

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 536/TT/2014**

**Coram:**

**Shri A.K. Singhal, Member  
Shri A.S. Bakshi, Member**

**Date of Hearing : 26.02.2016  
Date of Order : 07.06.2016**

**In the matter of:**

Truing up of transmission tariff for 2009-14 tariff period and determination of transmission tariff for 2014-19 tariff period for **Asset-1:** Moga-Hissar D/C transmission line alongwith 220 kV Hissar-Hissar (BBMB) D/C line and 400 kV S/C Hissar- Bhiwani Ckt.-I transmission line alongwith associated bays at Hissar and Bhiwani Sub-stations (COD: 1.7.1995) and **Asset-2:** one bay at Bhiwani Sub-station for termination of one Ckt. Of 400 kV Bawana-Bhiwani transmission line and 400 kV Bawana-Bhiwani transmission line and 400 kV S/C of Hissar-Bawana transmission line upto Bhiwani alongwith associated bays at Hissar (COD: 1.2.1998) under Moga-Hissar-Bhiwani Transmission System in Northern Region under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

**And in the matter of:**

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

.....**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,  
Thermal Shed TIA, Near 22 Phatak,  
Patiala-147 001
7. Haryana Power Purchase Centre,  
Shakti Bhawan, Sector-6,  
Panchkula (Haryana)-134 109
8. Power Development Department,  
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,  
BSES Bhawan, Nehru Place,  
New Delhi
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

16. North Central Railway,  
Allahabad

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

.....Respondents

For Petitioner: Shri Jasbir Singh, PGCIL  
Ms. Sangeeta Edwards, PGCIL  
Shri S.S. Raju, PGCIL  
Shri M.M. Mondal, PGCIL

For Respondents: Shri S.K. Agarwal, Advocate for Rajasthan DISCOMS  
Shri S.P. Das, Advocate for Rajasthan DISCOMS  
Shri Gaurav Gupta, Advocate for PSPCL

### ORDER

The present petition has been filed by Power Grid Corporation of India Limited ('the petitioner'), for truing up of capital expenditure and tariff for Combined elements of **Asset-1**: Moga-Hissar D/C transmission line alongwith 220 kV Hissar-Hissar (BBMB) D/C line and 400 kV S/C Hissar- Bhiwani Ckt.-I transmission line alongwith associated bays at Hissar and Bhiwani Sub-stations and **Asset-2**: one bay at Bhiwani Sub-station for termination of one Ckt. of 400 kV Bawana-Bhiwani transmission line and 400 kV S/C of Hissar-Bawana transmission line upto Bhiwani alongwith associated bays at Hissar (hereinafter referred as "transmission assets") under Moga-Hissar-Bhiwani Transmission System in Northern Region



under Regulation 6 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as “the 2009 Tariff Regulations”) based on actual expenditure for the period 1.4.2009 to 31.3.2014 and for determination of tariff under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period from 1.4.2014 to 31.3.2019.

2. The respondents are distribution licensees, who are procuring transmission service from the petitioner, mainly beneficiaries of Northern Region.

3. This order has been issued after considering the petitioner’s affidavit dated 12.4.2016.

4. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act, 2003 (“the Act”). The petitioner has served the petition to the respondents. Ajmer Vidyut Vitran Nigam Limited (AVVNL), Respondent No. 2. Jaipur Vidyut Vitran Nigam Limited (JVVNL), Respondent No. 3 and Jodhpur Vidyut Vitran Nigam Limited (JdVVNL), Respondent No.4 have jointly filed reply dated 23.2.2016. The respondents have raised the issue of lack of details in respect of generation of revenue and additional capitalisation during tariff period 2009-14. The respondents have for 2014-19 tariff period raised issues that filing fees, expenses towards publication of notices and O&M etc. should be rejected as these are vague. The respondents have further submitted that the petitioner cannot burden the respondents with vague and ambiguous levies and charges and as such need not be entertained. The petitioner has not filed any rejoinder to the



reply of the respondents. The objections raised by the respondents are addressed in the relevant paragraphs of this order.

5. The hearing in the matter was held on 26.2.2016. Having heard the representatives of the parties and perused the material on record, we proceed to dispose of the petition.

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

a. The revised cost estimate for the transmission system was approved by the Ministry of Power, Central Government vide letter dated 15.5.2001 at an estimated cost of ₹15090 lakh, including IDC of ₹1975 lakh. The Asset-1 and Asset-2 were put under commercial operation w.e.f. 1.7.1995 and 1.2.1998 respectively.

b. The tariff for the period from 1.4.2004 to 31.3.2009 was allowed vide order dated 27.3.2006 in Petition No. 106/2004, which was subsequently revised vide order dated 22.1.2008 in Petition No. 101/2004 by way of implementation of the judgement dated 16.5.2007 in Appeal No. 121 of 2005 of the Hon'ble Appellate Tribunal for Electricity (the Appellate Tribunal). The final tariff for tariff period 2009-14 was determined vide order dated 1.12.2010 in Petition No. 106/2010 in accordance with Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009.

c. Further, the tariff was revised for tariff period 2009-14 while approving Add-cap and De-cap on account of replacement of existing insulators by polymer insulators vide order dated 7.2.2013 in Petition No.



305/2010 in accordance with the 2009 Tariff Regulations. The revised tariff allowed vide order dated 7.2.2013 for the tariff period 2009-14 is as follows:-

(₹ in lakh)

Particulars	Asset-1				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	223.28	245.15	260.46	260.46	260.46
Interest on Loan	1.06	1.71	0.58	-	-
Return on Equity	1106.50	1124.63	1133.19	1133.19	1133.19
Interest on Working Capital	66.04	69.08	71.87	74.31	76.89
O & M Expenses	765.67	809.50	855.87	904.78	956.43
<b>Total</b>	<b>2162.55</b>	<b>2250.07</b>	<b>2321.97</b>	<b>2372.74</b>	<b>2426.97</b>
Particulars	Asset-2				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	105.80	69.51	69.51	69.51	69.51
Interest on Loan	21.09	9.65	4.58	1.00	-
Return on Equity	199.28	205.97	205.97	205.97	205.97
Interest on Working Capital	12.63	12.11	12.35	12.65	13.03
O & M Expenses	116.57	123.23	130.29	137.75	145.62
<b>Total</b>	<b>455.38</b>	<b>420.46</b>	<b>422.70</b>	<b>426.88</b>	<b>434.13</b>

d. The final tariff was determined vide order dated 1.12.2010 in Petition No. 106/2010 based on admitted capital cost of ₹12550 lakh and ₹2060.45 lakh as on 31.3.2009 in case of Asset-1 and Asset-2 respectively. The revised final tariff was determined vide order dated 7.2.2013 in Petition No. 305/2010 after consideration of additional capital expenditure of ₹989.03 lakh and ₹347.96 lakh as well as decapitalisation of ₹297.58 lakh and ₹92.94 lakh on account of replacement of Insulators in case of Asset-1 and Asset-2 respectively. The add-cap and decapitalisation allowed during 2009-10 and 2010-11 for the tariff period 2009-14 are as follows:-

(₹ in lakh)

Particulars	Additional capital expenditure		De-capitalisation	
	2009-10	2010-11	2009-10	2010-11
Asset-1	481.46	507.57	116.55	181.03
Asset-2	347.96	-	92.94	-



e. The MAT rate applicable as on 2008-09 was considered to arrive at rate of return on equity for the tariff period 2009-14, which is required to be adjusted as per the actual MAT rate applicable for the respective year at the time of truing up of tariff for 2009-14 tariff period.

f. The instant petition was filed on 5.12.2014.

### **Truing-up of Annual Fixed Charges for Tariff Period 2009-14**

7. Rajasthan Discoms have submitted that the truing-up of 2009-14 tariff has been filed in a general and rudimentary form without stating specific cause to justify the same and additional capitalisation due to replacement of insulators has already been approved and no details are provided to justify the add-cap by the petitioner. We have considered the submissions of the respondents. Tariff was allowed for the instant assets vide order dated 7.2.2013 for the 2009-14 period on projected basis subject to truing-up. The tariff already needs to be trued up based on the actual expenses duly audited. Thus, we find no ambiguity in the petition and the truing-up of tariff for 2009-14 tariff period has been determined as discussed hereinafter.

### **Capital Cost and Additional Capital Expenditure**

8. Last proviso to Clause (2) of Regulation 7 of the 2009 Tariff Regulations provides that:-

“Provided also that in case of the existing projects, the capital cost admitted by the Commission prior to 1.4.2009 duly trued up by excluding un-discharged liability, if any, as on 1.4.2009 and the additional capital expenditure projected to be incurred for the respective year of the tariff period 2009-14, as may be admitted by the Commission, shall form the basis for determination of tariff”.



9. The petitioner has claimed admitted capital cost of ₹12550 lakh and ₹2060.45 lakh in case of Asset-1 and Asset-2 respectively as on 31.3.2009 for the purpose of tariff. In addition to this, the petitioner for truing-up of tariff has submitted Auditors' Certificate dated 27.9.2014 in the original petition for revised figures of add-cap and decapitalisation on account of replacement of Insulators and has claimed as under:-

(₹ in lakh)

Asset	Expenditure					
	2009-10		2010-11		2011-12	
	Add-cap	De-cap	Add-cap	De-cap	Add-cap	De-cap
1	822.62	-207.92	-	-	127.97	-
2	-	-	-	-	-	-

\*Capital cost has been verified from the audited statements of account by the auditors upto 31.3.2014.

10. As there is variation in the actual cost now submitted vide Auditors' Certificate in the instant petition when compared to the capital cost claimed earlier in Petition No. 305/2010, the petitioner was directed to submit the reasons. In response, the petitioner vide affidavit dated 12.4.2016 has submitted that the entire add-cap on insulator pertains to Asset-1. However, in the petition it was inadvertently shown in the Asset-2 also. The petitioner requested to condone the inadvertent error. We condone the error in the instant case. However, the petitioner is directed to be careful while making claims in the petition and submitting additional information on affidavit and to ensure that such errors do not occur in future.

11. We have considered the submission of the petitioner, and for truing up purpose have considered the entire add-cap and de-cap now for Asset-1 in the instant petition as per Auditors' Certificate dated 27.9.2014 submitted by the





petitioner. Thus, the capital cost admitted as on 31.3.2009 vide order dated 7.2.2013 in Petition No. 305/2010 has been considered as the opening capital cost as on 1.4.2009 for determination of tariff in accordance with Regulation 7 of the 2009 Tariff Regulations. The admitted capital cost of ₹12550 lakh and ₹2060.45 lakh as on 31.3.2009 in case of Asset-1 and Asset-2 respectively has been considered as on 1.4.2009 to work out the trued-up tariff for the tariff period 2009-14.

12. As such, the additional capitalisation and de-capitalisation during 2009-14 is allowed in accordance with Clause 2(viii) of Regulation 9 of the 2009 Tariff Regulations. Accordingly the capital cost allowed as on 31.3.2014 is as follows:-

Asset	Admitted cost as on 31.3.2009	Expenditure				Total cost as on 31.3.2014
		2009-10		2011-12		
		Add-cap	De-cap	Add-cap	De-cap	
1	12550.00	822.62	-207.92	127.97	-	13292.67
2	2060.45	-	-	-	-	2060.45

### **Debt: Equity**

13. Clause (2) of Regulation 12 of the 2009 Tariff Regulations provides that:-

“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:

(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.”



14. The petitioner has claimed trued up Annual Fixed Charge based on debt: equity ratio of 50:50 and 46.53:53.47 in case of Asset-1 and Asset-2 respectively, considered in order dated 1.12.2010 in Petition No. 106/2010 as the transmission assets covered in the instant petition were commissioned prior to 1.4.2009 and 70: 30 admitted for add-cap on account of replacement of Insulators vide order dated 7.2.2013 in Petition No. 305/2010. The admitted debt: equity ratio of 50:50 and 46.53:53.47 in case of Asset-1 and Asset-2 respectively as on 31.3.2009 as opening debt: equity ratio as on 1.4.2009 and 70: 30 for add-cap admitted vide order dated 7.2.2013 in Petition No. 305/2010 has been considered for the purpose of truing up of the approved tariff for tariff period 2009-14. debt: equity ratio of 70:30 in respect of the additional capitalisation in case of Asset-1 has been considered in line with the 2009 Tariff Regulations.

15. The details of the debt: equity considered for the purpose of tariff for 2009-14 tariff period are as follows:-

(₹ in lakh)

Particulars	Asset-1					
	Cost as on 1.4.2009		Net add-cap during 2009-14		Cost as on 31.3.2014	
	Amount	%	Amount	%	Amount	%
Debt	6275.00	50.00	519.87	70.00	6794.87	51.12
Equity	6275.00	50.00	222.80	30.00	6497.80	48.88
<b>Total</b>	<b>12550.00</b>	<b>100.00</b>	<b>742.67</b>	<b>100.00</b>	<b>13292.67</b>	<b>100.00</b>
Particulars	Asset-2					
	Cost as on 1.4.2009		Net add-cap during 2009-14		Cost as on 31.3.2014	
	Amount	%	Amount	%	Amount	%
Debt	958.73	46.53	-	-	958.73	46.53
Equity	1101.72	53.47	-	-	1101.72	53.47
<b>Total</b>	<b>2060.45</b>	<b>100.00</b>	<b>-</b>	<b>-</b>	<b>2060.45</b>	<b>100.00</b>



### **Interest on Loan (“IOL”)**

16. Regulation 16 of the 2009 Tariff Regulations provides the methodology for working out weighted average rate of interest on loan. No IOL is allowed from 2011-12 onwards as normative loan has been fully paid in 2011-12 in case of Asset-1. IOL in case of Asset-2 is being allowed as normative loan is yet to be paid.

17. We have calculated the IOL based on actual interest rate submitted by the petitioner, in accordance with Regulation 16 of the 2009 Tariff Regulations. The details of weighted average rate of interest are attached at Annexure-1 to Annexure-2 to this order and the IOL has been worked out and allowed as follows:-

Particulars	(₹ in lakh)				
	Asset-1				
	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 7.2.2013	1.06	1.71	0.58	-	-
Allowed after trued up	7.14	7.67	-	-	-
Particulars	Asset-2				
	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 7.2.2013	21.09	9.65	4.58	1.00	-
Allowed after trued up	13.49	8.87	5.66	2.46	0.43

### **Return on Equity (“RoE”)**

18. Clause (3), (4) and (5) of the Regulation 15 of the 2009 Tariff Regulations provide that:-

“(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:

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

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 year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations."

19. The petitioner has submitted that MAT rate of 11.330% applicable for 2008-09 was considered in the order dated 7.2.2013. However, for truing up purpose, the computation of RoE for the tariff period 2009-14 has been done on the basis of actual MAT rate applicable during 2009-14. The petitioner has submitted the variation in the MAT rate during 2009-14 as per the Finance Act of the relevant year for the purpose of grossing up of RoE, as follows:-

Particulars	MAT Rate	Grossed up RoE (Base rate/(1-t))
2009-10	16.995 %	18.674%
2010-11	19.931 %	19.358%
2011-12	20.008 %	19.377%
2012-13	20.008 %	19.377%
2013-14	20.961 %	19.610%

20. Accordingly, the RoE as trued up is shown in the table as under:-

Particulars	(₹ in lakh)				
	Asset-1				
	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 7.2.2013	1106.50	1124.63	1133.19	1133.19	1133.19
Allowed after trued up	1189.01	1250.41	1255.36	1259.08	1274.22



Particulars	Asset-2				
	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 7.2.2013	199.28	205.97	205.97	205.97	205.97
Allowed after trued up	205.74	213.27	213.48	213.48	216.05

## **Depreciation**

21. Clause (42) of Regulation 3 of the 2009 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) Hydro generating station	35 years
(e) Transmission line	35 years”

22. Further, Clause (4) of Regulation 17 of the 2009 Tariff Regulations provide as follows:-

“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.”

23. In order dated 7.2.2013, depreciation was worked out in accordance with Regulation 17 of the 2009 Tariff Regulations. As per Regulations 3(42) and 17 (4) of the 2009 Tariff Regulations, useful life for transmission line and sub-station is 35 years and 25 years, respectively. For the purpose of calculation, the life of PLCC has been considered as 25 years. The actual COD is 1.7.1995 and 1.2.1998 of Asset-1 and Asset-2 respectively. Hence, Asset-1 and Asset-2 have completed their 12 years on 30.6.2007 and 31.1.2010 respectively. Accordingly, in respect of Asset-1 and Asset-2, the remaining depreciable value has been spread over the balance useful from 2008-09 and 2010-11 onwards respectively. However, in case of Asset-1, an amount of ₹207.92 lakh has been de-capitalised from the gross block in 2010-11. The corresponding accumulated depreciation of ₹119.27 lakh, worked out on pro-rata basis has also been removed from the total accumulated depreciation of Asset-1.

24. The depreciation for the tariff period 2009-14 has been worked out in accordance with Regulation 17 of the 2009 Tariff Regulations based on admitted capital expenditure and additional capitalisation as under:-

Particulars	(₹ in lakh)				
	Asset-1				
	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 7.2.2013	223.28	245.15	260.46	260.46	260.46
Allowed after trued up	217.44	232.81	239.83	239.83	239.83



Particulars	Asset-2				
	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 7.2.2013	105.80	69.51	69.51	69.51	69.51
Allowed after trued up	99.07	52.57	52.57	52.57	52.57

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

25. The O&M Expenses claimed by the petitioner for tariff period 2009-14 are same as that approved in the tariff order dated 7.2.2013 in Petition No. 305/2010. Accordingly, the O&M Expenses allowed and trued up are the same as follows:-

(₹ in lakh)

Particulars	Asset-1				
	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 7.2.2013	765.67	809.50	855.87	904.78	956.43
Allowed after trued up	765.67	809.50	855.87	904.78	956.43
Particulars	Asset-2				
	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 7.2.2013	116.57	123.23	130.29	137.75	145.62
Allowed after trued up	116.57	123.23	130.29	137.75	145.62

### **Interest on working capital (“IWC”)**

26. Sub-clause (c) of clause (1) of Regulation 18 of the 2009 Tariff Regulations provides the components of the working capital for the transmission system and clause (3) of Regulation 18 of the 2009 Tariff Regulations provides for the rate of interest of working capital.

27. The petitioner has submitted that the rate of interest on working capital has been considered as 12.25% as per Clause (3) of Regulation 18 of the 2009 Tariff Regulations and the components of working capital are also considered in



accordance with Sub-clause (c) of clause (1) of Regulation 18 of the 2009 Regulations.

28. In order dated 7.2.2013 in Petition No. 305/2010, 12.25% rate of interest on working capital applicable for 2008-09 was allowed. In accordance with clause (3) of Regulation 18 of the 2009 Tariff Regulations, rate of interest on working capital shall be on normative basis and in case of transmission assets declared under commercial operation prior to 1.4.2009, shall be equal to short-term Prime Lending Rate as applicable as on 1.4.2009. State Bank of India short-term Prime Lending Rate on 1.4.2009 was 12.25%. Therefore, interest rate of 12.25% has been considered to work out the interest on working capital in the instant case.

29. The IWC trued up is as under:-

Particulars	Asset-1				
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	114.85	121.43	128.38	135.72	143.46
O & M Expenses	63.81	67.46	71.32	75.40	79.70
Receivables	374.51	395.33	404.17	413.36	424.98
<b>Total</b>	<b>553.16</b>	<b>584.21</b>	<b>603.87</b>	<b>624.48</b>	<b>648.15</b>
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
<b>Interest</b>	<b>67.76</b>	<b>71.57</b>	<b>73.97</b>	<b>76.50</b>	<b>79.40</b>
Particulars	Asset-2				
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	17.49	18.48	19.54	20.66	21.84
O & M Expenses	9.71	10.27	10.86	11.48	12.14
Receivables	74.56	68.31	69.03	69.79	71.26
<b>Total</b>	<b>101.76</b>	<b>97.06</b>	<b>99.43</b>	<b>101.93</b>	<b>105.24</b>
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
<b>Interest</b>	<b>12.47</b>	<b>11.89</b>	<b>12.18</b>	<b>12.49</b>	<b>12.89</b>

30. The summary of IWC allowed and trued up are as shown in the table as follows:-





(₹ in lakh)

Particulars	Asset-1				
	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 7.2.2013	66.04	69.08	71.87	74.31	76.89
Allowed after true up	<b>67.76</b>	<b>71.57</b>	<b>73.97</b>	<b>76.50</b>	<b>79.40</b>
Particulars	Asset-2				
	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 7.2.2013	12.63	12.11	12.35	12.65	13.03
Allowed after true up	<b>12.47</b>	<b>11.89</b>	<b>12.18</b>	<b>12.49</b>	<b>12.89</b>

### Annual Fixed Charges for 2009-14 Tariff Period

31. The detailed computation of the various components of the trued up annual fixed charges for the transmission assets for the tariff period 2009-14 is summarised follows:-

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Gross Block</b>					
Opening Gross Block	12550.00	13164.70	13164.70	13292.67	13292.67
Additional Capitalisation	614.70	0.00	127.97	0.00	0.00
Closing Gross Block	13164.70	13164.70	13292.67	13292.67	13292.67
Average Gross Block	12857.35	13164.70	13228.69	13292.67	13292.67
<b>Depreciation</b>					
Rate of Depreciation	1.6912%	1.7685%	1.8129%	1.8042%	1.8042%
Depreciable Value	11330.61	11607.23	11607.23	11607.23	11607.23
Elapsed Life (Beginning of the year)	13	14	15	16	17
Weighted Balance Useful life of the assets	19	18	17	16	15
Remaining Depreciable Value	4131.43	4190.60	4077.06	3837.24	3597.41
Depreciation	217.44	232.81	239.83	239.83	239.83
<b>Interest on Loan</b>					
Gross Normative Loan	6275.00	6705.29	6705.29	6794.87	6794.87
Cumulative Repayment upto Previous Year	6275.00	6492.44	6705.29	6794.87	6794.87
Net Loan-Opening	0.00	212.85	0.00	0.00	0.00
Addition due to Additional Capitalisation	430.29	0.00	89.58	0.00	0.00
Repayment during the year	217.44	212.85	89.58	0.00	0.00
Net Loan-Closing	212.85	0.00	0.00	0.00	0.00
Average Loan	106.42	106.42	0.00	0.00	0.00
Weighted Average Rate of Interest on Loan	6.7119%	7.2048%	7.3971%	7.6180%	7.8096%
Interest	7.14	7.67	0.00	0.00	0.00

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<b>Return on Equity</b>					
Opening Equity	6275.00	6459.41	6459.41	6497.80	6497.80
Addition due to Additional Capitalisation	184.41	0.00	38.39	0.00	0.00
Closing Equity	6459.41	6459.41	6497.80	6497.80	6497.80
Average Equity	6367.21	6459.41	6478.61	6497.80	6497.80
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
MAT rate for the respective years	16.995%	19.931%	20.008%	20.008%	20.961%
Rate of Return on Equity (Pre Tax )	18.674%	19.358%	19.377%	19.377%	19.610%
Return on Equity (Pre Tax)	1189.01	1250.41	1255.36	1259.08	1274.22
<b>Interest on Working Capital</b>					
Maintenance Spares	114.85	121.43	128.38	135.72	143.46
O & M expenses	63.81	67.46	71.32	75.40	79.70
Receivables	374.51	395.33	404.17	413.36	424.98
Total	553.16	584.21	603.87	624.48	648.15
Interest	<b>67.76</b>	<b>71.57</b>	<b>73.97</b>	<b>76.50</b>	<b>79.40</b>
<b>Annual Transmission Charges</b>					
Depreciation	217.44	232.81	239.83	239.83	239.83
Interest on Loan	7.14	7.67	0.00	0.00	0.00
Return on Equity	1189.01	1250.41	1255.36	1259.08	1274.22
Interest on Working Capital	67.76	71.57	73.97	76.50	79.40
O & M Expenses	765.67	809.50	855.87	904.78	956.43
<b>Total</b>	<b>2247.03</b>	<b>2371.96</b>	<b>2425.03</b>	<b>2480.18</b>	<b>2549.87</b>

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Gross Block</b>					
Opening Gross Block	2060.45	2060.45	2060.45	2060.45	2060.45
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Gross Block	2060.45	2060.45	2060.45	2060.45	2060.45
Average Gross Block	2060.45	2060.45	2060.45	2060.45	2060.45
<b>Depreciation</b>					
Rate of Depreciation	4.8083%	2.5515%	2.5515%	2.5515%	2.5515%
Depreciable Value	1854.41	1854.41	1854.41	1854.41	1854.41
Elapsed Life (Beginning of the year)	11	12	13	14	15
Weighted Balance Useful life of the combine assets	17	16	15	14	13
Remaining Depreciable Value	940.24	841.16	788.59	736.02	683.45
Depreciation	99.07	52.57	52.57	52.57	52.57
<b>Interest on Loan</b>					
Gross Normative Loan	958.73	958.73	958.73	958.73	958.73
Cumulative Repayment upto	687.98	787.05	839.62	892.20	944.77



Previous Year					
Net Loan-Opening	270.75	171.68	119.11	66.53	13.96
Addition due to Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Repayment during the year	99.07	52.57	52.57	52.57	13.96
Net Loan-Closing	171.68	119.11	66.53	13.96	0.00
Average Loan	221.21	145.39	92.82	40.25	6.98
Weighted Average Rate of Interest on Loan	6.10%	6.10%	6.10%	6.10%	6.10%
Interest	13.49	8.87	5.66	2.46	0.43
<b>Return on Equity</b>					
Opening Equity	1101.72	1101.72	1101.72	1101.72	1101.72
Addition due to Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Equity	1101.72	1101.72	1101.72	1101.72	1101.72
Average Equity	1101.72	1101.72	1101.72	1101.72	1101.72
Return on Equity (Base Rate )	15.50%	15.50%	15.50%	15.50%	15.50%
MAT rate for the respective years	16.995%	19.931%	20.008%	20.008%	20.961%
Rate of Return on Equity (Pre Tax )	18.674%	19.358%	19.377%	19.377%	19.610%
Return on Equity (Pre Tax)	205.74	213.27	213.48	213.48	216.05
<b>Interest on Working Capital</b>					
Maintenance Spares	17.49	18.48	19.54	20.66	21.84
O & M expenses	9.71	10.27	10.86	11.48	12.14
Receivables	74.56	68.31	69.03	69.79	71.26
Total	101.76	97.06	99.43	101.93	105.24
Interest	<b>12.47</b>	<b>11.89</b>	<b>12.18</b>	<b>12.49</b>	<b>12.89</b>
<b>Annual Transmission Charges</b>					
Depreciation	99.07	52.57	52.57	52.57	52.57
Interest on Loan	13.49	8.87	5.66	2.46	0.43
Return on Equity	205.74	213.27	213.48	213.48	216.05
Interest on Working Capital	12.47	11.89	12.18	12.49	12.89
O & M Expenses	116.57	123.23	130.29	137.75	145.62
<b>Total</b>	<b>447.34</b>	<b>409.83</b>	<b>414.19</b>	<b>418.74</b>	<b>427.56</b>

### **Determination of Annual Transmission Charges for 2014-19**

32. The true-up tariff for the instant transmission system up to 2009-14 tariff period has been granted based on the actual COD of individual elements irrespective of the project as whole is completed or not. This leads to granting of multiple tariffs for the assets covered under the single project/transmission system.



The Commission, vide Regulation 6 of the 2014 Tariff Regulations has brought in the concept of a single consolidated petition to be submitted by a petitioner where if all the elements of a transmission system have been declared under commercial operation prior to 1.4.2014, then a single tariff can be granted for all the assets covered under such a single project/transmission system. However, to determine a single transmission tariff for different assets after combining them, as per the 2014 Tariff Regulations, the concept of effective date of commercial operation and weighted average life has also been introduced in Regulation 27 (Depreciation) of the 2014 Tariff Regulations. The relevant portions of Regulation 6 and Regulation 27 of the 2014 Tariff Regulations are as follows:-

**“6. Tariff determination**

(1) Tariff in respect of a generating station may be determined for the whole of the generating station or stage or generating unit or block thereof, and tariff in respect of a transmission system may be determined for the whole of the transmission system or transmission line or sub-station or communication system forming part of transmission system:

Provided that:

(i) where all the generating units of a stage of a generating station or all elements of a transmission system have been declared under commercial operation prior to 1.4.2014, the generating company or the transmission licensee, as the case may be, shall file consolidated petition in respect of the entire generating station or transmissions system for the purpose of determination of tariff for the period 2014-15 to 2018-19:

Xxx

Xxx”

**“27. Depreciation:**

(1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof.



Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.

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

Xxx  
Xxx”

(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.

Xxx  
Xxx”

33. The instant petition relates to the transmission system associated with Moga-Hissar-Bhiwani Transmission System in Northern Region. The final tariff of each of the assets was approved separately vide order dated 7.2.2013 in Petition No. 305/2010. Hence, the tariff for Asset-1 and Asset-2 for period 2009-14 has been trued-up separately in the preceding paras. Now, as these two assets, represent the project as whole as stated by the petitioner, these assets need to be combined into a single asset and accordingly single tariff for the project as a whole to be worked out for the tariff period 2014-19. Thus, both the assets in the instant petition have been combined into a single asset for the purpose of single tariff for 2014-19. For the purpose of calculation of single tariff, the Effective COD and Weighted Average life of the project as a whole has been computed as discussed in the following paragraphs.



### **Effective Date of Commercial Operation (E-COD)**

34. The Effective Date of Commercial Operation (E-COD) for the project as a whole has been worked out based on the admitted capital cost of individual assets as on 31.3.2014 and the actual COD of individual assets. Accordingly, the Effective Date of Commercial Operation (E-COD) for the instant project as a whole has been worked out as 4.11.1995 as follows:-

(₹ in lakh)

Project Name	Asset No.	Actual COD	Admitted capital cost as on 31.3.2014	Weight of the cost	No. of days from last COD	Weighted days	Effective COD (Latest COD-Weighted days)
Moga-Hissar-Bhiwani Transmission System in Northern Region	1	1.7.1995	13292.67	86.58%	946	819.04	<b>4.11.1995</b>
	2	1.2.1998	2060.45	13.42%	-	-	
<b>TOTAL</b>			<b>15353.12</b>	<b>100.00%</b>		<b>819.04</b>	

Thus, the E-COD has been used to determine the lapsed life of the project as whole, which works out as 18 years as on 1.4.2014. (i.e. the number of completed years as on 1.4.2014 from E-COD).

### **Weighted Average Life (WAL)**

35. The project as a whole has multiple elements (i.e. Land, Building, Transmission line, Substation and PLCC) and each element may have different span of life. Therefore, in the 2014 Tariff Regulations, the concept of Weighted Average Life (WAL) has been introduced which has been used as the useful life of the project as whole. The Weighted Average Life (WAL) has been determined based on the admitted capital cost of individual elements as on 31.3.2014 and their respective life as stipulated in the 2014 Tariff Regulations. The element wise life as it was defined in Tariff Regulations prevailing at the time of actual COD of



individual assets has been ignored for this purpose. The life as defined in the 2014 Tariff Regulations has been considered for determination of WAL. Accordingly, the Weighted Average Life of the project as whole has been worked out as 31 years as follows:-

(₹ in lakh)

Determination of Weighted Average Life					
Particulars	Admitted Capital Cost as on 31.3.2014		Capital Cost of Project as whole (a)	Life as per the 2014 Tariff Regulations (b)	Weight (a) x (b)
	Asset-1	Asset-2			
Freehold Land	395.75	-	395.75	25	-
Leasehold Land	-	-	-	-	-
Building & Other Civil Works	12.51	533.89	546.40	25	13660.00
Transmission Line	9278.52	693.18	9971.70	35	349009.50
Sub-Station Equipments	3544.28	772.68	4316.96	25	107924.00
PLCC	61.61	60.70	122.31	15	1834.65
<b>Total</b>	<b>13292.67</b>	<b>2060.45</b>	<b>15353.12</b>		<b>472428.15</b>
<b>Weighted average life=Total weight/capital cost of project</b>	<b>31 Years</b>				

36. Further, it is assumed that, the Weighted average life of the project as whole as on 1.4.2014 as determined above is applicable prospectively (i.e. for 2014-19 tariff period onwards) and no retrospective adjustment of depreciation in previous tariff period is required. Accordingly, the WAL has been used to determine the remaining useful life as on 31.3.2014 as 13 years.

37. The petitioner has claimed AFC for both the assets, which have been combined together as under:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	305.00	305.00	305.00	305.00	304.99
Interest on Loan	-	-	-	-	-
Return on Equity	1490.27	1490.27	1490.27	1490.27	1490.27
Interest on Working Capital	97.21	99.07	100.98	102.96	105.01
O&M Expenses	1011.58	1045.28	1079.97	1115.79	1152.82
<b>Total</b>	<b>2904.06</b>	<b>2939.62</b>	<b>2976.22</b>	<b>3014.02</b>	<b>3053.09</b>



38. Similarly, the petitioner has submitted details in support of its claim for interest on working capital for both the assets, which have been combined together as follows:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	151.74	156.79	161.99	167.37	172.93
O & M Expenses	84.30	87.11	90.00	92.99	96.07
Receivables	484.01	489.94	496.04	502.33	508.85
<b>Total</b>	<b>720.05</b>	<b>733.84</b>	<b>748.03</b>	<b>762.69</b>	<b>777.85</b>
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
<b>Interest</b>	<b>97.21</b>	<b>99.07</b>	<b>100.98</b>	<b>102.96</b>	<b>105.01</b>

### **Capital Cost**

39. Clause (1) and (3) of Regulation 9 of the 2014 Tariff Regulations provides as follows:-

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

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

(a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;

(b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;

(c) Increase in cost in contract packages as approved by the Commission;

(d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;

(e) capitalised Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;

(f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations; 39

(g) adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and





(h) adjustment of any revenue earned by the transmission licensee by using the assets before COD.

“(3) The Capital cost of an existing project shall include the following:

(a) the capital cost admitted by the Commission prior to 1.4.2014 duly true up by excluding liability, if any, as on 1.4.2014;

(b) additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulation 14; and

(c) expenditure on account of renovation and modernisation as admitted by this Commission in accordance with Regulation 15.”

40. The element wise capital cost (Land, Building, Transmission line, Sub-station and PLCC) as admitted as on 31.3.2014 for Asset-1 and Asset-2 are clubbed together and the combined cost has been considered as capital cost of the project as a whole as on 1.4.2014. Thus, ₹15353.12 lakh has been considered as the admitted capital cost of the project as on 1.4.2014 as per details as follows:-

Particulars	Capital cost as on 31.3.2014 as determined in true up of 2009-14		Combined cost for the project as a whole as on 1.4.2014
	Asset-1	Asset-2	
Freehold Land	395.75	-	395.75
Leasehold Land	-	-	-
Building & Other Civil Works	12.51	533.89	546.40
Transmission Line	9278.52	693.18	9971.70
Sub-Station Equipments	3544.28	772.68	4316.96
PLCC	61.61	60.70	122.31
<b>Total</b>	<b>13292.67</b>	<b>2060.45</b>	<b>15353.12</b>

### **Additional Capital Expenditure**

41. The petitioner has not projected any additional capital expenditure during the tariff period 2014-19. Thus, capital cost as on 31.3.2019 has been considered same as on 1.4.2014 i.e. ₹15353.12 lakh.



### **Debt: Equity Ratio**

42. Clause 3 of Regulation 19 of the 2014 Tariff Regulations specifies as follows:-

“(3) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2014, debt: equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2014 shall be considered.”

43. The debt: equity ratio of 51.12: 48.88 and 46.53: 53.47 was admitted after true-up for the tariff period ending 31.3.2014 for Asset-1 and Asset-2 respectively. The debt: equity ratio of combined asset has been worked out as 50.50: 49.50 based on combined normative equity and combined normative loan as on 1.4.2014. The details of the debt: equity as on 1.4.2014 considered for the purpose of tariff for the 2014-19 tariff period are as follows:-

Particulars	Details as on 31.3.2014, as determined during true-up of 2009-14 tariff		Considered for single tariff for Project as whole as on 1.4.2014
	Asset-1	Asset-2	
Admitted Capital Cost	13292.67	2060.45	15353.12
Gross Normative Loan	6497.80	1101.72	7599.52
Gross Normative Equity	6794.87	958.73	7753.60
Debt Equity Ratio	51.12:48.88	46.53:53.47	<b>50.50: 49.50</b>

44. As no additional capital expenditure has been claimed by the petitioner, the debt: equity ratio of the project as a whole shall remain same as on 31.3.2019, i.e. 50.50: 49.50, which is subject to true-up.



### **Interest on Loan (“IOL”)**

45. Regulation 26 of the 2014 Tariff Regulations with regard to Interest on Loan specifies as under:-

“(1) The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.

(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of decapitalisation of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of decapitalisation of such asset.

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

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

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

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

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

46. The actual loans as on 31.3.2014 in respect of Asset-1 and Asset-2 have been combined and have been considered as actual loan portfolio of the combined asset as on 1.4.2014. Accordingly, weighted average rate of interest has been



worked out on the basis of the actual loan portfolio of the combined asset, which is subject to truing-up. However, the actual loan of the combined asset has not been fully paid whereas the normative loan has been paid entirely in 2014-15. Thus, IOL has not been allowed for tariff period 2014-19.

47. The normative loan as on 1.4.2014 for the combined asset has been worked out by deducting the cumulative repayment of individual assets as admitted upto 31.3.2014 from the gross normative loan of individual assets as per details as under:-

Particulars	(₹ in lakh)		
	Asset-1	Asset-2	Considered for single tariff for the project as whole as on 1.4.2014
Gross Loan	6794.87	958.73	7753.60
Cumulative Re-payment	6794.87	958.73	7753.60
Normative loan outstanding as on 1.4.2014	-	-	-

### **Return on Equity (“ROE”)**

48. Clause (1) and (2) of Regulation 24 and Clause (1) and (2) of Regulation 25 of the 2014 Tariff Regulations specify as follows:-

“ **24. Return on Equity:** (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

Provided that:

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



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

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

(iv) the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:

(v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:

(i) additional RoE shall not be admissible for transmission line having length of less than 50 kilometers.”

**“25. Tax on Return on Equity:**

(1) The base rate of return on equity as allowed by the Commission under Regulation 24 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax income on other income stream (i.e., income of non generation or non transmission business, as the case may be) shall not be considered for the calculation of “effective tax rate”.

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

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

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



49. The petitioner has computed ROE at the rate of 19.610% after grossing up the ROE with MAT rate as per the above Regulations. The petitioner has 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.

50. 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.

51. The Gross Normative Equity as on 31.3.2014 of individual assets as admitted has been added together and the total amount has been considered as Gross Normative Equity of Project/Combined Asset as on 1.4.2014. Additional ROE has not been allowed for any of the individual assets. Hence, the Gross Normative Equity of the Project has been considered as the basis for Return on Equity. The details are as follows:-

Particulars	Details as on 31.3.2014 as determined during true-up of 2009-14 tariff		Gross normative equity for the project as a whole as on 1.4.2014
	Asset-1	Asset-2	
	Gross equity	6497.80	1101.72



52. We have considered the submissions made by the petitioner. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on equity. It further provides that in case the generating company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. The 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 determined is as given under:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	7599.52	7599.52	7599.52	7599.52	7599.52
Addition due to Additional Capitalisation	-	-	-	-	-
Closing Equity	7599.52	7599.52	7599.52	7599.52	7599.52
Average Equity	7599.52	7599.52	7599.52	7599.52	7599.52
Return on Equity (Base Rate) (%)	15.50%	15.50%	15.50%	15.50%	15.50%
MAT rate for the year (%)	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax) (%)	19.610%	19.610%	19.610%	19.610%	19.610%
<b>Return on Equity (Pre Tax)</b>	<b>1490.27</b>	<b>1490.27</b>	<b>1490.27</b>	<b>1490.27</b>	<b>1490.27</b>

### **Depreciation**

53. Regulation 27 of the 2014 Tariff Regulations with regard to depreciation specifies as follows:-

#### **"27. Depreciation:**

- (1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station



or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof.

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.

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

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

Provided that in case of hydro generating station, the salvage value shall be as provided in the agreement signed by the developers with the State Government for development of the Plant:

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

Provided also that any depreciation disallowed on account of lower availability of the generating station or generating unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life and the extended life.

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

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

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





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

54. The Capital Cost, Effective Date of Commercial Operation and Weighted Average Life (WAL) for the project as a whole as determined in preceding paragraphs have been considered for determination of depreciation during the tariff period 2014-19. Accordingly, 12 years from the effective date of commercial operation is completed during 2007-08. The depreciation from 2014-15, has been worked out by spreading the remaining depreciable value. The cumulative depreciation for the project as whole has been computed as under:-

Particulars	Details as on 31.3.2014 as determined during true-up of 2009-14 tariff		Considered for single tariff for the project as a whole as on 1.4.2014
	Asset-1	Asset-2	
Cumulative depreciation	8249.65	1223.53	9473.18

55. We have considered the submission made by the petitioner with reference to depreciation. Depreciation is allowed as provided under Regulation 27 of the 2014 Tariff Regulations. The details of the depreciation allowed are given hereunder:-

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	15353.12	15353.12	15353.12	15353.12	15353.12
Additions during the year due to projected additional capitalization	-	-	-	-	-
Closing Gross block	15353.12	15353.12	15353.12	15353.12	15353.12
Average gross block	15353.12	15353.12	15353.12	15353.12	15353.12



Rate of Depreciation (%)	1.9983%	1.9983%	1.9983%	1.9983%	1.9983%
Depreciable Value	13461.63	13461.63	13461.63	13461.63	13461.63
Elapsed Life of the assets at beginning of the year	18	19	20	21	22
Weighted Balance Useful life of the assets	13	12	11	10	9
Remaining Depreciable Value	3988.45	3681.65	3374.85	3068.04	2761.24
<b>Depreciation</b>	<b>306.80</b>	<b>306.80</b>	<b>306.80</b>	<b>306.80</b>	<b>306.80</b>

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

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

<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
D/C twin and triple conductor (₹ lakh/km)	0.707	0.731	0.755	0.780	0.806
D/C Single conductor (₹ lakh/km)	0.303	0.313	0.324	0.334	0.346
S/C twin conductor (₹ lakh/km)	0.404	0.418	0.432	0.446	0.461
400 kV bay (₹ lakh/km)	60.30	62.30	64.37	66.51	68.71
220 kV bay (₹ lakh/bay)	42.21	43.61	45.06	46.55	48.10

57. The petitioner has computed normative O&M Expenses as per sub-clause (a) of clause (3) of Regulation 29 of the 2014 Tariff Regulations. Accordingly, the petitioner’s entitlement to O&M Expenses has been worked out for Asset-1 and Asset-2 and are combined and considered as O&M Expenses of project as a whole for the purpose of tariff. The details are as given hereunder:-

<b>Particulars</b>	<b>(₹ in lakh)</b>				
	<b>Asset-1</b>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
13.77 km D/C single conductor T/L	4.17	4.31	4.46	4.60	4.76



209.39 km D/C twin conductor T/L	148.04	153.06	158.09	163.32	168.77
34.52 km S/C twin conductor T/L	13.95	14.43	14.91	15.39	15.91
9 nos. 400 kV bays	542.70	560.70	579.33	598.60	618.40
4 nos. 220 kV bays	168.84	174.44	180.24	186.20	192.40
<b>Total</b>	<b>877.70</b>	<b>906.94</b>	<b>937.03</b>	<b>968.11</b>	<b>1000.24</b>
<b>Particulars</b>	<b>Asset-2</b>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
32.88 km S/C twin conductor T/L	13.28	13.74	14.20	14.66	15.16
2 nos. 4000 kV bays	120.60	124.60	128.74	133.02	137.42
<b>Total</b>	<b>133.88</b>	<b>138.34</b>	<b>142.94</b>	<b>147.68</b>	<b>152.58</b>

58. The petitioner has submitted that 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 Company is due during 2014-19 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. Rajasthan Discoms have also submitted that the submissions of the petitioners are vague and general in nature and should be rejected.

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

60. The details of combined O&M Expenses allowed are as given hereinafter:-



(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses allowed	1011.58	1045.28	1079.97	1115.79	1152.82

### **Interest on Working Capital (“IWC”)**

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

**“28. Interest on Working Capital:** (1) The working capital shall cover:

(a)-----

(c) Hydro generating station including pumped storage hydro electric generating station and transmission system including communication system:

(i) Receivables equivalent to two months of fixed cost;

(ii) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 29; and

(iii) Operation and maintenance expenses for one month”

(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later”

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

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

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	151.74	156.79	162.00	167.37	172.92
O & M expenses	84.30	87.11	90.00	92.98	96.07
Receivables	484.32	490.24	496.34	502.64	509.16



<b>Total</b>	<b>720.35</b>	<b>734.14</b>	<b>748.34</b>	<b>763.00</b>	<b>778.15</b>
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
<b>Interest</b>	<b>97.25</b>	<b>99.11</b>	<b>101.03</b>	<b>103.00</b>	<b>105.05</b>

### **Annual Transmission Charges**

63. The Annual Transmission Charges allowed for the combined transmission asset is as under:-

<b>Particulars</b>	<b>(₹ in lakh)</b>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	306.80	306.80	306.80	306.80	306.80
Interest on Loan	-	-	-	-	-
Return on Equity	1490.27	1490.27	1490.27	1490.27	1490.27
Interest on Working Capital	97.25	99.11	101.03	103.00	105.05
O&M Expenses	1011.58	1045.28	1079.97	1115.79	1152.82
<b>Total</b>	<b>2905.90</b>	<b>2941.46</b>	<b>2978.07</b>	<b>3015.86</b>	<b>3054.94</b>

64. The petitioner has submitted that the claim for transmission charges and other charges is exclusive of incentive, late payment surcharge, FERV, any statutory taxes, levies, duties, cess filing fees, license fee RLDC fees and charges or any other kind of impositions etc. The same if imposed shall be borne and additionally paid by the respondents. Rajasthan Discoms have submitted that beneficiaries cannot be burdened unduly by vague and ambiguous levies and charges etc. without any rational criteria. We have considered the submissions of the petitioner and the respondent. The petitioner can make claims as per the prevailing regulations. We would like to clarify that we have allowed transmission tariff as per the 2014 Tariff Regulations.

### **Filing Fee and Publication Expenses**

65. 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**

66. The petitioner has requested to allow the petitioner to bill and recover License fee and RLDC fees and charges, separately from the respondents. The petitioner shall be entitled for reimbursement of licence fee and RLDC fees and charges in accordance with Clause (2)(b) and (2)(a), respectively, of Regulation 52 of the 2014 Tariff Regulations.

### **Service Tax**

67. 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. Rajasthan Discoms have submitted that the claim of the petitioner in regard to service tax is premature. We consider petitioner's prayer pre-mature and accordingly this prayer is rejected.

### **Deferred Tax Liability**

68. The petitioner has sought recovery of deferred tax liability before 1.4.2009 from the beneficiaries or long term consumers/ DICs as and when materialized



under Regulation 49 of the 2014 Tariff Regulations. The deferred tax liability shall be dealt as per Regulations 49 of the 2014 Tariff Regulations, as amended. Accordingly, the petitioner is entitled to recover the deferred tax liability upto 31.3.2009 whenever the same materializes, directly from the beneficiaries or long term transmission customers /DICs.

### **Sharing of Transmission Charges**

69. 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.

70. This order disposes of Petition No. 536/TT/2014.

sd/-  
**(A.S. Bakshi)**  
**Member**

sd/-  
**(A.K. Singhal)**  
**Member**



**Annexure-1**

(₹ in lakh)

<b>Asset-1</b>						
<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN</b>						
	<b>Details of Loan</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
<b>1</b>	<b>Bond XIV</b>					
	Gross loan opening	1355.52	<b>1355.52</b>	<b>1355.52</b>	<b>1355.52</b>	<b>1355.52</b>
	Cumulative Repayment upto DOCO/previous year	564.80	<b>677.76</b>	<b>790.72</b>	<b>903.68</b>	<b>1016.64</b>
	Net Loan-Opening	790.72	677.76	564.80	451.84	338.88
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	112.96	112.96	112.96	112.96	112.96
	Net Loan-Closing	677.76	564.80	451.84	338.88	225.92
	Average Loan	734.24	621.28	508.32	395.36	282.40
	Rate of Interest	6.10%	6.10%	6.10%	6.10%	6.10%
	Interest	44.79	37.90	31.01	24.12	17.23
	Rep Schedule	12 equal annual instalments w-e-f 17.07.2004				
<b>2</b>	<b>Bond III series (2nd) (9.75%)</b>					
	Gross loan opening	62.93	<b>62.93</b>	<b>62.93</b>	<b>62.93</b>	<b>62.93</b>
	Cumulative Repayment upto DOCO/previous year	62.93	<b>62.93</b>	<b>62.93</b>	<b>62.93</b>	<b>62.93</b>
	Net Loan-Opening	0.00	0.00	0.00	0.00	0.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
	Average Loan	0.00	0.00	0.00	0.00	0.00
	Rate of Interest	0.00%	0.00%	0.00%	0.00%	0.00%
	Interest	0.00	0.00	0.00	0.00	0.00
	Rep Schedule	Bullet on 28.10.2001				
<b>3</b>	<b>Bond III Series(Ist)</b>					
	Gross loan opening	10.07	<b>10.07</b>	<b>10.07</b>	<b>10.07</b>	<b>10.07</b>
	Cumulative Repayment upto DOCO/previous year	10.07	<b>10.07</b>	<b>10.07</b>	<b>10.07</b>	<b>10.07</b>
	Net Loan-Opening	0.00	0.00	0.00	0.00	0.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
	Average Loan	0.00	0.00	0.00	0.00	0.00
	Rate of Interest	0.00%	0.00%	0.00%	0.00%	0.00%
	Interest	0.00	0.00	0.00	0.00	0.00
	Rep Schedule	Bullet on 28.02.2002				
<b>4</b>	<b>Bond I (Issue -III)</b>					
	Gross loan opening	141.49	<b>141.49</b>	<b>141.49</b>	<b>141.49</b>	<b>141.49</b>
	Cumulative Repayment upto DOCO/previous year	141.49	<b>141.49</b>	<b>141.49</b>	<b>141.49</b>	<b>141.49</b>
	Net Loan-Opening	0.00	0.00	0.00	0.00	0.00





	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
	Average Loan	0.00	0.00	0.00	0.00	0.00
	Rate of Interest	0.00%	0.00%	0.00%	0.00%	0.00%
	Interest	0.00	0.00	0.00	0.00	0.00
	Rep Schedule	Bullet on 10.03.2002				
<b>5</b>	<b>Bond XXX</b>					
	Gross loan opening	0.00	<b>430.29</b>	<b>430.29</b>	<b>430.29</b>	<b>430.29</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	0.00	430.29	430.29	430.29	430.29
	Additions during the year	430.29	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	35.86
	Net Loan-Closing	430.29	430.29	430.29	430.29	394.43
	Average Loan	215.15	430.29	430.29	430.29	412.36
	Rate of Interest	8.80%	8.80%	8.80%	8.80%	8.80%
	Interest	18.93	37.87	37.87	37.87	36.29
	Rep Schedule	12 equal annual instalments w-e-f 29.09.2013				
<b>6</b>	<b>Bond XXXIII</b>					
	Gross loan opening	0.00	<b>0.00</b>	<b>0.00</b>	<b>89.58</b>	<b>89.58</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	0.00	0.00	0.00	89.58	89.58
	Additions during the year	0.00	0.00	89.58	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	0.00	0.00	89.58	89.58	89.58
	Average Loan	0.00	0.00	44.79	89.58	89.58
	Rate of Interest	8.64%	8.64%	8.64%	8.64%	8.64%
	Interest	0.00	0.00	3.87	7.74	7.74
	Rep Schedule	12 equal annual instalments w-e-f 08.07.2014				
	<b>Total Loan</b>					
	Gross loan opening	1570.01	2000.30	2000.30	2089.88	2089.88
	Cumulative Repayment upto DOCO/previous year	779.29	892.25	1005.21	1118.17	1231.13
	Net Loan-Opening	790.72	1108.05	995.09	971.71	858.75
	Additions during the year	430.29	0.00	89.58	0.00	0.00
	Repayment during the year	112.96	112.96	112.96	112.96	148.82
	Net Loan-Closing	1108.05	995.09	971.71	858.75	709.93
	Average Loan	949.39	1051.57	983.40	915.23	784.34
	Rate of Interest	6.71%	7.20%	7.40%	7.62%	7.81%
	<b>Interest</b>	<b>63.72</b>	<b>75.76</b>	<b>72.74</b>	<b>69.72</b>	<b>61.25</b>



(₹ in lakh)

Asset-2						
CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN						
	Details of Loan	2009-10	2010-11	2011-12	2012-13	2013-14
<b>1</b>	<b>Bond XIV</b>					
	Gross loan opening	565.16	<b>565.16</b>	<b>565.16</b>	<b>565.16</b>	<b>565.16</b>
	Cumulative Repayment upto DOCO/previous year	235.48	<b>282.58</b>	<b>329.68</b>	<b>376.78</b>	<b>423.88</b>
	Net Loan-Opening	329.68	282.58	235.48	188.38	141.28
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	47.10	47.10	47.10	47.10	47.10
	Net Loan-Closing	282.58	235.48	188.38	141.28	94.18
	Average Loan	306.13	259.03	211.93	164.83	117.73
	Rate of Interest	6.10%	6.10%	6.10%	6.10%	6.10%
	Interest	18.67	15.80	12.93	10.05	7.18
	Rep Schedule	12 equal annual instalments w-e-f 17.07.2004				
<b>2</b>	<b>Bond III series (2nd)(9.75%)</b>					
	Gross loan opening	9.48	<b>9.48</b>	<b>9.48</b>	<b>9.48</b>	<b>9.48</b>
	Cumulative Repayment upto DOCO/previous year	9.48	<b>9.48</b>	<b>9.48</b>	<b>9.48</b>	<b>9.48</b>
	Net Loan-Opening	0.00	0.00	0.00	0.00	0.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
	Average Loan	0.00	0.00	0.00	0.00	0.00
	Rate of Interest	0.00%	0.00%	0.00%	0.00%	0.00%
	Interest	0.00	0.00	0.00	0.00	0.00
	Rep Schedule	Bullet on 28.10.2001				
<b>3</b>	<b>Bond III Series(1st)</b>					
	Gross loan opening	1.52	<b>1.52</b>	<b>1.52</b>	<b>1.52</b>	<b>1.52</b>
	Cumulative Repayment upto DOCO/previous year	1.52	<b>1.52</b>	<b>1.52</b>	<b>1.52</b>	<b>1.52</b>
	Net Loan-Opening	0.00	0.00	0.00	0.00	0.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
	Average Loan	0.00	0.00	0.00	0.00	0.00
	Rate of Interest	0.00%	0.00%	0.00%	0.00%	0.00%
	Interest	0.00	0.00	0.00	0.00	0.00
	Rep Schedule	Bullet on 28.02.2002				
<b>4</b>	<b>Bond I (Issue -I)</b>					
	Gross loan opening	20.00	<b>20.00</b>	<b>20.00</b>	<b>20.00</b>	<b>20.00</b>
	Cumulative Repayment upto DOCO/previous year	20.00	<b>20.00</b>	<b>20.00</b>	<b>20.00</b>	<b>20.00</b>
	Net Loan-Opening	0.00	0.00	0.00	0.00	0.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00



Repayment during the year	0.00	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Loan	0.00	0.00	0.00	0.00	0.00
Rate of Interest	0.00%	0.00%	0.00%	0.00%	0.00%
Interest	0.00	0.00	0.00	0.00	0.00
Rep Schedule	Bullet on 10.03.2002				
<b>5 Bond II (Issue -II)</b>					
Gross loan opening	81.00	<b>81.00</b>	<b>81.00</b>	<b>81.00</b>	<b>81.00</b>
Cumulative Repayment upto DOCO/previous year	81.00	<b>81.00</b>	<b>81.00</b>	<b>81.00</b>	<b>81.00</b>
Net Loan-Opening	0.00	0.00	0.00	0.00	0.00
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Loan	0.00	0.00	0.00	0.00	0.00
Rate of Interest	0.00%	0.00%	0.00%	0.00%	0.00%
Interest	0.00	0.00	0.00	0.00	0.00
Rep Schedule	Repaid Before 31.03.2001				
<b>6 UTI</b>					
Gross loan opening	48.00	<b>48.00</b>	<b>48.00</b>	<b>48.00</b>	<b>48.00</b>
Cumulative Repayment upto DOCO/previous year	48.00	<b>48.00</b>	<b>48.00</b>	<b>48.00</b>	<b>48.00</b>
Net Loan-Opening	0.00	0.00	0.00	0.00	0.00
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Loan	0.00	0.00	0.00	0.00	0.00
Rate of Interest	0.00%	0.00%	0.00%	0.00%	0.00%
Interest	0.00	0.00	0.00	0.00	0.00
Rep Schedule	Repaid Before 31.03.2001				
<b>Total Loan</b>					
Gross loan opening	725.16	725.16	725.16	725.16	725.16
Cumulative Repayment upto DOCO/previous year	395.48	442.58	489.68	536.78	583.88
Net Loan-Opening	329.68	282.58	235.48	188.38	141.28
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	47.10	47.10	47.10	47.10	47.10
Net Loan-Closing	282.58	235.48	188.38	141.28	94.18
Average Loan	306.13	259.03	211.93	164.83	117.73
Rate of Interest	6.10%	6.10%	6.10%	6.10%	6.10%
<b>Interest</b>	18.67	15.80	12.93	10.05	7.18

### **Annexure-3**



(₹ in lakh)

<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN</b>						
	<b>Details of Loan</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>1</b>	<b>Bond XIV</b>					
	Gross loan opening	1920.68	<b>1920.68</b>	<b>1920.68</b>	<b>1920.68</b>	<b>1920.68</b>
	Cumulative Repayment upto DOCO/previous year	1600.58	<b>1760.64</b>	<b>1920.69</b>	<b>1920.69</b>	<b>1920.69</b>
	Net Loan-Opening	320.10	160.04	0.00	0.00	0.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	160.06	160.06	0.00	0.00	0.00
	Net Loan-Closing	160.04	0.00	0.00	0.00	0.00
	Average Loan	240.07	80.02	0.00	0.00	0.00
	Rate of Interest	6.10%	6.10%	6.10%	6.10%	6.10%
	Interest	14.64	4.88	0.00	0.00	0.00
	Rep Schedule	12 equal annual instalments w-e-f 17.07.2004				
<b>2</b>	<b>Bond III series (2nd) (9.75%)</b>					
	Gross loan opening	11.59	<b>11.59</b>	<b>11.59</b>	<b>11.59</b>	<b>11.59</b>
	Cumulative Repayment upto DOCO/previous year	11.59	<b>11.59</b>	<b>11.59</b>	<b>11.59</b>	<b>11.59</b>
	Net Loan-Opening	0.00	0.00	0.00	0.00	0.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
	Average Loan	0.00	0.00	0.00	0.00	0.00
	Rate of Interest	0.00%	0.00%	0.00%	0.00%	0.00%
	Interest	0.00	0.00	0.00	0.00	0.00
	Rep Schedule	Bullet on 28.10.2001				
<b>3</b>	<b>Bond III Series(Ist)</b>					
	Gross loan opening	72.41	<b>72.41</b>	<b>72.41</b>	<b>72.41</b>	<b>72.41</b>
	Cumulative Repayment upto DOCO/previous year	72.41	<b>72.41</b>	<b>72.41</b>	<b>72.41</b>	<b>72.41</b>
	Net Loan-Opening	0.00	0.00	0.00	0.00	0.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
	Average Loan	0.00	0.00	0.00	0.00	0.00
	Rate of Interest	0.00%	0.00%	0.00%	0.00%	0.00%
	Interest	0.00	0.00	0.00	0.00	0.00
	Rep Schedule	Bullet on 28.02.2002				
<b>4</b>	<b>Bond I (Issue -III)</b>					
	Gross loan opening	161.49	<b>161.49</b>	<b>161.49</b>	<b>161.49</b>	<b>161.49</b>
	Cumulative Repayment upto DOCO/previous year	161.49	<b>161.49</b>	<b>161.49</b>	<b>161.49</b>	<b>161.49</b>
	Net Loan-Opening	0.00	0.00	0.00	0.00	0.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00



	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
	Average Loan	0.00	0.00	0.00	0.00	0.00
	Rate of Interest	0.00%	0.00%	0.00%	0.00%	0.00%
	Interest	0.00	0.00	0.00	0.00	0.00
	Rep Schedule	Bullet on 10.03.2002				
<b>5</b>	<b>Bond XXX for 2009-10 Add Cap</b>					
	Gross loan opening	430.29	<b>430.29</b>	<b>430.29</b>	<b>430.29</b>	<b>430.29</b>
	Cumulative Repayment upto DOCO/previous year	35.86	<b>71.72</b>	<b>107.58</b>	<b>143.43</b>	<b>179.29</b>
	Net Loan-Opening	394.43	358.57	322.72	286.86	251.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	35.86	35.86	35.86	35.86	35.86
	Net Loan-Closing	358.57	322.72	286.86	251.00	215.14
	Average Loan	376.50	340.64	304.79	268.93	233.07
	Rate of Interest	8.80%	8.80%	8.80%	8.80%	8.80%
	Interest	33.13	29.98	26.82	23.67	20.51
	Rep Schedule	12 equal annual instalments w-e-f 29.09.2013				
<b>6</b>	<b>Bond XXXIII for 2011-12 Add Cap</b>					
	Gross loan opening	89.58	<b>89.58</b>	<b>89.58</b>	<b>89.58</b>	<b>89.58</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>7.47</b>	<b>14.93</b>	<b>22.40</b>	<b>29.86</b>
	Net Loan-Opening	89.58	82.12	74.65	67.19	59.72
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	7.47	7.47	7.47	7.47	7.47
	Net Loan-Closing	82.12	74.65	67.19	59.72	52.26
	Average Loan	85.85	78.38	70.92	63.45	55.99
	Rate of Interest	8.64%	8.64%	8.64%	8.64%	8.64%
	Interest	7.42	6.77	6.13	5.48	4.84
	Rep Schedule	12 equal annual instalments w-e-f 08.07.2014				
<b>7</b>	<b>Bond II</b>					
	Gross loan opening	81.00	<b>81.00</b>	<b>81.00</b>	<b>81.00</b>	<b>81.00</b>
	Cumulative Repayment upto DOCO/previous year	81.00	<b>81.00</b>	<b>81.00</b>	<b>81.00</b>	<b>81.00</b>
	Net Loan-Opening	0.00	0.00	0.00	0.00	0.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
	Average Loan	0.00	0.00	0.00	0.00	0.00
	Rate of Interest	8.64%	8.64%	8.64%	8.64%	8.64%
	Interest	0.00	0.00	0.00	0.00	0.00
	Rep Schedule	Repaid Before 31.03.2001				
<b>8</b>	<b>UTI - DOCO</b>					
	Gross loan opening	48.00	<b>48.00</b>	<b>48.00</b>	<b>48.00</b>	<b>48.00</b>
	Cumulative Repayment upto	48.00	<b>48.00</b>	<b>48.00</b>	<b>48.00</b>	<b>48.00</b>



DOCO/previous year					
Net Loan-Opening	0.00	0.00	0.00	0.00	0.00
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Loan	0.00	0.00	0.00	0.00	0.00
Rate of Interest	8.64%	8.64%	8.64%	8.64%	8.64%
Interest	0.00	0.00	0.00	0.00	0.00
Rep Schedule	Repaid Before 31.03.2001				
<b>Total Loan</b>					
Gross loan opening	2815.04	2815.04	2815.04	2815.04	2815.04
Cumulative Repayment upto DOCO/previous year	2010.93	2214.31	2417.69	2461.01	2504.33
Net Loan-Opening	804.11	600.73	397.37	354.04	310.72
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	203.38	203.38	43.32	43.32	43.32
Net Loan-Closing	600.73	397.37	354.04	310.72	267.40
Average Loan	702.42	499.05	375.70	332.38	289.06
Rate of Interest	7.86%	8.34%	8.77%	8.77%	8.77%
<b>Interest</b>	55.19	41.63	32.95	29.15	25.35

