

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 56/TT/2011

Coram:

Dr. Pramod Deo, Chairperson

Shri S. Jayaraman, Member

Shri V.S. Verma, Member

Date of Hearing: 22.12.2011

Date of Order : 30.04.2013

In the matter of:

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2009 for (i) 400 kV D/C Pirana-Dehgam TL along with associated bays at Pirana and Dehgam sub-station and 400/220 kV Pirana sub-station (New) (anticipated date of commercial operation :1.3.2011) (ii) ICT-I (1X315 MVA) 400/220 kV at Pirana sub-station alongwith associated bays (anticipated date of commercial operation: 1.3.2011) (iii) Combined Assets of ICT-I (1X315 MVA) 400/220 kV at Pirana sub-station alongwith associated bays (anticipated date of commercial operation: 1.3.2011) and ICT-II (1X315 MVA) 400/220 kV at Pirana sub-station alongwith associated bays (anticipated date of commercial operation: 1.4.2011) (Notional date of commercial operation 1.4.2011) (iv) Combined Assets of Bina Bay Extension with 1X315 MVA ICT alongwith associated 400 kV and 220 kV Bays (date of commercial operation 1.11.2010) and 400/220 kV Gwalior (extension) sub-station with 1X315 MVA ICT along with associated 400/220 kV Bays (anticipated date of commercial operation: 1.4.2011) (Notional date of commercial operation 1.4.2011) under WRSS VI scheme in Western Region for tariff block 2009-14 period.

In the matter of:

Power Grid Corporation of India Ltd., Gurgaon

.....**Petitioner**

Vs

1. Madhya Pradesh Power Trading Company Ltd., Jabalpur
2. Maharashtra State Electricity Distribution Co. Ltd., Mumbai
3. Gujarat Urja Vikas Nigam Ltd., Vadodara
4. Electricity Department, Govt. of Goa, Panaji
5. Electricity Department, Admn. of Daman & Diu, Daman
6. Electricity Department, Admn. of Dadra & Nagar Haveli, Silvassa



7. Chhattisgarh State Electricity Board, Chhattisgarh
8. Madhya Pradesh Audyogik Kendra Vikas Nigam (Indore) Ltd., Indore.

.....Respondents

The following were present:

1. Shri S.S. Raju, PGCIL
2. Shri Rajeev Gupta, PGCIL

ORDER

This petition has been filed by Powergrid Corporation of India Limited (PGCIL) seeking approval of transmission tariff from the date of commercial operation to 31.3.2014 for (i) 400 kV D/C Pirana-Dehgam TL along with associated bays at Pirana and Dehgam sub-station and 400/220 kV Pirana sub-station (New) (anticipated date of commercial operation: 1.3.2011) (ii) ICT-I (1X315 MVA) 400/220 kV at Pirana sub-station alongwith associated bays (anticipated date of commercial operation: 1.3.2011) (iii) Combined Assets of ICT-I (1X315 MVA) 400/220 kV at Pirana sub-station alongwith associated bays (anticipated date of commercial operation: 1.3.2011) and ICT-II (1X315 MVA) 400/220 kV at Pirana sub-station alongwith associated bays (anticipated date of commercial operation: 1.4.2011) (notional date of commercial operation 1.4.2011) (iv) Combined Assets of Bina Bay extension with 1X315 MVA ICT alongwith associated 400 kV and 220 kV Bays (date of commercial operation 1.11.2010) and 400/220 kV Gwalior (extension) sub-station with 1X315 MVA ICT along with associated 400/220 kV Bays (anticipated date of commercial operation: 1.4.2011) (Notional date of commercial operation 1.4.2011) under WRSS VI Scheme in Western Region, for tariff block 2009-14 period under Regulation 86 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as "2009 Tariff Regulations").



2. The administrative approval and expenditure sanction to the transmission project was accorded by Board of Directors of the petitioner vide letter C/CP/WRSS-VI dated 25.2.2008, at an estimated cost of `34072 lakh, including IDC of `2617 lakh (based on 3rd Quarter, 2007 price level).

3. The scope of work covered under the instant project includes construction of the following transmission line and sub-station:-

Transmission Line

Dehgam – Pirana Line

Sub-station

- (i) Establishment of new 400/220 kV 2X315 MVA sub-station at Pirana
- (ii) Augmentation of 400/220 kV sub-station at Wardha, Pune, Gwalior, Raipur and Bina each by 1X315 MVA transformer capacity along with associated bays.
- (iii) Extension of Dehgam sub-station by 400 kV line bays.

4. The petitioner has initially claimed the transmission tariff on the basis of anticipated date of commercial operation. Later, vide affidavit dated 1.6.2011, the petitioner submitted that the assets were actually put under commercial operation on the anticipated date of commercial operation. The details of the assets covered in the instant petition and the date of commercial operation are given overleaf:-

S. No	Name of the asset	Date of Commercial Operation
1.	400 kV D/C Pirana –Dehgam TL along with associated bays at Pirana and Dehgam S/S and 400/220 kV Pirana S/S (New) (hereinafter referred as Asset-I)	1.3.2011
2.	ICT-I (1X315 MVA) 400/220 kV at Pirana S/S along with associated bays (hereinafter referred as Asset-II)	1.3.2011
3.	ICT-II (1X315 MVA) 400/220 kV at Pirana S/S alongwith associated bays. (hereinafter referred as Asset-III)	1.4.2011
4.	Bina Bay Extension with 1x315 MVA ICT along with associated 400 kV and 220 kV Bays (hereinafter referred as Asset-IV)	1.11.2010 (Covered in Petition No. 336/2010)
5.	400/220 kV Gwalior (Extension) S/S with 1x315 MVA ICT along with associated 400/220 kV Bays (hereinafter referred as Asset-V)	1.4.2011

5. The transmission tariff allowed in the instant petition for Asset-I is applicable from date of commercial operation (1.3.2011) to 31.3.2014. Transmission tariff for Asset-II (Single Asset) (date of commercial operation 1.3.2011) has been computed for the year 2010-11 on pro-rata basis, which would be applicable for the month of March, 2011. Transmission tariff for combined Asset-II & III (notional date of commercial operation 1.4.2011) and combined Asset-IV & V (notional date of commercial operation 1.4.2011) has been computed for the 2009-14 period, which would be applicable for the period 1.4.2011 to 31.3.2014.

6. Details of capital cost submitted by the petitioner, vide Auditor's certificate dated 11.2.2011, as on date of commercial operation and estimated additional capital expenditure projected to be incurred for the assets covered in the petition are

summarized below. These are based on the audited statement of accounts up to 31.3.2010.

(` in lakh)

Asset	Expenditure as on date of commercial operation / Notional date of commercial operation	Projected expenditure from date of commercial operation to 31.3.2011	Projected expenditure during 2011-12	Projected expenditure during 2012 -13	Projected expenditure during 2013-14	Total estimated completion cost
Asset-I	8586.32	373.25	1659.09	333.00	-	10951.66
Asset- II	1931.40	110.20	1231.13	309.32	65.00	4265.79
Combined Asset-II & III	2660.34					
Combined Asset- IV & V	4054.54*		973.69	311.94	75.00	5415.17

*Cost incurred up to date of commercial operation (1.4.2011) for Combined Asset-IV & V.

7. The capital cost as on the date of commercial operation is inclusive of initial spares. The petitioner had claimed initial spares for Asset-IV in Petition No. 336/2010 amounting to `145.54 lakh for sub-station and it has already been adjusted as per Regulation 8 of 2009 Tariff Regulation in Commission's order dated 21.7.2011 in Petition No. 336/2010.

8. The capital cost of Asset-IV, admitted by the Commission vide order dated 21.7.2011 in Petition No. 336/2010 has been considered for the purpose of calculating tariff for Combined Asset-IV & V. The tariff claimed under present petition for the Combined Assets- IV & V will supersede the tariff approved for the Asset-IV covered under Petition No. 336/2010 for 2009-14 period from 1.4.2011.

9. Details of the transmission charges claimed by the petitioner are given hereunder:-

(` in lakh)

Asset-I				
	2010-11 (pro- rata)	2011-12	2012-13	2013-14
Depreciation	32.51	436.29	481.19	488.04
Interest on Loan	45.13	583.78	604.72	571.87
Return on equity	38.34	513.37	565.61	574.34
Interest on Working Capital	3.33	43.43	46.52	46.95
O & M Expenses	21.04	266.99	282.25	298.37
Total	140.35	1843.86	1980.29	1979.57

(` in lakh)

Asset-II	
	2009-10 (pro- rata)
Depreciation	8.75
Interest on Loan	10.38
Return on equity	8.68
Interest on Working Capital	1.24
O & M Expenses	14.31
Total	43.36

(` in lakh)

Combined Asset-II & III			
	2011-12	2012-13	2013-14
Depreciation	173.07	213.74	223.62
Interest on Loan	197.67	228.59	220.37
Return on equity	171.80	212.19	222.01
Interest on Working Capital	26.96	30.29	31.45
O & M Expenses	281.14	297.20	314.20
Total	850.64	982.01	1011.65

(` in lakh)

Combined Asset-IV & V			
	2011-12	2012-13	2013-14
Depreciation	240.16	274.11	284.33
Interest on Loan	268.41	285.49	272.46
Return on equity	238.17	271.88	282.02
Interest on Working Capital	35.84	38.82	40.15
O & M Expenses	363.14	383.88	405.84
Total	1145.72	1254.18	1284.80

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

(` in lakh)

Asset-I				
	2010-11 (pro- rata)	2011-12	2012-13	2013-14
Maintenance Spares	37.87	40.05	42.34	44.76
O & M expenses	21.04	22.25	23.52	24.86
Receivables	280.70	307.31	330.05	329.93
Total	339.61	369.61	395.91	399.55
Interest	3.33	43.43	46.52	46.95
Rate of Interest	11.75%	11.75%	11.75%	11.75%

(` in lakh)

Asset-II	
	2010-11 (pro-rata)
Maintenance Spares	25.76
O & M expenses	14.31
Receivables	86.72
Total	126.79
Interest	1.24
Rate of Interest	11.75%

(` in lakh)

Combined Asset-II & III			
	2011-12	2012-13	2013-14
Maintenance Spares	42.17	44.58	47.13
O & M expenses	23.43	24.77	26.18
Receivables	141.77	163.67	168.61
Total	207.37	233.02	241.92
Interest	26.96	30.29	31.45
Rate of Interest	13.00%	13.00%	13.00%

(` in lakh)

Combined Asset-IV & V			
	2011-12	2012-13	2013-14
Maintenance Spares	54.47	57.58	60.88
O & M expenses	30.26	31.99	33.82
Receivables	190.95	209.03	214.13



Total	275.68	298.60	308.83
Interest	35.84	38.82	40.15
Rate of Interest	13.00%	13.00%	13.00%

11. 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. None of the respondents have filed any reply to the petition.

12. Having heard the representative of the parties and perused the material on record, we proceed to dispose of the petition.

Capital cost

13. As regards capital cost, Regulation 7(1) (a) of the 2009 Tariff Regulations provides that:-

“(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.”

Time over run

14. As per the investment approval dated 25.2.2008, the transmission assets covered in the instant petition were scheduled to be commissioned in 33 months, i.e. 1.12.2010. However, Asset-I and Asset-II were commissioned on 1.3.2011 and Asset-III

and Asset-IV were commissioned on 1.4.2011 and thus there was of delay of 3 and 4 months in commissioning Asset I & II and Asset III & IV respectively. The petitioner has submitted that the delay in commissioning of the assets is on account of time taken by the Government of Gujarat in granting land acquisition clearance, Ministry of Environment & Forests clearance, delay in finalization of design of multi-circuit towers, High Court Cases filed by the owners of the land on which the transmission line was passing and construction of additional 2.3 km of Multi-circuit Towers which was not originally envisaged.

15. The petitioner, vide affidavit dated 31.5.2011 & 25.2.2012, has submitted the following reasons for the time over-run:-

(i) Due to delay in receipt of land for Pirana Sub-station from Government of Gujarat:- The petitioner has submitted that leveled site was to be handed over to the turnkey contractor by June, 2008, but the same was handed over in stages from December, 2008 to March, 2009 due to delay in receipt of clear land from Government of Gujarat. The possession letter of Kamod sub-station land was received in April, 2008. Tree cutting clearance inside sub-station was received from Forest Authorities in June, 2008 and all trees were cut and land was cleared for construction activities by March, 2009. There was a delay of 8 months from June, 2008 to March, 2009 for getting clear land from the State Government and this is not attributable to the petitioner.

(ii) Court cases filed by farmers affected by Dehgam-Pirana Line:-The petitioner has submitted that some farmers filed case in the Hon'ble Gujarat High



Court against the line route and the High Court restrained the petitioner from carrying any construction activities. The stay was vacated in May 2010 and the construction activities suffered for almost 7 months leading to delay in erection activities in approximately 15 kms beyond Kanbha village. In response to the Commission's query, the petitioner has submitted, vide its affidavit dated 25.2.2012 the details of the cases filed by farmers before the Gujarat High Court.

(iii) Delay due finalization of design and clearance for manufacturing of multi circuit towers: The petitioner has submitted that as per the scope and conditions of works, Multi circuit towers were not envisaged. Due to rapid urbanization and severe Right of Way (RoW) constraints near Pirana sub-station and finalization of 400 kV D/C Pirana-Vadodara transmission line, 8 nos. multi-circuit towers were required for a stretch of 3 km. Further, 400 kV D/C Pirana-Dehgam transmission line is of twin moose having wind-zone III. The proposed 400 kV D/C Pirana-Vadodara transmission line is a Quad Moose having wind zone-III/IV. Available design for 400 kV Multi-circuit (twin and quad moose) is of wind zone II. The available wind zone-II tower design (Multi circuit having twin and quad configuration) was modified to suit the wind zone-III configuration and manufacturing of multi circuit tower (8 nos.) took considerable time, resulting in delay of 9 months.

(iv) The petitioner, vide affidavit dated 31.5.2011, has submitted that the first transformer was received on May 2010 and testing was undertaken at site as per the scope & conditions of work. However, due to non-readiness of 400 kV D/C

Pirana –Dehgam transmission line, the associated bays at Pirana Sub-station and outgoing ICT-I at Pirana Sub-station was not able to charge. The ICT- I and ICT-II were commissioned on 1.3.2011 and 1.4.2011 respectively. The petitioner has also submitted that ICT-I and ICT-II were not put into effective use as the 220 kV GETCO outgoing line was not ready and as the same was charged on 11.5.2011.

(v) The petitioner has submitted that as per the scope and conditions of works, the short circuit test was conducted of the AREVA Transformer at KEEMA, Holland, in November, 2010 and the short circuit test failed. As an alternate arrangement, the SIEMENS make transformer was diverted from Kishenganj, ERTS-II to Gwalior Sub-station, WRTS-II. It resulted in delay of 4 months which is beyond the control of the petitioner. The petitioner has also submitted, vide affidavit dated 31.5.2011, that reasons for delay shall be examined and if it is attributable to the contractor, Liquidated Damages (LD) can be imposed on the contractor and the LD would be adjusted in the project cost .

16. We have considered the submissions of the petitioner and it is observed that the delay is due to delay in receipt of land, court cases and construction of additional Multi-circuit Towers. It is also observed that the delay in commissioning of ICT I and II did not affect the power flow as the downstream GETCO line was not ready. It is found that the reasons for delay are not attributable to the petitioner and hence the time over-run of 3 and 4 months in commissioning of Assets I & II and Assets III & IV respectively is



condoned. However, the LD, if any, received from the contractor as per the contract shall be adjusted in the capital cost at the time of truing up.

Cost variation

17. As there was increase in the cost of certain items, the petitioner was directed to furnish the reasons for variation between the FR cost and the actual cost in respect of land, structure of switchyard, switchgear, CT, PT circuit breaker and isolator, outdoor lighting and auxiliary system. The petitioner, vide its affidavit dated 31.5.2012, has submitted that the cost variation in respect of structure of switchyard, switchgear, CT, PT circuit breaker and isolator, outdoor lighting and auxiliary system is due to awarded rates and price variation component paid during the execution of work as per contract. It has been further submitted that the estimates are prepared by the petitioner as per well defined procedures for cost estimate. The cost estimate is broad indicative cost worked out generally on the basis of average unit rates of recently awarded contracts. For procurement, open competitive bidding route is followed and by providing equal opportunity to all eligible firms, lowest possible market prices for required product/service is obtained and contracts are awarded on the basis of lowest evaluated eligible bidder. The best competitive bid prices against tenders may happen to be lower or higher than the cost estimate depending upon prevailing market conditions. The petitioner has also submitted that the land cost of the Pirana Sub-station was not frozen during FR and the same was estimated considering `40 lakh per hectare. However, the



actual amount paid was based on the basis of prevailing land rate fixed by Government of Gujarat, which was much higher than the original estimates.

18. We have considered the submissions of the petitioner. The cost variation in some of the items is due to difference between the FR cost and the awarded cost. The cost variation in land price was due to higher rates fixed by the State Government and as such the cost variation is allowed.

Treatment of Initial Spares

19. Initial spares pertaining to sub-station have been determined considering the rate specified for sub-station, i.e. 2.50%, under Regulation 8 of 2009 Tariff Regulations. Accordingly, excess initial spares have been deducted from the cost of sub-stations of Asset I, Combined Asset II & III and Asset V as on the date of commercial operation.

Details of initial spares claimed and allowed are given below:-

(in lakh)					
Particulars	Cost as on the cut-off date	Initial spares claimed	Ceiling limits as per Regulation 8 of 2009 Tariff Regulation	Initial spares worked out	Excess initial spares claimed
1	2	3	4	5= [(2)- (3)]*(4)/[100%- (4)]	6=(3)-(5)
Asset -I	5238.55	140.43	2.50%	130.72	9.71
Combined assets II & III	4265.79	133.07	2.50%	105.97	27.10
Asset V	2494.52	98.37	2.50%	61.44	36.93

20. In view of the above, the following capital cost, as on the date of commercial operation has been considered for the purpose of computation of tariff:-

(` in lakh)

Assets	Capital cost claimed	Initial spares deducted	Capital cost considered for calculating tariff as on date of commercial operation
Asset -I	8586.33	9.71	8576.62
Asset -II	1931.40	-	1931.40
Combined Asset -II & III.	2660.34	27.10	2633.24
Combined Asset-IV & V.	4054.54	36.93*	3905.89

* Initial spares for Asset-IV have already been deducted in Petition No. 336/2010

Additional capital expenditure

21. As per Regulation 9(1) of 2009 Tariff Regulations:-

“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.”

22. As per 2009 Tariff Regulations,

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

Therefore, the cut-off date for the transmission assets is 31.3.2014.

23. The petitioner has claimed projected additional capital expenditure for the year 2011-12, 2012-13 and 2013-14. Additional capital expenditure claimed falls within the cut-off date. Hence, it has been considered for the purpose of tariff calculation.

24. Detail of proposed additional capital expenditure is as follows:-

Asset-I			(` in lakh)
2010-11	FREEHOLD LAND	47.06	Balance/ Retention payments.
	BUILDING	54.65	
	TR LINE	95.31	
	SUB STATION	166.23	
	PLCC	10.00	
Sub Total		373.25	
2011-2012	BUILDING	600.00	Balance/ Retention payments.
	TR LINE	595.00	
	SUB STATION	450.00	
	PLCC	14.09	
Sub Total		1659.09	
2012-2013	BUILDING	200.00	Balance/ Retention payments.
	TR LINE	15.00	
	SUB-STATION	118.00	
Sub Total		333.00	

Asset-II			(` in lakh)
2010-2011	Sub-station	100.00	Balance/ Retention payments.
	PLCC	10.20	
Sub Total		110.20	

Combined Asset-II & III			(` in lakh)
2011-2012	Sub-station	1231.13	Balance/ Retention payments.
Sub Total		1231.13	
2012-2013	Sub-station	309.32	Balance/ Retention payments.
Sub Total		309.32	
2013-2014	Sub-station	65.00	Balance/ Retention payments.

Sub Total		65.00	
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Combined Asset-IV & V			(` in lakh)
2011-2012	Sub-station	972.00	Balance/ Retention payments.
	PLCC	1.70	
Sub Total		973.70	
2012-2013	Sub-station	311.90	Balance/ Retention payments.
	Sub Total	311.90	
2013-2014	Sub-station	75.00	Balance/ Retention payments.
	Sub Total	75.00	

Debt- equity ratio

25. 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:

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 modernization expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation."

26. The details of opening debt-equity of assets as on the date of commercial operation are given hereunder:-

(` in lakh)



Asset-I				
	Apportioned approved cost		As on date of commercial operation	
	Amount	%	Amount	%
Debt	10125.75	70.00	6003.63	70.00
Equity	4339.60	30.00	2572.99	30.00
Total	14465.35	100.00	8576.62	100.00

(` in lakh)

Asset-II				
	Apportioned approved cost		As on date of commercial operation	
	Amount	%	Amount	%
Debt	2116.68	70.00	1351.98	70.00
Equity	907.15	30.00	579.42	30.00
Total	3023.83	100.00	1931.40	100.00

(` in lakh)

Combined Asset-II & III				
	Apportioned approved cost		As on date of commercial operation	
	Amount	%	Amount	%
Debt	3834.80	70.00	1843.27	70.00
Equity	1643.31	30.00	789.97	30.00
Total	5478.11	100.00	2633.24	100.00

(` in lakh)

Combined Asset-IV & V				
	Apportioned approved cost		As on date of commercial operation	
	Amount	%	Amount	%
Debt	4299.67	70.00	2734.13	70.00
Equity	1842.71	30.00	1171.77	30.00
Total	6142.38	100.00	3905.90	100.00

27. Details of debt-equity ratio of assets as on 31.3.2014 are given hereunder:-

(` in lakh)

Asset-I		
As on 31.3.2014		
	Amount	%
Debt	7659.37	70.00
Equity	3282.59	30.00
Total	10941.96	100.00

(` in lakh)



Combined Asset-II & III		
As on 31.3.2014		
	Amount	%
Debt	2967.08	70.00
Equity	1271.61	30.00
Total	4238.69	100.00

(` in lakh)

Combined Asset-IV & V		
As on 31.3.2014		
	Amount	%
Debt	3686.55	70.00
Equity	1579.95	30.00
Total	5266.49	100.00

28. Detail of projected additional capital expenditure claimed by petitioner is as follows:-

(` in lakh)

Asset-I		
Normative		
	Amount	%
Additional Capital expenditure for 2010-11		
Debt	261.27	70.00
Equity	111.98	30.00
Total	373.25	100.00
Additional capital expenditure for 2011-12		
Debt	1161.36	70.00
Equity	497.73	30.00
Total	1659.09	100.00
Additional capital expenditure for 2012-13		
Debt	233.10	70.00
Equity	99.90	30.00
Total	333.00	100.00

(` in lakh)

Asset-II

Normative		
	Amount	%
Additional capital expenditure for 2009-10		
Debt	77.14	70.00
Equity	33.06	30.00
Total	110.20	100.00

(` in lakh)

Combined Asset-II &III		
Normative		
	Amount	%
Additional capital expenditure for 2010-11		
Debt	861.79	70.00
Equity	369.34	30.00
Total	1231.13	100.00
Additional capital expenditure for 2011-12		
Debt	216.52	70.00
Equity	92.80	30.00
Total	309.32	100.00
Additional Capital expenditure for 2012-13		
Debt	45.50	70.00
Equity	19.50	30.00
Total	65.00	100.00

(` in lakh)

Combined Asset-IV & V		
Normative		
	Amount	%
Additional capital expenditure for 2010-11		
Debt	681.59	70.00
Equity	292.11	30.00
Total	973.70	100.00
Additional capital expenditure for 2011-12		
Debt	218.33	70.00
Equity	93.57	30.00
Total	311.90	100.00
Additional capital expenditure for 2012-13		
Debt	52.50	70.00



Equity	22.50	30.00
Total	75.00	100.00

Return on equity

29. Regulation 15 of the 2009 Tariff Regulations provides that:-

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

(2) Provided that in case of projects commissioned on or after 1st April, 2009, an 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:

Provided that return on equity with respect to the actual 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 separately for each year of the tariff period along with the tariff petition filed for the next tariff period.

(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"

30. The petitioner's prayer to allow grossing up the base rate of return on equity based on tax rates viz., MAT, surcharge, any other cess, charges, levies etc., as per relevant Finance Act, shall be settled in accordance with the provisions of Regulation 15 of 2009 Tariff Regulations .

31. Return on equity has been calculated as per Regulation 15 of the 2009 Tariff Regulations with pre-tax return on equity of 17.481%.

32. In view of the above, the following amount of equity has been considered for calculation of return of equity:-

(` in lakh)



Asset-I				
	2010-11	2011-12	2012-13	2013-14
Opening Equity	2572.99	2684.96	3182.69	3282.59
Addition due to Additional Capitalisation	111.98	497.73	99.90	0.00
Closing Equity	2684.96	3182.69	3282.59	3282.59
Average Equity	2628.97	2933.82	3232.64	3282.59
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (MAT)	11.33%	11.33%	11.33%	11.33%
Rate of Return on Equity (Pre Tax)	17.481%	17.481%	17.481%	17.481%
Return on Equity (Pre Tax)	38.30	512.86	565.10	573.83

(` in lakh)

Asset II	
	2010-11 (pro-rata)
Opening Equity	579.42
Addition due to Additional Capitalisation	33.06
Closing Equity	612.48
Average Equity	595.95
Return on Equity (Base Rate)	15.50%
Tax rate for the year 2008-09 (MAT)	11.33%
Rate of Return on Equity (Pre Tax)	17.481%
Return on Equity (Pre Tax)	8.68

(` in lakh)

Combined Asset-II & III			
	2011-12	2012-13	2013-14
Opening Equity	789.97	1159.31	1252.11
Addition due to Additional Capitalisation	369.34	92.80	19.50
Closing Equity	1159.31	1252.11	1271.61
Average Equity	974.64	1205.71	1261.86
Return on Equity (Base Rate)	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (MAT)	11.33%	11.33%	11.33%
Rate of Return on Equity (Pre Tax)	17.481%	17.481%	17.481%
Return on Equity (Pre Tax)	170.38	210.77	220.59

(` in lakh)

Combined Asset-IV & V			
	2011-12	2012-13	2013-14
Opening Equity	1171.77	1463.88	1557.45
Addition due to Additional Capitalisation	292.11	93.57	22.50
Closing Equity	1463.88	1557.45	1579.95
Average Equity	1317.82	1510.66	1568.70
Return on Equity (Base Rate)	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (MAT)	11.33%	11.33%	11.33%
Rate of Return on Equity (Pre Tax)	17.481%	17.481%	17.481%



Return on Equity (Pre Tax)	230.37	264.08	274.22
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Interest on loan

33. Regulation 16 of the 2009 Tariff Regulations provides that:-

“16. (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.”

34. In these calculations, interest on loan has been worked out as follows:-

(a) Gross amount of loan, repayment of instalments and rate of interest and weighted average rate of interest on actual average loan have been considered as per the petition;

(b) The repayment for the tariff period 2009-14 shall be deemed to be equal to the depreciation allowed for that period;

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

(d) The petitioner in Form 13 of the petition for Combined Asset-II & III has indicated `50 lakh of loan (in Bond XXX), whereas for single Asset-II, `135 lakh has been considered against Bond XXX. This difference of `85 lakhs has been adjusted against the latest bond i.e. XXXIV;

(e) Similarly, in Form 13 of the petition for Combined Asset-IV & V, the petitioner has indicated `200 lakh of loan (in Bond XXXI), whereas for single Asset-IV in Petition No. 336/2010, `417 lakh has been considered against Bond



XXXI. This difference of `217 lakhs has been adjusted against the latest bond i.e.

XXXIV.

35. Repayment of normative loan of `8.75 lakh for Asset-II for the month of March, 2011 has been considered as cumulative repayment of normative loan for Combined Asset-II & III as on the notional date of commercial operation i.e. 1.4.2011.

36. Repayment of normative loan i.e. `50.96 lakh for Asset-IV for the period from November, 2010 to March, 2011 has been considered as cumulative repayment of normative loan for Combined Asset-IV & V as on notional date of commercial operation i.e. 1.4.2011.

37. Detailed calculations of the weighted revised average rate of interest have been in Annexure I, II, III, and IV to this order.

38. Details of the interest on loan worked on the above basis are as under:-

(` in lakh)				
Asset-I				
	2010-11	2011-12	2012-13	2013-14
Gross Normative Loan	6003.63	6264.91	7426.27	7659.37
Cumulative Repayment upto Previous Year	0.00	32.48	468.45	949.33
Net Loan-Opening	6003.63	6232.43	6957.82	6710.05
Addition due to Additional Capitalisation	261.28	1161.36	233.10	0.00
Repayment during the year	32.48	435.97	480.87	487.73
Net Loan-Closing	6232.43	6957.82	6710.05	6222.32
Average Loan	6118.03	6595.12	6833.93	6466.18
Weighted Average Rate of Interest on Loan	8.8428%	8.8428%	8.8406%	8.8359%
Interest	45.08	583.20	604.16	571.35

(` in lakh)



Asset II	
	2010-11 (pro-rata)
Gross Normative Loan	1351.98
Cumulative Repayment upto Previous Year	0.00
Net Loan-Opening	1351.98
Addition due to Additional Capitalisation	77.14
Repayment during the year	8.75
Net Loan-Closing	1420.37
Average Loan	1386.18
Weighted Average Rate of Interest on Loan	8.9829%
Interest	10.38

(` in lakh)

Combined Asset-II & III			
	2011-12	2012-13	2013-14
Gross Normative Loan	1843.27	2705.06	2921.58
Cumulative Repayment upto Previous Year	8.75	180.39	392.70
Net Loan-Opening	1834.52	2524.67	2528.88
Addition due to Additional Capitalisation	861.79	216.52	45.50
Repayment during the year	171.64	212.31	222.19
Net Loan-Closing	2524.67	2528.88	2352.19
Average Loan	2179.60	2526.78	2440.54
Weighted Average Rate of Interest on Loan	8.9918%	8.9851%	8.9715%
Interest	195.98	227.03	218.95

(` in lakh)

Combined Asset-IV & V			
	2011-12	2012-13	2013-14
Gross Normative Loan	2734.13	3415.72	3634.05
Cumulative Repayment upto Previous Year	50.96	283.27	549.52
Net Loan-Opening	2683.17	3132.45	3084.52
Addition due to Additional Capitalisation	681.59	218.33	52.50
Repayment during the year	232.31	266.26	276.47
Net Loan-Closing	3132.45	3084.52	2860.55
Average Loan	2907.81	3108.49	2972.54
Weighted Average Rate of Interest on Loan	8.9180%	8.9139%	8.9074%
Interest	259.32	277.09	264.78

Depreciation



39. The petitioner has claimed actual depreciation as a component of Annual Fixed Charges. However, Regulation 17 (4) of the 2009 Tariff Regulations provides as under:-

"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 31th 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 asset".

The transmission assets covered in the instant petition would complete 12 years beyond 2013-14 and thus depreciation has been calculated annually based on Straight Line Method and at rates specified in Appendix-III of the 2009 Tariff Regulations.

40. Depreciation of Asset-II i.e. `8.75 lakh for the month of March, 2011 has been considered as cumulative depreciation for the Combined Asset-II &III and depreciation of Asset-IV i.e. `50.96 lakh for the period November 2010 to March 2011 has been considered as cumulative depreciation for Combined Asset IV & V.

41. Details of the depreciation worked out are as given as under:-

(` in lakh)				
Asset-I				
	2010-11	2011-12	2012-13	2013-14
Opening Gross Block	8576.62	8949.87	10608.96	10941.96
Addition during 2009-14 due to Projected Additional Capitalisation	373.25	1659.09	333.00	0.00
Closing Gross Block	8949.87	10608.96	10941.96	10941.96
Average Gross Block	8763.25	9779.42	10775.46	10941.96
Rate of Depreciation	4.4479%	4.4580%	4.4627%	4.4574%
Depreciable Value	6761.76	7655.13	8551.57	8701.42
Remaining Depreciable Value	6761.76	7622.65	8083.12	7752.10
Depreciation	32.48	435.97	480.87	487.73

(` in lakh)

Asset II	
	2010-11 (pro-rata)
Opening Gross Block	1931.40
Addition during 2009-14 due to Projected Additional Capitalisation	110.20
Closing Gross Block	2041.60
Average Gross Block	1986.50
Rate of Depreciation	5.2827%
Depreciable Value	1787.85
Remaining Depreciable Value	1787.85
Depreciation	8.75

(` in lakh)

Combined Asset-II & III			
	2011-12	2012-13	2013-14
Opening Gross Block	2633.24	3864.37	4173.69
Addition during 2009-14 due to Projected Additional Capitalisation	1231.13	309.32	65.00
Closing Gross Block	3864.37	4173.69	4238.69
Average Gross Block	3248.80	4019.03	4206.19
Rate of Depreciation	5.2833%	5.2826%	5.2825%
Depreciable Value	2923.92	3617.12	3785.57
Remaining Depreciable Value	2915.18	3436.74	3392.87
Depreciation	171.64	212.31	222.19

(` in lakh)

Combined Asset-IV & V			
	2011-12	2012-13	2013-14
Opening Gross Block	3905.89	4879.59	5191.49
Addition during 2009-14 due to Projected Additional Capitalisation	973.70	311.90	75.00
Closing Gross Block	4879.59	5191.49	5266.49
Average Gross Block	4392.74	5035.54	5228.99
Rate of Depreciation	5.2884%	5.2875%	5.2873%
Depreciable Value	3953.47	4531.99	4706.10
Remaining Depreciable Value	3902.51	4248.72	4156.57
Depreciation	232.31	266.26	276.47

Operation & maintenance expenses



42. Clause (g) of Regulation 19 of the 2009 Tariff Regulations prescribed the norms for operation and maintenance expenditure based on the type of sub-station and line.

The norms for the assets covered in this petition are as follows:-

(` in lakh)

Elements	2009-10	2010-11	2011-12	2012-13	2013-14
400 kV (twin conductor) D/C T/Line (` in lakh/ km)	0.627	0.663	0.701	0.741	0.783
400 kV bays (` in lakh/ km)	52.40	55.40	58.57	61.92	65.46
220 kV bays (` in lakh/ bay)	36.68	38.78	41.00	43.34	45.82

43. Based on the above norms, the petitioner has calculated the following operational and maintenance expenses which are allowed:-

(` in lakh)

Asset-I	2010-11 (pro-rata for one month)	2011-12	2012-13	2013-14
46.656 (2.635+44.021)km, 400 kV D/C (twin) T/L line	2.58	32.71	34.57	36.53
4 nos. 400 kV Bays	18.47	234.28	247.68	261.84
Total O&M Expenditure	21.04	266.99	282.25	298.37

(` in lakh)

Asset-II	2010-11 (pro-rata for one month)
1 No. 400 kV bay	4.62
3 nos. 220 kV Bays	9.70
Total O&M Expenditure	14.31

(` in lakh)

Combined Assets-II & III	2011-12	2012-13	2013-14
2 No.s 400 kV bay	117.14	123.84	130.92
4 nos. 220 kV Bays	164.00	173.36	183.28
Total O&M Expenditure	281.14	297.20	314.20

(` in lakh)

Combined Assets-IV & V	2011-12	2012-13	2013-14

2 No.s 400 kV bay	117.14	123.84	130.92
6 nos. 220 kV Bays	246.00	260.04	274.92
Total O&M Expenditure	363.14	383.88	405.84

44. The O&M allowed for all the assets covered in the petition are as follows:-

(` in lakh)				
Elements	2010-11 (pro-rata for one month)	2011-12	2012-13	2013-14
Total O&M (Assets-I, II, III & IV)	35.35	911.27	963.33	1018.41

45. The petitioner has submitted that O&M expenses for 2009-14 tariff block had been arrived on the basis of normalized actual O&M expenses of the petitioner during the year 2003-04 to 2007-08. The wage hike of 50% on account of pay revision of the employees of public sector undertaking was also considered while calculating the O&M expenses for tariff period 2009-14. The petitioner has further submitted that it would approach the Commission for suitable revision in the norms for O&M expenses in case the impact of wage hike w.e.f 1.1.2007 is more than 50%.

46. The Commission has given effect to the impact of pay revision in the 2009 Tariff Regulations by factoring 50% on account of pay revision of the employees of PSUs after extensive stakeholders' consultation. We do not see any reason why the admissible amount is inadequate to meet the requirement of the employee cost. However, in case the petitioner approaches with any such application, the same shall be dealt with in accordance with law.

Interest on working capital

47. As per the 2009 Tariff Regulations the components of the working capital and the interest thereon are discussed hereunder:-

(i) Receivables: As per Regulation 18(1) (c) (i) of the 2009 Tariff Regulations, receivables will be equivalent to two months of fixed cost. The petitioner has claimed the receivables on the basis of 2 months transmission charges claimed in the petition. In the tariff being allowed, receivables have been worked out on the basis of 2 months transmission charges.

(ii) Maintenance spares: Maintenance spares have worked on the based on 15% of Operation and Maintenance expenses specified in Regulation 19 of the 2009 Tariff Regulations.

(iii) O & M expenses: Regulation 18(1) (c) (iii) of the 2009 regulations provides for operation and maintenance expenses for one month as a component of 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: For Asset-1 & single Asset-II SBI Base Rate (7.50%) Plus 350Bps i.e. 11.00% and for Combined Asset-II & III and for combined Asset-IV&V SBI Base Rate (8.25%) Plus 350Bps i.e. 11.75% have been considered as the rate of interest on working capital.

48. Necessary computations in support of interest on working capital are appended hereunder:-

(` in lakh)

Asset-I				
	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	37.87	40.05	42.34	44.76
O & M expenses	21.04	22.25	23.52	24.86
Receivables	280.02	306.60	329.31	329.19
Total	338.93	368.90	395.17	398.81
Interest	3.11	40.58	43.47	43.87

(` in lakh)

Asset II	
	2010-11 (pro-rata)
Maintenance Spares	25.76
O & M expenses	14.31
Receivables	86.55
Total	126.62
Interest	1.16

(` in lakh)

Combined Asset-II & III			
	2011-12	2012-13	2013-14
Maintenance Spares	42.17	44.58	47.13
O & M expenses	23.43	24.77	26.18
Receivables	140.56	162.42	167.37
Total	206.16	231.77	240.68
Interest	24.22	27.23	28.28

(` in lakh)

Combined Asset-IV & V			
	2011-12	2012-13	2013-14
Maintenance Spares	54.47	57.58	60.88
O & M expenses	30.26	31.99	33.82
Receivables	186.16	204.31	209.51
Total	270.89	293.88	304.21
Interest	31.83	34.53	35.74

Transmission charges

49. The transmission charges being allowed for the transmission lines are given hereunder:-

(` in lakh)

Asset-I				
	2010-11	2011-12	2012-13	2013-14
Depreciation	32.48	435.97	480.87	487.73
Interest on Loan	45.08	583.20	604.16	571.35
Return on equity	38.30	512.86	565.10	573.83
Interest on Working Capital	3.11	40.58	43.47	43.87
O & M Expenses	21.04	266.99	282.25	298.37
Total	140.01	1839.60	1975.85	1975.14

(` in lakh)

Asset-II	
	2010-11 (pro-rata)
Depreciation	8.75
Interest on Loan	10.38
Return on equity	8.68
Interest on Working Capital	1.16
O & M Expenses	14.31
Total	43.27

(` in lakh)

Combined Asset-II & III			
	2011-12	2012-13	2013-14
Depreciation	171.64	212.31	222.19
Interest on Loan	195.98	227.03	218.95
Return on equity	170.38	210.77	220.59
Interest on Working Capital	24.22	27.23	28.28
O & M Expenses	281.14	297.20	314.20
Total	843.37	974.55	1004.21

(` in lakh)

Combined Asset-IV & V			
	2011-12	2012-13	2013-14
Depreciation	232.31	266.26	276.47



Interest on Loan	259.32	277.09	264.78
Return on equity	230.37	264.08	274.22
Interest on Working Capital	31.83	34.53	35.74
O & M Expenses	363.14	383.88	405.84
Total	1116.96	1225.83	1257.06

Filing fee and the publication expenses

50. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. In accordance with the Commission's order dated 11.1.2010 in Petition No. 109/2009, the petitioner shall be entitled to recover the filing fee directly from the beneficiaries on *pro-rata* basis. The petitioner shall also be entitled for reimbursement of the publication expenses in connection with the present petition, directly from the beneficiaries on *pro-rata* basis.

Licence fee

51. The petitioner has submitted that in O&M norms for tariff block 2009-14, the cost associated with license fees had not been captured and the license fee may be allowed to be recovered separately from the respondents. We have considered the submission of the petitioner. The petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 42 A(1)(b) of the 2009 Tariff Regulations.

Service tax

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

service tax in future. We consider petitioner's prayer pre-mature and accordingly it is rejected.

Sharing of transmission charges

53. The transmission charges allowed shall be recovered on monthly basis in accordance with Regulation 23 and shared by the beneficiaries in accordance with Regulation 33 of the 2009 Tariff Regulation up to 30.6.2011. With effect from 1.7.2011, the billing, collection & 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.

54. This order disposes of Petition No. 56/TT/2011.

sd/-
(V.S. Verma)
Member

sd/-
(S. Jayaraman)
Member

sd/-
(Dr. Pramod Deo)
Chairperson

Annexure-I

CALCULATION OF WEIGHTED AVERAGE RATE OF INTERST ON LOAN

(` in lakh)

	Details of Loan	2010-11	2011-12	2012-13	2013-14
1	Bond XXXIII				
	Gross loan opening	1610.00	1610.00	1610.00	1610.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	1610.00	1610.00	1610.00	1610.00
	Additions during the year	0.00	0.00	0.00	0.00



	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	1610.00	1610.00	1610.00	1610.00
	Average Loan	1610.00	1610.00	1610.00	1610.00
	Rate of Interest	8.64%	8.64%	8.64%	8.64%
	Interest	139.10	139.10	139.10	139.10
	Rep Schedule	12 annual installments from 08.07.2014			
2	Bond XXIX				
	Gross loan opening	200.00	200.00	200.00	200.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	16.67
	Net Loan-Opening	200.00	200.00	200.00	183.33
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	16.67	16.67
	Net Loan-Closing	200.00	200.00	183.33	166.66
	Average Loan	200.00	200.00	191.67	175.00
	Rate of Interest	9.20%	9.20%	9.20%	9.20%
	Interest	18.40	18.40	17.63	16.10
	Rep Schedule	12 annual installments from 12.03.2013			
3	Bond XXVIII				
	Gross loan opening	500.00	500.00	500.00	500.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	41.67
	Net Loan-Opening	500.00	500.00	500.00	458.33
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	41.67	41.67
	Net Loan-Closing	500.00	500.00	458.33	416.66
	Average Loan	500.00	500.00	479.17	437.50
	Rate of Interest	9.33%	9.33%	9.33%	9.33%
	Interest	46.65	46.65	44.71	40.82
	Rep Schedule	12 annual installments from 15.12.2012			
4	Bond XXXI				
	Gross loan opening	1700.00	1700.00	1700.00	1700.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	1700.00	1700.00	1700.00	1700.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	141.67
	Net Loan-Closing	1700.00	1700.00	1700.00	1558.33
	Average Loan	1700.00	1700.00	1700.00	1629.17
	Rate of Interest	8.90%	8.90%	8.90%	8.90%

	Interest	151.30	151.30	151.30	145.00
	Rep Schedule	12 annual installments from 25.02.2014			
5	Bond XXX				
	Gross loan opening	2000.00	2000.00	2000.00	2000.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	2000.00	2000.00	2000.00	2000.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	166.67
	Net Loan-Closing	2000.00	2000.00	2000.00	1833.33
	Average Loan	2000.00	2000.00	2000.00	1916.67
	Rate of Interest	8.80%	8.80%	8.80%	8.80%
	Interest	176.00	176.00	176.00	168.67
	Rep Schedule	12 annual installments from 29.09.2013			
	Total Loan				
	Gross loan opening	6010.00	6010.00	6010.00	6010.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	58.34
	Net Loan-Opening	6010.00	6010.00	6010.00	5951.66
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	58.34	366.68
	Net Loan-Closing	6010.00	6010.00	5951.66	5584.98
	Average Loan	6010.00	6010.00	5980.83	5768.32
	Rate of Interest	8.8428%	8.8428%	8.8406%	8.8359%
	Interest	531.45	531.45	528.74	509.68



CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN		
(` in lakh)		
Details of Loan	2010-11	
1 Bond XXIX		
Gross loan opening	50.00	
Cumulative Repayment upto DOCO/previous year	0.00	
Net Loan-Opening	50.00	
Additions during the year	0.00	
Repayment during the year	0.00	
Net Loan-Closing	50.00	
Average Loan	50.00	
Rate of Interest	9.20%	
Interest	4.60	
Rep Schedule	12 annual installments from 12.3.2013	
2 Bond XXXIII		
Gross loan opening	567.00	
Cumulative Repayment upto DOCO/previous year	0.00	
Net Loan-Opening	567.00	
Additions during the year	0.00	
Repayment during the year	0.00	
Net Loan-Closing	567.00	
Average Loan	567.00	
Rate of Interest	8.64%	
Interest	48.99	
Rep Schedule	12 annual installments from 8.7.2014	
3 Bond XXVIII		
Gross loan opening	600.00	
Cumulative Repayment upto DOCO/previous year	0.00	
Net Loan-Opening	600.00	
Additions during the year	0.00	
Repayment during the year	0.00	
Net Loan-Closing	600.00	
Average Loan	600.00	
Rate of Interest	9.33%	
Interest	55.98	
Rep Schedule	12 annual installments from 15.12.2012	
4 Bond XXX		
Gross loan opening	135.00	
Cumulative Repayment upto DOCO/previous year	0.00	

Net Loan-Opening	135.00
Additions during the year	0.00
Repayment during the year	0.00
Net Loan-Closing	135.00
Average Loan	135.00
Rate of Interest	8.80%
Interest	11.88
Rep Schedule	12 annual installments from 29.09.2013
Total Loan	
Gross loan opening	1352.00
Cumulative Repayment upto DOCO/previous year	0.00
Net Loan-Opening	1352.00
Additions during the year	0.00
Repayment during the year	0.00
Net Loan-Closing	1352.00
Average Loan	1352.00
Rate of Interest	8.9829%
Interest	121.45



CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(` in lakh)

	Details of Loan	2011-12	2012-13	2013-14
1	Bond XXXIII			
	Gross loan opening	700.00	700.00	700.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	700.00	700.00	700.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	700.00	700.00	700.00
	Average Loan	700.00	700.00	700.00
	Rate of Interest	8.64%	8.64%	8.64%
	Interest	60.48	60.48	60.48
	Rep Schedule	12 Annual instalments from 8.7.2014		
2	Bond XXIX			
	Gross loan opening	100.00	100.00	100.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	8.33
	Net Loan-Opening	100.00	100.00	91.67
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	8.33	8.33
	Net Loan-Closing	100.00	91.67	83.34
	Average Loan	100.00	95.84	87.51
	Rate of Interest	9.20%	9.20%	9.20%
	Interest	9.20	8.82	8.05
	Rep Schedule	12 Annual instalments from 12.3.2013		
3	Bond XXVIII			
	Gross loan opening	800.00	800.00	800.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	66.67
	Net Loan-Opening	800.00	800.00	733.33
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	66.67	66.67
	Net Loan-Closing	800.00	733.33	666.66
	Average Loan	800.00	766.67	700.00
	Rate of Interest	9.33%	9.33%	9.33%
	Interest	74.64	71.53	65.31
	Rep Schedule	12 Annual instalments from		

		15.12.2012		
4	Bond XXXIV			
	Gross loan opening	127.15	127.15	127.15
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	127.15	127.15	127.15
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	127.15	127.15	127.15
	Average Loan	127.15	127.15	127.15
	Rate of Interest	8.84%	8.84%	8.84%
	Interest	11.24	11.24	11.24
	Rep Schedule	12 Annual instalments from 21.10.2014		
5	Bond XXX			
	Gross loan opening	135.00	135.00	135.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	135.00	135.00	135.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	11.25
	Net Loan-Closing	135.00	135.00	123.75
	Average Loan	135.00	135.00	129.38
	Rate of Interest	8.80%	8.80%	8.80%
	Interest	11.88	11.88	11.39
	Rep Schedule	12 Annual instalments from 29.9.2013		
	Total Loan			
	Gross loan opening	1862.15	1862.15	1862.15
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	75.00
	Net Loan-Opening	1862.15	1862.15	1787.15
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	75.00	86.25
	Net Loan-Closing	1862.15	1787.15	1700.90
	Average Loan	1862.15	1824.65	1744.03
	Rate of Interest	8.9918%	8.9851%	8.9715%
	Interest	167.44	163.95	156.47



CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(` in lakh)

	Details of Loan	2011-12	2012-13	2013-14
1	Bond XXXIII			
	Gross loan opening	300.00	300.00	300.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	300.00	300.00	300.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	300.00	300.00	300.00
	Average Loan	300.00	300.00	300.00
	Rate of Interest	8.64%	8.64%	8.64%
	Interest	25.92	25.92	25.92
	Rep Schedule	12 Annual instalments from 8.7.2014.		
2	Bond XXIX			
	Gross loan opening	100.00	100.00	100.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	8.33
	Net Loan-Opening	100.00	100.00	91.67
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	8.33	8.33
	Net Loan-Closing	100.00	91.67	83.34
	Average Loan	100.00	95.84	87.51
	Rate of Interest	9.20%	9.20%	9.20%
	Interest	9.20	8.82	8.05
	Rep Schedule	12 Annual instalments from 12.03.2013		
3	Bond XXVIII			
	Gross loan opening	600.00	600.00	600.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	50.00
	Net Loan-Opening	600.00	600.00	550.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	50.00	50.00
	Net Loan-Closing	600.00	550.00	500.00
	Average Loan	600.00	575.00	525.00
	Rate of Interest	9.33%	9.33%	9.33%
	Interest	55.98	53.65	48.98
	Rep Schedule	12 Annual Instalments from 15.12.2012		
4	Bond XXXIV			
	Gross loan opening	621.00	621.00	621.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	621.00	621.00	621.00

	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	621.00	621.00	621.00
	Average Loan	621.00	621.00	621.00
	Rate of Interest	8.84%	8.84%	8.84%
	Interest	54.90	54.90	54.90
	Rep Schedule	12 Annual instalments from 21.10.2014		
5	Bond XXX			
	Gross loan opening	800.00	800.00	800.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	800.00	800.00	800.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	66.67
	Net Loan-Closing	800.00	800.00	733.33
	Average Loan	800.00	800.00	766.67
	Rate of Interest	8.80%	8.80%	8.80%
	Interest	70.40	70.40	67.47
	Rep Schedule	12 Annual instalments from 29.09.2013		
6	Bond XXXI			
	Gross loan opening	417.00	417.00	417.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	417.00	417.00	417.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	34.75
	Net Loan-Closing	417.00	417.00	382.25
	Average Loan	417.00	417.00	399.63
	Rate of Interest	8.80%	8.80%	8.80%
	Interest	36.70	36.70	35.17
	Rep Schedule	12 Annual Instalments from 25.2.2014		
	Total Loan			
	Gross loan opening	2838.00	2838.00	2838.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	58.33
	Net Loan-Opening	2838.00	2838.00	2779.67
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	58.33	159.75
	Net Loan-Closing	2838.00	2779.67	2619.92
	Average Loan	2838.00	2808.84	2699.80
	Rate of Interest	8.9180%	8.9139%	8.9074%
	Interest	253.09	250.38	240.48

