	Claimed as on COD as per the Auditor's Certificates	Discharged up to COD (as per claim)	Allowed/ worked out on cash basis as on COD	Accrued IDC discharged during FY 2014-15 (as per claim)	Accrued IDC discharged during FY 2015-16 (as per claim)
Asset-A	51.78	46.90	46.75	3.25	1.64
Asset-B	41.29	41.29	41.29	0.00	0.00
Asset-C	50.80	41.29	41.29	2.05	7.45
Asset-D	30.18	8.12	8.11	13.25	8.81
Asset-E	42.71	42.71	42.71	0.00	0.00
Asset-F	18.35	15.12	15.11	0.08	3.15



27. The petitioner has also submitted that the above mentioned accrued IDCs are being discharged in FY 2014-15 and FY 2015-16. These accrued IDCs of respective years which are being treated here as Un-discharged liability, would be considered in tariff, subject to prudence check on the submission of the actual capital cost incurred for all the years, for all the assets, at the time of trueing up. Also, the allowed IDC on cash basis up to COD and the accrued IDCs for FY 2014-15 and FY 2015-16, for all assets would be reviewed at the time of true-up, on submission of the relevant information.

Treatment of of IEDC

28. The petitioner vide affidavit dated 14.1.2016 has submitted the information related to IEDC where it has mentioned the IEDC incurred up to SCOD and from SCOD to actual COD. As has been considered in other transmission tariff petitions in the recent past, in the current petition too, 10.75% of the hard cost is being taken as IEDC limit as per the abstract cost estimate and the IEDC claimed, in each of the mentioned assets, which is lower than 10.75% of the hard cost, as on COD. Hence, the claimed IEDC may be the allowable IEDC in our tariff calculations, in all the transmission assets. Hence, pro-rata IEDC is being deducted in any of assets and the allowable IEDC are mentioned below:-

(₹ in lakh)		
	Claimed	Allowed
Asset-A	18.60	18.60
Asset-B	14.83	14.83
Asset-C	18.24	18.24
Asset-D	33.42	33.42
Asset-E	35.73	35.73
Asset-F	29.13	29.13



Treatment of initial spares

29. 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) where the generating station has any transmission equipment forming part of the generation project, the ceiling norm for initial spares for such equipments shall be as per the ceiling norms specified for transmission system under these regulations:

(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.



30. The petitioner vide affidavit dated 14.1.2016 has claimed a spares for sub-stations are as follows:-

Asset	Cost of plant & machinery	Spares cost	Percentage (%)
Asset-A	1816.17	71.98	3.96
Asset-B	1487.05	68.59	4.6
Asset-C	1703.96	68.59	4.0
Asset-D	935.10	34.33	3.67
Asset-E	2051.09	58.64	2.86
Asset-F	-	-	-

It is found that the initial spares are with in limits. Hence, the Initial Spares claimed by the petitioner, for all the assets are being allowed.

31. Detail of the capital cost considered as on COD after making the necessary adjustment in respect capital expenditure of IDC and IEDC are given overleaf:-

Asset	Capital cost as per CA certificate as on COD	Less: IDC & IEDC claimed	Add: IDC on cash basis allowed	Add: IEDC allowed	Less: excess initial spares as on COD	Capital cost as on COD considered for tariff
Asset-A	1400.98	70.38	46.75	18.60	0.00	1395.95
Asset-B	1083.56	56.12	41.29	14.83	0.00	1083.56
Asset-C	1382.26	69.04	41.29	18.24	0.00	1372.75
Asset-D	696.90	63.60	8.11	33.42	0.00	674.83
Asset-E	1,277.12	78.44	42.71	35.73	0.00	1,277.12
Asset-F	376.08	47.48	15.11	29.13	0.00	372.84

Projected 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 additional capital expenditure for all the assets mentioned at para 12 is under balance and retention payment and allowed as per Regulation 14 of 2014 Tariff Regulation.

Debt- equity ratio

35. 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”

36. Details of debt-equity in respect of the asset as on the date of commercial operation and as on 31.3.2019 are as follows:-

(₹ in lakh)

Asset-A			
Particulars	%	As on COD	As on 31.3.2019
Debt	70.00	977.17	1317.07
Equity	30.00	418.78	564.45
Total	100.00	1395.95	1881.52
Asset-B			
Particulars	%	As on COD	As on 31.3.2019
Debt	70.00	758.50	1080.22
Equity	30.00	325.06	462.95
Total	100.00	1083.56	1543.17



Asset-C			
Particulars	%	As on COD	As on 31.3.2019
Debt	70.00	960.93	1234.45
Equity	30.00	411.82	529.04
Total	100.00	1372.75	1763.49
Asset-D			
Particulars	%	As on COD	As on 31.3.2019
Debt	70.00	472.38	683.64
Equity	30.00	202.45	292.99
Total	100.00	674.83	976.63
Asset-E			
Particulars	%	As on COD	As on 31.3.2019
Debt	70.00	893.99	1490.67
Equity	30.00	383.14	638.86
Total	100.00	1277.12	2129.53
Asset-F			
Particulars	%	As on COD	As on 31.3.2019
Debt	70.00	260.99	318.62
Equity	30.00	111.95	136.55
Total	100.00	372.84	455.17

Additional capital expenditure has been considered in the debt-equity ratio of 70:30.

Return on equity

37. 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:

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

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."

38. 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.

39. We have computed ROE at the rate of 19.610% for tariff period 2014-19 after grossing up the ROE with MAT rate as per the above Regulation. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on equity. It further provides that in case the generating company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. The petitioner has submitted that MAT rate is applicable to the petitioner's company. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. Accordingly, the ROE allowed is given below:-



(₹ in lakh)

Asset-A					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	418.78	449.50	564.45	564.45	564.45
Addition due to Additional Capitalisation	30.72	114.95	0.00	0.00	0.00
Closing Equity	449.50	564.45	564.45	564.45	564.45
Average Equity	434.14	506.98	564.45	564.45	564.45
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (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)	38.95	99.42	110.69	110.69	110.69
Asset-B					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	325.06	352.33	462.95	462.95	462.95
Addition due to Additional Capitalisation	27.26	110.62	0.00	0.00	0.00
Closing Equity	352.33	462.95	462.95	462.95	462.95
Average Equity	338.70	407.64	462.95	462.95	462.95
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (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)	27.30	79.94	90.78	90.78	90.78
Asset-C					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	411.82	457.22	529.04	529.04	529.04
Addition due to Additional Capitalisation	45.40	71.82	0.00	0.00	0.00
Closing Equity	457.22	529.04	529.04	529.04	529.04
Average Equity	434.52	493.13	529.04	529.04	529.04
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (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)	39.92	96.70	103.75	103.75	103.75
Asset-D					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	202.45	217.52	247.71	292.99	292.99
Addition due to Additional Capitalisation	15.08	30.19	45.28	0.00	0.00
Closing Equity	217.52	247.71	292.99	292.99	292.99
Average Equity	209.99	232.62	270.35	292.99	292.99
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (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)	8.69	45.62	53.02	57.46	57.46

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Asset-E					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	383.14	549.36	638.86	638.86	638.86
Addition due to Additional Capitalisation	166.22	89.50	0.00	0.00	0.00
Closing Equity	549.36	638.86	638.86	638.86	638.86
Average Equity	466.25	594.11	638.86	638.86	638.86
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (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)	91.43	116.50	125.28	125.28	125.28
Asset-F					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	111.85	124.10	136.55	136.55	136.55
Addition due to Additional Capitalisation	12.25	12.45	0.00	0.00	0.00
Closing Equity	124.10	136.55	136.55	136.55	136.55
Average Equity	117.98	130.33	136.55	136.55	136.55
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (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)	7.48	25.56	26.78	26.78	26.78

Interest on loan

40. Regulation 26 of the 2014 Tariff Regulations 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 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.”

41. 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:-

- (i) Gross amount of loan, repayment of instalments and rate of interest and weighted average rate of interest on actual average loan have been considered as per Form 9C given in the affidavit dated 8.9.2015;
- (ii) The normative repayment for the tariff period 2014-19 shall deemed to be equal to the depreciation allowed for that period;
- (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.



The IOL calculation for all the assets were done considering all the loans submitted in Form-9C for each asset.

42. Detailed calculations in support of the weighted average rates of interest have been given in Annexure-I and VI to this order.

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

(₹ in lakh)

Asset-A					
Particular	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	977.17	1048.85	1317.07	1317.07	1317.07
Cumulative Repayment up to Previous year	0.00	34.96	124.19	223.53	322.88
Net Loan-Opening	977.17	1013.89	1192.88	1093.54	994.19
Addition due to Additional Capitalization	71.68	268.22	0.00	0.00	0.00
Repayment during the year	34.96	89.23	99.34	99.34	99.34
Net Loan-Closing	1013.89	1192.88	1093.54	994.19	894.85
Average Loan	995.53	1103.39	1143.21	1043.87	944.52
Weighted Avg Rate of Interest on Loan	10.0483%	10.0470%	10.0447%	10.0408%	10.0367%
Interest	45.77	110.86	114.83	104.81	94.80
Asset-B					
Particular	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	758.50	822.11	1080.22	1080.22	1080.22
Cumulative Repayment up to Previous year	0.00	24.50	96.24	177.72	259.20
Net Loan-Opening	758.50	797.61	983.98	902.50	821.02
Addition due to Additional Capitalization	63.61	258.12	0.00	0.00	0.00
Repayment during the year	24.50	71.74	81.48	81.48	81.48
Net Loan-Closing	797.61	983.98	902.50	821.02	739.54
Average Loan	778.05	890.80	943.24	861.76	780.28
Weighted Avg Rate of Interest on Loan	9.6467%	9.6467%	9.6314%	9.5985%	9.5759%
Interest	30.85	85.93	90.85	82.72	74.72



Asset-C					
Particular	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	960.93	1066.87	1234.45	1234.45	1234.45
Cumulative Repayment up to Previous year	0.00	35.83	122.62	215.73	308.85
Net Loan-Opening	960.93	1031.04	1111.83	1018.72	925.60
Addition due to Additional Capitalization	105.94	167.58	0.00	0.00	0.00
Repayment during the year	35.83	86.79	93.11	93.11	93.11
Net Loan-Closing	1031.04	1111.83	1018.72	925.60	832.49
Average Loan	995.99	1071.43	1065.27	972.16	879.05
Weighted Avg Rate of Interest on Loan	9.9574%	9.9551%	9.9508%	9.9454%	9.9399%
Interest	46.46	106.66	106.00	96.69	87.38
Asset-D					
Particular	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	472.38	507.56	577.99	683.64	683.64
Cumulative Repayment up to Previous year	0.00	7.80	48.74	96.32	147.88
Net Loan-Opening	472.38	499.76	529.25	587.32	535.76
Addition due to Additional Capitalization	35.18	70.43	105.65	0.00	0.00
Repayment during the year	7.80	40.94	47.58	51.57	51.57
Net Loan-Closing	499.76	529.25	587.32	535.76	484.19
Average Loan	486.07	514.51	558.29	561.54	509.97
Weighted Avg Rate of Interest on Loan	9.4810%	9.4333%	9.4283%	9.4169%	9.4017%
Interest	9.72	48.53	52.64	52.88	47.95
Asset-E					
Particular	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	893.99	1281.84	1490.67	1490.67	1490.67
Cumulative Repayment up to Previous year	0.00	82.06	186.62	299.06	411.50
Net Loan-Opening	893.99	1199.78	1304.05	1191.61	1079.17
Addition due to Additional Capitalization	387.85	208.84	0.00	0.00	0.00
Repayment during the year	82.06	104.56	112.44	112.44	112.44
Net Loan-Closing	1199.78	1304.05	1191.61	1079.17	966.73
Average Loan	1046.88	1251.91	1247.83	1135.39	1022.95
Weighted Avg Rate of Interest on Loan	10.2500%	10.2500%	10.2500%	10.2500%	10.2500%
Interest	107.31	128.32	127.90	116.38	104.85
Asset-F					
Particular	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	260.99	289.58	318.62	318.62	318.62
Cumulative Repayment up	0.00	6.71	29.65	53.68	77.72



to Previous year					
Net Loan-Opening	260.99	282.86	288.97	264.94	240.90
Addition due to Additional Capitalization	28.59	29.04	0.00	0.00	0.00
Repayment during the year	6.71	22.94	24.03	24.03	24.03
Net Loan-Closing	282.86	288.97	264.94	240.90	216.87
Average Loan	271.92	285.92	276.95	252.92	228.89
Weighted Avg Rate of Interest on Loan	9.5611%	9.4907%	9.4788%	9.4555%	9.4308%
Interest	8.41	27.14	26.25	23.91	21.59

Depreciation

44. Regulation 27 of the 2014 Tariff Regulations provide as follows:-

"27. Depreciation:

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

(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.”

45. The instant transmission assets were put under commercial operation during 2014-15. Accordingly, it 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-III to the 2014 Tariff Regulations.

46. Based on the above, the depreciation has been considered are as follows:-

(₹ in lakh)					
Asset-A					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	1395.95	1498.35	1881.52	1881.52	1881.52
Addition during 2009-14 due to Projected Additional Capitalisation	102.40	383.17	0.00	0.00	0.00
Closing Gross Block	1498.35	1881.52	1881.52	1881.52	1881.52
Average Gross Block	1447.15	1689.94	1881.52	1881.52	1881.52
Rate of Depreciation	5.2800%	5.2800%	5.2800%	5.2800%	5.2800%
Depreciable Value	1302.44	1520.94	1693.37	1693.37	1693.37
Remaining Depreciable Value	1302.44	1485.98	1569.18	1469.84	1370.49
Depreciation	34.96	89.23	99.34	99.34	99.34
Asset-B					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	1083.56	1174.43	1543.17	1543.17	1543.17
Addition during 2009-14 due to Projected Additional Capitalisation	90.87	368.74	0.00	0.00	0.00
Closing Gross Block	1174.43	1543.17	1543.17	1543.17	1543.17
Average Gross Block	1129.00	1358.80	1543.17	1543.17	1543.17
Rate of Depreciation	5.2800%	5.2800%	5.2800%	5.2800%	5.2800%
Depreciable Value	1016.10	1222.92	1388.85	1388.85	1388.85
Remaining Depreciable Value	1016.10	1198.42	1292.61	1211.13	1129.65
Depreciation	24.50	71.74	81.48	81.48	81.48
Asset-C					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	1372.75	1524.09	1763.49	1763.49	1763.49



Addition during 2009-14 due to Projected Additional Capitalisation	151.34	239.40	0.00	0.00	0.00
Closing Gross Block	1524.09	1763.49	1763.49	1763.49	1763.49
Average Gross Block	1448.42	1643.79	1763.49	1763.49	1763.49
Rate of Depreciation	5.2800%	5.2800%	5.2800%	5.2800%	5.2800%
Depreciable Value	1303.58	1479.41	1587.14	1587.14	1587.14
Remaining Depreciable Value	1303.58	1443.58	1464.52	1371.41	1278.30
Depreciation	35.83	86.79	93.11	93.11	93.11
Asset-D					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	674.83	725.08	825.70	976.63	976.63
Addition during 2009-14 due to Projected Additional Capitalisation	50.25	100.62	150.93	0.00	0.00
Closing Gross Block	725.08	825.70	976.63	976.63	976.63
Average Gross Block	699.95	775.39	901.16	976.63	976.63
Rate of Depreciation	5.2800%	5.2800%	5.2800%	5.2800%	5.2800%
Depreciable Value	629.96	697.85	811.05	878.96	878.96
Remaining Depreciable Value	629.96	690.05	762.31	782.65	731.08
Depreciation	7.80	40.94	47.58	51.57	51.57
Asset-E					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	1277.12	1831.19	2129.53	2129.53	2129.53
Addition during 2009-14 due to Projected Additional Capitalisation	554.07	298.34	0.00	0.00	0.00
Closing Gross Block	1831.19	2129.53	2129.53	2129.53	2129.53
Average Gross Block	1554.16	1980.36	2129.53	2129.53	2129.53
Rate of Depreciation	5.2800%	5.2800%	5.2800%	5.2800%	5.2800%
Depreciable Value	1398.74	1782.32	1916.58	1916.58	1916.58
Remaining Depreciable Value	1398.74	1700.26	1729.95	1617.52	1505.08
Depreciation	82.06	104.56	112.44	112.44	112.44
Asset-F					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	372.84	413.68	455.17	455.17	455.17
Addition during 2009-14 due to Projected Additional Capitalisation	40.84	41.49	0.00	0.00	0.00
Closing Gross Block	413.68	455.17	455.17	455.17	455.17
Average Gross Block	393.26	434.42	455.17	455.17	455.17
Rate of Depreciation	5.2800%	5.2800%	5.2800%	5.2800%	5.2800%
Depreciable Value	353.93	390.98	409.65	409.65	409.65
Remaining Depreciable Value	353.93	384.27	380.00	355.97	331.94
Depreciation	6.71	22.94	24.03	24.03	24.03



Operation & Maintenance Expenses (O&M Expenses)

47. The Assets/Elements covered in the petition are as under:-

S.No	Element	COD	No. of Bays
1	Bassi Sub-station 400 kV bay 220 kV bay	16.10.2014	1 1
2	Allahabad Sub-station 400 kV bay 220 kV bay	2.11.2014	1 1
3	Meerut Sub-station 400 kV bay 220 kV bay	12.10.2014	1 1
4	Wagoora Sub-station 105 MVA spare ICT	14.1.2015	NIL
5	Ludhiana Sub-station 400 kV bay for ICT 220 kV bay for ICT 220 kV line bay	1.4.2014	1 1 1
6	Ludhiana Sub-station 220 kV line bay	4.12.2014	2

48. 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:-

Element	2014-15	2015-16	2016-17	2017-18	2018-19
400 kV bay (₹ in lakh/bay)	60.30	62.30	64.37	66.51	68.71
220 kV bay (₹ in lakh/bay)	42.21	43.61	45.06	46.55	48.10



49. The petitioner has computed 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 have been worked out as given hereunder:-

Asset	(₹ in lakh)				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Asset-A (COD 16.10.2014)	46.90	105.91	109.43	113.06	116.81
Asset-B (COD 2.11.2014)	42.13	105.91	109.43	113.06	116.81
Asset-C (COD 12.10.2014)	48.03	105.91	109.43	113.06	116.81
Asset-D (COD 16.10.2014)	-	-	-	-	-
Asset-E (COD 1.4.2014)	144.77	149.52	154.49	159.61	164.91
Asset-F (COD 4.12.2014)	27.29	87.22	90.12	93.10	96.20

50. 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.



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

Interest on working capital

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

“28. Interest on Working Capital

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

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

53. The petitioner is entitled to claim interest on working capital 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

Operation and maintenance 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

The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points).

54. The interest on working capital as determined is shown in the table given below:-

(₹ in lakh)

Asset-A					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	15.38	15.89	16.41	16.96	17.52
O & M expenses	8.54	8.83	9.12	9.42	9.73
Receivables	62.63	69.69	74.64	73.57	72.52
Total	86.55	94.41	100.17	99.95	99.77
Interest	5.35	12.74	13.52	13.49	13.47



Asset-B					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	15.38	15.89	16.41	16.96	17.52
O & M expenses	8.54	8.83	9.12	9.42	9.73
Receivables	52.31	59.14	64.11	63.36	62.66
Total	76.23	83.85	89.64	89.74	89.91
Interest	4.23	11.32	12.10	12.11	12.14
Asset-C					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	15.38	15.89	16.41	16.96	17.52
O & M expenses	8.54	8.83	9.12	9.42	9.73
Receivables	62.51	68.10	70.88	69.93	69.01
Total	86.43	92.81	96.42	96.31	96.26
Interest	5.47	12.53	13.02	13.00	13.00
Asset-D					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00	0.00	0.00
Receivables	21.18	23.03	26.13	27.60	26.76
Total	21.18	23.03	26.13	27.60	26.76
Interest	0.60	3.11	3.53	3.73	3.61
Asset-E					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	21.71	22.43	23.17	23.94	24.74
O & M expenses	12.06	12.46	12.87	13.30	13.74
Receivables	73.33	85.87	89.51	88.45	87.41
Total	107.10	120.76	125.56	125.69	125.89
Interest	14.46	16.30	16.95	16.97	17.00
Asset-F					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	12.66	13.08	13.52	13.97	14.43
O & M expenses	7.04	7.27	7.51	7.76	8.02
Receivables	26.77	28.23	28.99	29.11	29.26
Total	46.46	48.59	50.02	50.84	51.71
Interest	2.03	6.56	6.75	6.86	6.98

Transmission charges

55. The transmission charges being allowed for the assets are given overleaf:-



(₹ in lakh)

Asset-A					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	34.96	89.23	99.34	99.34	99.34
Interest on Loan	45.77	110.86	114.83	104.81	94.80
Return on Equity	38.95	99.42	110.69	110.69	110.69
Interest on Working Capital	5.35	12.74	13.52	13.49	13.47
O & M Expenses	46.90	105.91	109.43	113.06	116.81
Total	171.93	418.16	447.82	441.40	435.11
Asset-B					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	24.50	71.74	81.48	81.48	81.48
Interest on Loan	30.85	85.93	90.85	82.72	74.72
Return on Equity	27.30	79.94	90.78	90.78	90.78
Interest on Working Capital	4.23	11.32	12.10	12.11	12.14
O & M Expenses	42.13	105.91	109.43	113.06	116.81
Total	128.99	354.84	384.64	380.15	375.93
Asset-C					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	35.83	86.79	93.11	93.11	93.11
Interest on Loan	46.46	106.66	106.00	96.69	87.38
Return on Equity	39.92	96.70	103.75	103.75	103.75
Interest on Working Capital	5.47	12.53	13.02	13.00	13.00
O & M Expenses	48.03	105.91	109.43	113.06	116.81
Total	175.70	408.60	425.31	419.61	414.04
Asset-D					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	7.80	40.94	47.58	51.57	51.57
Interest on Loan	9.72	48.53	52.64	52.88	47.95
Return on Equity	8.69	45.62	53.02	57.46	57.46
Interest on Working Capital	0.60	3.11	3.53	3.73	3.61
O & M Expenses	0.00	0.00	0.00	0.00	0.00
Total	26.81	138.20	156.76	165.63	160.58
Asset-E					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	82.06	104.56	112.44	112.44	112.44
Interest on Loan	107.31	128.32	127.90	116.38	104.85
Return on Equity	91.43	116.50	125.28	125.28	125.28
Interest on Working Capital	14.46	16.30	16.95	16.97	17.00
O & M Expenses	144.72	149.52	154.49	159.61	164.91
Total	439.97	515.21	537.06	530.68	524.48



Asset-F					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	6.71	22.94	24.03	24.03	24.03
Interest on Loan	8.41	27.14	26.25	23.91	21.59
Return on Equity	7.48	25.56	26.78	26.78	26.78
Interest on Working Capital	2.03	6.56	6.75	6.86	6.98
O & M Expenses	27.29	87.22	90.12	93.10	96.20
Total	51.92	169.41	173.93	174.69	175.58

Filing fee and the publication expenses

56. 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

57. The petitioner has requested to allow the petitioner to bill and recover License fee and RLDC fees and charges, separately from the respondents.. We are of the view that 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

58. The petitioner has made a prayer to be allowed to bill and recover the service tax on transmission charges separately from the respondents, if 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.

Sharing of Transmission Charges

59. The billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010, as amended from time to time, as provided in Regulation 43 of the 2014 Tariff Regulations.

60. This order disposes of Petition No. 410/TT/2014.

(Dr. M.K. Iyer)
Member

(A.S. Bakshi)
Member

(A.K. Singhal)
Member

(Gireesh B. Pradhan)
Chairperson



Annexure -I**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN****(₹ in lakh)**

	Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
1	Bond XLVI					
	Gross loan opening	206.58	206.58	206.58	206.58	206.58
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	206.58	206.58	206.58	206.58	206.58
	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	206.58	206.58	206.58	206.58	206.58
	Average Loan	206.58	206.58	206.58	206.58	206.58
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	19.21	19.21	19.21	19.21	19.21
	Rep Schedule	Repayment in 3 equal instalments on 04.09.2019, 04.09.2024 & 04.09.2029				
2	Bond XLVI - Add-Cap. (2014-15 and 2015-16) - IDC					
	Gross loan opening	0.00	2.28	3.43	3.43	3.43
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	2.28	3.43	3.43	3.43
	Additions during the year	2.28	1.15	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	2.28	3.43	3.43	3.43	3.43
	Average Loan	1.14	2.86	3.43	3.43	3.43
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	0.11	0.27	0.32	0.32	0.32
	Rep Schedule	Repayment in 3 equal instalments on 04.09.2019, 04.09.2024 & 04.09.2029				
3	SBI (2014-15) DOCO Loan					
	Gross loan opening	570.69	570.69	570.69	570.69	570.69
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	570.69	570.69	570.69	570.69	570.69



	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	570.69	570.69	570.69	570.69	570.69
	Average Loan	570.69	570.69	570.69	570.69	570.69
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	58.50	58.50	58.50	58.50	58.50
	Rep Schedule	20 half yearly equal installments from 15.06.2019				
4	SBI (21.03.2012)					
	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	18.16	36.32
	Net Loan-Opening	200.00	200.00	200.00	181.84	163.68
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	18.16	18.16	18.16
	Net Loan-Closing	200.00	200.00	181.84	163.68	145.52
	Average Loan	200.00	200.00	190.92	172.76	154.60
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	20.50	20.50	19.57	17.71	15.85
	Rep Schedule	22 half yearly instalment from 31.08.2016				
	Total Loan					
	Gross loan opening	977.27	979.55	980.70	980.70	980.70
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	18.16	36.32
	Net Loan-Opening	977.27	979.55	980.70	962.54	944.38
	Additions during the year	2.28	1.15	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	18.16	18.16	18.16
	Net Loan-Closing	979.55	980.70	962.54	944.38	926.22
	Average Loan	978.41	980.13	971.62	953.46	935.30
	Rate of Interest	10.05%	10.05%	10.04%	10.04%	10.04%
	Interest	98.31	98.47	97.60	95.73	93.87



Annexure -II**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN**

(Rs. in Lacs)

	Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
1	Bond XLVII					
	Gross loan opening	346.67	346.67	346.67	346.67	346.67
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	346.67	346.67	346.67	346.67	346.67
	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	28.89
	Net Loan-Closing	346.67	346.67	346.67	346.67	317.78
	Average Loan	346.67	346.67	346.67	346.67	332.23
	Rate of Interest	8.93%	8.93%	8.93%	8.93%	8.93%
	Interest	30.96	30.96	30.96	30.96	29.67
	Rep Schedule	12 annual installments from 20.10.2018.				
2	SBI (21.03.2012)					
	Gross loan opening	411.82	411.82	411.82	411.82	411.82
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	37.39	74.79
	Net Loan-Opening	411.82	411.82	411.82	374.43	337.03
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	37.39	37.39	37.39
	Net Loan-Closing	411.82	411.82	374.43	337.03	299.64
	Average Loan	411.82	411.82	393.12	355.73	318.34
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	42.21	42.21	40.30	36.46	32.63
	Rep Schedule	22 half yearly instalment from 31.08.2016				
	Total Loan					
	Gross loan opening	758.49	758.49	758.49	758.49	758.49
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	37.39	74.79
	Net Loan-Opening	758.49	758.49	758.49	721.10	683.70
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	37.39	37.39	66.28
	Net Loan-Closing	758.49	758.49	721.10	683.70	617.42
	Average Loan	758.49	758.49	739.79	702.40	650.56
	Rate of Interest	9.65%	9.65%	9.63%	9.60%	9.58%
	Interest	73.17	73.17	71.25	67.42	62.30



Annexure -III**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN
(₹ in lakh)**

	Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
1	Bond XLVI					
	Gross loan opening	295.45	295.45	295.45	295.45	295.45
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	295.45	295.45	295.45	295.45	295.45
	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	295.45	295.45	295.45	295.45	295.45
	Average Loan	295.45	295.45	295.45	295.45	295.45
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	27.48	27.48	27.48	27.48	27.48
	Rep Schedule	Repayment in 3 equal instalments on 04.09.2019, 04.09.2024 & 04.09.2029				
2	Bond XLVI - AddCap - IDC					
	Gross loan opening	0.00	1.44	6.66	6.66	6.66
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	1.44	6.66	6.66	6.66
	Additions during the year	1.44	5.22	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	1.44	6.66	6.66	6.66	6.66
	Average Loan	0.72	4.05	6.66	6.66	6.66
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	0.07	0.38	0.62	0.62	0.62
	Rep Schedule	Repayment in 3 equal instalments on 04.09.2019, 04.09.2024 & 04.09.2029				
3	SBI (21.03.2012)					
	Gross loan opening	185.16	185.16	185.16	185.16	185.16
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	16.81	33.63
	Net Loan-Opening	185.16	185.16	185.16	168.35	151.53
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	16.81	16.81	16.81
	Net Loan-Closing	185.16	185.16	168.35	151.53	134.72



	Average Loan	185.16	185.16	176.75	159.94	143.13
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	18.98	18.98	18.12	16.39	14.67
	Rep Schedule	22 half yearly instalment from 31.08.2016				
4	SBI (2014-15) DOCO Loan					
	Gross loan opening	480.31	480.31	480.31	480.31	480.31
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	480.31	480.31	480.31	480.31	480.31
	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	480.31	480.31	480.31	480.31	480.31
	Average Loan	480.31	480.31	480.31	480.31	480.31
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	49.23	49.23	49.23	49.23	49.23
	Rep Schedule	20 half yearly equal installments from 15.06.2019				
	Total Loan					
	Gross loan opening	960.92	962.36	967.58	967.58	967.58
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	16.81	33.63
	Net Loan-Opening	960.92	962.36	967.58	950.77	933.95
	Additions during the year	1.44	5.22	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	16.81	16.81	16.81
	Net Loan-Closing	962.36	967.58	950.77	933.95	917.14
	Average Loan	961.64	964.97	959.17	942.36	925.55
	Rate of Interest	9.96%	9.96%	9.95%	9.95%	9.94%
	Interest	95.75	96.06	95.45	93.72	92.00



CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

	Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
1	Bond XLVI					
	Gross loan opening	259.56	259.56	259.56	259.56	259.56
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	259.56	259.56	259.56	259.56	259.56
	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	259.56	259.56	259.56	259.56	259.56
	Average Loan	259.56	259.56	259.56	259.56	259.56
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	24.14	24.14	24.14	24.14	24.14
	Rep Schedule	Repayment in 3 equal instalments on 04.09.2019, 04.09.2024 & 04.09.2029				
2	Bond XLVI - Add-Cap. (2014-15 and 2015-16) - IDC					
	Gross loan opening	0.00	9.28	15.45	15.45	15.45
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	9.28	15.45	15.45	15.45
	Additions during the year	9.28	6.17	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	9.28	15.45	15.45	15.45	15.45
	Average Loan	4.64	12.37	15.45	15.45	15.45
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	0.43	1.15	1.44	1.44	1.44
	Rep Schedule	Repayment in 3 equal instalments on 04.09.2019, 04.09.2024 & 04.09.2029				
3	Bond XLIX - Add. Cap. (2014-15)					
	Gross loan opening	0.00	35.18	35.18	35.18	35.18
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	35.18	35.18	35.18	35.18
	Additions during the year	35.18	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	35.18	35.18	35.18	35.18	35.18
	Average Loan	17.59	35.18	35.18	35.18	35.18
	Rate of Interest	8.15%	8.15%	8.15%	8.15%	8.15%
	Interest	1.43	2.87	2.87	2.87	2.87
	Rep Schedule	Repayment in 3 equal instalments on 09.03.2020, 09.03.2025 & 09.03.2030				
4	SBI (21.03.2012)					
	Gross loan opening	58.80	58.80	58.80	58.80	58.80
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	5.34	10.68
	Net Loan-Opening	58.80	58.80	58.80	53.46	48.12
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	5.34	5.34	5.34
	Net Loan-Closing	58.80	58.80	53.46	48.12	42.78
	Average Loan	58.80	58.80	56.13	50.79	45.45
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	6.03	6.03	5.75	5.21	4.66
	Rep Schedule	22 half yearly instalment from 31.08.2016				
5	Bond XLV					
	Gross loan opening	154.03	154.03	154.03	154.03	154.03
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	12.84
	Net Loan-Opening	154.03	154.03	154.03	154.03	141.19
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	12.84	12.84
	Net Loan-Closing	154.03	154.03	154.03	141.19	128.36
	Average Loan	154.03	154.03	154.03	147.61	134.78
	Rate of Interest	9.65%	9.65%	9.65%	9.65%	9.65%
	Interest	14.86	14.86	14.86	14.24	13.01
	Rep Schedule	12 annual installments from 28.02.2018				
	Total Loan					
	Gross loan opening	472.39	516.85	523.02	523.02	523.02
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	5.34	23.51
	Net Loan-Opening	472.39	516.85	523.02	517.68	499.51
	Additions during the year	44.46	6.17	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	5.34	18.17	18.17
	Net Loan-Closing	516.85	523.02	517.68	499.51	481.33
	Average Loan	494.62	519.94	520.35	508.59	490.42
	Rate of Interest	9.48%	9.43%	9.43%	9.42%	9.40%
	Interest	46.90	49.05	49.06	47.89	46.11



Annexure-V**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN****(₹ in lakh)**

	Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
1	SBI (21.03.2012)					
	Gross loan opening	893.98	893.98	893.98	893.98	893.98
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	81.17	162.35
	Net Loan-Opening	893.98	893.98	893.98	812.81	731.63
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	81.17	81.17	81.17
	Net Loan-Closing	893.98	893.98	812.81	731.63	650.46
	Average Loan	893.98	893.98	853.39	772.22	691.05
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	91.63	91.63	87.47	79.15	70.83
	Rep Schedule	22 half yearly instalment from 31.08.2016				
	Total Loan					
	Gross loan opening	893.98	893.98	893.98	893.98	893.98
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	81.17	162.35
	Net Loan-Opening	893.98	893.98	893.98	812.81	731.63
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	81.17	81.17	81.17
	Net Loan-Closing	893.98	893.98	812.81	731.63	650.46
	Average Loan	893.98	893.98	853.39	772.22	691.05
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	91.63	91.63	87.47	79.15	70.83



CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

	Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
1	Bond XLVI					
	Gross loan opening	168.01	168.01	168.01	168.01	168.01
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	168.01	168.01	168.01	168.01	168.01
	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	168.01	168.01	168.01	168.01	168.01
	Average Loan	168.01	168.01	168.01	168.01	168.01
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	15.62	15.62	15.62	15.62	15.62
	Rep Schedule	Repayment in 3 equal instalments on 04.09.2019, 04.09.2024 & 04.09.2029				
2	Bond XLVI - Add-Cap. (2014-15 and 2015-16) - IDC					
	Gross loan opening	0.00	0.06	2.27	2.27	2.27
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	0.06	2.27	2.27	2.27
	Additions during the year	0.06	2.21	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	0.06	2.27	2.27	2.27	2.27
	Average Loan	0.03	1.17	2.27	2.27	2.27
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	0.00	0.11	0.21	0.21	0.21
	Rep Schedule	Repayment in 3 equal instalments on 04.09.2019, 04.09.2024 & 04.09.2029				
3	Bond XLIX - Add. Cap. (2014-15)					
	Gross loan opening	0.00	28.59	28.59	28.59	28.59
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	28.59	28.59	28.59	28.59



	Additions during the year	28.59	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	28.59	28.59	28.59	28.59	28.59
	Average Loan	14.30	28.59	28.59	28.59	28.59
	Rate of Interest	8.15%	8.15%	8.15%	8.15%	8.15%
	Interest	1.17	2.33	2.33	2.33	2.33
	Rep Schedule	Repayment in 3 equal instalments on 09.03.2020, 09.03.2025 & 09.03.2030				
4	SBI (21.03.2012)					
	Gross loan opening	92.98	92.98	92.98	92.98	92.98
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	8.44	16.89
	Net Loan-Opening	92.98	92.98	92.98	84.54	76.09
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	8.44	8.44	8.44
	Net Loan-Closing	92.98	92.98	84.54	76.09	67.65
	Average Loan	92.98	92.98	88.76	80.32	71.87
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	9.53	9.53	9.10	8.23	7.37
	Rep Schedule	22 half yearly instalment from 31.08.2016				
	Total Loan					
	Gross loan opening	260.99	289.64	291.85	291.85	291.85
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	8.44	16.89
	Net Loan-Opening	260.99	289.64	291.85	283.41	274.96
	Additions during the year	28.65	2.21	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	8.44	8.44	8.44
	Net Loan-Closing	289.64	291.85	283.41	274.96	266.52
	Average Loan	275.32	290.75	287.63	279.19	270.74
	Rate of Interest	9.56%	9.49%	9.48%	9.46%	9.43%
	Interest	26.32	27.59	27.26	26.40	25.53

