

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 201/TT/2012

Coram:

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

Date of Hearing: 13.11.2014

Date of Order : 06.05.2015

In the matter of:

Approval of tariff for Transmission assets (Group-3) associated with 765 kV system for Central Part of Northern Grid Part-II in Northern Region for tariff block 2009-14 under Regulation-86 of Central Electricity Regulatory Commission (Conduct of Business) Regulation 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2009.

And in the matter of:

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

.....Petitioner

Vs

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited,
Vidyut Bhawan, Vidyut Marg,
Jaipur- 302 005
2. Ajmer Vidyut Vitran Nigam Limited,
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur
3. Jaipur Vidyut Vitran Nigam Limited,
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur
4. Jodhpur Vidyut Vitran Nigam Limited,
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur



5. Himachal Pradesh State Electricity Board,
Vidyut Bhawan, Kumar House Complex Building II,
Shimla-171 004
 6. Punjab State Power Corporation Limited,
The Mall, Patiala-147 001
 7. Haryana Power Purchase Centre,
Shakti Bhawan, Sector-6,
Panchkula (Haryana)-134 109
 8. Power Development Department,
Govt. of Jammu and Kashmir,
Mini Secretariat, Jammu
 9. Uttar Pradesh Power Corporation Limited,
(Formerly Uttar Pradesh State Electricity Board)
Shakti Bhawan, 14, Ashok Marg,
Lucknow-226 001
 10. Delhi Transco Limited,
Shakti Sadan, Kotla Road,
New Delhi-110 002
 11. BSES Yamuna Power Limited,
Shakti Kiran Building, Karkardooma,
New Delhi-110 092
 12. BSES Rajdhani Power Limited,
BSES Bhawan, Nehru Place
New Delhi
 13. North Delhi Power Limited,
Power Trading & Load Dispatch Group,
Cennet Building, Adjacent to 66/11kV Pitampura-3,
Grid Building, Near PP Jewellers,
Pitampura, New Delhi-110 034
 14. Chandigarh Administration,
Sector-9, Chandigarh
 15. Uttarakhand Power Corporation Limited,
Urja Bhawan, Kanwali Road,
Dehradun
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16. North Central Railway,
Allahabad

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

.....**Respondents**

For petitioner : Shri M.M. Mondal, PGCIL
Shri S.K. Venkatesan, PGCIL
Shri Rakesh Prasad, PGCIL
Ms Sangeeta Edwards, PGCIL

For respondents: None

ORDER

The present petition has been filed by Power Grid Corporation of India Limited (PGCIL) seeking approval of transmission charges for Transmission assets (Group-3) associated with 765 kV system for Central Part of Northern Grid Part-II in Northern Region, from the date of commercial operation to 31.3.2014 based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as “the 2009 Tariff Regulations”).

2. This order has been issued after considering PGCIL affidavits dated 20.2.2013, 16.10.2014 and two affidavits dated 28.11.2014.

3. The Investment Approval (IA) and expenditure sanction for the transmission project was accorded by the Board of Directors of the petitioner vide Memorandum No C/CP/765 kV System in Northern Grid dated 30.7.2009 at an estimated cost of ₹173636 lakh including an IDC of ₹11662 lakh (based on 1st Qtr 2009 price level). The



transmission project was scheduled to be commissioned within 30 months from the date of IA matching with the commissioning of transmission lines of Part-I. Therefore, the scheduled date of commissioning of the transmission system was 30.1.2012 say 1.2.2012. The scope of work covered under the project is broadly as follows:-

Sub-stations

- (a) New 4x1500 MVA. 765/400 kV Sub-station at Jhatikara
- (b) Augmentation of 400/220 kV Meerut Sub-station to 2x1500 MVA, 765/400 kV Sub-station
- (c) Augmentation of 400/220 kV Moga Sub-station to 2x1500 MVA, 765/400 kV Sub-station
- (d) Extension of Agra 765/400 kV Sub-station

Reactive Compensation

Line Reactors	Line Reactor-From Bus	Line Reactor-to bus
Agra-Jhatikara 765 kV S/C line	--	240 MVAR (Switchable)
Meerut-Agra 765 kV s/c line	240 MVAR (Switchable)	--
Bhiwani-Moga 765 kV S/c line	--	240 MVAR (Switchable)

Bus Reactors

1. 1x 240 MVAR Bus Reactor at Jhatikara
2. 1x 240 MVAR Bus Reactor at Meerut
3. 2x 240 MVAR Bus Reactor at Moga

4. The petitioner initially claimed transmission charges for the instant transmission assets on the basis of anticipated dates of commercial operation. Later, vide affidavits dated 20.2.2013 and 16.10.2014, the petitioner has submitted that Asset-2 and Asset-3 have been split into two parts each. The petitioner has also submitted the details of the



actual dates of commercial operation of these assets as per details hereunder:-

S. No	Name of the Asset	Scheduled completion date as per investment approval	Actual date of commercial operation
Asset-1	Associated bays for LILO of both circuits of 400 kV D/C Bamnauli-Mundka/ Bawana at Jhatikara 765/400 kV new Sub-station	1.2.2012	1.10.2012
Asset-2(a)	Associated bays for Agra-Jhatikara transmission line at Jhatikara		1.10.2012
Asset-2(b)	Associated bays for Agra-Jhatikara transmission line at Agra		1.5.2013
Asset-3(a)	Associated bays for Agra-Merrut transmission line at Merrut end		1.2.2013
Asset-3(b)	Associated bays for Agra-Merrut transmission line at Agra end		1.6.2013

5. The petitioner has declared the commercial operation of Asset-2(a) (Associated bays for Agra-Jhatikara transmission line at Jhatikara) and Asset 3(a) (Associated bays for Agra-Merrut transmission line at Merrut end) on 1.10.2012 and 1.2.2013 respectively and in response to query during hearing on 13.11.2014 submitted that the said bays and the associated transmission lines were charged on the same day. However, it has been observed that the Agra-Jhatikara line associated with Asset-2(a) and the Agra-Meerut line associated with Asset 3(a), covered in Petition No. 199/TT/2012, were commissioned on 1.5.2013 and 1.6.2013 respectively. Asset-2(a) and 3(a) were commissioned before commissioning the associated lines. The petitioner has not given any justification for declaring the date of commercial operation of the 765 kV line bays without commissioning of associated lines. We are of the view that the bays commissioned before the commissioning of the associated lines were not in regular



service. Accordingly, we allow tariff for Asset-2(a) and Asset-3(b) matching with the date of commissioning of the associated transmission lines on 1.5.2013 and 1.6.2013 respectively. The date of commercial operation of the instant assets considered for the purpose of tariff calculation is as follows:-

S. No	Name of the Asset	Date of commercial operation considered for tariff
Asset-1	Associated bays for LILO of both circuits of 400 kV D/C Bamnauli-Mundka/Bawana at Jhatikara 765/400 kV new Sub-station	1.10.2012
Asset-2(a)	Associated bays for Agra-Jhatikara transmission line at Jhatikara	1.5.2013
Asset-2(b)	Associated bays for Agra-Jhatikara transmission line at Agra	1.5.2013
Asset-3(a)	Associated bays for Agra-Merrut transmission line at Merrut end	1.6.2013
Asset-3(b)	Associated bays for Agra-Merrut transmission line at Agra end	1.6.2013

6. Accordingly, the petitioner is directed to file the capital cost of Asset-2(a) and Asset-3(a) w.e.f. 1.5.2013 and 1.6.2013 respectively, actual additional capital expenditure thereafter and the corresponding loan details at the time of truing-up.

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

Particulars	Asset-1		Asset-2(a)		Asset-2(b)
	2012-13	2013-14	2012-13	2013-14	2013-14
Depreciation	86.39	186.68	126.42	269.77	54.02
Interest on Loan	168.53	341.10	165.23	332.26	40.29
Return on Equity	141.97	298.08	139.65	296.21	53.32
Interest on Working Capital	15.98	33.47	14.72	30.80	7.86
O & M Expenses	123.84	261.84	86.68	183.28	84.00
Total	536.71	1121.17	532.70	1112.32	239.49

(₹ in lakh)



(₹ in lakh)

Particulars	Asset-3(a)		Asset-3(b)
	2012-13	2013-14	2013-14
Depreciation	48.96	309.43	49.60
Interest on Loan	58.63	353.42	57.19
Return on Equity	48.60	307.18	48.95
Interest on Working Capital	5.19	32.45	7.63
O & M Expenses	28.89	183.28	76.37
Total	190.27	1185.76	239.74

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

(₹ In lakh)

Particulars	Asset-1		Asset-2(a)		Asset-2(b)
	2012-13	2013-14	2012-13	2013-14	2013-14
Maintenance Spares	37.15	39.28	26.00	27.49	13.75
O & M Expenses	20.64	21.82	14.45	15.27	7.64
Receivables	178.90	186.86	177.57	185.39	43.54
Total	236.69	247.96	218.02	228.15	64.93
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.20%
Interest	15.98	33.47	29.43	30.80	7.86

(₹ in lakh)

Particulars	Asset-3(a)		Asset-3(b)
	2012-13	2013-14	2013-14
Maintenance Spares	26.00	27.49	13.75
O & M Expenses	14.45	15.27	7.64
Receivables	190.27	197.63	47.95
Total	230.72	240.39	69.34
Rate of Interest	13.50%	13.50%	13.20%
Interest	31.15	32.45	7.80

9. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act. None of the respondents have filed any reply.



10. Having heard the representative of the petitioner and perused the material available on record we proceed to dispose of the petition.

Capital cost

11. Regulation 7 of the 2009 Tariff Regulations so far as relevant provides as under:-

“(1) Capital cost for a project shall include:-

- (a) The expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan – (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 fund deployed, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check.
- (b) capitalised initial spares subject to the ceiling rates specified in regulation 8; and
- (c) additional capital expenditure determined under regulation 9:

Provided that the assets forming part of the project, but not in use shall be taken out of the capital cost.

(2) The capital cost admitted by the Commission after prudence check shall form the basis for determination of tariff:

Provided that in case of the thermal generating station and the transmission system, prudence check of capital cost may be carried out based on the benchmark norms to be specified by the Commission from time to time:

Provided further that in cases where benchmark norms have not been specified, prudence check may include scrutiny of the reasonableness of the capital expenditure, financing plan, interest during construction, use of efficient technology, cost over-run and time over-run, and such other matters as may be considered appropriate by the Commission for determination of tariff.”

12. The details of the apportioned approved capital cost, capital cost as on the dates of actual commercial operation and estimated additional capital expenditure projected to



be incurred for the transmission assets submitted by the petitioner are given hereunder:-

(₹ in lakh)

Particulars	DOC0 as per petitioner	Apportioned approved cost	Projected Cost incurred as on DOC0	Projected Additional capital expenditure		
				DOC0 to 31.3.2013	2013-14	2014-15
Asset-1	1.10.2012	6618.32	5210.20	408.37	130.75	173.11
Asset-2(a)	1.10.2012	7036.09	5149.11	353.81	290.61	-
Asset-2(b)	1.5.2013	1441.08	1055.85	-	106.54	-
Asset-3(a)	1.2.2013	6493.21	5335.36	449.02	145.87	453.71
Asset-3(b)	1.6.2013	1269.57	1077.82	-	84.57	85.84

13. As discussed at Para-5 above, the tariff for Asset-2(a) and Asset-3(a) is being considered with effect from the date of commercial operation of the respective transmission lines. The petitioner has submitted the capital cost of Asset-2(a) and Asset-3(a) from 1.10.2012 and 1.2.2013 respectively. As such, the capital cost considered for computing tariff for Asset-2(a) and Asset-3(a) with effect from 1.5.2013 and 1.6.2013 is the expenditure claimed upto 1.10.2012 and 1.2.2013 respectively and balance add cap for the financial year 2012-13 along with pro-rata add-cap for one month and two months respectively for financial year 2013-14. Balance add-cap claimed for financial year 2013-14 is being treated as additional capital expenditure for 2013-14. As such, the details of capital cost considered is as below:-

(₹ in lakh)

Particulars	Revised DOC0 as considered for tariff	Capital cost as on DOC0 considered for tariff	Estimated Additional capital expenditure		Total estimated completion cost
			2012-13	2013-14	
Asset-2 (a)	1.5.2013	5527.14	-	266.39	5793.53
Asset-3 (a)	1.6.2013	5808.69	-	121.56	5930.25

Tariff shall be subject to revision after submission of revised cost data as directed at para-6 at the time of truing-up.



Time Over-run

14. The project was scheduled to be commissioned within 30 months from the date of IA i.e. 30.7.2009. The scheduled commissioning works out to be 31.1.2012 i.e. 1.2.2012. Asset-1, 2(a), 2(b), 3(a) and 3(b) were commissioned on 1.10.2012, 1.5.2013, 1.5.2013, 1.6.2013 and 1.6.2013 respectively. Thus, there is a delay of 8 to 16 month in commissioning the assets covered in the petition.

15. The petitioner in response to query by the Commission has submitted that the reasons in commissioning of assets occurred mainly because of various court cases, delay in forest clearance and agitation by villagers on the issue of disbursement of final 20% payment of land compensation, etc. The justification submitted by the petitioner for the time over-run is under:-

a) **Asset-1:** A court case was filed by land owners, Sri Maharam & others on 3.8.2011 in High Court of Delhi for stay order on Tower Location No. 9/2 & 9/3. The petitioner succeeded in obtaining vacation of stay order on 29.8.2012 after 12 months of court proceedings. The petitioner exerted all possibilities by putting best efforts of project management in transmission system, despite losing 12 months of construction period and finally declared the commercial operation of LILO of 400kV D/C Bamnauli-Mundka/Bawana line at Jhatikara Sub-station and its associated bays on 1.10.2012.

b) **Asset-2(a) and 2(b):** The delay was mainly due to delay in commissioning of 765 kV Agra-Jhatikara Line and non-availability of 765 kV voltage level at Jhatikara and Agra end and the delay in commissioning of 765 kV Agra-Jhatikara



Line was on account of forest clearance, court cases at various locations and permission of HSIDC for clearance of tower locations, details are as follows:-

1) **Forest clearance Tower Location No.66, 79, 80 & 81:** The petitioner approached forest dept. vide letter dated 31.7.2010 to DFO, Mewat (Haryana) for forest clearance of these locations falling under their Jurisdiction and the clearance was given on 10.1.2013.

2) **Court cases at various locations:**

Tower Location No. 87: A court case was filed by land owner Sri Dalip Singh on 14.12.2010 in Civil Judge (Senior Division), Mewat for stay on tower location 87. The petitioner attended the court hearings and simultaneously also tried amicably to resolve the ROW dispute directly with the land owner. The land owner Dalip Singh voluntarily withdrew the case on 5.6.2012 by completing required formalities in the respective court i.e. after petitioner losing 18 months to settle the court case.

Tower Location No. 63, 76: Court case was filed by Sri Bashir Ahmed and Sallauddin for the respective location. The court called the petitioner on 2.11.2012 & 4.2.2013 respectively for hearing. The issue was resolved on 22.3.2013 by the Court.

3) **Clearance from HSIDC and Reliance SEZ for Tower Location No. 137, 129, 140:** The petitioner vide Letter dated 24.12.2012 and 30.6.2012 has approached DGM, HSIDC and Reliance SEZ for clearance of these



tower locations falling on their land. HSIDC cleared the location on 26.2.2013 whereby Reliance cleared the location verbally for construction and thus the petitioner put all the best efforts, to commission Asset-2(a) and 2(b) on 1.10.2010 and 1.5.2013.

c) Asset-3(a) and 3(b): The delay in case of these assets is mainly due to delay in commissioning of 765 kV Agra-Meerut Line and non-availability of 765 kV voltage level at Meerut and Agra end and also on account of court cases at Tower Location No. 19/0, 84/2 and 67/0, details are as follows:-

- 1) **Tower Location 19/0:** Land owner Smt. Abhilasha Prakash filed the case in lower court in November 2011 during foundation work. Caveat was filed and work executed. However, later on party filed the case for stay in Allahabad High Court on 23.7.2012. The case was dismissed on 4.4.2013.
- 2) **Tower Location 84/2:** Land owner Sri Prempal Singh of village Shajadpur filed case in the court of ADJ, Bulandsahar District on 24.8.2011 to stop construction work on above tower location. The case was dismissed on 18.10.2012 in favour of the petitioner.
- 3) **Tower Location 67/0:** Land owner Sri Farican filed case on 24.5.2012 in the court of First Judge, Bulandsahar District to stop construction work at this location but the said location/area in which the case was filed did not fall in the route of the transmission line and hence



the case was not taken up by the court.

Thus, the petitioner could commission Asset-3(a) and 3(b) on 1.2.2013 and 1.6.2013 respectively.

16. We have considered the submissions made by the petitioner for the time over-run of 8 months in case of Asset-1, 15 months in case of Asset-2(a) and 2(b), and 16 months in case of Asset-3(a) and 3(b) and are convinced that the time over-run was beyond the control of the petitioner and accordingly the time over-run in case of all the assets is condoned.

Initial Spares

17. Regulation 8 of the 2009 Tariff Regulations specifies ceiling norms for capitalization of initial spares in respect of transmission system as under:-

“8. Initial Spares. Initial spares shall be capitalised as a percentage of the original project cost, subject to following ceiling norms:

(iv) Transmission system

(a) Transmission line - 0.75%

(b) Transmission Sub-station - 2.5%

(c) Series Compensation devices and HVDC Station - 3.5%

Provided that where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost under first proviso to clause (2) of regulation 7, such norms shall apply to the exclusion of the norms specified herein.



18. The petitioner has claimed initial spares for all the assets pertaining to sub-stations. However, the claim for initial spares in case of asset-3(a) exceeds the ceiling limit, details of which are as follows:-

(₹ in lakh)					
Particulars (a)	Cost as on Cut-off date (b)	Initial Spares claimed (c)	Ceiling limit (d)	Allowable Initial spares (e)= (b)-(e)*(d)/(100%-(d))	Excess Initial spares claimed (f)=(c)-(e)
Asset-3 (a)	5930.25	188.69	2.50%	147.22	41.47

19. Accordingly, capital cost as on the date of commercial operation for each of the transmission assets is considered, after adjustment of excess initial spares included in the capital cost of Asset-3(a) and is as given below:-

(₹ in lakh)			
Particulars	Capital Cost considered as on DOCO	Deduction in Capital Cost on account of Excess Initial Spares	Capital Cost allowed as on DOCO
Asset-1	5210.20	-	5210.20
Asset-2(a)*	5527.14	-	5527.14
Asset-2(b)	1055.85	-	1055.85
Asset-3(a)*	5808.69	41.47	5767.22
Asset-3(b)	1077.82	-	1077.82

*Revised DOCO considered for tariff as discussed at para-6

Projected Additional Capital Expenditure

20. Clause (1) of Regulation 9 of the 2009 Tariff Regulations provides as under:-

“Additional Capitalisation: (1) The capital expenditure incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

- (i) Undischarged liabilities;
- (ii) Works deferred for execution;



- (iii) Procurement of initial capital Spares within the original scope of work, subject to the provisions of Regulation 8;
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and
- (v) Change in Law.”

21. Clause (11) of Regulation 3 of 2009 Tariff Regulations defines “cut-off” date as under:

“cut-off date” means 31st March of the year closing after 2 years of the year of commercial operation of the project, and in case the project is declared under commercial operation in the last quarter of the year, the cut-off date shall be 31st March of the year closing after 3 years of the year of commercial operation”.

22. After taking into account the date of commercial operation of the transmission assets, cut-off date arrived at is 31.3.2016.

23. The additional capital expenditure from DOCO to 31.3.2013 and during 2013-14 and 2014-15 claimed by the petitioner is given as below:-

Particulars	Date of Commercial operation	DOCO to 31.3.2013	(₹ in lakh)	
			2013-14	2014-15
Asset-1	1.10.2012	408.37	130.75	173.11
Asset-2(a)	1.10.2012	353.81	290.61	-
Asset-2(b)	1.5.2013	-	106.54	-
Asset-3(a)	1.2.2013	449.02	145.87	453.71
Asset-3(b)	1.6.2013	-	84.57	85.84

24. The petitioner’s claim for add-cap for financial year 2014-15 is within the cut-off date but falls beyond the tariff period. Therefore, additional capital expenditure upto 31.3.2014 is being considered for allowing tariff. Based on the above, details of add-cap allowed for all the assets are as given overleaf:-



(₹ in lakh)

Particulars	From DOCO to 31.3.2013	2013-14
Asset-1	408.37	130.75
Asset-2(a)*	-	266.39
Asset-2(b)	-	106.54
Asset-3(a)#	-	121.56
Asset-3(b)	-	84.57

* Pro-rata add-cap for eleven months has been considered as add-cap for financial year 2013-14, while remaining pro-rata add-cap for 1 month is clubbed with capital cost as on DOCO for tariff purpose.

Pro-rata add-cap for ten months has been considered as add-cap for financial year 2013-14, while remaining pro-rata add-cap for 2 months is clubbed with capital cost as on DOCO for tariff purpose.

25. In view of above, total estimated cost as on 31.3.2014 for tariff purpose is considered as below:-

(₹ in lakh)

Particulars	Capital cost as on DOCO	Additional capitalisation		Total estimated cost as on 31.3.2014
		2012-13	2013-14	
Asset-1	5210.20	408.37	130.75	5749.32
Asset-2(a)	5527.14	-	266.39	5793.53
Asset-2(b)	1055.85	-	106.54	1162.39
Asset-3(a)	5767.22	-	121.56	5888.78
Asset-3(b)	1077.82	-	84.57	1162.39

Debt- Equity ratio

26. Regulation 12 of the 2009 Tariff Regulations provides as under:-

“12. Debt-Equity Ratio (1) For a project declared under commercial operation on or after 1.4.2009, 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 where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff:

Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment.



Explanation- The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.

(2) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2009, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2009 shall be considered.

(3) Any expenditure incurred or projected to be incurred on or after 1.4.2009 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”

27. The capital cost on the dates of actual/considered commercial operation arrived at after adjusting excess initial spares as above and additional capitalization allowed have been considered in the normative debt-equity ratio of 70:30. Details of debt-equity as on dates of actual/considered commercial operation and 31.3.2014 considered on normative basis are as under:-

Particulars	Cost on Date of Commercial Operation			Cost as on 31.3.2014		
	Debt	Equity	Total	Debt	Equity	Total
Asset-1	3647.14	1563.06	5210.20	4024.52	1724.80	5749.32
Asset-2(a)*	3869.01	1658.13	5527.14	4055.48	1738.05	5793.53
Asset-2(b)	739.10	316.75	1055.85	813.68	348.71	1162.39
Asset-3(a)*	4037.05	1730.17	5767.22	4122.15	1766.63	5888.78
Asset-3(b)	754.47	323.35	1077.82	813.67	348.72	1162.39

*Debt amount arrived as on DOCO for tariff purpose is discussed at para 33

Return on equity

28. Regulation 15 of the 2009 Tariff Regulations provides as under:-

“15. (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 12.

(2) Return on equity shall be computed on pre-tax basis at the base rate of 15.5% for thermal generating stations, transmission system and run of the river generating

station, and 16.5% for the storage type generating stations including pumped storage hydro generating stations and run of river generating station with pondage and shall be grossed up as per clause (3) of this regulation:

Provided that in case of projects commissioned on or after 1st April, 2009, an additional return of 0.5% shall be allowed if such projects are completed within the timeline specified in **Appendix-II**:

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

(3) The rate of return on equity shall be computed by grossing up the base rate with the Minimum Alternate/Corporate Income Tax Rate for the year 2008-09, as per the Income Tax Act, 1961, as applicable to the concerned generating company or the transmission licensee, as the case may be:

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

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

Where t is the applicable tax rate in accordance with clause (3) of this regulation.

(5) The generating company or the transmission licensee as the case may be, shall recover the shortfall or refund the excess Annual Fixed charge on account of Return on Equity due to change in applicable Minimum Alternate/ Corporate Income Tax Rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission;

Provided further that Annual Fixed charge with respect to the tax rate applicable to the generating company or the transmission licensee, as the case may be, in line with the provisions of the relevant Finance Acts of the respective financial year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations".

29. The petitioner's prayer to recover the shortfall or refund the excess Annual Fixed Charges, on account on return on equity due to change in applicable Minimum Alternate Tax/Corporate Income Tax rate as per the Income Tax Act, 1961 of the respective financial year directly without making any application before the Commission shall be dealt under Regulation 15(5). Return on Equity has been computed @ 17.481% p.a on average equity as per Regulation 15 of the 2009 Tariff Regulations.



30. Details of return on equity calculated are as under:-

Particulars	(₹ in lakh)					
	Asset-1		Asset-2 (a)	Asset-2 (b)	Asset-3 (a)	Asset-3 (b)
	2012-13	2013-14	2013-14	2013-14	2013-14	2013-14
Opening Equity	1563.06	1685.57	1658.13	316.75	1730.17	323.35
Addition due to Additional Capitalization	122.51	39.23	79.92	31.96	36.47	25.37
Closing Equity	1685.57	1724.80	1738.05	348.71	1766.63	348.72
Average Equity	1624.32	1705.18	1698.09	332.73	1748.40	336.03
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (MAT)	11.33%	11.33%	11.33%	11.33%	11.33%	11.33%
Rate of Return on Equity (Pre Tax)	17.481%	17.481%	17.481%	17.481%	17.481%	17.481%
Return on Equity (Pre Tax)	141.97	298.08	272.11	53.32	254.70	48.95

Interest on loan

31. Regulation 16 of the 2009 Tariff Regulations provides as under:-

“16. **Interest on loan capital** (1) The loans arrived at in the manner indicated in regulation 12 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2009 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2009 from the gross normative loan.

(3) The repayment for the year of the tariff period 2009-14 shall be deemed to be equal to the depreciation allowed for that year:

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed.

(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the project:

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.

(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.

(8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.

(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute:

Provided that the beneficiary or the transmission customers shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan.”

32. In keeping with the provisions of Regulation 16 of the 2009 Tariff Regulations, the petitioner’s entitlement to interest on loan has been calculated on all assets, except Asset-2(a) and Asset-3(a), on the following basis:-

(a) Gross amount of loan, repayment of instalments and rate of interest on actual average loan have been considered as per the affidavits dated 11.12.2014 and 19.12.2014.

(b) The yearly repayment for the tariff period 2009-14 has been considered to be equal to the depreciation allowed for that period.



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

33. In the case of Asset-2(a) and 3(a), as the date of commercial operation considered for tariff purposes by the Commission are different from that of the petitioner, the weighted average rate of interest for Asset-2(a) and Asset-3(a) has been worked out on certain assumptions and is applied on the notional average loan during the year to arrive at the interest on loan. These assumptions are as follows:-

(a) In case of Asset-2(a) and Asset-3(a), DOCO considered are 1.5.2013 and 1.6.2013 respectively and the loan amount corresponding to add-cap from actual DOCO to 31.3.2013 are considered as loan as on considered DOCO i.e. 1.5.2013 and 1.6.2013 respectively.

(b) In case of Asset-2(a), the loan amount corresponding to the add-cap for the financial year 2013-14 has been funded through Bond XLIII, which was allotted on 20.5.2013 i.e. after the DOCO of Asset-2(a). Therefore, loan amount corresponding to the eleven months prorated add-cap is considered as "Addition during the year 2013-14" and balance loan amount i.e. one month loan amount is assumed to be funded through equity. However, the equity is restricted to 30%.

(c) In case of Asset-3(a), add cap for financial year 2013-14 is also funded through Bond XLIII. The loan amount corresponding to the ten months prorated add cap is considered as "Addition during the year 2013-14" and balance loan



amount i.e. two months loan amount is assumed to be drawn on considered DOCO i.e. 1.6.2013.

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

35. Details of Interest on Loan calculated are as under:-

Particulars	(₹ in lakh)					
	Asset-1		Asset-2 (a)	Asset-2 (b)	Asset-3 (a)	Asset-3 (b)
	2012-13	2013-14	2013-14	2013-14	2013-14	2013-14
Gross Normative Loan	3647.14	3933.00	3869.01	739.10	4037.05	754.47
Cumulative Repayment upto Previous Year	-	86.40	-	-	-	-
Net Loan-Opening	3647.14	3846.60	3869.01	739.10	4037.05	754.47
Addition due to Additional Capitalisation	285.86	91.53	186.47	74.58	85.09	59.20
Repayment during the year	86.40	186.68	247.88	54.03	256.56	49.60
Net Loan-Closing	3846.60	3751.44	3807.60	759.65	3865.58	764.08
Average Loan	3746.87	3799.02	3838.31	749.38	3951.32	759.27
Weighted Average Rate of Interest on Loan	8.9958%	8.9786%	9.0007%	5.8686%	9.0677%	9.0394%
Interest on Loan	168.53	341.10	316.68	40.31	298.58	57.19

Depreciation

36. Regulation 17 of the 2009 Tariff Regulations provides as under:-

“17. **Depreciation** (1) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission.

(2) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.

Provided that in case of hydro generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation of the site;



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

(3) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

(4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-III 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 date of commercial operation shall be spread over the balance useful life of the assets.

(5) In case of the existing projects, the balance depreciable value as on 1.4.2009 shall be worked out by deducting the cumulative depreciation as admitted by the Commission up to 31.3.2009 from the gross depreciable value of the assets.

(6) 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.”

37. The petitioner has claimed actual depreciation as a component of Annual Fixed Charges. In our calculations, depreciation has been calculated in accordance with clause (4) of Regulation 17 extracted above.

38. The transmission assets were put under commercial operation during the years 2012 and 2013. Accordingly, they will complete 12 years after 2013-14. As such, depreciation has been calculated annually based on Straight Line Method at the rates specified in Appendix-III to the 2009 Tariff Regulations.

39. Details of the depreciation worked out are as given overleaf:-



(₹ in lakh)

Particulars	Asset-1		Asset-2 (a)	Asset-2 (b)	Asset-3 (a)	Asset-3 (b)
	2012-13	2013-14	2013-14	2013-14	2013-14	2013-14
Gross Block as on DOCO	5210.20	5618.57	5527.14	1055.85	5767.22	1077.82
Addition during 2009-14 due to Projected Additional Capitalisation	408.37	130.75	266.39	106.54	121.56	84.57
Gross Block as on 31 st March	5618.57	5749.32	5793.53	1162.39	5888.78	1162.39
Average Gross Block	5414.39	5683.95	5660.33	1109.12	5828.00	1120.11
Rate of Depreciation	3.1914%	3.2844%	4.774%	5.3138%	5.2827%	5.3135%
Depreciable Value	3047.49	3290.09	4633.63	998.21	5245.20	1008.09
Remaining Depreciable Value	3047.49	3203.69	4633.63	998.21	5245.20	1008.09
Depreciation	86.40	186.68	247.88	54.03	256.56	49.60
Cumulative Depreciation/ Advance against Depreciation	86.40	273.08	247.88	54.03	256.56	49.60

Operation & maintenance expenses (O&M Expenses)

40. Clause (g) of Regulation 19 of the 2009 Tariff Regulations specifies the norms for operation and maintenance expenses for the transmission system based on the type of sub-station and the transmission line. Norms specified in respect of the elements covered in the instant petition are as under:-

(₹ lakh per bay)

Elements	2009-10	2010-11	2011-12	2012-13	2013-14
765 kV bays	73.36	77.56	81.99	86.68	91.64
400 kV bays	52.40	55.40	58.57	61.92	65.46

41. The allowable O&M Expenses for the assets are as under:-

(₹ in lakh)

Particulars	2012-13	2013-14
Asset-1		
4 nos. 400 kV bays @	123.84	261.84
Asset-2(a) and 2(b)		
3 nos. 765 kV bays *	-	252.01
Asset-3(a) and 3(b)		
3 nos. 765 kV bays #	-	229.10

@ Pro-rata for six months for year 2012-13

*Pro-rata for eleven months

Pro-rata for ten months



42. The petitioner has submitted that O&M Expenses for the year 2009-14 had been arrived at on the basis of normalized actual O&M Expenses during the period 2003-04 to 2007-08 and by escalating it by 5.72% per annum for arriving at norms for the years of tariff period. The wage hike of 50% on account of pay revision of the employees of public sector undertaking has also been considered while calculating the O&M Expenses for the tariff period 2009-14. The petitioner has further submitted that it may approach the Commission for suitable revision in norms for O&M Expenses in case the impact of wage hike with effect from 1.1.2007 is more than 50%.

43. While specifying the norms for the O & M Expenses, the Commission has in the 2009 Tariff Regulations, given effect to impact of pay revision by factoring 50% on account of pay revision of the employees of PSUs after extensive consultations with the stakeholders, as one time compensation for employee cost. We do not see any reason why the admissible amount is inadequate to meet the requirement of the employee cost. In this order, we have allowed O&M Expenses as per the existing norms.

Interest on working capital

44. The petitioner is entitled to claim interest on working capital as per the Tariff Regulations. The components of the working capital and the petitioner's entitlement to interest thereon are discussed hereunder:-

(i) Receivables

As per Regulation 18(1) (c) (i) of the 2009 Tariff Regulations, receivables as a component of working capital will be equivalent to two months' of fixed cost. The petitioner has claimed the receivables on the basis of 2 months' of annual



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 18 (1) (c) (ii) of the 2009 Tariff Regulations provides for maintenance spares @ 15% per annum of the O & M expenses as part of the working capital from 1.4.2009. The value of maintenance spares has accordingly been worked out.

(iii) O & M expenses

Regulation 18(1) (c) (iii) of the 2009 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 1 month of the respective year. This has been considered in the working capital.

(iv) Rate of interest on working capital

In accordance with clause (3) of Regulation 18 of the 2009 Tariff Regulations, as amended, rate of interest on working capital shall be on normative basis and in case of transmission assets declared under commercial operation after 1.4.2009 shall be equal to State Bank of India Base Rate as applicable on 1st April of the year of commercial operation plus 350 bps. State Bank of India base interest rate on 1.4.2012 was 10.00% and on 1.4.2013 was 9.70%. Therefore, interest rate of 13.50% has been considered in respect of Asset-1 and 13.20% has been



considered in respect of all other transmission assets. The interest on working capital for the assets covered in the petition has been worked out accordingly.

45. Necessary computations of interest on working capital are given under:-

Particulars	(₹ in lakh)					
	Asset-1		Asset-2 (a)	Asset-2 (b)	Asset-3 (a)	Asset-3 (b)
	2012-13	2013-14	2013-14	2013-14	2013-14	2013-14
Maintenance Spares	37.15	39.28	27.49	13.75	27.49	13.75
O & M expenses	20.64	21.82	15.27	7.64	15.27	7.64
Receivables	178.91	186.86	187.74	43.55	197.81	47.95
Total	236.70	247.96	230.50	64.93	240.57	69.33
Interest Rate	13.50%	13.50%	13.20%	13.20%	13.20%	13.20%
Interest	15.98	33.47	27.89	7.86	26.46	7.63

Transmission charges

46. The transmission charges allowed for the transmission assets are summarized as under:-

Particulars	(₹ in lakh)					
	Asset-1		Asset-2 (a)	Asset-2 (b)	Asset-3 (a)	Asset-3 (b)
	2012-13 (pro-rata)	2013-14	2013-14 (Pro-rata)	2013-14 (Pro-rata)	2013-14 (Pro-rata)	2013-14 (Pro-rata)
Depreciation	86.40	186.68	247.88	54.03	256.56	49.60
Interest on Loan	168.53	341.10	316.68	40.31	298.58	57.19
Return on Equity	141.97	298.08	272.11	53.32	254.70	48.95
Interest on Working Capital	15.98	33.47	27.89	7.86	26.46	7.63
O & M Expenses	123.84	261.84	168.00	84.00	152.73	76.37
Total	536.72	1121.18	1032.56	239.51	989.04	239.74

Filing Fee and the Publication Expenses

47. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. The petitioner has clarified that reimbursement of



expenditure has been claimed in terms of Regulation 42 of the 2009 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 Regulation 42 A (1) (a) of the 2009 Tariff Regulations.

Licence Fee

48. The petitioner has submitted that the petitioner may be allowed to bill and recover license fee separately from the respondents as provided in the 2009 Tariff Regulations. The petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 42A (1) (b) of the 2009 Tariff Regulations.

Service Tax

49. The petitioner has made a prayer to be allowed to bill and recover the service tax on transmission charges separately from the respondents, if notification regarding granting of exemption to transmission service is withdrawn at a later date and it is subjected to such service tax in future the beneficiaries shall have to share the service tax paid by the petitioner. We consider petitioner's prayer pre-mature and accordingly this prayer is rejected.

Sharing of Transmission Charges

50. The billing, collection and disbursement of the transmission charges shall be governed by the provision of Central Electricity Regulatory Commission (Sharing of Inter-state Transmission Charges and Losses) Regulations, 2010 as amended from time to time.



51. This order disposes of Petition No. 201/TT/2012.

sd/-
(A.S. Bakshi)
Member

sd/-
(A.K. Singhal)
Member

sd/-
(Gireesh B Pradhan)
Chairperson



(₹ in lakh)

Calculation of Weighted Average Rate of Interest on Actual Loans			
	Details of Loan	2012-13	2013-14
1	Bond XXIX		
	Gross loan opening	11.00	11.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.92
	Net Loan-Opening	11.00	10.08
	Additions during the year	0.00	0.00
	Repayment during the year	0.92	0.92
	Net Loan-Closing	10.08	9.17
	Average Loan	10.54	9.63
	Rate of Interest	9.20%	9.20%
	Interest	0.97	0.89
	Rep Schedule	12 annual instalments from 12.03.2013	
2	Bond XLI		
	Gross loan opening	0.00	210.92
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	210.92
	Additions during the year	210.92	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	210.92	210.92
	Average Loan	105.46	210.92
	Rate of Interest	8.85%	8.85%
	Interest	9.33	18.67
	Rep Schedule	12 Equal Annual Instalments from 19.10.2016	
3	BOND-XXXI		
	Gross loan opening	1000.00	1000.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	1000.00	1000.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	83.33
	Net Loan-Closing	1000.00	916.67
	Average Loan	1000.00	958.33
	Rate of Interest	8.90%	8.90%
	Interest	89.00	85.29
	Rep Schedule	12 Equal Annual Instalments from	

		25.2.2014	
4	Bond XLII		
	Gross loan opening	0.00	74.94
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	74.94
	Additions during the year	74.94	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	74.94	74.94
	Average Loan	37.47	74.94
	Rate of Interest	8.800%	8.800%
	Interest	3.30	6.59
	Rep Schedule	Full payment on 13.03.2023	
5	Bond XXXIV		
	Gross loan opening	1500.00	1500.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	1500.00	1500.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	1500.00	1500.00
	Average Loan	1500.00	1500.00
	Rate of Interest	8.84%	8.84%
	Interest	132.60	132.60
	Rep Schedule	12 Equal Annual Instalments from 21.10.2014	
6	Bond XXXVI		
	Gross loan opening	262.00	262.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	262.00	262.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	262.00	262.00
	Average Loan	262.00	262.00
	Rate of Interest	9.350%	9.35%
	Interest	24.50	24.50
	Rep Schedule	15 Equal Annual Instalments from 29.8.2016	
7	Bond XLIII		
	Gross loan opening	0.00	0.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00



	Net Loan-Opening	0.00	0.00
	Additions during the year	0.00	91.53
	Repayment during the year	0.00	0.00
	Net Loan-Closing	0.00	91.53
	Average Loan	0.00	45.77
	Rate of Interest	7.930%	7.93%
	Interest	0.00	3.63
	Rep Schedule	12 Equal Annual Instalments from 20.05.2017	
8	Bond XXXVIII		
	Gross loan opening	71.33	71.33
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	71.33	71.33
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	71.33	71.33
	Average Loan	71.33	71.33
	Rate of Interest	9.250%	9.250%
	Interest	6.60	6.60
	Rep Schedule	Full payment on 09.03.2027	
9	Bond XL		
	Gross loan opening	702.81	702.81
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	702.81	702.81
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	702.81	702.81
	Average Loan	702.81	702.81
	Rate of Interest	9.30%	9.30%
	Interest	65.36	65.36
	Rep Schedule	12 annual instalments from 28.6.2016	
10	Bond XXXVII		
	Gross loan opening	100.00	100.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	100.00	100.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	100.00	100.00
	Average Loan	100.00	100.00



	Rate of Interest	9.25%	9.25%
	Interest	9.25	9.25
	Rep Schedule	12 Annual Instalments from 26.12.2015	
	Total Loan		
	Gross loan opening	3647.14	3933.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.92
	Net Loan-Opening	3647.14	3932.08
	Additions during the year	285.86	91.53
	Repayment during the year	0.92	84.25
	Net Loan-Closing	3932.08	3939.36
	Average Loan	3789.61	3935.72
	Rate of Interest	8.9958%	8.9786%
	Interest	340.91	353.37



(₹ in lakh)

Calculation of Weighted Average Rate of Interest on Actual Loans		
	Details of Loan	2013-14
1	Bond XXIX	
	Gross loan opening	10.00
	Cumulative Repayment upto DOCO/previous year	0.83
	Net Loan-Opening	9.17
	Additions during the year	0.00
	Repayment during the year	0.83
	Net Loan-Closing	8.33
	Average Loan	8.75
	Rate of Interest	9.20%
	Interest	0.81
	Rep Schedule	12 annual instalments from 12.03.2013
2	BOND-XXXI	
	Gross loan opening	900.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	900.00
	Additions during the year	0.00
	Repayment during the year	75.00
	Net Loan-Closing	825.00
	Average Loan	862.50
	Rate of Interest	8.90%
	Interest	76.76
	Rep Schedule	12 Equal Annual Instalments from 25.2.2014
3	Bond XXXIV	
	Gross loan opening	1500.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	1500.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	1500.00
	Average Loan	1500.00
	Rate of Interest	8.84%
	Interest	132.60
	Rep Schedule	12 Equal Annual Instalments from 21.10.2014
4	Bond XXXVI	
	Gross loan opening	540.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	540.00

	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	540.00
	Average Loan	540.00
	Rate of Interest	9.350%
	Interest	50.49
	Rep Schedule	15 Equal Annual Instalments from 29.8.2016
5	Bond XLIII	
	Gross loan opening	0.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	186.48
	Repayment during the year	0.00
	Net Loan-Closing	186.48
	Average Loan	93.24
	Rate of Interest	7.930%
	Interest	7.39
	Rep Schedule	12 Equal Annual Instalments from 20.05.2017
6	Bond XXXVIII	
	Gross loan opening	34.87
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	34.87
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	34.87
	Average Loan	34.87
	Rate of Interest	9.250%
	Interest	3.23
	Rep Schedule	Full payment on 09.03.2027
7	Bond XL	
	Gross loan opening	247.67
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	247.67
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	247.67
	Average Loan	247.67
	Rate of Interest	9.30%
	Interest	23.03
	Rep Schedule	12 annual instalments from 28.6.2016
8	Bond XXXVII	



	Gross loan opening	619.52
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	619.52
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	619.52
	Average Loan	619.52
	Rate of Interest	9.25%
	Interest	57.31
	Rep Schedule	12 Annual Instalments from 26.12.2015
	Total Loan	
	Gross loan opening	3852.06
	Cumulative Repayment upto DOCO/previous year	0.83
	Net Loan-Opening	3851.23
	Additions during the year	186.48
	Repayment during the year	75.83
	Net Loan-Closing	3961.87
	Average Loan	3906.55
	Rate of Interest	9.0007%
	Interest	351.62

Annexure-III

(₹ in lakh)

Calculation of Weighted Average Rate of Interest on Actual Loans		
	Details of Loan	2013-14
1	BOND-XXXI	
	Gross loan opening	329.04
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	329.04
	Additions during the year	0.00
	Repayment during the year	27.42
	Net Loan-Closing	301.62
	Average Loan	315.33
	Rate of Interest	8.90%
	Interest	28.06
	Rep Schedule	12 Equal Annual Instalments from 25.2.2014
2	Bond XLIII	
	Gross loan opening	0.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	74.58
	Repayment during the year	0.00
	Net Loan-Closing	74.58
	Average Loan	37.29
	Rate of Interest	7.930%
	Interest	2.96
	Rep Schedule	12 Equal Annual Instalments from 20.05.2017
3	IFC-A Loan	
	Gross loan opening	410.05
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	410.05
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	410.05
	Average Loan	410.05
	Rate of Interest	3.35%
	Interest	13.74
	Rep Schedule	20 Annual instalment from 15.09.2017
	Total Loan	
	Gross loan opening	739.09
	Cumulative Repayment upto DOCO/previous year	0.00



	Net Loan-Opening	739.09
	Additions during the year	74.58
	Repayment during the year	27.42
	Net Loan-Closing	786.25
	Average Loan	762.67
	Rate of Interest	5.87%
	Interest	44.76



Annexure-IV

(₹ in Lakh)

Calculation of Weighted Average Rate of Interest on Actual Loans		
	Details of Loan	2013-14
1	Bond XLI	
	Gross loan opening	210.92
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	210.92
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	210.92
	Average Loan	210.92
	Rate of Interest	8.85%
	Interest	18.67
	Rep Schedule	12 Equal Annual Instalments from 19.10.2016
2	BOND-XXXI	
	Gross loan opening	121.96
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	121.96
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	121.96
	Average Loan	121.96
	Rate of Interest	8.90%
	Interest	10.85
	Rep Schedule	12 Equal Annual Instalments from 25.2.2014
3	Bond XLII	
	Gross loan opening	322.56
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	322.56
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	322.56
	Average Loan	322.56
	Rate of Interest	8.800%
	Interest	28.39
	Rep Schedule	Full payment on 13.03.2023
4	Bond XXXIV	
	Gross loan opening	1277.53
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	1277.53
	Additions during the year	0.00



	Repayment during the year	0.00
	Net Loan-Closing	1277.53
	Average Loan	1277.53
	Rate of Interest	8.84%
	Interest	112.93
	Rep Schedule	12 Equal Annual Instalments from 21.10.2014
5	Bond XXXVI	
	Gross loan opening	399.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	399.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	399.00
	Average Loan	399.00
	Rate of Interest	9.350%
	Interest	37.31
	Rep Schedule	15 Equal Annual Instalments from 29.8.2016
6	Bond XLIII	
	Gross loan opening	17.02
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	17.02
	Additions during the year	85.09
	Repayment during the year	0.00
	Net Loan-Closing	102.11
	Average Loan	59.56
	Rate of Interest	7.930%
	Interest	4.72
	Rep Schedule	12 Equal Annual Instalments from 20.05.2017
7	Bond XL	
	Gross loan opening	1717.09
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	1717.09
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	1717.09
	Average Loan	1717.09
	Rate of Interest	9.30%
	Interest	159.69
	Rep Schedule	12 annual instalments from 28.6.2016



	Total Loan	
	Gross loan opening	4066.08
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	4066.08
	Additions during the year	85.09
	Repayment during the year	0.00
	Net Loan-Closing	4151.17
	Average Loan	4108.62
	Rate of Interest	9.0677%
	Interest	372.56



Annexure-V

(₹ in lakh)

Calculation of Weighted Average Rate of Interest on Actual Loans		
	Details of Loan	2013-14
1	Bond XXIX	
	Gross loan opening	10.00
	Cumulative Repayment upto DOCO/previous year	0.83
	Net Loan-Opening	9.17
	Additions during the year	0.00
	Repayment during the year	0.83
	Net Loan-Closing	8.33
	Average Loan	8.75
	Rate of Interest	9.20%
	Interest	0.81
	Rep Schedule	12 annual instalments from 12.03.2013
2	Bond XXXIX	
	Gross loan opening	100.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	100.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	100.00
	Average Loan	100.00
	Rate of Interest	9.40%
	Interest	9.40
	Rep Schedule	Full payment on 29.03.2027
3	BOND-XXXI	
	Gross loan opening	210.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	210.00
	Additions during the year	0.00
	Repayment during the year	17.50
	Net Loan-Closing	192.50
	Average Loan	201.25
	Rate of Interest	8.90%
	Interest	17.91
	Rep Schedule	12 Equal Annual Instalments from 25.2.2014
4	Bond XXXIV	
	Gross loan opening	179.47
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	179.47
	Additions during the year	0.00



	Repayment during the year	0.00
	Net Loan-Closing	179.47
	Average Loan	179.47
	Rate of Interest	8.84%
	Interest	15.87
	Rep Schedule	12 Equal Annual Instalments from 21.10.2014
5	Bond XXXVI	
	Gross loan opening	55.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	55.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	55.00
	Average Loan	55.00
	Rate of Interest	9.350%
	Interest	5.14
	Rep Schedule	15 Equal Annual Instalments from 29.8.2016
6	Bond XLIII	
	Gross loan opening	0.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	59.20
	Repayment during the year	0.00
	Net Loan-Closing	59.20
	Average Loan	29.60
	Rate of Interest	7.930%
	Interest	2.35
	Rep Schedule	12 Equal Annual Instalments from 20.05.2017
7	Bond XXXVIII	
	Gross loan opening	100.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	100.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	100.00
	Average Loan	100.00
	Rate of Interest	9.250%
	Interest	9.25
	Rep Schedule	Full payment on 09.03.2027
8	Bond XXXVII	
	Gross loan opening	100.00



	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	100.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	100.00
	Average Loan	100.00
	Rate of Interest	9.25%
	Interest	9.25
	Rep Schedule	12 Annual Instalments from 26.12.2015
	Total Loan	
	Gross loan opening	754.47
	Cumulative Repayment upto DOCO/previous year	0.83
	Net Loan-Opening	753.64
	Additions during the year	59.20
	Repayment during the year	18.33
	Net Loan-Closing	794.50
	Average Loan	774.07
	Rate of Interest	9.0394%
	Interest	69.97