

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 263/TT/2015

Coram:

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

Date of Hearing : 29.04.2016

Date of Order : 30.05.2016

In the matter of:

Determination of transmission tariff of **(A)** Combined Assets of **(A1)** Associated bays of 765 kV S/C Lucknow- Bareilly transmission line including 3x80 MVAR switchable line reactor at Lucknow (New) and Line Reactor at Bareilly (New) Sub-station, **(A2)** 2nd circuit of 400 kV D/C (Quad) Bareilly(New)-Bareilly(Old) transmission line with associated bays **(A3)**765/400 kV 1500 MVA ICT-I at Bareilly (New) Sub-station along with associated bays **(B)** 765 kV, 3x80 MVAR Bus reactors at Bareilly (New) Sub-station **(C)**Associated bays of 1st circuit of 400 kV D/C (Quad) Bareilly (New)- Bareilly (Old) Transmission Line **(D)** 765/400 kV 1500 MVA ICT-II at Bareilly (New) Sub-station along with associated bays. **(E)** 1st circuit of 400 kV D/C (Quad) Bareilly (New)-Kashipur (PTCUL) Transmission Line and associated bays **(F)** 2nd circuit of 400kV D/C (Quad) Bareilly (New)-Kashipur (PTCUL) Transmission Line and associated bays**(G)** 400kV D/C Kashipur-Roorkee line along with associated bays **(H)** 400kV D/C Roorkee-Saharanpur line along with associated bays under "Northern Region System Strengthening Scheme-XXI" in Northern Region for 2014-19 Tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

And in the matter of:

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

.....**Petitioner**

Versus



Northern Region

1. Himachal Pradesh State Electricity Board,
Vidyut Bhawan,
Shimla-171004
2. Punjab State Power Corporation Limited
Thermal Shed TI A, Near 22 Phatak,
Patiala-147001
3. Haryana Power Purchase Centre
Shakti Bhawan, Sector-6
Panchkula (Haryana) 134 109
4. Power Development Deptt.
Janipura Grid station, Jammu (Tawi)- 180 007
5. Power Purchase Agreement Directorate
Uttar Pradesh Power Corporation Limited
10th Floor, Shakti Bhawan Extn.
14, Ashok Marg, Lucknow- 226 001
6. Delhi Transco Limited
Shakti Sadan, Kotla Road (near ITO),
New Delhi
7. Chandigarh Administration
Sector-9, Chandigarh
8. Uttarakhand Power Corporation Ltd.
Urja Bhawan, Kanwali Road
Dehradun
9. Rajasthan Power Procurement Centre
Vidyut Bhawan, Janpath, Jaipur
10. Ajmer Vidyut Vitran Nigam Ltd.
400 kV GSS Building (Ground Floor), Ajmer Road
Heerapura, Jaipur
11. Jodhpur Vidyut Vitran Nigam Ltd.
400 kV GSS Building (Ground Floor), Ajmer Road
Heerapura, Jaipur
12. Jaipur Vidyut Vitran Nigam Ltd.
400 kV GSS Building (Ground Floor), Ajmer Road



Heerapura, Jaipur

13. North Central Railway
Allahabad
14. BSES Yamuna Power Ltd.
Shakti Bhavan, Karkarduma
New Delhi
15. BSES Rajdhani Power Ltd.
BSES Bhawan, Nehru Place
New Delhi
16. Tata Power Delhi distribution
33 kV Sub-station, Building Hudson Lane,
Kingsway Camp, North Dehi- 110002
17. New Delhi Municipal Council
Palika Kendra, Sansad Marg,
New Delhi- 110002

.....Respondents

The following were present:

For Petitioner: Shri M.M. Mondal, PGCIL
 Smt Sangeeta Edwards, PGCIL
 Shri Rakesh Prasad, PGCIL
 Shri S.S. Raju, PGCIL
 Shri Subhash C Taneja, PGCIL
 Shri V.P Rastogi, PGCIL

For Respondent: Shri Manoj Kumar Sharma, Rajasthan Discoms

ORDER

The present petition has been preferred by Power Grid Corporation of India Ltd. ("the petitioner") for determination of tariff for **(A)** Combined Assets of **(A1)** Associated bays of 765 kV S/C Lucknow-Barielly transmission line including 3x80 MVAR switchable line reactor at Lucknow (New) and Line Reactor at Bareilly



(New) Sub-station, **(A2)** 2nd circuit of 400 kV D/C (Quad) Bareilly (New)-Bareilly (Old) transmission line with associated bays **(A3)** 765/400 kV 1500 MVA ICT-I at Bareilly (New) Sub-station along with associated bays **(B)** 765 kV, 3x80 MVAR Bus reactors at Bareilly (New) Sub-station **(C)** Associated bays of 1st circuit of 400 kV D/C (Quad) Bareilly (New)-Bareilly (Old) Transmission Line **(D)** 765/400 kV 1500 MVA ICT-II at Bareilly (New) Sub-station along with associated bays. **(E)** 1st circuit of 400 kV D/C (Quad) Bareilly (New)-Kashipur (PTCUL) Transmission Line and associated bays **(F)** 2nd circuit of 400kV D/C (Quad) Bareilly (New)-Kashipur (PTCUL) Transmission Line and associated bays **(G)** 400kV Kashipur-Roorkee line along with associated bays **(H)** 400kV D/C Roorkee-Saharanpur line along with associated bays under “Northern Region System Strengthening Scheme-XXI” in Northern Region for the 2015-19 Tariff period (hereinafter referred as “transmission asset”) under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period from COD of respective assets to 31.3.2019.

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

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



(a) The investment approval of the project was accorded by Board of Directors of the petitioner's company vide Memorandum No. C/CP/NRSS-XXI in NR for NRSS-XXI, dated 26.8.2010 with an estimated cost of ₹167757 lakh including IDC of ₹12198 lakh based on 1st Quarter, 2010 price level. The petitioner vide affidavit dated 24.5.2016 has submitted that Revised Cost Estimate (RCE) is under approval which will be submitted after approval.

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

1. Transmission Lines:

- (i) Lucknow-Bareilly 765 kV S/C line
- (ii) Bareilly 765/400 kV (New)- Bareilly 400 kV (Existing) 400 kV D/C (QUAD)
- (iii) Bareilly-Kashipur 400 kV D/C (QUAD)
- (iv) Kashipur- Roorkee 400 kV D/C (QUAD)
- (v) Roorkee- Saharanpur 400 kV D/C (QUAD)

2. Sub-station Works:

- (i) New 2x1500 MVA, 765/400 kV Sub-station at Bareilly.
- (ii) Extension of 765/400 kV Sub-station at Lucknow (POWERGRID)
- (iii) Extension of 765/400 kV Sub-station at Bareilly (POWERGRID)
- (iv) Extension of 765/400 kV Sub-station at Kashipur (POWERGRID)
- (v) Extension of 765/400 kV Sub-station at Roorkee (POWERGRID)
- (vi) Extension of 765/400 kV Sub-station at Saharanpur (POWERGRID)

3. Reactive Compensation:

Line Reactors-

- (i) Lucknow- Bareilly 765 kV S/C Line (270 km) 1X 240 MVAR (Switchable) - 1X240 MVAR

Bus Reactors

- (ii) Bareilly 765 kV: 1X240 MVAR
- (iii) Roorkee-1X125 MVAR



(c) The petitioner in its original petition dated 30.10.2015 had submitted the tariff forms for the assets. The petitioner was directed vide letter dated 23.12.2015 to submit the Auditor's Certificate for capital cost incurred as on actual COD for all the assets. In response the petitioner vide affidavit dated 24.5.2016 submitted the revised tariff forms and Auditor's Certificate for all the assets.

(d) The petitioner has submitted the actual COD and approved apportioned FR cost for the assets as follows:

Particulars	Scheduled COD	Approved apportioned FR cost (in lakh)	COD
Asset A	25.4.2013	22501.79	1.4.2015 (Actual)
Asset B	25.4.2013	4788.62	5.7.2015 (Actual)
Asset C	25.4.2013	1427.13	25.4.2015 (Actual)
Asset D	25.4.2013	6745.90	31.8.2015 (Actual)
Asset E	25.4.2013	20813.68	23.4.2015 (Actual)
Asset F	25.4.2013	8280.17	24.4.2015 (Actual)
Asset G	25.4.2013	40748.56	25.12.2015 (Actual)
Asset H	25.4.2013	10389.40	15.6.2016 (Anticipated)

4. The petitioner in the instant petition has claimed the transmission charges as under:-

(₹ in lakh)				
Asset-A	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Depreciation	829.52	879.86	889.06	889.06
Interest on Loan	588.90	576.77	532.14	482.17
Return on equity	1028.27	1090.56	1100.87	1100.87
Interest on Working Capital	85.97	89.27	89.71	89.61
O & M Expenses	536.72	554.56	572.97	591.97
Total	3069.38	3191.02	3184.75	3153.68



(₹ in lakh)

Asset-B	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Depreciation	168.40	256.58	256.58	256.58
Interest on Loan	194.62	278.16	254.54	230.87
Return on equity	188.54	287.27	287.27	287.27
Interest on Working Capital	16.26	23.90	23.52	23.15
O & M Expenses	64.48	90.12	93.11	96.20
Total	632.30	936.03	915.02	894.07

(₹ in lakh)

Asset-C	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Depreciation	73.45	91.44	91.44	91.44
Interest on Loan	83.25	96.88	88.78	80.67
Return on equity	82.22	102.38	102.38	102.38
Interest on Working Capital	11.93	13.80	13.85	13.91
O & M Expenses	116.29	128.74	133.02	137.42
Total	367.14	433.24	429.47	425.82

(₹ in lakh)

Asset-D	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Depreciation	169.94	302.94	304.99	304.99
Interest on Loan	188.92	316.51	292.30	265.85
Return on equity	190.23	339.13	341.42	341.42
Interest on Working Capital	17.48	30.60	30.42	30.11
O & M Expenses	87.62	154.49	159.62	164.91
Total	654.19	1143.67	1128.75	1107.28

(₹ in lakh)

Asset-E	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Depreciation	927.61	1087.31	1087.31	1087.31
Interest on Loan	1031.91	1124.54	1027.55	930.61
Return on equity	1042.82	1221.96	1221.96	1221.96
Interest on Working Capital	78.96	89.88	88.01	86.15
O & M Expenses	178.36	196.20	202.77	209.46
Total	3259.66	3719.89	3627.60	3535.49

(₹ in lakh)

Asset-F	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Depreciation	313.53	367.73	367.73	367.73
Interest on Loan	368.71	401.89	368.09	334.24



Asset-F	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Return on equity	355.23	416.24	416.24	416.24
Interest on Working Capital	33.71	38.13	37.72	37.31
O & M Expenses	177.83	196.20	202.77	209.46
Total	1249.01	1420.19	1392.55	1364.98

(₹ in lakh)

Asset-G	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Depreciation	605.70	2314.39	2371.49	2371.49
Interest on Loan	633.27	2299.03	2164.90	1968.32
Return on equity	677.67	2588.87	2652.26	2652.26
Interest on Working Capital	50.27	189.45	189.92	186.21
O & M Expenses	111.47	428.37	442.66	457.35
Total	2078.38	7820.11	7821.23	7635.63

(₹ in lakh)

Asset-H*	2016-17 (Pro-rata)	2017-18	2018-19
Depreciation	886.50	1159.55	1159.55
Interest on Loan	950.45	1157.92	1059.75
Return on equity	991.04	1296.35	1296.35
Interest on Working Capital	78.21	100.24	98.55
O & M Expenses	237.41	308.78	319.01
Total	3143.61	4022.84	3933.21

* Petitioner has submitted revised Auditor's certificate, but has instead submitted tariff forms based on the earlier Auditor certificate.

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

(₹ in lakh)

Asset-A	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	80.51	83.18	85.95	88.80
O & M Expenses	44.73	46.21	47.75	49.33
Receivables	511.56	531.84	530.79	525.61
Total	636.80	661.23	664.49	663.74
Rate of Interest	13.50	13.50	13.50	13.50
Interest	85.97	89.27	89.71	89.61



(₹ in lakh)

Asset-B	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	13.08	13.52	13.97	14.43
O & M Expenses	7.27	7.51	7.76	8.02
Receivables	142.55	156.01	152.50	149.01
Total	162.90	177.04	174.23	171.46
Rate of Interest	13.50	13.50	13.50	13.50
Interest	21.99	23.90	23.52	23.15
Pro-rata Interest	16.26	23.90	23.52	23.15

(₹ in lakh)

Asset-C	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	18.69	19.31	19.95	20.61
O & M Expenses	10.38	10.73	11.09	11.45
Receivables	65.56	72.21	71.58	70.97
Total	94.63	102.25	102.62	103.03
Rate of Interest	13.50	13.50	13.50	13.50
Interest	12.78	13.80	13.85	13.91
Pro-rata Interest	11.93	13.80	13.85	13.91

(₹ in lakh)

Asset-D	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	22.43	23.17	23.94	24.74
O & M Expenses	12.46	12.87	13.30	13.74
Receivables	186.06	190.61	188.13	184.55
Total	220.95	226.65	225.37	223.03
Rate of Interest	13.50	13.50	13.50	13.50
Interest	29.83	30.60	30.42	30.11
Pro-rata Interest	17.48	30.60	30.42	30.11

(₹ in lakh)

Asset-E	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	28.50	29.43	30.42	31.42
O & M Expenses	15.83	16.35	16.90	17.46
Receivables	578.64	619.98	604.60	589.25
Total	622.97	665.76	651.91	638.13
Rate of Interest	13.50	13.50	13.50	13.50
Interest	84.10	89.88	88.01	86.15
Pro-rata Interest	78.96	89.88	88.01	86.15



(₹ in lakh)

Asset-F	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	28.50	29.43	30.42	31.42
O & M Expenses	15.83	16.35	16.90	17.46
Receivables	222.38	236.70	232.09	227.50
Total	266.71	282.48	279.41	276.38
Rate of Interest	13.50	13.50	13.50	13.50
Interest	36.01	38.13	37.72	37.31
Pro-rata Interest	33.71	38.13	37.72	37.31

(₹ in lakh)

Asset-G	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	62.20	64.26	66.40	68.60
O & M Expenses	34.56	35.70	36.89	38.11
Receivables	1288.46	1303.06	1303.25	1272.33
Total	1385.22	1403.02	1406.54	1379.04
Rate of Interest	13.50	13.50	13.50	13.50
Interest	187.00	189.41	189.88	186.17
Pro-rata Interest	50.27	189.41	189.88	186.17

(₹ in lakh)

Asset-H	2016-17 (Pro-rata)	2017-18	2018-19
Maintenance Spares	44.83	46.32	47.85
O & M Expenses	24.90	25.73	26.58
Receivables	659.50	670.47	655.54
Total	729.23	742.52	729.97
Rate of Interest	13.50	13.50	13.50
Interest	98.45	100.24	98.55
Pro-rata Interest	78.21	100.24	98.55

6. The petitioner has served the petition on the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of Electricity Act, 2003 ("the Act"). No comments have been received from the public in response to the notices published by the petitioner under Section 64 of the Act. In response to the instant petition, Rajasthan Discoms, Respondent No. 10, 11 and 12, filed its reply vide affidavit dated 27.4.2016. In



response the petitioner has submitted replies vide affidavit dated 5.5.2016. Further, Uttar Pradesh Power Corporation Limited (UPPCL), Respondent No. 5, filed its reply vide affidavit dated 30.11.2015. In response, the petitioner has submitted replies vide affidavit dated 24.5.2016. The petitioner was directed vide letter dated 23.12.2015 to file certain information. The petitioner submitted the replies vide affidavit dated 24.5.2016 and 26.4.2016. The hearing in this matter was held on 29.4.2016. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

Date of Commercial Operation (“COD”)

7. The petitioner has claimed the date of the commercial operation of the Assets-A, B, C, D, E, F, G and H as 1.4.2015, 5.7.2015, 25.4.2015, 31.8.2015, 23.4.2015, 24.4.2015, 25.12.2015 and 15.6.2016 respectively. Regulation 4(3) of the 2014 Tariff Regulations provides as follows:-

“4. Date of Commercial Operation: The date of commercial operation of a generating station or unit or block thereof or a transmission system or element thereof shall be determined as under:

xxx]

(3) Date of commercial operation in relation to a transmission system shall mean the date declared by the transmission licensee from 0000 hour of which an element of the transmission system is in regular service after successful trial operation for transmitting electricity and communication signal from sending end to receiving end:

(i) where the transmission line or substation is dedicated for evacuation of power from a particular generating station, the generating company and transmission licensee shall endeavour to commission the generating station and the transmission system simultaneously as far as practicable and shall ensure the same through appropriate Implementation Agreement in accordance with Regulation 12(2) of these Regulations :



(ii) in case a transmission system or an element thereof is prevented from regular service for reasons not attributable to the transmission licensee or its supplier or its contractors but is on account of the delay in commissioning of the concerned generating station or in commissioning of the upstream or downstream transmission system, the transmission licensee shall approach the Commission through an appropriate application for approval of the date of commercial operation of such transmission system or an element thereof.”

8. The petitioner has submitted RLDC certificate issued by NRLDC, POSOCO for Combined Asset-A (Asset-A1, Asset- A2 and Asset-A3), Asset-B, Asset-C, Asset-D, Asset- E, Asset-F and Asset-G dated 15.4.2015, 22.7.2015, 12.5.2015, 11.9.2015, 12.5.2015, 12.5.2015 and 1.1.2016 respectively in support of the claim of commercial operation in accordance with Regulation 5(2) of the 2014 Tariff Regulations indicating completion of successful trial operation.

9. The petitioner vide affidavit dated 24.5.2016 has submitted that RLDC certificate in case of Asset-H, anticipated to be commissioned on 15.6.2016, shall be submitted after actual COD. Accordingly, the the tariff for all the assets, except Asset-H, is worked out from their actual COD to 31.3.2019. In case of Asset-H, it is allowed from the anticipated COD and the tariff allowed in this order shall be applicable from the date of actual COD on pro-rata basis.

Capital Cost

10. The petitioner vide affidavit dated 24.5.2016 has submitted the Auditor’s Certificate and revised tariff forms for all the assets.

11. The details of apportioned approved cost, capital cost as on date of commercial operation incurred or projected to be incurred for the instant assets



as submitted by the petitioner vide affidavit dated 25.4.2016 based on the Auditor's Certificate are as under:-

(₹ in lakh)

Asset	Approved apportioned cost as per FR	Capital cost claimed as on COD as per Auditor's Certificate
Asset-A	22501.79	16598.09
Asset-B	4788.62	3790.53
Asset-C	1427.13	1276.86
Asset-D	6745.90	5431.99
Asset-E	20813.68	17181.57
Asset-F	8280.17	5918.64
Asset-G	40748.56	42567.41
Asset-H	10389.40	19754.04
Total	115695.25	112519.13

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

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

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

- a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;
- b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;
- c) Increase in cost in contract packages as approved by the Commission;
- d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;
- e) capitalised Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;
- f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations;
- g) adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and
- h) adjustment of any revenue earned by the transmission licensee by using the assets before COD.

...



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

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

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

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

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

13. The petitioner has submitted revised capital cost as on COD for all the assets considering cash basis IDC and IEDC vide affidavit dated 25.4.2016 as given below:-

(₹ in lakh)

Asset	Approved apportioned cost as per FR	Capital cost claimed as on COD as per Auditor's Certificate	Deduction of IDC	Capital Cost Claimed
Asset-A	22501.79	16598.09	83.22	16514.87
Asset-B	4788.62	3790.53	21.38	3769.14
Asset-C	1427.13	1276.86	28.22	1248.64
Asset-D	6745.90	5431.99	147.68	5284.31
Asset-E	20813.68	17181.57	275.20	16906.37
Asset-F	8280.17	5918.64	121.46	5797.19



Asset	Approved apportioned cost as per FR	Capital cost claimed as on COD as per Auditor's Certificate	Deduction of IDC	Capital Cost Claimed
Asset-G	40748.56	42567.41	0.00	42567.41
Asset-H	10389.40	19754.04	0.00	20275.45
Total	115695.25	112519.13	677.16	112363.38

Cost Over-run

14. The petitioner has submitted that procurement is carried out under open competitive bidding route by providing equal opportunity to all eligible firms. The bid prices are invited for the complete scope of work on overall basis and contracts awarded to the qualified bidders whose bid is determined as the lowest evaluated and techno-commercially responsive. Thus, variation of awarded/ actual cost may be because of various market forces and pricing strategies followed by the bidders. Further, it was submitted that FERV cost was not considered in FR. The major reasons for cost variation submitted by the petitioner are as follows:-

Reasons for variation in Combined Asset-A (A1, A2 and A3)

- (i) Increase in expenditure towards crop, tree, PTCC, land, forest compensation due to payment of actual compensation on account of ROW issue, based on rates and assessment of District Administration/Revenue Authorities.
- (ii) Increase in expenditure towards switchgear, CB, isolator due to Price Variation & FERV
- (iii) Increase in expenditure towards structure for switchyard due to pile foundation work on marshy land for which separate award was placed and was not envisaged in FR.



Reason for Cost Variation for Asset B

- (i) Increase in expenditure towards switchgear, CB, isolator due to Price Variation & FERV.

Reason for cost variation in Asset C

- (i) Increase in expenditure towards structure of switchyard mainly due to pile foundation work which was not envisaged in the FR cost.

Reason for cost variation in Asset D

- (i) Increase in expenditure towards Misc, civil works mainly due to pile foundation work which was not envisaged in the FR cost.

Reason for cost variation in Asset E & F

- (i) Increase in expenditure towards preliminary investigation, right of way, forest clearance, PTCC, general civil works mainly due to actual compensation paid on account of ROW issues, based on rates and assessment of District administration/ revenue authorities.
- (ii) Increase in Cost of conductor, hardware fittings due to increase in line length from 100 to 104.26 km.

Reason for cost over-run in Asset- G

- (i) Increase in expenditure towards crop, tree, PTCC, land and forest compensation mainly due to actual compensation paid on account of ROW issues, based on rates and assessment of District administration/ revenue authorities.
- (ii) Reduction in awarded cost of transmission line material, conductor, earth wire, accessories w.r.t estimated cost arrived through competitive bidding.
- (iii) Increase in expenditure on account of actual Taxes and duties paid.
- (iv) Increase in quantity of bus bars/conductors/insulators, power and control cables for outdoor lightning, grounding system and auxiliary system as per actual site condition and requirement for successful commissioning and operation of asset.

Reason for cost variation in Asset- H

- (i) Increase in expenditure towards crop, tree, PTCC, land and forest compensation due to actual compensation paid on account of Right of



Way (ROW) issues based on rates and assessment of District administration/ revenue authorities.

- (ii) Increase in expenditure on account of actual Taxes and duties paid against supply and erection of transmission line and Sub-station materials.
- (iii) Cost variation due to change in route alignment due to Right of Way Issues. The line length, type of various towers and foundation in the FR were estimated on the basis of walk-over preliminary survey. However, during execution of the project there has been increase in cost due to increase in angle tower, tower erection and quantity of civil work.

15. Rajasthan Discoms have submitted that the reasons for variation in cost and increase in cost submitted by the petitioner are vague. The benefit of IDC and IEDC should not be given to the petitioner for the period of time over-run in commissioning of the assets..

16. In response, the petitioner vide its affidavit dated 5.5.2016 has submitted that procurement is carried out under open competitive bidding route by providing equal opportunity to all eligible firms. The bid prices are invited for the complete scope of work on overall basis and contracts awarded to the qualified bidders whose bid is determined as the lowest evaluated and techno-commercially responsive. Thus, variation of awarded/ actual cost may be because of various market forces and pricing strategies followed by the bidders.

17. Uttar Pradesh Power Corporation Ltd. (UPPCL) has requested the Commission to direct the petitioner not to include expenditure against all items as additional capitalization and asked petitioner to submit revised calculation of expenditure as on COD of the assets. UPPCL has further asked the petitioner to



explain the reasons for over estimation of FR cost. In response, the petitioner vide affidavit dated 24.5.2015 submitted that, COD cost claimed in the petition is as per cost incurred up to COD and additional capitalization is due to balance and retention payments. Further, reasons of cost over-run are submitted in the petition.

18. We have considered the submissions of the petitioner and the respondents. We are convinced with the reasons given by the petitioner for cost over-run and it is accordingly allowed. It is observed that the completion cost of Asset-B, Asset-C, Asset-G and Asset-H is exceeding the approved apportioned FR cost. The petitioner was directed to submit the RCE for the project. In response the petitioner vide affidavit dated 24.5.2016 has submitted that the RCE for the project is under approval and shall be submitted shortly. However, no RCE has been submitted. In the absence of RCE, we have restricted the completion cost to the approved apportioned cost of the said assets as discussed in the subsequent paragraphs. The details as submitted by the petitioner are as given below:-

(₹ in lakh)

Asset	Approved apportioned cost as per FR	Capital Cost Claimed	Additional Capitalization Claimed		Total Additional Capitalization Claimed	Estimated Completion Cost Claimed
			2015-16	2016-17		
Asset-A	22501.79	16514.87	1758.96	348.60	2107.56	18622.43
Asset-B	4788.62	3769.14	1090.34	0.00	1090.34	4859.48
Asset-C	1427.13	1248.64	483.22	0.00	483.22	1731.86
Asset-D	6745.90	5284.31	413.59	77.61	491.20	5775.51
Asset-E	20813.68	16906.37	3764.48	0.00	3764.48	20670.85
Asset-F	8280.17	5797.19	1244.07	0.00	1244.07	7041.26



Asset	Approved apportioned cost as per FR	Capital Cost Claimed	Additional Capitalization Claimed		Total Additional Capitalization Claimed	Estimated Completion Cost Claimed
			2015-16	2016-17		
Asset-G	40748.56	42567.41	154.35	2144.35	2298.70	44866.11
Asset-H	10389.40	20275.45	0.00	1653.89	1653.89	21929.34
Total	115695.25	112363.38	8909.01	4224.45	13133.46	125496.84

Time over-run

19. As per the investment approval dated 26.8.2010, the scheme was scheduled to be commissioned within 32 months from the date of investment approval i.e. by 25.4.2013. However, the actual commissioning of the subject assets is as follows:

Particulars	Actual/anticipated COD	Delay in days	Delay
Asset A	1-4-15 (Actual)	706	22 months 7 days
Asset B	5-7-15 (Actual)	801	25 months 10 days
Asset C	25-4-15(Actual)	730	24 months
Asset D	31-8-15 (Actual)	858	28 months 6 days
Asset E	23-4-15 (Actual)	728	23 months 29 days
Asset F	24-4-15 (Actual)	729	24 months
Asset G	25-12-15 (Actual)	974	32 months
Asset H	15-6-16 (Anticipated)	1147	37 months 21 days

20. The reasons given by the petitioner for the time over-run in case of Asset-A, Asset-B, Asset-C, Asset-D, Asset-E, Asset-F, Asset-G and Asset-H are dealt in the following paragraphs.

Asset- A (Combined Asset of A1,A2 and A3), Asset-B, Asset-C & Asset-D

21. **Delay due to Land acquisition-** The delay in commissioning of the assets is mainly due to land acquisition at Bareilly Sub-station. The petitioner



submitted that land acquisition was started in 2008, i.e. much before investment approval. But, the land acquisition was cancelled as it was suggested by Member of Parliament and Ministry of Power to acquire non-agricultural land. Further, UP Sugar and Cane Corporation agreed to give land which was further disapproved as NOC was not granted by the UP Govt. Thereafter, petitioner found locations in villages like Hansani, Mirzapur, Gagir, Dadia Dayaram and further sent the proposal to SLAO for land acquisition for 765/400 kV Bareilly sub-station on 12.4.2010. On 28.10.2010 petitioner had written letter to ADM, Bareilly, UP to issue notification under Section 4 of Land Acquisition Act. Further, Govt. authorities issued notification under Section-4. Thereafter, land authorities published notification under Section-6 of Land Acquisition Act. on 23.9.2011. On 6.11.2011, land owners filed an objection. Further, work was held up due to General elections in UP Assembly. After General Assembly elections, petitioner approached SLAO again for rate negotiation with landlords. Disbursement to landlords was finally done on July 2012. Govt. authorities took considerable time to pay to the land owners, which further delayed the process. Finally, physical possession of land was received in October 2012. Even after getting possession work could not be started due to non-receipt of wages as per the category of land owners from land authorities. The hindrances continued till 30.12.2013. Hence, the delay of 26-28 months for the said assets.

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



SI No	Documents Provided
1	Letter dated 14.12.2008, by local MP to consider non-agricultural land
2	Proposal of private land put up to SLAO dated 12.4.2010
3	Proposal for acquisition of Govt. land put up to DM, Bareilly dated 11.5.2010
4	Letter to DM, Bareilly for early processing of Section 4 by PGCIL dated 18.11.2011
5	Letter from ADM, Bareilly, and demanding reason/need for urgency Clause 17 in the land acquisition dated 2.12.2010 and 10.12.2012.
6	Reply related to urgency clause 17 dated 11.12.2010
7	Notification of Section 4 dated 25.3.2011
8	Letter by SLAO to Secretary for corrigendum of Gazette Notification dated 9.5.2011
9	Publication of Gazette Notification of Section 4 in newspaper dated 14.5.2011 and 15.5.2011
10	Payment delayed due to loans by land owners on land from UP Co-operative Bank in letter dated 21.7.2012
11	Hindrance in work due to non-payment of wages as per category of land owners in letter dated 12.10.2012
12	Letter to SLAO Bareilly by PGCIL for payment of wages as per category of land owners dated 19.1.2013, 15.2.2013, 19.2.2013, 23.2.2013 and 2.4.2013
13	Possession of land whose land owners have not signed the agreement with PGCIL in letter dated 7.9.2013 and 9.5.2013.

Asset- E and Asset-F:

23. **Delay on account of Kashipur Bay Extension work by PTCUL:** The petitioner submitted that in the 27th SCM of Power system planning it was decided that for import of power from North Karnpura and other generating stations of ER, the petitioner would construct 400 kV D/C Bareilly-Kashipur-Roorkee-Saharanpur Quad line. In order to implement these lines, 4 nos. of 400 kV bays were required to be constructed at 400 kV Kashipur Sub-station of M/s Power Transmission Corporation of Uttarakhand Limited (PTCUL). After investment approval, the draft MoU was prepared by the petitioner and sent to



PTCUL in February 2011. PTCUL raised certain objections which were replied by the petitioner. However, since the matter was not resolved, in March 2012 the matter was raised to CEA (Central Electricity Authority) where two alternatives were suggested.

- a. PTCUL would take up the construction work of 4 nos of 400 kV line bays at Kashipur, as deposit works of the petitioner. After commissioning of the bays ownership to be transferred to PGCIL and O&M would be carried out by PTCUL.
- b. PTCUL can allow the petitioner to construct the lines at Kashipur sub-station and PGCIL would have to pay the land lease, pro-rata charges, supervision charges at 15% of total cost and subsequent O&M charges.

24. Since, the decision from PTCUL was long awaited the matter was raised in 24th Meeting of TCC and 27th NRPC Meeting held on 29.11.2012 and 30.11.2012 respectively. PTCUL was demanding the petitioner to pay (i) Land lease (ii) 15% of total cost as supervision charges whereas petitioner proposed payment of 15% of erection cost only as supervision charges to PTCUL. Further the matter was discussed in 31st SCM on 2.1.2013, 25th TCC Meeting and 28th NRPC meeting held on 2.1.2013, 25.4.2013 and 26.4.2013 respectively. NRPC suggested that construction of line upto periphery of 400 kV Sub-station, PTCUL, Kashipur should be taken up simultaneously to establish Right of Ways. Interconnections could be done after bays are constructed. MOU was finally signed on 27.8.2013. The petitioner has submitted the following documents:-



- a. Extract of 27th NRPC Meeting.
- b. 31st Standing Committee Report.
- c. Extract of 25th TCC Meeting.
- d. Extract of 28th NRPC Meeting.

25. **Delay on account of statutory clearance for affected area of social forest under Rampur Division:** The petitioner had submitted proposal for tree cutting clearance on 8.10.2012. However, stage-I clearance was issued by MoEF, Lucknow on 16.12.2014. The petitioner has submitted the chronology of events, stage-I clearance letter along with supporting documents.

26. **Delay on account of Right of Way:** During laying of lines various ROW issues started on 15.3.2013 at various locations of village Kanauri, Tehsil Bajpur. After long persuasion with Govt. authorities the issue got resolved in 17.3.2015. The petitioner has submitted letters dated 15.6.2013, 21.6.2013, 1.7.2013, 28.3.2014, 8.8.2014 and 10.10.2014.

Asset-G:

Delay on account of Kashipur Bay Extension work by PTCUL

27. **Delay on account of Right of Way:** The work of 400 kV Roorkee-Kashipur transmission line could be commenced after finalization of bays termination at 400 kV sub-station, PTCUL, i.e. after signing of MoU. Thereafter, severe ROW issues occurred at location no 110/0 for diversion of route alignment. The villagers filed a petition before Hon'ble High Court of Uttarakhand. The High Court directed the petitioner to approach the District Magistrate on 4.12.2013. The issue was finally resolved on 14.8.2014. Subsequently, ROW occurred at different locations for land acquisition and compensation. The matter



was finally resolved on 31.3.2015. The petitioner has submitted supporting documents i.e., Writ Petition No. 2475 of 2013 dated 4.12.2013, 16.12.2013 and order by district magistrate dated 14.8.2014.

28. Delay on account of critical weather conditions and disaster in Uttarakhand: There were high floods during 2013 in Haridwar which affected road communications. The effects of floods and water logging were till November 2013. The petitioner has provided the supporting documents and chronology of events for the same.

Asset-H

29. The time over-run for Asset-H is not being considered in this order since the asset is on anticipated COD. The petitioner is directed to submit the complete details of time over-run along with documentary evidence, IDC/IEDC till SCOD and from SCOD to actual COD, on cash basis at the time of truing up of the petition. The tariff for Asset-H, in this order has been determined considering NIL IDC and IEDC and the total Capital Cost has been limited to the approved apportioned cost of the asset.

30. Rajasthan discoms, vide letter dated 27.4.2016 submitted that, reasons for time over-run for Asset-A to D given by the petitioner is vague. Further, land acquisition is a controllable factor. Delay in commissioning of Asset-E, Asset-F and Asset-H is also vague and based on controllable parameters. Reasons for delay for Asset-G are vague and delay on account of critical weather was not persistent till November 2013. In response, the petitioner vide affidavit dated



5.5.2016 submitted that, delay reasons are uncontrollable and prayed to the Commission to condone the same.

31. Uttar Pradesh Power Corporation Limited, vide letter dated 30.11.2015 submitted that, in case of Asset- A to D no efforts was done by the petitioner from date of issue of notice under Section-4 of Land Acquisition Act i.e. 28.10.2010 to the date of issue of notice under Section-6 of Land Acquisition Act , i.e. 23.9.2011. No effort was done from date of final payment to date of taking final possession. Further, in case of Asset-E, F and G letter was written to the authorities regarding possession of land but finally the issue was raised at the level of Chief Secretary on 1.10.2014 for a delay of 15 months. No effort was done by the petitioner to take the matter at the highest level. In case of Asset-H, the delay has been explained for the period 26.8.2010 to 25.6.2011 and the petitioner is silent about rest of the period. In response, the petitioner vide affidavit dated 24.5.2016 submitted the facts as mentioned in paragraph 23 above and also submitted that, it was putting continuous effort to get things resolved. The delay reasons along with supporting documents are explained in page-14, page-60 to 155 of the petition. Further, it was submitted that various communication was done from date of notice under Section-4 to the date of issuance of notice under Section-6 which can be seen in letter dated 5.5.2011, 17.6.2011, 30.7.2011, 1.8.2011 and 24.10.2011 enclosed with the petition. Hence, the petitioner's claim is wrong. For Asset-E and Asset-F after following up with local authorities regarding possession of land the issue was raised to chief secretary level on 1.10.2014. It is submitted that, with continuous follow up with



Govt. officials the ROW issue got resolved on 17.3.2015. ROW issue took around 21 months to get resolved which affected the work in different locations. Just after getting the ROW clearance, on 17.3.2015, petitioner commissioned Asset-E and Asset-F on 23.4.2015 and 24.4.2015 respectively. For Asset-G, the delay reasons along with supporting documents are enclosed with the petition.

32. We have considered the submissions of the petitioner and the respondents. The main reasons for time over-run for the assets are as follows:-

- a. **Asset- A to D:** It is observed that the main reason for time over-run for Asset- A to D is on account of delay in land acquisition even though the land acquisition process was started much before the investment approval. But could be completed only after physical possession of land as on October 2012. The Commission directed the petitioner vide letter dated 23.12.2015 to submit delay justification for the assets. In response, the petitioner vide affidavit dated 24.5.2016 submitted additional information that, as per L2 network of Bareilly sub-station testing and pre-commissioning of the asset were to be done on 24.12.2013 i.e. 22 months of handling over the levelled land to the contractor on 24.12.2013. As the petitioner was able to handover the land to the contractor on 30.12.2013, therefore as per scheduled timeline assets are to be commissioned by 29.11.2015. However, the assets were commissioned within 31.8.2015.
- b. **Asset- E and Asset-F:** The delay for Asset-E and Asset-F was due to delay on account of non-finalization of payment mechanism for supervision charges by PTCUL and PGCIL. The MoU was finalized on



27.8.2013. Delay was also attributed to the unavailability of statutory clearances for affected areas of social forest under Rampur division, till 16.12.2014.

- c. **Asset-G:** The delay is on account of non-finalization of payment mechanism for supervision charges by PTCUL and PGCIL. The MoU was finalized on 27.8.2013. Delay was also attributable to Right of Way where petitioner has submitted the supporting documents along with detailed chronology of events.

33. The time over-run in case of the instant assets is due to reasons beyond the control of the petitioner and accordingly we condone the entire delay in case of all the assets except Asset-H. The time over-run in case of Asset-H will be considered on its actual COD at the time of truing up. The Hon'ble Appellate Tribunal for Electricity in its judgement dated 27.4.2011 in Appeal No.72/2010 has held that the additional cost due to time over-run due to factors beyond the control of project developer shall be capitalised. Therefore, the IDC and IEDC in case of the instant assets, except Asset-H, shall be capitalised.

IDC and IEDC

34. The petitioner submitted Auditor's Certificate for all the assets in support of capital cost claimed by it. The petitioner has also submitted the details of IDC and IEDC claimed on cash basis as given below:-



(₹ in lakh)

Particulars	Asset-A	Asset-B	Asset-C	Asset-D	Asset-E	Asset-F	Asset-G
IDC as per Certificate	1453.90	335.87	107.59	458.54	1367.23	465.31	4134.83
IDC discharged upto COD	1370.68	314.49	79.37	310.86	1092.03	343.85	4134.83
IDC discharged in 2015-16	83.22	21.38	28.22	70.07	275.20	121.46	
IDC to be discharged in 2016-17	-	-	-	77.61	-	-	-

35. Further, the petitioner has submitted that entire IEDC is on cash basis and is discharged up to COD. As discussed above, we have condoned the entire time over-run in case of all the assets. For Asset-H, the petitioner is directed to submit the cash basis IDC and IEDC and IDC upto SCOD and from SCOD to actual COD at the time of truing up.

Initial Spares

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

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

37. The petitioner has claimed initial spares for the assets as given in table below. The initial spares for transmission line and sub-station (green-field) claimed by the petitioner is as given below:-



(₹ in lakh)

Description	Plant & Machinery Cost as on cut-off date	Initial spares claimed	Ceiling limits as per Regulation 8 of the 2009 Tariff Regulation	Initial spares worked out as per Regulations	Excess initial spares claimed	Initial Spares Allowed
Sub-station (including PLCC)	(a)	(b)	(c)	(d)= ((a-b)*c)/(100-c)%	(e)=(d)-(b)	Min(b,d)
Transmission Line						
Asset-A	75.82	0.00	1.00%	0.77	0.00	0.00
Asset-E	12824.52	0.00	1.00%	129.54	0.00	0.00
Asset-F	4561.80	0.00	1.00%	46.08	0.00	0.00
Asset-G	30228.89	300.54	1.00%	302.31	0.00	300.54
Asset-H	8082.57	76.47	1.00%	80.87	0.00	76.47
Sub-station (Greenfield)						
Asset-A	12145.63	489.46	4.00%	485.67	3.79	485.67
Asset-B	4342.82	2.14	4.00%	180.86	0.00	2.14
Asset-C	1111.95	24.15	4.00%	45.33	0.00	24.15
Asset-E	659.09	23.61	4.00%	26.48	0.00	23.61
Asset-F	436.99	14.19	4.00%	17.62	0.00	14.19
Asset-G	1482.42	32.69	4.00%	60.41	0.00	32.69
Asset-H	1463.90	91.15	4.00%	57.20	33.95	57.20

38. The capital cost for the assets as on COD has been worked out by adjusting IDC/IEDC and excess initial spares as given below:-

(₹ in lakh)

Asset	Approved apportioned cost as per FR	Capital Cost as on COD claimed	Excess Initial Spares	Capital Cost as Approved
Asset-A	22501.79	16514.87	3.79	16511.08
Asset-B	4788.62	3769.14	0.00	3769.15
Asset-C	1427.13	1248.64	0.00	1248.64
Asset-D	6745.90	5284.31	0.00	5284.31
Asset-E	20813.68	16906.37	0.00	16906.37
Asset-F	8280.17	5797.19	0.00	5797.19
Asset-G	40748.56	42567.41	0.00	40748.56
Asset-H	10389.40	20275.45	33.95	10389.40



Asset	Approved apportioned cost as per FR	Capital Cost as on COD claimed	Excess Initial Spares	Capital Cost as Approved
Total	115695.25	112363.38	37.74	100654.70

39. For Asset- G and H the capital cost as on COD has been restricted to the approved apportioned FR cost. Accordingly, capital cost as worked out as on COD has been considered for the purpose of tariff computation for 2014-19 tariff period on provisional basis, which shall be trued up at the time of truing up of tariff for 2014-19 period.

Additional Capital Expenditure

40. The petitioner has claimed additional capital expenditure for the assets during tariff period 2015-19, towards balance and retention payments under Clause 1 of Regulation 14 of the 2014 Tariff Regulations.

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

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

.....

(i) Un-discharged liabilities recognized to be payable at a future date;

42. Further, Clause 13 of Regulation 3 of the 2014 Tariff Regulations defines “cut-off Date” as follows:-

“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 a year, the cut - off date shall be 31st March of the year closing after three years of the year of commercial operation:”



43. The cut-off date for Assets- A to G is 31.3.2018. The cut-off date for Asset-H is 31.3.2019. The additional capitalization claimed by the petitioner is within the cut-off date.

44. It is observed that total estimated completion cost including additional capitalization for 2015-16, 2016-17 and 2017-18 is within the approved apportioned cost for all the assets except Asset-B, Asset-C, Asset-G and Asset-H. Therefore, we have restricted the completion cost for these assets to the approved apportioned cost.

45. The additional capitalization for 2015-16, 2016-17 and 2017-18 is allowed under Regulation 14(1)(i) of 2014 Tariff Regulations for all the assets subject to ceiling of approved apportioned cost. The details of additional capitalization allowed is as follows:-

(₹ in lakh)

Name of the element	Particulars	Approved Apportioned Cost	Expenditure upto COD	Additional Capital Expenditure			Total estimated completion cost
				2015-16	2016-17	Total	
Asset-A	Petitioner's Claim	22501.79	16514.87	1758.96	348.60	2107.56	18622.43
	Approved in this order		16511.08	1758.96	348.60	2107.56	18618.64
Asset-B	Petitioner's Claim	4788.62	3769.14	1090.34	0.00	1090.34	4859.48
	Approved in this order		3769.15	1019.47	0.00	1019.47	4788.62
Asset-C	Petitioner's Claim	1427.13	1248.64	483.22	0.00	483.22	1731.86
	Approved in this order		1248.64	178.49	0.00	178.49	1427.13
Asset-D	Petitioner's Claim	6745.90	5284.31	413.59	77.61	491.20	5775.51
	Approved in this order		5284.31	413.59	77.61	491.20	5775.51
Asset-E	Petitioner's Claim	20813.68	16906.37	3764.48	0.00	3764.48	20670.85
	Approved in this order		16906.37	3764.48	0.00	3764.48	20670.85



Name of the element	Particulars	Approved Apportioned Cost	Expenditure upto COD	Additional Capital Expenditure			Total estimated completion cost
				2015-16	2016-17	Total	
Asset-F	Petitioner's Claim	8280.17	5797.19	1244.07	0.00	1244.07	7041.26
	Approved in this order		5797.19	1244.07	0.00	1244.07	7041.26
Asset-G	Petitioner's Claim	40748.56	42567.41	154.35	2144.35	2298.70	44866.11
	Approved in this order		40748.56	0.00	0.00	0.00	40748.56
Asset-H	Petitioner's Claim	10389.40	20275.45	0.00	1653.89	1653.89	21929.34
	Approved in this order		10389.40	0.00	0.00	0.00	10389.40
Total Claimed		115695.25	112363.38	8909.01	4224.45	13133.46	125496.84
Total Approved			100654.70	8379.06	426.21	8805.27	109459.97

Debt: Equity Ratio

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

“19. Debt-Equity Ratio: (1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

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

47. The petitioner has considered debt:equity ratio as 70:30 as on COD for all the assets. We have considered the petitioner's submission. The details of the debt:equity as on COD and for the additional capital expenditure considered for the purpose of tariff for the 2014-19 tariff period is as follows:-



(₹ in lakh)

Particulars	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Asset-A						
Debt	11557.76	70.00	1475.29	70.00	13033.05	70.00
Equity	4953.33	30.00	632.27	30.00	5585.59	30.00
Total	16511.08	100.00	2107.56	100.00	18618.64	100.00
Asset-B						
Debt	2638.42	70.00	713.63	70.00	3352.05	70.00
Equity	1130.73	30.00	305.84	30.00	1436.57	30.00
Total	3769.15	100.00	1019.47	100.00	4788.62	100.00
Asset-C						
Debt	874.05	70.00	124.94	70.00	998.99	70.00
Equity	374.59	30.00	53.55	30.00	428.14	30.00
Total	1248.64	100.00	178.49	100.00	1427.13	100.00
Asset-D						
Debt	3699.02	70.00	343.84	70.00	4042.86	70.00
Equity	1585.29	30.00	147.36	30.00	1732.65	30.00
Total	5284.31	100.00	491.20	100.00	5775.51	100.00
Asset-E						
Debt	11834.46	70.00	2635.14	70.00	14469.60	70.00
Equity	5071.91	30.00	1129.34	30.00	6201.26	30.00
Total	16906.37	100.00	3764.48	100.00	20670.85	100.00
Asset-F						
Debt	4058.03	70.00	870.85	70.00	4928.88	70.00
Equity	1739.16	30.00	373.22	30.00	2112.38	30.00
Total	5797.19	100.00	1244.07	100.00	7041.26	100.00
Asset-G						
Debt	28523.99	70.00	0.00	70.00	28523.99	70.00
Equity	12224.57	30.00	0.00	30.00	12224.57	30.00
Total	40748.56	100.00	0.00	100.00	40748.56	100.00
Asset-H						
Debt	7272.58	70.00	0.00	70.00	7272.58	70.00
Equity	3116.82	30.00	0.00	30.00	3116.82	30.00
Total	10389.40	100.00	0.00	100.00	10389.40	100.00



Interest on Loan (“IOL”)

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

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

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.

(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.”

49. The weighted average rate of IOL has been considered on the basis of rate prevailing as on COD. The petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during 2015-19 tariff period will be adjusted at the time of truing up.

50. We have considered the petitioner’s submissions. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. Further, with regard to floating rate of interest, variation in interest rate if any shall be considered at the time of true up. The details of weighted average rate of interest are placed at **Annexure-I** and the IOL has been worked out and allowed as follows:-

	(₹ in lakh)			
Asset-A	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Gross loan opening	11557.76	12789.03	13033.05	13033.05
Cumulative Repayment up to	0.00	829.48	1709.14	2598.00



Asset-A	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
DOCO/previous year				
Net Loan-Opening	11557.76	11959.55	11323.91	10435.05
Additions during the year	1231.27	244.02	0.00	0.00
Repayment during the year	829.48	879.66	888.86	888.86
Net Loan-Closing	11959.55	11323.91	10435.05	9546.18
Average Loan	11758.65	11641.73	10879.48	9990.61
Rate of Interest (%)	5.0071	4.9534	4.8902	4.8252
Interest	588.77	576.66	532.03	482.07

(₹ in lakh)

Asset-B	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Gross loan opening	2638.42	3352.05	3352.05	3352.05
Cumulative Repayment upto DOCO/previous year	0.00	167.28	420.12	672.96
Net Loan-Opening	2638.42	3184.76	2931.92	2679.08
Additions during the year	713.63	0.00	0.00	0.00
Repayment during the year	167.28	252.84	252.84	252.84
Net Loan-Closing	3184.76	2931.92	2679.08	2426.25
Average Loan	2911.59	3058.34	2805.50	2552.66
Rate of Interest (%)	8.9673	8.9587	8.9364	8.9082
Interest	193.32	273.99	250.71	227.40

(₹ in lakh)

Asset-C	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Gross loan opening	874.05	998.99	998.99	998.99
Cumulative Repayment upto DOCO/previous year	0.00	66.04	141.41	216.79
Net Loan-Opening	874.05	932.96	857.58	782.20
Additions during the year	124.94	0.00	0.00	0.00
Repayment during the year	66.04	75.38	75.38	75.38
Net Loan-Closing	932.96	857.58	782.20	706.83
Average Loan	903.50	895.27	819.89	744.52
Rate of Interest (%)	8.8629	8.8629	8.8629	8.8629
Interest	74.83	79.35	72.67	65.99



(₹ in lakh)

Asset-D	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Gross loan opening	3699.02	3988.53	4042.86	4042.86
Cumulative Repayment upto DOCO/previous year	0.00	169.55	472.49	777.48
Net Loan-Opening	3699.02	3818.98	3570.37	3265.38
Additions during the year	289.51	54.33	0.00	0.00
Repayment during the year	169.55	302.94	304.99	304.99
Net Loan-Closing	3818.98	3570.37	3265.38	2960.39
Average Loan	3759.00	3694.68	3417.87	3112.88
Rate of Interest (%)	8.5763	8.5675	8.5531	8.5415
Interest	188.50	316.54	292.33	265.89

(₹ in lakh)

Asset-E	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Gross loan opening	11834.46	14469.60	14469.60	14469.60
Cumulative Repayment upto DOCO/previous year	0.00	928.60	2015.92	3103.24
Net Loan-Opening	11834.46	13540.99	12453.68	11366.36
Additions during the year	2635.14	0.00	0.00	0.00
Repayment during the year	928.60	1087.32	1087.32	1087.32
Net Loan-Closing	13540.99	12453.68	11366.36	10279.04
Average Loan	12687.73	12997.33	11910.02	10822.70
Rate of Interest (%)	8.6621	8.6514	8.6270	8.5980
Interest	1032.96	1124.46	1027.47	930.53

(₹ in lakh)

Asset-F	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Gross loan opening	4058.03	4928.88	4928.88	4928.88
Cumulative Repayment upto DOCO/previous year	0.00	313.88	681.60	1049.33
Net Loan-Opening	4058.03	4615.01	4247.28	3879.55
Additions during the year	870.85	0.00	0.00	0.00
Repayment during the year	313.88	367.73	367.73	367.73
Net Loan-Closing	4615.01	4247.28	3879.55	3511.83
Average Loan	4336.52	4431.14	4063.42	3695.69



Asset-F	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Rate of Interest (%)	9.0824	9.0689	9.0579	9.0433
Interest	369.11	401.86	368.06	334.21

(₹ in lakh)

Asset-G	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Gross loan opening	28523.99	28523.99	28523.99	28523.99
Cumulative Repayment upto DOCO/previous year	0.00	576.49	2729.50	4882.51
Net Loan-Opening	28523.99	27947.50	25794.49	23641.49
Additions during the year	0.00	0.00	0.00	0.00
Repayment during the year	576.49	2153.01	2153.01	2153.01
Net Loan-Closing	27947.50	25794.49	23641.49	21488.48
Average Loan	28235.75	26871.00	24717.99	22564.98
Rate of Interest (%)	7.9733	7.9578	7.9306	7.8964
Interest	602.81	2138.33	1960.29	1781.82

(₹ in lakh)

Asset-H	2016-17 (Pro-rata)	2017-18	2018-19
Gross loan opening	7272.58	7272.58	7272.58
Cumulative Repayment upto DOCO/previous year	0.00	436.55	985.99
Net Loan-Opening	7272.58	6836.04	6286.59
Additions during the year	0.00	0.00	0.00
Repayment during the year	436.55	549.45	549.45
Net Loan-Closing	6836.04	6286.59	5737.14
Average Loan	7054.31	6561.31	6011.87
Rate of Interest (%)	8.3500	8.3401	8.3286
Interest	468.00	547.22	500.71

Return on Equity (“ROE”)

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



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

Provided that:

i. in case of projects commissioned on or after 1st April, 2014, an additional return of **0.50 %** shall be allowed, if such projects are completed within the timeline specified in **Appendix-I**:

ii. the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:

iii. additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:”

25. Tax on Return on Equity:

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

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

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

52. The petitioner has computed ROE at the rate of 19.705% for all the assets for tariff period 2015-19 after grossing up the ROE with MAT rate as per the above Regulation. The petitioner has further submitted that the grossed up ROE is subject to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax including the interest received from IT authorities, pertaining to the tariff period 2014-19 on actual gross income of any financial year. Any under-recovery or over-recovery of grossed up ROE after



truing up shall be recovered or refunded to the beneficiaries on year to year basis.

53. 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.

54. 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	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Opening Equity	4953.33	5481.01	5585.59	5585.59
Addition due to Additional Capitalisation	527.69	104.58	0.00	0.00
Closing Equity	5481.01	5585.59	5585.59	5585.59
Average Equity	5217.17	5533.30	5585.59	5585.59
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50



Asset-A	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
MAT rate for the year (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax)(%)	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	1023.09	1085.08	1095.33	1095.33

(₹ in lakh)

Asset-B	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Opening Equity	1130.73	1436.57	1436.57	1436.57
Addition due to Additional Capitalisation	305.84	0.00	0.00	0.00
Closing Equity	1436.57	1436.57	1436.57	1436.57
Average Equity	1283.65	1436.57	1436.57	1436.57
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
MAT rate for the year (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax)(%)	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	186.39	281.71	281.71	281.71

(₹ in lakh)

Asset-C	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Opening Equity	374.59	428.14	428.14	428.14
Addition due to Additional Capitalisation	53.55	0.00	0.00	0.00
Closing Equity	428.14	428.14	428.14	428.14
Average Equity	401.37	428.14	428.14	428.14
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
MAT rate for the year (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax)(%)	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	73.55	83.96	83.96	83.96

(₹ in lakh)

Asset-D	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Opening Equity	1585.29	1709.37	1732.65	1732.65
Addition due to Additional Capitalisation	124.08	23.28	0.00	0.00
Closing Equity	1709.37	1732.65	1732.65	1732.65
Average Equity	1647.33	1721.01	1732.65	1732.65
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
MAT rate for the year (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax)(%)	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	188.88	337.49	339.77	339.77



(₹ in lakh)

Asset-E	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Opening Equity	5071.91	6201.26	6201.26	6201.26
Addition due to Additional Capitalisation	1129.34	0.00	0.00	0.00
Closing Equity	6201.26	6201.26	6201.26	6201.26
Average Equity	5636.58	6201.26	6201.26	6201.26
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
MAT rate for the year (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax)(%)	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	1038.89	1216.07	1216.07	1216.07

(₹ in lakh)

Asset-F	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Opening Equity	1739.16	2112.38	2112.38	2112.38
Addition due to Additional Capitalisation	373.22	0.00	0.00	0.00
Closing Equity	2112.38	2112.38	2112.38	2112.38
Average Equity	1925.77	2112.38	2112.38	2112.38
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
MAT rate for the year (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax)(%)	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	353.91	414.24	414.24	414.24

(₹ in lakh)

Asset-G	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Opening Equity	12224.57	12224.57	12224.57	12224.57
Addition due to Additional Capitalisation	0.00	0.00	0.00	0.00
Closing Equity	12224.57	12224.57	12224.57	12224.57
Average Equity	12224.57	12224.57	12224.57	12224.57
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
MAT rate for the year (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax)(%)	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	641.88	2397.24	2397.24	2397.24

(₹ in lakh)

Asset-H	2016-17 (Pro-rata)	2017-18	2018-19
Opening Equity	3116.82	3116.82	3116.82
Addition due to Additional Capitalisation	0.00	0.00	0.00



Asset-H	2016-17 (Pro-rata)	2017-18	2018-19
Closing Equity	3116.82	3116.82	3116.82
Average Equity	3116.82	3116.82	3116.82
Return on Equity (Base Rate) (%)	15.500	15.500	15.500
MAT rate for the year (%)	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax)(%)	19.610	19.610	19.610
Return on Equity (Pre Tax)	485.62	611.21	611.21

Depreciation

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

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

.....

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

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

"27. Depreciation:

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis”

(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in **Appendix-II** to these regulations for the assets of the generating station and transmission system:

Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.



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

57. The petitioner in its petition has computed depreciation considering capital cost as on COD of the assets.

58. As per Clause 67 of Regulation 3 of the 2014 Tariff Regulations, weighted average value of asset as on COD has been considered to work out the weighted average life of the transmission system as 25 years for Asset-A to D, 34 years for Asset-E to H.

59. We have computed depreciation considering approved capital cost as on COD and allowed additional capitalization of the assets. Depreciation is allowed as provided under Regulation 27 of the 2014 Tariff Regulations. The details of the depreciation allowed are given hereunder:-

(₹ in lakh)				
Asset-A	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	16511.08	18270.04	18618.64	18618.64
Additional Capitalization	1758.96	348.60	0.00	0.00
Closing Gross block	18270.04	18618.64	18618.64	18618.64
Average Gross block	17390.56	18444.34	18618.64	18618.64
Rate of Depreciation (%)	4.770	4.769	4.774	4.774
Depreciable Value	14477.88	15423.33	15580.20	15580.20
Elapsed Life of the asset at beginning of the year	0	1	2	3
Weighted Balance Useful life of the asset	25	24	23	22
Remaining Depreciable Value	14477.88	14593.85	13871.06	12982.20
Depreciation	829.48	879.66	888.86	888.86



(₹ in lakh)

Asset-B	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	3769.15	4788.62	4788.62	4788.62
Additional Capitalization	1019.47	0.00	0.00	0.00
Closing Gross block	4788.62	4788.62	4788.62	4788.62
Average Gross block	4278.89	4788.62	4788.62	4788.62
Rate of Depreciation (%)	5.280	5.280	5.280	5.280
Depreciable Value	3851.00	4309.76	4309.76	4309.76
Elapsed Life of the asset at beginning of the year	0	1	2	3
Weighted Balance Useful life of the asset	25	24	23	22
Remaining Depreciable Value	3851.00	4142.47	3889.64	3636.80
Depreciation	167.28	252.84	252.84	252.84

(₹ in lakh)

Asset-C	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	1248.64	1427.13	1427.13	1427.13
Additional Capitalization	178.49	0.00	0.00	0.00
Closing Gross block	1427.13	1427.13	1427.13	1427.13
Average Gross block	1337.89	1427.13	1427.13	1427.13
Rate of Depreciation (%)	5.282	5.282	5.282	5.282
Depreciable Value	1204.10	1284.42	1284.42	1284.42
Elapsed Life of the asset at beginning of the year	0	1	2	3
Weighted Balance Useful life of the asset	25	24	23	22
Remaining Depreciable Value	1204.10	1218.38	1143.01	1067.63
Depreciation	66.04	75.38	75.38	75.38

(₹ in lakh)

Asset-D	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	5284.31	5697.90	5775.51	5775.51
Additional Capitalization	413.59	77.61	0.00	0.00
Closing Gross block	5697.90	5775.51	5775.51	5775.51
Average Gross block	5491.11	5736.71	5775.51	5775.51
Rate of Depreciation (%)	5.281	5.281	5.281	5.281
Depreciable Value	4941.99	5163.03	5197.96	5197.96



Asset-D	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Elapsed Life of the asset at beginning of the year	0	1	2	3
Weighted Balance Useful life of the asset	25	24	23	22
Remaining Depreciable Value	4941.99	4993.49	4725.47	4420.48
Depreciation	169.55	302.94	304.99	304.99

(₹ in lakh)

Asset-E	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	16906.37	20670.85	20670.85	20670.85
Additional Capitalization	3764.48	0.00	0.00	0.00
Closing Gross block	20670.85	20670.85	20670.85	20670.85
Average Gross block	18788.61	20670.85	20670.85	20670.85
Rate of Depreciation (%)	5.258	5.260	5.260	5.260
Depreciable Value	16909.75	18603.77	18603.77	18603.77
Elapsed Life of the asset at beginning of the year	0	1	2	3
Weighted Balance Useful life of the asset	34	33	32	31
Remaining Depreciable Value	16909.75	17675.16	16587.85	15500.53
Depreciation	928.60	1087.32	1087.32	1087.32

(₹ in lakh)

Asset-F	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	5797.19	7041.26	7041.26	7041.26
Additional Capitalization	1244.07	0.00	0.00	0.00
Closing Gross block	7041.26	7041.26	7041.26	7041.26
Average Gross block	6419.23	7041.26	7041.26	7041.26
Rate of Depreciation (%)	5.218	5.222	5.222	5.222
Depreciable Value	5777.30	6337.13	6337.13	6337.13
Elapsed Life of the asset at beginning of the year	0	1	2	3
Weighted Balance Useful life of the asset	34	33	32	31
Remaining Depreciable Value	5777.30	6023.26	5655.53	5287.81
Depreciation	313.88	367.73	367.73	367.73



(₹ in lakh)

Asset-G	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	40748.56	40748.56	40748.56	40748.56
Additional Capitalization	0.00	0.00	0.00	0.00
Closing Gross block	40748.56	40748.56	40748.56	40748.56
Average Gross block	40748.56	40748.56	40748.56	40748.56
Rate of Depreciation (%)	5.284	5.284	5.284	5.284
Depreciable Value	36673.70	36673.70	36673.70	36673.70
Elapsed Life of the asset at beginning of the year	0	1	2	3
Weighted Balance Useful life of the asset	34	33	32	31
Remaining Depreciable Value	36673.70	36097.22	33944.21	31791.20
Depreciation	576.49	2153.01	2153.01	2153.01

(₹ in lakh)

Asset-H	2016-17 (Pro-rata)	2017-18	2018-19
Opening Gross Block	10389.40	10389.40	10389.40
Additional Capitalization	0.00	0.00	0.00
Closing Gross block	10389.40	10389.40	10389.40
Average Gross block	10389.40	10389.40	10389.40
Rate of Depreciation (%)	5.289	5.289	5.289
Depreciable Value	9350.46	9350.46	9350.46
Elapsed Life of the asset at beginning of the year	0	1	2
Weighted Balance Useful life of the asset	34	33	32
Remaining Depreciable Value	9350.46	8913.91	8364.47
Depreciation	436.55	549.45	549.45

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

60. The petitioner has computed normative O&M Expenses as per sub-clause (a) of clause (3) of Regulation 29 of the 2014 Tariff Regulations.



61. We have considered the petitioner's submission. The petitioner's entitlement of O&M Expenses has been worked out as given hereunder:-

(₹ in lakh)

Asset-A		2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Actual (No. of bays)	765 kV bay	4	4	4	4
	400 kV bays	3	3	3	3
Line Length (km)	Single Circuit Bundled Conductors	1.5	1.5	1.5	1.5
Norms as per Regulation	765 kV bay(₹lakh/bay)	87.22	90.12	93.11	96.2
	400 kV bays (₹lakh/bay)	62.30	64.37	66.51	68.71
	Single Circuit Bundled Conductors (₹lakh/km)	0.627	0.647	0.669	0.691
Total		536.72	554.56	572.97	591.97

(₹ in lakh)

Asset-B		2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Actual (No. of bays)	765 kV bay	1	1	1	1
Norms as per Regulation	765 kV bay(₹lakh/bay)	87.22	90.12	93.11	96.2
Total		64.58	90.12	93.11	96.20

(₹ in lakh)

Asset-C		2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Actual (No. of bays)	400 kV bay	2	2	2	2
Norms as per Regulation	400 kV bay(₹lakh/bay)	62.30	64.37	66.51	68.71
Total		116.43	128.74	133.02	137.42



(₹ in lakh)

Asset-D		2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Actual (No. of bays)	765 kV bay	1	1	1	1
	400 kV bays	1	1	1	1
Norms as per Regulation	765 kV bay(₹lakh/bay)	87.22	90.12	93.11	96.20
	400 kV bays (₹lakh/bay)	62.30	64.37	66.51	68.71
Total		87.42	154.49	159.62	164.91

(₹ in lakh)

Asset-E		2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Actual (No. of bays)	400 kV bays	2	2	2	2
Line Length(km)	Single Circuit Bundled Conductors (km)	104.26	104.26	104.26	104.26
Norms as per Regulation	400 kV bay(₹lakh/bay)	62.30	64.37	66.51	68.71
	Single Circuit Bundled Conductors (₹lakh/km)	0.627	0.647	0.669	0.691
Total		178.55	196.20	202.77	209.46

(₹ in lakh)

Asset-F		2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Actual (No. of bays)	400 kV bays	2	2	2	2
Line Length	Single Circuit Bundled Conductors (km)	104.26	104.26	104.26	104.26
Norms as per Regulation	400 kV bay(₹lakh/bay)	62.3	64.37	66.51	68.71
	Single Circuit Bundled Conductors (₹lakh/km)	0.627	0.647	0.669	0.691
Total		178.03	196.20	202.77	209.46



(₹ in lakh)

Asset-G		2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Actual (No. of bays)	400 kV bays	4	4	4	4
Line Length	Double Circuit Bundled Conductors (km)	150.832	150.832	150.832	150.832
Norms as per Regulation	400 kV bay(₹lakh/bay)	62.30	64.37	66.51	68.71
	Double Circuit Bundled Conductors (₹lakh/km)	1.097	1.133	1.171	1.21
Total		111.03	428.37	442.66	457.35

(₹ in lakh)

Asset-H		2016-17 (Pro-rata)	2017-18	2018-19
Actual (No. of bays)	400 kV bays	4	4	4
Line Length	Double Circuit Bundled Conductors (km)	36.500	36.500	36.500
Norms as per Regulation	400 kV bay(₹lakh/bay)	64.37	66.51	68.71
	Double Circuit Bundled Conductors (₹lakh/km)	1.13	1.17	1.21
Total		237.43	308.78	319.01

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



Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase.

63. 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.

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

(₹ in lakh)				
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Asset-A	536.72	554.56	572.97	591.97
Asset-B	64.58	90.12	93.11	96.20
Asset-C	116.43	128.74	133.02	137.42
Asset-D	87.42	154.49	159.62	164.91
Asset-E	178.55	196.20	202.77	209.46
Asset-F	178.03	196.20	202.77	209.46
Asset-G	111.03	428.37	442.66	457.35
Asset-H	----	237.43	308.78	319.01
Total	1272.77	1986.11	2115.71	2185.78

Interest on Working Capital (“IWC”)

65. As per 2014 Tariff Regulations the components of the working capital and the interest thereon are discussed hereinafter:-

(i) Receivables

As per Regulation 28(1) (c) (i) of the 2014 Tariff Regulations, receivables will be equivalent to two months average billing calculated on target availability level. The petitioner has claimed the receivables on the basis of 2 months transmission charges claimed in the petition. In the tariff being



allowed, receivables have been worked out on the basis of 2 months transmission charges.

(ii) Maintenance Spares

Regulation 28 (1) (c) (ii) of the 2014 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M Expenses from 1.4.2014. The petitioner has claimed maintenance spares for the instant asset and value of maintenance spares has accordingly been worked out as 15% of O&M Expenses.

(iii) O & M Expenses

Regulation 28 (1) (c) (iii) of the 2014 Tariff Regulations provides for operation and maintenance expenses for one month to be included in the working capital. The petitioner has claimed O & M Expenses for the instant asset and value of O & M Expenses has accordingly been worked out by considering 1 month O&M Expenses.

(iv) Rate of interest on working capital

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 transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later. Further, the 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. The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points) for Asset- A to G. For Asset-H, rate of interest on working capital is considered as 12.80% (SBI base rate 9.30% as on 1.4.2016 plus 350 basis points).

66. The interest on working capital allowed is shown in the table below:-

(₹ in lakh)

Asset-A	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	80.51	83.18	85.95	88.79
O & M Expenses	44.73	46.21	47.75	49.33
Receivables	510.65	530.85	529.80	524.62
Total	635.89	660.25	663.49	662.74
Rate of Interest	13.50	13.50	13.50	13.50
Interest	85.84	89.13	89.57	89.47

(₹ in lakh)

Asset-B	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	9.69	13.52	13.97	14.43
O & M Expenses	5.38	7.51	7.76	8.02
Receivables	104.62	153.71	150.27	146.83
Total	119.69	174.74	171.99	169.28
Rate of Interest	13.50	13.50	13.50	13.50
Interest	16.16	23.59	23.22	22.85

(₹ in lakh)

Asset-C	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	17.46	19.31	19.95	20.61
O & M Expenses	9.70	10.73	11.09	11.45
Receivables	57.03	63.34	62.95	62.59
Total	84.20	93.38	93.99	94.65
Rate of Interest	13.50	13.50	13.50	13.50
Interest	11.37	12.61	12.69	12.78



(₹ in lakh)

Asset-D	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	13.11	23.17	23.94	24.74
O & M Expenses	7.29	12.87	13.30	13.74
Receivables	108.63	190.34	187.85	184.27
Total	129.03	226.39	225.10	222.75
Rate of Interest	13.50	13.50	13.50	13.50
Interest	17.42	30.56	30.39	30.07

(₹ in lakh)

Asset-E	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	26.78	29.43	30.42	31.42
O & M Expenses	14.88	16.35	16.90	17.46
Receivables	542.99	618.96	603.58	588.23
Total	584.65	664.74	650.90	637.11
Rate of Interest	13.50	13.50	13.50	13.50
Interest	78.93	89.74	87.87	86.01

(₹ in lakh)

Asset-F	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	26.70	29.43	30.42	31.42
O & M Expenses	14.84	16.35	16.90	17.46
Receivables	208.11	236.35	231.74	227.15
Total	249.65	282.13	279.06	276.03
Rate of Interest	13.50	13.50	13.50	13.50
Interest	33.70	38.09	37.67	37.26

(₹ in lakh)

Asset-G	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	16.65	64.26	66.40	68.60
O & M Expenses	9.25	35.70	36.89	38.11
Receivables	330.04	1215.76	1187.92	1160.07
Total	355.95	1315.72	1291.21	1266.79
Rate of Interest	13.50	13.50	13.50	13.50
Interest	48.05	177.62	174.31	171.02

(₹ in lakh)

Asset-H	2016-17 (Pro-rata)	2017-18	2018-19
Maintenance Spares	35.61	46.32	47.85
O & M Expenses	19.79	25.73	26.58
Receivables	278.39	345.01	338.88



Asset-H	2016-17 (Pro-rata)	2017-18	2018-19
Total	333.79	417.06	413.31
Rate of Interest	12.80	12.80	12.80
Interest	42.72	53.38	52.90

Annual Transmission Charges

67. The detailed computation of the various components of the annual fixed charges for the transmission asset for the tariff period 2015-19 is summarised below:-

(₹ in lakh)				
Asset-A	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Gross Block				
Opening Gross Block	16511.08	18270.04	18618.64	18618.64
Additional Capitalisation	1758.96	348.60	0.00	0.00
Closing Gross Block	18270.04	18618.64	18618.64	18618.64
Average Gross Block	17390.56	18444.34	18618.64	18618.64
Rate of Depreciation	4.770	4.769	4.774	4.774
Depreciable Value	14477.88	15423.33	15580.20	15580.20
Elapsed Life of the assets at beginning of the year	0	1	2	3
Weighted Balance Useful life of the assets	25	24	23	22
Remaining Depreciable Value	14477.88	14593.85	13871.06	12982.20
Depreciation	829.48	879.66	888.86	888.86
Interest on Loan				
Gross Normative Loan	11557.76	12789.03	13033.05	13033.05
Cumulative Repayment upto Previous Year	0.00	829.48	1709.14	2598.00
Net Loan-Opening	11557.76	11959.55	11323.91	10435.05
Additions	1231.27	244.02	0.00	0.00
Repayment during the year	829.48	879.66	888.86	888.86
Net Loan-Closing	11959.55	11323.91	10435.05	9546.18
Average Loan	11758.65	11641.73	10879.48	9990.61
Weighted Average Rate of Interest on Loan (%)	5.0071	4.9534	4.8902	4.8252
Interest	588.77	576.66	532.03	482.07
Return on Equity				
Opening Equity	4953.33	5481.01	5585.59	5585.59
Additions	527.69	104.58	0.00	0.00



Asset-A	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Closing Equity	5481.01	5585.59	5585.59	5585.59
Average Equity	5217.17	5533.30	5585.59	5585.59
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	1023.09	1085.08	1095.33	1095.33
Interest on Working Capital				
Maintenance Spares	80.51	83.18	85.95	88.79
O & M expenses	44.73	46.21	47.75	49.33
Receivables	510.65	530.85	529.80	524.62
Total	635.89	660.25	663.49	662.74
Interest	85.84	89.13	89.57	89.47
Annual Transmission Charges				
Depreciation	829.48	879.66	888.86	888.86
Interest on Loan	588.77	576.66	532.03	482.07
Return on Equity	1023.09	1085.08	1095.33	1095.33
Interest on Working Capital	85.84	89.13	89.57	89.47
O & M Expenses	536.72	554.56	572.97	591.97
Total	3063.90	3185.09	3178.78	3147.71

(₹ in lakh)

Asset-B	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Gross Block				
Opening Gross Block	3769.15	4788.62	4788.62	4788.62
Additional Capitalization	1019.47	0.00	0.00	0.00
Closing Gross Block	4788.62	4788.62	4788.62	4788.62
Average Gross Block	4278.89	4788.62	4788.62	4788.62
Rate of Depreciation	5.280	5.280	5.280	5.280
Depreciable Value	3851.00	4309.76	4309.76	4309.76
Elapsed Life of the assets at beginning of the year	0	1	2	3
Weighted Balance Useful life of the assets	25	24	23	22
Remaining Depreciable Value	3851.00	4142.47	3889.64	3636.80
Depreciation	167.28	252.84	252.84	252.84
Interest on Loan				
Gross Normative Loan	2638.42	3352.05	3352.05	3352.05
Cumulative Repayment upto Previous Year	0.00	167.28	420.12	672.96



Asset-B	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Net Loan-Opening	2638.42	3184.76	2931.92	2679.08
Additions	713.63	0.00	0.00	0.00
Repayment during the year	167.28	252.84	252.84	252.84
Net Loan-Closing	3184.76	2931.92	2679.08	2426.25
Average Loan	2911.59	3058.34	2805.50	2552.66
Weighted Average Rate of Interest on Loan (%)	8.9673	8.9587	8.9364	8.9082
Interest	193.32	273.99	250.71	227.40
Return on Equity				
Opening Equity	1130.73	1436.57	1436.57	1436.57
Additions	305.84	0.00	0.00	0.00
Closing Equity	1436.57	1436.57	1436.57	1436.57
Average Equity	1283.65	1436.57	1436.57	1436.57
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	186.39	281.71	281.71	281.71
Interest on Working Capital				
Maintenance Spares	9.69	13.52	13.97	14.43
O & M expenses	5.38	7.51	7.76	8.02
Receivables	104.62	153.71	150.27	146.83
Total	119.69	174.74	171.99	169.28
Interest	16.16	23.59	23.22	22.85
Annual Transmission Charges				
Depreciation	167.28	252.84	252.84	252.84
Interest on Loan	193.32	273.99	250.71	227.40
Return on Equity	186.39	281.71	281.71	281.71
Interest on Working Capital	16.16	23.59	23.22	22.85
O & M Expenses	64.58	90.12	93.11	96.20
Total	627.73	922.25	901.59	881.00

(₹ in lakh)

Asset-C	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Gross Block				
Opening Gross Block	1248.64	1427.13	1427.13	1427.13
Additional Capitalisation	178.49	0.00	0.00	0.00
Closing Gross Block	1427.13	1427.13	1427.13	1427.13
Average Gross Block	1337.89	1427.13	1427.13	1427.13
Rate of Depreciation	5.282	5.282	5.282	5.282



Asset-C	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Depreciable Value	1204.10	1284.42	1284.42	1284.42
Elapsed Life of the assets at beginning of the year	0	1	2	3
Weighted Balance Useful life of the assets	25	24	23	22
Remaining Depreciable Value	1204.10	1218.38	1143.01	1067.63
Depreciation	66.04	75.38	75.38	75.38
Interest on Loan				
Gross Normative Loan	874.05	998.99	998.99	998.99
Cumulative Repayment upto Previous Year	0.00	66.04	141.41	216.79
Net Loan-Opening	874.05	932.96	857.58	782.20
Additions	124.94	0.00	0.00	0.00
Repayment during the year	66.04	75.38	75.38	75.38
Net Loan-Closing	932.96	857.58	782.20	706.83
Average Loan	903.50	895.27	819.89	744.52
Weighted Average Rate of Interest on Loan (%)	8.8629	8.8629	8.8629	8.8629
Interest	74.83	79.35	72.67	65.99
Return on Equity				
Opening Equity	374.59	428.14	428.14	428.14
Additions	53.55	0.00	0.00	0.00
Closing Equity	428.14	428.14	428.14	428.14
Average Equity	401.37	428.14	428.14	428.14
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	73.55	83.96	83.96	83.96
Interest on Working Capital				
Maintenance Spares	17.46	19.31	19.95	20.61
O & M expenses	9.70	10.73	11.09	11.45
Receivables	57.03	63.34	62.95	62.59
Total	84.20	93.38	93.99	94.65
Interest	11.37	12.61	12.69	12.78
Annual Transmission Charges				
Depreciation	66.04	75.38	75.38	75.38
Interest on Loan	74.83	79.35	72.67	65.99
Return on Equity	73.55	83.96	83.96	83.96
Interest on Working Capital	11.37	12.61	12.69	12.78
O & M Expenses	116.43	128.74	133.02	137.42
Total	342.20	380.03	377.71	375.52



(₹ in lakh)

Asset-D	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Gross Block				
Opening Gross Block	5284.31	5697.90	5775.51	5775.51
Additional Capitalisation	413.59	77.61	0.00	0.00
Closing Gross Block	5697.90	5775.51	5775.51	5775.51
Average Gross Block	5491.11	5736.71	5775.51	5775.51
Rate of Depreciation	5.281	5.281	5.281	5.281
Depreciable Value	4941.99	5163.03	5197.96	5197.96
Elapsed Life of the assets at beginning of the year	0	1	2	3
Weighted Balance Useful life of the assets	25	24	23	22
Remaining Depreciable Value	4941.99	4993.49	4725.47	4420.48
Depreciation	169.55	302.94	304.99	304.99
Interest on Loan				
Gross Normative Loan	3699.02	3988.53	4042.86	4042.86
Cumulative Repayment upto Previous Year	0.00	169.55	472.49	777.48
Net Loan-Opening	3699.02	3818.98	3570.37	3265.38
Additions	289.51	54.33	0.00	0.00
Repayment during the year	169.55	302.94	304.99	304.99
Net Loan-Closing	3818.98	3570.37	3265.38	2960.39
Average Loan	3759.00	3694.68	3417.87	3112.88
Weighted Average Rate of Interest on Loan (%)	8.5763	8.5675	8.5531	8.5415
Interest	188.50	316.54	292.33	265.89
Return on Equity				
Opening Equity	1585.29	1709.37	1732.65	1732.65
Additions	124.08	23.28	0.00	0.00
Closing Equity	1709.37	1732.65	1732.65	1732.65
Average Equity	1647.33	1721.01	1732.65	1732.65
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	188.88	337.49	339.77	339.77
Interest on Working Capital				
Maintenance Spares	13.11	23.17	23.94	24.74
O & M expenses	7.29	12.87	13.30	13.74
Receivables	108.63	190.34	187.85	184.27
Total	129.03	226.39	225.10	222.75
Interest	17.42	30.56	30.39	30.07



Asset-D	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Annual Transmission Charges				
Depreciation	169.55	302.94	304.99	304.99
Interest on Loan	188.50	316.54	292.33	265.89
Return on Equity	188.88	337.49	339.77	339.77
Interest on Working Capital	17.42	30.56	30.39	30.07
O & M Expenses	87.42	154.49	159.62	164.91
Total	651.77	1142.03	1127.11	1105.63

(₹ in lakh)

Asset-E	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Gross Block				
Opening Gross Block	16906.37	20670.85	20670.85	20670.85
Additional Capitalisation	3764.48	0.00	0.00	0.00
Closing Gross Block	20670.85	20670.85	20670.85	20670.85
Average Gross Block	18788.61	20670.85	20670.85	20670.85
Rate of Depreciation	5.258	5.260	5.260	5.260
Depreciable Value	16909.75	18603.77	18603.77	18603.77
Elapsed Life of the assets at beginning of the year	0	1	2	3
Weighted Balance Useful life of the assets	34	33	32	31
Remaining Depreciable Value	16909.75	17675.16	16587.85	15500.53
Depreciation	928.60	1087.32	1087.32	1087.32
Interest on Loan				
Gross Normative Loan	11834.46	14469.60	14469.60	14469.60
Cumulative Repayment upto Previous Year	0.00	928.60	2015.92	3103.24
Net Loan-Opening	11834.46	13540.99	12453.68	11366.36
Additions	2635.14	0.00	0.00	0.00
Repayment during the year	928.60	1087.32	1087.32	1087.32
Net Loan-Closing	13540.99	12453.68	11366.36	10279.04
Average Loan	12687.73	12997.33	11910.02	10822.70
Weighted Average Rate of Interest on Loan (%)	8.6621	8.6514	8.6270	8.5980
Interest	1032.96	1124.46	1027.47	930.53
Return on Equity				
Opening Equity	5071.91	6201.26	6201.26	6201.26
Additions	1129.34	0.00	0.00	0.00
Closing Equity	6201.26	6201.26	6201.26	6201.26
Average Equity	5636.58	6201.26	6201.26	6201.26
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500



Asset-E	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	1038.89	1216.07	1216.07	1216.07
Interest on Working Capital				
Maintenance Spares	26.78	29.43	30.42	31.42
O & M expenses	14.88	16.35	16.90	17.46
Receivables	542.99	618.96	603.58	588.23
Total	584.65	664.74	650.90	637.11
Interest	78.93	89.74	87.87	86.01
Annual Transmission Charges				
Depreciation	928.60	1087.32	1087.32	1087.32
Interest on Loan	1032.96	1124.46	1027.47	930.53
Return on Equity	1038.89	1216.07	1216.07	1216.07
Interest on Working Capital	78.93	89.74	87.87	86.01
O & M Expenses	178.55	196.20	202.77	209.46
Total	3257.94	3713.78	3621.50	3529.39

(₹ in lakh)

Asset-F	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Gross Block				
Opening Gross Block	5797.19	7041.26	7041.26	7041.26
Additional Capitalisation	1244.07	0.00	0.00	0.00
Closing Gross Block	7041.26	7041.26	7041.26	7041.26
Average Gross Block	6419.23	7041.26	7041.26	7041.26
Rate of Depreciation	5.218	5.222	5.222	5.222
Depreciable Value	5777.30	6337.13	6337.13	6337.13
Elapsed Life of the assets at beginning of the year	0	1	2	3
Weighted Balance Useful life of the assets	34	33	32	31
Remaining Depreciable Value	5777.30	6023.26	5655.53	5287.81
Depreciation	313.88	367.73	367.73	367.73
Interest on Loan				
Gross Normative Loan	4058.03	4928.88	4928.88	4928.88
Cumulative Repayment upto Previous Year	0.00	313.88	681.60	1049.33
Net Loan-Opening	4058.03	4615.01	4247.28	3879.55
Additions	870.85	0.00	0.00	0.00
Repayment during the year	313.88	367.73	367.73	367.73
Net Loan-Closing	4615.01	4247.28	3879.55	3511.83



Asset-F	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Average Loan	4336.52	4431.14	4063.42	3695.69
Weighted Average Rate of Interest on Loan (%)	9.08	9.07	9.06	9.04
Interest	369.11	401.86	368.06	334.21
Return on Equity				
Opening Equity	1739.16	2112.38	2112.38	2112.38
Additions	373.22	0.00	0.00	0.00
Closing Equity	2112.38	2112.38	2112.38	2112.38
Average Equity	1925.77	2112.38	2112.38	2112.38
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	353.91	414.24	414.24	414.24
Interest on Working Capital				
Maintenance Spares	26.70	29.43	30.42	31.42
O & M expenses	14.84	16.35	16.90	17.46
Receivables	208.11	236.35	231.74	227.15
Total	249.65	282.13	279.06	276.03
Interest	33.70	38.09	37.67	37.26
Annual Transmission Charges				
Depreciation	313.88	367.73	367.73	367.73
Interest on Loan	369.11	401.86	368.06	334.21
Return on Equity	353.91	414.24	414.24	414.24
Interest on Working Capital	33.70	38.09	37.67	37.26
O & M Expenses	178.03	196.20	202.77	209.46
Total	1248.63	1418.10	1390.47	1362.90

(₹ in lakh)

Asset-G	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Gross Block				
Opening Gross Block	40748.56	40748.56	40748.56	40748.56
Additional Capitalisation	0.00	0.00	0.00	0.00
Closing Gross Block	40748.56	40748.56	40748.56	40748.56
Average Gross Block	40748.56	40748.56	40748.56	40748.56
Rate of Depreciation	5.284	5.284	5.284	5.284
Depreciable Value	36673.70	36673.70	36673.70	36673.70
Elapsed Life of the assets at beginning of the year	0	1	2	3
Weighted Balance Useful life of the assets	34	33	32	31



Asset-G	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Remaining Depreciable Value	36673.70	36097.22	33944.21	31791.20
Depreciation	576.49	2153.01	2153.01	2153.01
Interest on Loan				
Gross Normative Loan	28523.99	28523.99	28523.99	28523.99
Cumulative Repayment upto Previous Year	0.00	576.49	2729.50	4882.51
Net Loan-Opening	28523.99	27947.50	25794.49	23641.49
Additions	0.00	0.00	0.00	0.00
Repayment during the year	576.49	2153.01	2153.01	2153.01
Net Loan-Closing	27947.50	25794.49	23641.49	21488.48
Average Loan	28235.75	26871.00	24717.99	22564.98
Weighted Average Rate of Interest on Loan (%)	7.9733	7.9578	7.9306	7.8964
Interest	602.81	2138.33	1960.29	1781.82
Return on Equity				
Opening Equity	12224.57	12224.57	12224.57	12224.57
Additions	0.00	0.00	0.00	0.00
Closing Equity	12224.57	12224.57	12224.57	12224.57
Average Equity	12224.57	12224.57	12224.57	12224.57
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	641.88	2397.24	2397.24	2397.24
Interest on Working Capital				
Maintenance Spares	16.65	64.26	66.40	68.60
O & M expenses	9.25	35.70	36.89	38.11
Receivables	330.04	1215.76	1187.92	1160.07
Total	355.95	1315.72	1291.21	1266.79
Interest	48.05	177.62	174.31	171.02
Annual Transmission Charges				
Depreciation	576.49	2153.01	2153.01	2153.01
Interest on Loan	602.81	2138.33	1960.29	1781.82
Return on Equity	641.88	2397.24	2397.24	2397.24
Interest on Working Capital	48.05	177.62	174.31	171.02
O & M Expenses	111.03	428.37	442.66	457.35
Total	1980.27	7294.57	7127.51	6960.43

(₹ in lakh)

Asset-H	2016-17 (Pro-rata)	2017-18	2018-19
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Asset-H	2016-17 (Pro-rata)	2017-18	2018-19
Gross Block			
Opening Gross Block	10389.40	10389.40	10389.40
Additional Capitalisation	0.00	0.00	0.00
Closing Gross Block	10389.40	10389.40	10389.40
Average Gross Block	10389.40	10389.40	10389.40
Rate of Depreciation	5.289	5.289	5.289
Depreciable Value	9350.46	9350.46	9350.46
Elapsed Life of the assets at beginning of the year	0	1	2
Weighted Balance Useful life of the assets	34	33	32
Remaining Depreciable Value	9350.46	8913.91	8364.47
Depreciation	436.55	549.45	549.45
Interest on Loan			
Gross Normative Loan	7272.58	7272.58	7272.58
Cumulative Repayment upto Previous Year	0.00	436.55	985.99
Net Loan-Opening	7272.58	6836.04	6286.59
Additions	0.00	0.00	0.00
Repayment during the year	436.55	549.45	549.45
Net Loan-Closing	6836.04	6286.59	5737.14
Average Loan	7054.31	6561.31	6011.87
Weighted Average Rate of Interest on Loan (%)	8.3500	8.3401	8.3286
Interest	468.00	547.22	500.71
Return on Equity			
Opening Equity	3116.82	3116.82	3116.82
Additions	0.00	0.00	0.00
Closing Equity	3116.82	3116.82	3116.82
Average Equity	3116.82	3116.82	3116.82
Return on Equity (Base Rate) (%)	15.500	15.500	15.500
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610
Return on Equity (Pre Tax)	485.62	611.21	611.21
Interest on Working Capital			
Maintenance Spares	35.61	46.32	47.85
O & M expenses	19.79	25.73	26.58
Receivables	278.39	345.01	338.88
Total	333.79	417.06	413.31
Interest	42.72	53.38	52.90
Annual Transmission Charges			
Depreciation	436.55	549.45	549.45
Interest on Loan	468.00	547.22	500.71
Return on Equity	485.62	611.21	611.21



Asset-H	2016-17 (Pro-rata)	2017-18	2018-19
Interest on Working Capital	42.72	53.38	52.90
O & M Expenses	237.43	308.78	319.01
Total	1670.32	2070.04	2033.27

Filing Fee and the Publication Expenses

68. 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

69. 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.

Foreign Exchange Rate Variation

70. The petitioner has sought recovery of FERV on foreign loans deployed as provided in Clause 50 of the 2014 Tariff Regulations. The petitioner is entitled to recover the FERV directly from the beneficiaries or the long term transmission customers/DICs as the case may be, in accordance with Clause 1 of Regulation 51 of the 2014 Tariff Regulations.



Service Tax

71. The petitioner has sought to recover service tax on transmission charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list in future. UPPCL has submitted that the petitioner's prayer for reimbursement of service tax, if imposed in future, is premature. We are also of the view that the petitioner's prayer is premature.

Sharing of Transmission Charges

72. 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.

73. The annual transmission charges of the Asset-H shall be recovered from the actual commissioning of the assets.

74. This order disposes of Petition No. 263/TT/2015.

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

Sd/-
(A.S. Bakshi)
Member



ANNEXURE-I

DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO

(₹ in lakh)

Particulars	ASSET-A			
	2014-19			
	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXXVI-DOCO	9.35	600.00	0.00	600.00
BOND XXXVII-DOCO	9.25	1481.91	0.00	1481.91
FC Bond (17.01.2013)-DOCO-63.19	4.10	9478.50	0.00	9478.50
Total		11560.41	0.00	11560.41

(₹ in lakh)

Particulars	ASSET-B		
	2014-19		
	Loan deployed as on COD	Additions during the tariff period	Total
BOND XL-DOCO-	650.00	0.00	650.00
SBI (21.03.2012) - DOCO	300.00	0.00	300.00
BOND - XLV-DOCO	350.00	0.00	350.00
BOND XLVI-DOCO-	225.00	0.00	225.00
BOND XLVIII-DOCO-	966.37	0.00	966.37
Proposed Loan 2015-16 (8.40%)-DOCO-	147.04	0.00	147.04
Total	2638.41	0.00	2638.41

(₹ in lakh)

Particulars	ASSET-C			
	2014-19			
	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND - XLIII-DOCO Loan-	7.93	400.00	0.00	400.00
BOND - XLV-DOCO Loan-	9.65	474.05	0.00	474.05
		874.05	0.00	874.05



(₹ in lakh)

Particulars	ASSET-D			
	2014-19			
	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
SBI(21.3.2012)-DOCO-	0.00	275.00	0.00	275.00
BOND XL-DOCO-	9.30	500.00	0.00	500.00
		3699.01	0.00	3699.01

(₹ in lakh)

Particulars	ASSET-E			
	2014-19			
	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXXIX-DOCO Loan-	9.40	500.00	0.00	500.00
SBI (21.03.2012)-DOCO Loan-	10.10	920.00	0.00	920.00
SBI (21.3.2012)-DOCO Loan.-	10.10	296.88	0.00	296.88
BOND XL-DOCO Loan-	9.30	1700.00	0.00	1700.00
FC - BOND (17.01.2013)-DOCO Loan-63.68	4.10	999.78	0.00	999.78
BOND - XLIII-DOCO Loan-	7.93	496.36	0.00	496.36
BOND - XLV-DOCO Loan-	9.65	1000.00	0.00	1000.00
SBI (2014-15)-DOCO Loan-	10.10	1000.00	0.00	1000.00
BOND XLVI -DOCO Loan-	9.30	1300.00	0.00	1300.00
Bond XLVII-DOCO Loan-	8.93	346.00	0.00	346.00
Bond XLVIII-DOCO Loan-	8.20	1080.00	0.00	1080.00
BOND XLIX-DOCO Loan-	8.15	2195.44	0.00	2195.44
		11834.46	0.00	11834.46

(₹ in lakh)

Particulars	ASSET-F			
	2014-19			
	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total



Particulars	ASSET-F			
	2014-19			
	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XL-DOCO	9.30	1200.00	0.00	1200.00
SBI (21.03.2012)- DOCO	10.10	100.00	0.00	100.00
BOND - XLV-DOCO	9.65	448.04	0.00	448.04
BOND XLVI-DOCO-	9.30	495.00	0.00	495.00
BOND XLVIII	8.20	443.05	0.00	443.05
SBI (2014-15)-DOCO	10.10	505.00	0.00	505.00
BOND XLIX-ADD CAP FOR 2015-16 ADD CAP-	8.15	0.00	85.02	85.02
BOND XLIX-DOCO-	8.15	866.94	0.00	866.94
Total		4058.03	85.02	4143.05

(₹ in lakh)

Particulars	ASSET-G			
	2014-19			
	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND-XXXIV-DOCO-	8.84	1227.53	0.00	1227.53
BOND XXXV-DOCO-	9.64	566.54	0.00	566.54
BOND XXXVI-DOCO-	9.35	595.41	0.00	595.41
BOND XXXVII-DOCO-	9.25	2894.36	0.00	2894.36
BOND-XXXVIII-DOCO-	9.25	956.11	0.00	956.11
BOND-XXXIX-DOCO-	9.40	3267.56	0.00	3267.56
SBI(21.03.2012)-DOCO-	9.55	512.26	0.00	512.26
BOND XL-DOCO-	9.30	1460.75	0.00	1460.75
FC - BOND (17.1.2013)- loan 9-66.84	4.10	5744.90	0.00	5744.90
BOND - XLIII-Doco loan 10	7.93	250.00	0.00	250.00
BOND XLIV-loan 11	8.70	985.98	0.00	985.98
BOND XLV-DOCO-	9.65	6.20	0.00	6.20
SBI (2014-15)-ADD CAP FOR 2015-16 Add Cap-	9.55	0.00	108.05	108.05
SBI (2014-15)-DOCO-	9.55	1000.00	0.00	1000.00
BOND XLVI-DOCO-	9.30	1081.00	0.00	1081.00
BOND XLVII-DOCO-	8.93	700.00	0.00	700.00
BOND XLVIII-DOCO-	8.20	824.39	0.00	824.39



Particulars	ASSET-G			
	2014-19			
	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XLIX-DOCO-	8.15	1819.96	0.00	1819.96
BOND L-DOCO-	8.40	3500.00	0.00	3500.00
BOND LI-DOCO-	8.40	2404.24	0.00	2404.24
Total		29797.19	108.05	29905.24

(₹ in lakh)

Particulars	ASSET-H			
	2014-19			
	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXXIII-DOCO-	8.64	63.50	0.00	63.50
BOND XXXIV-DOCO-	8.84	1500.00	0.00	1500.00
BOND XXXVI-DOCO-	9.35	150.00	0.00	150.00
BOND-XL-loan 4	9.25	200.00	0.00	200.00
BOND-XXXVIII-DOCO-	9.25	300.00	0.00	300.00
BOND-XXXIX-DOCO-	9.40	100.00	0.00	100.00
BOND XL-DOCO-	9.30	450.00	0.00	450.00
FC-BOND (17.1.2013)-DOCO-67.06	4.10	1341.20	0.00	1341.20
BOND-XLIII- DOCO-	7.93	2500.00	0.00	2500.00
BOND - XLV-DOCO-	9.65	1000.00	0.00	1000.00
SBI (2014-15)-DOCO-	9.55	2823.11	0.00	2823.11
BOND XLVI-DOCO-	9.30	500.00	0.00	500.00
BOND XLVIII-DOCO-	8.20	337.74	0.00	337.74
BOND L-DOCO-	8.40	2218.00	0.00	2218.00
BOND LIII-DOCO-	8.13	709.25	0.00	709.25
Total		14192.80	0.00	14192.80



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

(₹ in lakh)

Particulars	ASSET-A			
	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	11560.41	11560.41	11560.41	11560.41
Cumulative Repayments of Loans upto Previous Year	0.00	123.49	286.98	450.47
Net Loans Opening	11560.41	11436.92	11273.43	11109.94
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	123.49	163.49	163.49	163.49
Net Closing Loan	11436.92	11273.43	11109.94	10946.45
Average Net Loan	11498.67	11355.18	11191.69	11028.20
Interest on Loan	575.76	562.46	547.30	532.14
Rate of Interest on Loan (%)	5.0071	4.9534	4.8902	4.8252

(₹ in lakh)

Particulars	ASSET-B			
	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	2638.41	2638.41	2638.41	2638.41
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	81.44	192.05
Net Loans Opening	2638.41	2638.41	2556.97	2446.36
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.00	81.44	110.61	117.28
Net Closing Loan	2638.41	2556.97	2446.36	2329.08
Average Net Loan	2638.41	2597.69	2501.67	2387.72
Interest on Loan	236.59	232.72	223.56	212.70
Rate of Interest on Loan (%)	8.9673	8.9587	8.9364	8.9082

(₹ in lakh)

Particulars	ASSET-C			
	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	874.05	874.05	874.05	874.05
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	72.83
Net Loans Opening	874.05	874.05	874.05	801.22
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.00	0.00	72.83	72.83
Net Closing Loan	874.05	874.05	801.22	728.39
Average Net Loan	874.05	874.05	837.64	764.81
Interest on Loan	77.47	77.47	74.24	67.78
Rate of Interest on Loan (%)	8.8629	8.8629	8.8629	8.8629



(₹ in lakh)

Particulars	ASSET-D			
	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	3699.01	3699.01	3699.01	3699.01
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	66.67	175.01
Net Loans Opening	3699.01	3699.01	3632.34	3524.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.00	66.67	108.34	108.34
Net Closing Loan	3699.01	3632.34	3524.00	3415.66
Average Net Loan	3699.01	3665.68	3578.17	3469.83
Interest on Loan	317.24	314.06	306.04	296.38
Rate of Interest on Loan (%)	8.5763	8.5675	8.5531	8.5415

(₹ in lakh)

Particulars	ASSET-E			
	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	11834.46	11834.46	11834.46	11834.46
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	252.30	629.29
Net Loans Opening	11834.46	11834.46	11582.16	11205.17
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.00	252.30	376.99	405.82
Net Closing Loan	11834.46	11582.16	11205.17	10799.35
Average Net Loan	11834.46	11708.31	11393.67	11002.26
Interest on Loan	1025.11	1012.94	982.93	945.97
Rate of Interest on Loan (%)	8.6621	8.6514	8.6270	8.5980

(₹ in lakh)

Particulars	ASSET-F			
	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	4058.03	4143.05	4143.05	4143.05
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	109.09	255.52
Net Loans Opening	4058.03	4143.05	4033.96	3887.53
Add: Drawl(s) during the year	85.02	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.00	109.09	146.43	146.43
Net Closing Loan	4143.05	4033.96	3887.53	3741.10
Average Net Loan	4100.54	4088.51	3960.75	3814.32
Rate of Interest on Loan (%)	9.0824	9.0689	9.0579	9.0433
Interest on loan	372.43	370.78	358.76	344.94



(₹ in lakh)

Particulars	ASSET-G			
	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	29797.19	29905.24	29905.24	29905.24
Cumulative Repayments of Loans upto Previous Year	251.80	493.00	1091.69	1711.73
Net Loans Opening	29545.39	29412.24	28813.55	28193.51
Add: Drawl(s) during the year	108.05	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	241.20	598.69	620.04	1007.03
Net Closing Loan	29412.24	28813.55	28193.51	27186.48
Average Net Loan	29478.82	29112.90	28503.53	27690.00
Rate of Interest on Loan (%)	7.9733	7.9578	7.9306	7.8964
Interest on loan	2350.43	2316.74	2260.50	2186.52

(₹ in lakh)

Particulars	ASSET-H		
	2016-17	2017-18	2018-19
Gross Opening Loan	14192.80	14192.80	14192.80
Cumulative Repayments of Loans upto Previous Year	277.25	471.71	957.83
Net Loans Opening	13915.55	13721.09	13234.97
Add: Drawl(s) during the year	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	194.46	486.12	486.12
Net Closing Loan	13721.09	13234.97	12748.85
Average Net Loan	13818.32	13478.03	12991.91
Rate of Interest on Loan (%)	8.3500	8.3401	8.3286
Interest on loan	1153.83	1124.08	1082.05

