

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 72/TT/2012

Coram:

**Shri Gireesh B. Pradhan, Chairperson
Shri M. Deena Dayalan, Member
Shri A. K. Singhal, Member
Smt. Neerja Mathur, Member (Ex-officio)**

**Date of Hearing : 25.02.2014
Date of Order : 01.12.2014**

In the matter of:

Approval of transmission tariff for (I) Combined Asset of Establishment of 765/400 kV Wardha S/S with 1500 MVA ICT –1, 240 MVAR Bus Reactor and Switchable 240 MVAR Line Reactor at Seoni, Bays for Seoni-Wardha ckt-2 at Wardha S/S & Seoni S/S & 765/400 kV 1500 MVA ICT 3 with bays at Wardha S/S (Anticipated Date of commercial operation: 01.03.2012), New 400/220 kV Bachchau Substation (Gujarat) and 1*63 MVAR Bus Reactor at Bachchau Substation (New) along with associated bays (Anticipated/Actual Date of commercial operation: 01.06.2011/01.10.2011) and 400 kV Gandhar (NTPC) - Navsari line along with associated bays at Gandhar (NTPC) and Navsari (GIS)S/S, Navsari GIS S/S (New) (Anticipated date of commercial operation: 01.03.2012) (Notional DOCO :01.03.2012) and (II) Combined Asset (I) and 765/400 kV 1500 ICT 2 at Wardha S/S with bays & Bay Extension at 765 kV Seoni S/S & Wardha S/S for 765 Seoni- Wardha Ckt-1 along with switchable Line Reactor at Seoni (Anticipated Date of commercial operation: 01.04.2012) (Notional Date of commercial operation: 01.04.2012) under Associated Transmission System for Mundra (4000 MW) Ultra Mega Power Project for the period from Date of commercial operation to 31.03.2014 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.

And In the matter of:

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

.....Petitioner

Vs



1. Madhya Pradesh Power Trading Company Ltd.,
Shakti Bhawan, Rampur
Jabalpur-482 008.
2. Maharashtra State Electricity Distribution Company Limited,
Prakashgad, 4th floor
Andehri (East), Mumbai-400 052.
3. Gujarat Urja Vikas Nigam Ltd.,
Sardar Patel Vidyut Bhawan,
Race Course Road, Vadodara-390 007.
4. Electricity Department, Government of Goa,
Vidyut Bhawan, Panaji,
Near Mandvi Hotel, Goa-403 001.
5. Electricity Department,
Administration of Daman and Diu,
Daman-396 210.
6. Electricity Department,
Administration of Dadra Nagar Haveli,
U.T., Silvassa-396 230.
7. Chhattisgarh State Electricity Board,
P.O. Sunder Nagar, Dangania, Raipur
Chhattisgarh-492 013.
8. Madhya Pradesh Audyogik Kendra
Vikas Nigam (Indore) Ltd.,
3/54, Press Complex, Agra-Bombay Road
Indore -452 008.
9. Punjab State Electricity Board
The Mall, Patiala-147 001.
10. Haryana Power Purchase Centre,
Shakti Bhawan, Sector-6,
Panchkula (Haryana)-134 109.
11. Rajasthan Power Rajya Vidyut Prasaran Nigam Ltd.,
Vidyut Bhawan, Janpath,
Jaipur.
12. Ajmer Vidyut Vitran Nigam Ltd.,
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur.

13. Jodhpur Vidyut Vitran Nigam Ltd.,
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur.

14. Jaipur Vidyut Vitran Nigam Ltd.,
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur.

15. Coastal Gujarat Power Limited
(a TATA Power Company)
TATA power Backbay Receiving Station
148, Lt. GEN J Bhonsle Marg,
Nariman Point, Mumbai-400 021

.....Respondents

For petitioner : Shri S.S. Raju, PGCIL
Shri P. Sarswat, PGCIL
Ms. Sangeeta Edwards, PGCIL
Ms. Seema Gupta, PGCIL
Shri A.M. Pavgi, PGCIL

For respondents : None

ORDER

This petition has been filed by Power Grid Corporation of India Limited (PGCIL) seeking approval for determination of transmission tariff for (I) Combined Asset of Establishment of 765/400 kV Wardha S/S with 1500 MVA ICT –1, 240 MVAR Bus Reactor and Switchable 240 MVAR Line Reactor at Seoni, Bays for Seoni-Wardha ckt-2 at Wardha S/S & Seoni S/S & 765/400 kV 1500 MVA ICT 3 with bays at Wardha S/S, New 400/220 kV Bachchau Substation (Gujarat) and 1*63 MVAR Bus Reactor at Bachchau Substation (New) along with associated bays (Actual Date of Commercial Operation: 1.10.2011) and 400 kV Gandhar (NTPC) - Navsari line along with associated bays at Gandhar (NTPC) and Navsari (GIS)S/S, Navsari GIS S/S (New) (Notional DOCO :1.3.2012) and (II) Combined Asset (I) and 765/400 kV 1500



ICT 2 at Wardha S/S with bays & Bay Extension at 765 kV Seoni S/S & Wardha S/S for 765 Seoni- Wardha Ckt-1 along with switchable Line Reactor at Seoni (Notional Date of commercial operation: 1.4.2012) under Associated Transmission System for Mundra (4000 MW) Ultra Mega Power Project for the period from the respective dates of commercial operation to 31.03.2014, based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, (hereinafter referred to as “the 2009 Tariff Regulations”).

2. Investment approval of the scheme i.e. "Transmission System associated with Mundra Ultra Mega Power Project" (hereinafter “UMPP”) was accorded by the board of directors of POWERGRID vide the Memorandum No. C/CP/Mundra dated 15.10.2008 at an estimated cost of ₹482412 lakh including an IDC of ₹44686 lakh (based on 1st Quarter'2008 price level).

3. The scope of work covered under the project is as follows:-

Part (A): Transmission System of Mundra(4000 MW) UMPP

Transmission Lines

- i) Mundra-Limdi 400 kV D/C (Triple snowbird): 301km
- ii) Mundra-Bachchau – Ranchodpura 400 kV D/C:388 Km (Triple snowbird)
- iii) Mundra-Jetpur 400 kV (Triple snowbird) : 328 km

Part (B): Regional System Strengthening in WR for Mundra UMPP

Transmission Lines

- i) Gandhar -Navsari 400 kV D/C : 134 km
- ii) Navsari-Mumbai (New location) 400 kV `D/C : 204 km
- iii) LILO of both circuits of Kawas -Navsari 220 kV at Navsari : 50 km
- iv) Wardha-Aurangabad 400 kV D/C (QUAD) along with : 400 km
40% Fixed Series Compensation with provision to Upgrade the line to 1200 kV S/C at later date
- v) Aurangabad-Aurangabad (MSETCL) 400 kV D/C (quad) line : 30 Km

Sub-stations

- i) Establishment of new 400/220kV, 2x315 MVA substations at Bachchau.
- ii) Establishment of new 400/220kV, 2x315 MVA GIS substations at Navsari.
- iii) Establishment of new 400kV GIS switching station at Mumbai (New Location).
- iv) Establishment of new 765/400kV, 3x1500 MVA substation at Wardha.
- v) 765kV line bays for operation of Seoni- Wardha 2xS/C lines at 765kV level.
- vi) Establishment of 400/220kV, 2x315 MVA, substation at Aurangabad.

4. The details of the assets for which petitioner has preferred this petition for determination of transmission tariff, and their anticipated dates of commercial operation (hereinafter 'DOCO') are as given overleaf:-

Sl. No.	Name of the Asset	Anticipated Date of Commissioning
1	765/400 kV Wardha S/S with 1500 MVA ICT –1, 240 MVAR Bus Reactor and Switchable 240 MVAR Line Reactor at Seoni, Bays for Seoni-Wardha ckt-2 at Wardha S/S & Seoni S/S (hereinafter referred to as " Asset-1 ")	1.3.2012
2	765/400 kV 1500 MVA ICT 3 with bays at Wardha S/S (hereinafter referred to as " Asset-2 ")	1.3.2012
3	Bay Extension at 765 kV Seoni S/S & Wardha S/S for 765 Seoni- Wardha Ckt-1 alongwith switchable Line Reactor at Seoni (hereinafter referred to as " Asset-3 ")	1.4.2012
4	765/400 kV 1500 ICT 2 at Wardha S/S with bays (hereinafter referred to as " Asset-4 ")	1.4.2012

5. Initially, the above assets were clubbed with certain other assets forming part of the project. However, in response to the Commission's letter No. C-7/189(204) 2009-CERC dated 28th March, 2012, the petitioner vide affidavit received on 31.7.2013 de-clubbed the above assets from the rest and has submitted revised management certificate along with the relevant information for the determination of transmission tariff for the above mentioned four new assets. Accordingly, transmission tariff in respect of the above four assets is being approved through this order.

6. Details of the transmission charges claimed by the petitioner are as under:-

(₹ in lakh)			
Asset - 1			
Particulars	2011-12 (Pro-rata)	2012-13	2013-14
Depreciation	88.31	1177.42	1403.39
Interest on Loan	114.17	1470.47	1648.15
Return on equity	90.99	1219.30	1457.05
Interest on Working Capital	7.73	100.99	115.16
O & M Expenses	39.04	495.32	523.66
Total	340.24	4463.50	5147.41

(₹ in lakh)

Asset – 2			
Particulars	2011-12 (Pro-rata)	2012-13	2013-14
Depreciation	38.21	522.21	577.76
Interest on Loan	48.32	636.81	657.60
Return on equity	38.44	527.46	585.06
Interest on Working Capital	3.06	40.81	43.89
O & M Expenses	11.71	148.60	157.10
Total	139.74	1875.89	2021.41

(₹ in lakh)

Particulars	Asset 3		Asset 4	
	2012-13 (Pro-rata)	2013-14	2012-13	2013-14
Depreciation	197.73	302.36	491.24	525.98
Interest on Loan	240.85	349.48	596.34	595.03
Return on equity	201.91	310.08	496.99	533.93
Interest on Working Capital	26.71	37.33	41.26	43.16
O & M Expenses	216.70	274.92	86.68	91.64
Total	883.90	1274.17	1712.51	1789.74

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

(₹ in lakh)

Asset-I			
Particulars	2011-12 (Pro-rata)	2012-13	2013-14
Maintenance Spares	70.27	74.30	78.55
O & M Expenses	39.04	41.28	43.64
Receivables	676.66	740.15	854.24
Total	785.98	855.72	976.43
Interest	7.70	100.55	114.73
Rate of Interest	11.75%	11.75%	11.75%

Asset-II			
Particulars	2011-12 (Pro-rata)	2012-13	2013-14
Maintenance Spares	21.08	22.29	23.57
O & M Expenses	11.71	12.38	13.09
Receivables	279.47	312.65	336.90
Total	312.26	347.32	373.56
Interest	3.06	40.81	43.89
Rate of Interest	11.75%	11.75%	11.75%

Particulars	Asset-III		Asset-IV	
	2012-13	2013-14	2012-13	2013-14
Maintenance Spares	39.01	41.24	13.00	13.75
O & M Expenses	21.67	22.91	7.22	7.64
Receivables	176.78	212.36	285.42	298.29
Total	237.45	276.50	305.64	319.67
Interest	26.71	37.33	41.26	43.16
Rate of Interest	13.50%	13.50%	13.50%	13.50%

8. No comments have been received from the general public in response to the notices published in news papers by the petitioner under Section 64 of the Electricity Act, 2003. Reply has been filed by Respondent No. 1 Madhya Pradesh Power Management Company Limited (MPPMCL) vide its affidavit dated 24.2.2014 and Respondent No. 2 Maharashtra state Distribution Company Limited (MSEDCL) vide its affidavit dated 9.1.2013. The petitioner has filed the rejoinder to the reply of MSEDCL vide affidavit dated 20.3.2014. The respondents have broadly raised the issue of time over-run and cost over-run. The submissions by the said respondent are being addressed in the respective paragraphs of this order.

9. Having heard the representatives of the parties and perused the material on records, we proceed to dispose of the petition.

Capital Cost

10. Regulation 7 of the 2009 Tariff Regulations provides as follows:-

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

- (a) The expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during

construction on the loan – (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the fund deployed, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check.

(b) capitalised initial spares subject to the ceiling rates specified in regulation 8; and

(c) additional capital expenditure determined under regulation 9:

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

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

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

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

11. Details of apportioned approved cost, actual expenditure incurred as on date of commercial operation (hereinafter “DOCO”) and details of additional capital expenditure (hereinafter “add cap”) incurred/projected to be incurred for the period from DOCO to 31.03.2014 for the assets covered in the petition are summarized hereunder:-

Name of Asset	Apportioned approved cost	Expenditure as on DOCO*	Projected additional capital expenditure			Total estimated completion cost
			DOCO to 31.3.2012	2012-13	2013-14	
Asset-1	40133.00	20441.43	758.97	4099.09	4967.92	30267.41
Asset-2	13058.00	8630.57	328.75	2196.90	0.00	11156.22
Asset-3	12963.00		3327.65	2585.02	0.00	5912.67
Asset-4	12920.00		8772.28	1408.93	0.00	10181.21

12. Details of the capital cost as on the dates of commercial operation of the assets and the Auditor certificates are as under:-

(₹ in lakh)		
Particulars	Capital Cost	Management Certificate date
Asset-1	20441.43	23.10.2012
Asset-2	8630.57	13.8.2012
Asset-3	3327.65	13.8.2012
Asset-4	8772.28	13.8.2012

Cost variation

13. As per the petition the apportioned approved cost and total estimated completion cost of the instant assets are as under:-

(₹ in lakh)				
S. No.	Assets	Apportioned approved cost	Total estimated expenditure	% Over Estimation
1	Asset-1	40133.00	34714.13	13.5
2	Asset-2	13057.82	12122.57	7.2
3	Asset-3	12963.09	9230.85	28.8
4	Asset-4	12920.34	10006.12	22.55

14. It is seen from the above that there is no cost over-run with reference to the apportioned approved cost. However, there is over estimation of 7.2% to 28.8% in FR cost as against estimated completion cost. As per Form 5-B appended to the petition, there is significant increase in the cost of the following elements:-

- (a) Form 5B in respect of Asset-1- The cost of land, Site preparation, Control Room & Office Building including HVAC, Roads & Drainage, Foundations for Structures, Misc civil works, Bus Bars/conductors/ insulators, Emergency DG Set, Structure for Switchyard and Auxiliary System.

(b) Form 5B, in respect Asset 2- The cost of Roads & Drainage, Foundations for Structures, Bus Bars/conductors/ insulators and Structure for Switchyard.

(c) Form 5B in respect Asset 4- The cost of Foundations for Structures, Bus Bars/conductors/ insulators and Structure for Switchyard

(d) Form 5B in respect of Asset 3- The cost of Foundations for Structures, Bus Bars/conductors/ insulators, Structure for Switchyard and Auxiliary System.

15. The petitioner was directed vide letter dated 16.4.2012 to submit the data for capital cost benchmarking, detailed justification for the cost variation in the above items and justification for a new DG Set at the existing Seoni Sub-station.

16. In response to the above, the petitioner has vide its affidavit dated 7.11.2012, submitted the data for capital cost bench marking and has further submitted the following:-

(a) A 400 kV Wardha-Aurangabad D/C line was proposed to be constructed under Mundra UMPP TS which is to be upgraded to 1200 kV in future. Keeping view of this, the land adjacent to the existing switchyard owned by MIDC was acquired for 1200 kV Sub-station to be built in near future and it resulted in the increase in cost under the head "cost of land".

Further, the 765 kV new sub-station constructed at Wardha was envisaged as Bay extension due to which certain items were not considered inadvertently, such as, roads and drains, site preparation, DG set, Battery and Battery chargers etc in FR. However, the required items were necessary for successful completion of the project and thus had been executed resulting in the significant increase in the cost.

(b) With regard to Bus bar/conductors/insulators & structure for switchyard, it has been submitted that the estimates are prepared by the petitioner as per well defined procedures for cost estimate, which contains only a 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/services 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. In the instant case the reason of cost variation for the above cases in form 5B is due to the increase in awarded price of the items. As regards 765kV equipments, the rates were high while preparing the FR, but during the actual execution, there was significant reduction in market rates of 765kV equipments which resulted in the decrease of the cost of the substation.

(c) As regards the DG set, the same was not procured at Seoni, but for 765 kV Wardha (new) Sub-station since the available DG set at Wardha Sub-station was of inadequate capacity to meet the demand of power supply in case of emergency for both 400/220 kV & 765/400 kV Sub-stations together. The new DG set at existing Wardha Sub-station has been installed in line with CEA (Technical standards to the connectivity to the Grid) Regulations 2007, which provides for an emergency supply from Diesel Generating (DG) source of suitable capacity. Hence, New DG Set was procured for 765 kV switchyard at Wardha.

17. MAHAVITRAN vide affidavit dated 9.1.2013 has submitted that there is over estimation of the cost in the instant petition as well as other petitions.

18. As per Auditor' Certificate dated 23.10.2012 submitted by the petitioner vide affidavit dated 7.11.2012, the total estimated expenditure is as follows:-

(₹ in lakh)

Sl. No.	Assets	Apportioned approved cost	Total estimated expenditure (as per submission)	% Over Estimation
1	Asset-1	40133.00	30267.41	24.58
2	Asset-2	13057.82	11156.22	14.56
3	Asset-3	12963.09	5912.67	54.39
4	Asset-4	12920.34	10181.21	21.20

19. It is evident from the table that there is over estimation ranging from 14.56% to 54.39% in FR cost as against the estimated completion cost.

20. We are not pleased with the trend of exorbitant over-estimation of cost by the petitioner at the time of sanction of the projects. The cost estimates should be realistic and we expect the petitioner to adopt a prudent procedure to estimate the project cost in a realistic manner and include the same in the Investment Approval.

Time over-run

21. As per the investment approval, the assets were scheduled to be commissioned within 48 months from the date of investment approval i.e. by 1.11.2012. However, M/S Coastal Gujarat Power Ltd., preponed the commissioning of their generation units as given hereunder:-

Unit No.	Generation unit preponed	
	From (Original)	To (Revised)
Unit 1 st	August, 2012	Sept, 2011
Unit 2 nd	February, 2013	March, 2012
Unit 3 rd	August, 2013	July, 2012
Unit 4 th	February, 2014	Nov., 2012
Unit 5 th	August, 2014	March, 2013

22. In view of the above, petitioner had to advance the Associated Transmission System (ATS) of Mundra UMPP to facilitate pre-commissioning evacuation requirements. Accordingly, following transmission assets associated with Mundra UMPP were anticipated to be commissioned as under:-

Sl. No.	Name of Assets	Anticipated DOCO
1	Establishment of 765/400 kV Wardha S/S with 1500 MVA ICT-I, 240 MVAR Bus Reactor and Switchable 240 MVAR Line Reactor at Seoni, Bays for Seoni- Wardha Ckt-2 at Wardha S/S & Seoni S/S	1.3.2012
2	765/400 kV 1500 MVA ICT-3 at Wardha S/S with bays	1.3.2012
3	Bay Extension at 765 kV Seoni S/S & Wardha	1.4.2012

	S/S for 765 kV Seoni- Wardha Ckt-I alongwith switchable Line Reactor at Seoni	
4	765/400 kV 1500 MVA ICT-2 at Wardha S/S with bays	1.4.2012

23. In response to the Commission's letter dated 16.4.2012, the petitioner vide affidavit dated 7.11.2012 and 31.7.2013 submitted that the actual date of the commercial operation of the instant assets is as below:-

Sl. No	Name of Assets	Schedule Commissioning	Actual DOCO	Delay
1	Establishment of 765/400 kV Wardha SS with 1500 MVA ICT1, 240 MVAR Bus Reactor and Switchable 240 MVAR Line Reactor at Seoni, Bays for Seoni-Wardha Ckt-2 at Wardha SS & Seoni SS	1.11.2012	1.3.2012	No delay
2	765/400 kV 1500 MVA ICT 3 at Wardha SS with bays		1.3.2012	No delay
3	Bay Extension at 765 kV Seoni SS & Wardha SS for 765 Seoni-Wardha Ckt-1 alongwith switchable Line Reactor at Seoni		1.6.2012	No delay
4	765/400 kV 1500 MVA ICT 2 at Wardha SS with bays		1.4.2012	No delay

24. It is seen that there is no time over-run in commissioning of the assets with reference to the investment approval.

Initial Spares

25. Regulation 8 of 2009 Tariff Regulations provides that Initial spares shall be capitalised as a percentage of the original project cost , subject to following ceiling norms:-

Transmission line	0.75%
Transmission Sub-station	2.5%
Series compensation devices & HVDC Station	3.5%

26. Details of the capital cost, the initial spares claimed by the petitioner and its percentage are as under:-

(₹ in lakh)

Asset	Capital cost	Initial spares claimed for sub-station	Percentage
Asset-1	30267.41	885.16	2.92
Asset-2	11156.42	258.72	2.32
Asset-3	5912.67	144.05	2.44
Asset-4	10181.21	216.94	2.13

27. It is seen from the above that the initial spares claimed for Asset-1 pertaining to sub-station exceeds the ceiling limit defined under Regulation 8 of 2009 Tariff Regulations whereas initial spares claimed for rest of the assets falls within the ceiling limit. Detail of the excess initial spares claimed in case of Asset-1 is as follows:-

(₹ in lakh)

Calculation of Initial Spares				
Capital Cost pertaining to S/S (including Land, building, PLCC) up to cut off date	Initial Spares Claimed	Ceiling Limits as per clause 8 Regulation 2009	Initial Spares worked out	Excess Initial Spares
(a)	(b)	(c)	(d) = {(a)-(b)} * (c) / {100% - (c)}	(e) = (d) - (b)
30267.41	885.16	2.5%	753.39	(131.77)

28. Excess initial spares claimed, pertaining to Sub-station, have been deducted from the capital expenditure of the Sub-station as on the date of commercial operation. Further, same will be reviewed at the time of triung up on the submission of the actual additional capital expenditure.

29. Based on the above, detail of the capital cost as on the date of commercial operation, considered for the purpose of calculation of tariff, after

making necessary adjustment on account of excess initial spares, is as follows:-

(₹ in lakh)				
Particular	Asset-1	Asset-2	Asset-3	Asset-4
Apportioned approved cost	40133.00	13058.00	12963.00	12920.00
Capital cost claimed as on DOCO (A)	20441.43	8630.57	3327.65	8772.28
Excess Initial Spares (B)	(131.77)	0.00	0.00	0.00
Capital Cost considered as on DOCO (A)-(B)	20309.66	8630.57	3327.65	8772.28

Additional capital expenditure

30. As regards Additional Capital Expenditure clause 9(1) of the 2009 Tariff Regulations provides as follows:-

“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.”

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

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

32. Details of the projected additional capital expenditure claimed by the petitioner are as follows:-

(₹ in lakh)			
Particulars	2011-12	2012-13	2013-14
Asset-1 (DOCO:1.3.2012)			
Building & Other Civil Works	25.98	1123.82	316.82
Transmission Line	0.00	0.00	0.00
Sub-Station Equipments	732.99	2865.69	4651.10
PLCC	0.00	109.58	0.00
Total	758.97	4099.09	4967.92
Asset-2 (DOCO:1.3.2012)			
Building & Other Civil Works	51.31	253.25	0.00
Transmission Line	0.00	0.00	0.00
Sub-Station Equipments	277.44	1943.65	0.00
PLCC	0.00	0.00	0.00
Total	328.75	2196.90	0.00

(₹ in lakh)			
Asset-3 (DOCO:1.6.2012)			
Building & Other Civil Works	-	326.96	0.00
Transmission Line	-	0.00	0.00
Sub-Station Equipments	-	2256.12	0.00
PLCC	-	1.94	0.00
Total	-	2585.02	0.00
Asset-4 (DOCO:1.4.2012)			
Building & Other Civil Works	-	253.74	0.00
Transmission Line	-	0.00	0.00
Sub-Station Equipments	-	1155.19	0.00
PLCC	-	0.00	0.00
Total	-	1408.93	0.00

33. Additional Capital Expenditure claimed by the petitioner falls within the cut-off date and it is mainly on account of balance and retention payments. Hence, the same has been allowed for the purpose of tariff determination under Regulations 9 (1) of the 2009 Regulations in respect of all the assets covered in the instant petition.

Debt- equity ratio

34. 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 modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”

35. Details of debt-equity in respect of the assets covered in this petition as on date of commercial operation are as follows:-

(₹ in lakh)

Particulars	Cost as on Date of commercial operation	
Asset-I	Amount	%
Debt	14216.76	70.00
Equity	6092.90	30.00
Total	20309.66	100.00
Asset- II	Amount	%
Debt	6041.40	70.00
Equity	2589.17	30.00
Total	8630.57	100.00
Asset III	Amount	%
Debt	2329.36	70.00
Equity	998.30	30.00
Total	3327.65	100.00
Asset IV	Amount	%
Debt	6140.60	70.00
Equity	2631.68	30.00
Total	8772.28	100.00

36. Details of the debt-equity ratio in respect of the projected additional capital expenditure are as follows:-

(₹ in lakh)

Particulars	Asset-1		Asset-2	
	Amount	%	Amount	%
	Normative		Normative	
	2011-12		2011-12	
Debt	531.28	70.00	230.12	70.00
Equity	227.69	30.00	98.62	30.00
Total	758.97	100.00	328.74	100.00
	2012-13		2012-13	
Debt	2869.36	70.00	1537.83	70.00
Equity	1229.73	30.00	659.07	30.00
Total	4099.09	100.00	2196.90	100.00
	2013-14		2013-14	
Debt	3477.54	70.00	0.00	0.00
Equity	1490.38	30.00	0.00	0.00
Total	4967.92	100.00	0.00	0.00

(₹ in lakh)

Particulars	Asset-3		Asset-4	
	Amount	%	Amount	%
	Normative		Normative	
	2012-13		2012-13	
Debt	1809.51	70.00	986.25	70.00
Equity	775.51	30.00	422.68	30.00
Total	2585.02	100.00	1408.93	100.00
	2013-14		2013-14	
Debt	0.00	0.00	0.00	0.00
Equity	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00

37. Detail of debt-equity ratio of assets as on 31.3.2014 is as given overleaf:-

(₹ in lakh)

Particulars	Cost as on 31.3.2014	
Asset-1	Amount	%
Debt	21094.95	70.00
Equity	9040.69	30.00
Total	30135.64	100.00
Asset- 2	Amount	%
Debt	7809.36	70.00
Equity	3346.87	30.00
Total	11156.22	100.00
Asset 3	Amount	%
Debt	4138.87	70.00
Equity	1773.80	30.00
Total	5912.67	100.00
Asset 4	Amount	%
Debt	7126.85	70.00
Equity	3054.36	30.00
Total	10181.21	100.00

38. The above stated debt–equity ratios have been applied for the purpose of tariff calculation in this order.

Return on Equity

39. Regulation 15 of the 2009 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) Return on equity shall be computed on pre-tax basis at the base rate of 15.5% for thermal generating stations, transmission system and run of the river generating station, and 16.5% for the storage type generating stations including pumped storage hydro generating stations and run of river generating station with pondage and shall be grossed up as per clause (3) of this regulation:

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

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

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

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

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

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

40. In this order, Return on Equity has been calculated as per Regulation 15 of the 2009 Tariff Regulations with pre-tax ROE of 17.481% based on the tax rate of 11.330% for the year 2008-09.

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

Particulars	Asset 1		
	2011-12 (Pro-rata)	2012-13	2013-14
Opening Equity	6092.90	6320.59	7550.32
Addition due to Additional Capitalisation	227.69	1229.73	1490.38
Closing Equity	6320.59	7550.32	9040.69
Average Equity	6206.74	6935.45	8295.50
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)	90.42	1212.39	1450.14

(₹ in lakh)

Particulars	Asset 2		
	2011-12 (Pro-rata)	2012-13	2013-14
Opening Equity	2589.17	2687.80	3346.87
Addition due to Additional Capitalisation	98.63	659.07	0.00
Closing Equity	2687.80	3346.87	3346.87
Average Equity	2638.48	3017.33	3346.87
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)	38.44	527.46	585.07

(₹ in lakh)

Particulars	Asset 3		Asset 4	
	2012-13 (Pro-rata)	2013-14	2012-13	2013-14
Opening Equity	998.30	1773.80	2631.68	3054.36
Addition due to Additional Capitalisation	775.51	0.00	422.68	0.00
Closing Equity	1773.80	1773.80	3054.36	3054.36
Average Equity	1386.05	1773.80	2843.02	3054.36
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)	201.91	310.08	496.99	533.93

Interest on Loan

42. Regulation 16 of the 2009 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.”

43. In these calculations, interest on loan has been worked out as detailed below:-

(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) Notwithstanding moratorium period availed by the transmission licensee, the repayment of the loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed; and

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

44. Detailed calculation of the weighted average rate of interest has been given in Annexure 1 to 4 to this order.

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

Particulars	Asset 1		
	2011-12 (Pro-rata)	2012-13	2013-14
Gross Normative Loan	14216.76	14748.04	17617.40
Cumulative Repayment upto Previous Year	0.00	87.73	1258.20
Net Loan-Opening	14216.76	14660.31	16359.21
Addition due to Additional Capitalisation	531.28	2869.36	3477.54
Repayment during the year	87.73	1170.47	1396.44
Net Loan-Closing	14660.31	16359.21	18440.31
Average Loan	14438.54	15509.76	17399.76
Weighted Average Rate of Interest on Loan	9.4286%	9.4273%	9.4283%
Interest	113.45	1462.16	1640.50

(₹ in lakh)

Particulars	Asset 2		
	2011-12 (Pro-rata)	2012-13	2013-14
Gross Normative Loan	6041.40	6271.53	7809.36
Cumulative Repayment upto Previous Year	0.00	38.21	560.42
Net Loan-Opening	6041.40	6233.32	7248.93
Addition due to Additional Capitalisation	230.13	1537.83	0.00
Repayment during the year	38.21	522.21	577.76
Net Loan-Closing	6233.32	7248.93	6671.18
Average Loan	6137.36	6741.13	6960.05
Weighted Average Rate of Interest on Loan	9.4483%	9.4466%	9.4482%
Interest	48.32	636.81	657.60

(₹ in lakh)

Particulars	Asset 3		Asset 4	
	2012-13 (Pro-rata)	2013-14	2012-13	2013-14
Gross Normative Loan	2329.36	4138.87	6140.60	7126.85
Cumulative Repayment upto Previous Year	0.00	197.73	0.00	491.24
Net Loan-Opening	2329.36	3941.14	6140.60	6635.61
Addition due to Additional Capitalisation	1809.51	0.00	986.25	0.00
Repayment during the year	197.73	302.36	491.24	525.98
Net Loan-Closing	3941.14	3638.77	6635.61	6109.63
Average Loan	3135.25	3789.96	6388.10	6372.62
Weighted Average Rate of Interest on Loan	9.2175%	9.2203%	9.3352%	9.3373%
Interest	240.83	349.44	596.34	595.03

Depreciation

46. Regulation 17 of the 2009 Tariff Regulations provides for computation of depreciation in the following manner, namely:-

“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.”

47. Assets covered in this petition were put under commercial operation on various dates between 1.3.2012 and 1.6.2012. Accordingly they will complete 12 years beyond 2013-14. Thus depreciation has been calculated annually based on Straight Line Method and at rates specified in Appendix-III of Tariff Regulation 2009-14.

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

(₹ in lakh)

Particulars	Asset 1		
	2011-12 (Pro-rata)	2012-13	2013-14
Opening Gross Block	20309.66	21068.63	25167.72
Addition during 2009-14 due to Projected Additional Capitalisation	758.97	4099.09	4967.92
Closing Gross Block	21068.63	25167.72	30135.64
Average Gross Blcok	20689.15	23118.18	27651.68
Rate of Depreciation	5.0886%	5.0630%	5.0501%
Depreciable Value	18620.23	20806.36	24886.51
Remaining Depreciable Value	18620.23	20718.63	23628.31
Depreciation	87.73	1170.47	1396.44

(₹ in lakh)

Particulars	Asset 2		
	2011-12 (Pro-rata)	2012-13	2013-14
Opening Gross Block	8630.57	8959.32	11156.22
Addition during 2009-14 due to Projected Additional Capitalisation	328.75	2196.90	0.00
Closing Gross Block	8959.32	11156.22	11156.22
Average Gross Blcok	8794.95	10057.77	11156.22
Rate of Depreciation	5.2131%	5.1922%	5.1788%
Depreciable Value	7915.45	9051.99	10040.60
Remaining Depreciable Value	7915.45	9013.79	9480.18
Depreciation	38.21	522.21	577.76

(₹ in lakh)

Particulars	Asset 3		Asset 4	
	2012-13 (Pro-rata)	2013-14	2012-13	2013-14
Opening Gross Block	3327.65	5912.67	8772.28	10181.21
Addition during 2009-14 due to Projected Additional Capitalisation	2585.02	0.00	1408.93	0.00
Closing Gross Block	5912.67	5912.67	10181.21	10181.21
Average Gross Blcok	4620.16	5912.67	9476.75	10181.21
Rate of Depreciation	5.1357%	5.1138%	5.1837%	5.1662%
Depreciable Value	4158.14	5321.40	8529.07	9163.09
Remaining Depreciable Value	4158.14	5123.67	8529.07	8671.84
Depreciation	197.73	302.36	491.24	525.98

Operation & Maintenance Expenses (O&M Expenses)

49. Initially, the petitioner had claimed O&M Expenses in respect of 18 bays (10 nos. 765kV & 8 nos. 400kV). As the same did not match with the assets for which tariff is being claimed in the instant petition, the petitioner

was asked to provide clarification. The petitioner clarified that the above number of bays was worked out in accordance with the erstwhile procedure for clubbing of assets which has since been partially modified by the Commission vide letter dated 28.3.2012. Accordingly, the petitioner has submitted revised Form 2 covering 12 nos. bays (10 nos.- 765kV & 2 nos.- 400kV) in respect of the assets covered in this petition. Accordingly, the O&M Expenses are being calculated in respect of these 12 bays only.

50. Clause (g) of Regulation 19 of the 2009 Tariff Regulations prescribes the norms for O&M Expenses based on the type of sub-station and line. Norms prescribed in respect of the elements covered in the instant petition are as under:-

Elements	2009-10	2010-11	2011-12	2012-13	2013-14
765 kV bays (₹ in lakh per bay)	73.36	77.56	81.99	86.68	91.64
400 kV bays (₹ in lakh per bay)	52.40	55.40	58.57	61.92	65.46

51. Based on the above, the following O&M Expenses are allowed in respect of the assets covered in this petition:-

Element	2009-10	2010-11	2011-12 (Pro-rata)	(₹ in lakh)	
				2012-13	2013-14
Asset-I					
5 nos. 765 kV bays	---	---	34.16	433.40	458.20
1 no. 400 kV bays	---	---	4.88	61.92	65.46
Total O&M expenses	---	---	39.04	495.32	523.66
Asset-II					
1 no 765 kV bay	---	---	6.83	86.68	91.64
1 no 400 kV bay	---	---	4.88	61.92	65.46
Total O&M expenses	---	---	11.71	148.60	157.10
Asset-III				(Pro-rata)	

3 nos. 765 kV bays	---	---	---	216.70	274.92
Total O&M expenses	---	---	---	216.70	274.92
Asset-IV					
1 no 765 kV bay	---	---	---	86.68	91.64
Total O&M expenses	---	---	---	86.68	91.64

52. The petitioner has submitted that O&M Expenses for the period 2009-14 was arrived at on the basis of normalized actual O&M Expenses during the period 2003-04 to 2007-08. The wage hike of 50% on account of pay revision of the employees of public sector undertaking has also been considered while calculating the O & M charges for the 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 with effect from 1.1.2007 is more than 50%.

53. The Commission has given effect to 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

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

(i) Receivables

As per Regulation 18(1) (c) (i) of the 2009 Tariff Regulations, receivables will be equivalent to two months' average billing calculated on target availability level. The petitioner has claimed the receivables on the basis of 2 months' transmission charges claimed in the petition. In the tariff being allowed, receivables have been worked out on the basis of 2 months' transmission charges.

(ii) Maintenance Spares

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

(iii) O & M Expenses

Regulation 18(1) (c) (iii) of the 2009 Tariff Regulations provides for operation and maintenance expenses for one month as a component of working capital. The petitioner has claimed O&M Expenses for 1 month of the respective year as claimed in the petition. This has been considered in the working capital.

(iv) Rate of Interest on Working Capital

Interest on working capital has been worked out considering interest rate @ 11.75% (Base rate as on 1.4.2011 i.e. 8.25% plus 350 basis points) for Asset-1 & Asset-2 and interest rate @ 13.50% (Base rate as

on 1.4.2012 i.e. 10% and 350 basis points) for Asset-3 and Asset-4 as per the 2009 Tariff Regulations.

55. Necessary computations in support of interest on working capital are appended herein below:-

(₹ in lakh)

Particulars	Asset 1		
	2011-12 (Pro-rata)	2012-13	2013-14
Maintenance Spares	70.27	74.30	78.55
O & M expenses	39.04	41.28	43.64
Receivables	676.66	740.15	854.24
Total	785.98	855.72	976.43
Rate of Interest	11.75%	11.75%	11.75%
Interest	7.70	100.55	114.73

(₹ in lakh)

Particulars	Asset 2		
	2011-12 (Pro-rata)	2012-13	2013-14
Maintenance Spares	21.08	22.29	23.57
O & M expenses	11.71	12.38	13.09
Receivables	279.47	312.65	336.90
Total	312.26	347.32	373.56
Rate of Interest	11.75%	11.75%	11.75%
Interest	3.06	40.81	43.89

(₹ in lakh)

Particulars	Asset 3		Asset 4	
	2012-13 (Pro-rata)	2013-14	2012-13	2013-14
Maintenance Spares	39.01	41.24	13.00	13.75
O & M expenses	21.67	22.91	7.22	7.64
Receivables	176.78	212.36	285.42	298.29
Total	237.45	276.50	305.64	319.67
Rate of Interest	13.50%	13.50%	13.50%	13.50%
Interest	26.71	37.33	41.26	43.16

Transmission Charges

56. The transmission charges being allowed for the transmission assets are summarized below:-

(₹ in lakh)

Particulars	Asset 1		
	2011-12 (Pro-rata)	2012-13	2013-14
Depreciation	87.73	1170.47	1396.44
Interest on Loan	113.45	1462.16	1640.50
Return on equity	90.42	1212.39	1450.14
Interest on Working Capital	7.70	100.55	114.73
O & M Expenses	39.04	495.32	523.66
Total	338.33	4440.88	5125.46

(₹ in lakh)

Particulars	Asset 2		
	2011-12 (Pro-rata)	2012-13	2013-14
Depreciation	38.21	522.21	577.76
Interest on Loan	48.32	636.81	657.60
Return on equity	38.44	527.46	585.07
Interest on Working Capital	3.06	40.81	43.89
O & M Expenses	11.71	148.60	157.10
Total	139.73	1875.89	2021.41

(₹ in lakh)

Particulars	Asset 3		Asset 4	
	2012-13 (Pro-rata)	2013-14	2012-13	2013-14
Depreciation	197.73	302.36	491.24	525.98
Interest on Loan	240.83	349.44	596.34	595.03
Return on equity	201.91	310.08	496.99	533.93
Interest on Working Capital	26.71	37.33	41.26	43.16
O & M Expenses	216.70	274.92	86.68	91.64
Total	883.88	1274.13	1712.51	1789.74

Other issues

57. The petitioner had sought approval for the reimbursement of fee paid by it for filing the petition. The petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on *pro-rata* basis in accordance with Regulation 42 A (1) (a) of the 2009 Tariff Regulations.

58. The petitioner has made a specific prayer to be allowed to bill and recover the Service tax on Transmission charges separately from the respondents if the exemption granted to it is withdrawn and transmission of power is made a taxable service. We consider the prayer pre-mature. The petitioner is at liberty to approach the Commission for any relief at the appropriate as per law.

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

60. The transmission charges shall be shared by the respondents in accordance with Central Electricity Regulatory Commission (Sharing of inter-State transmission charges and losses) Regulations 2010.

61. This order disposes of Petition No. 72/TT/2012.

sd/-	sd/-	sd/-	sd/-
(Neerja Mathur) Member (EO)	(A. K. Singhal) Member	(M. Deena Dayalan) Member	(Gireesh B. Pradhan) Chairperson

Annexure 1

Calculation of Weighted Average Rate of Interest on Actual Loans

(₹ in lakh)

	Details of Loan	2011-12	2012-13	2013-14
1	Bond XXXII			
	Gross loan opening	50.00	50.00	50.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	50.00	50.00	50.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	4.17
	Net Loan-Closing	50.00	50.00	45.83
	Average Loan	50.00	50.00	47.92
	Rate of Interest	8.84%	8.84%	8.84%
	Interest	4.42	4.42	4.24
	Rep Schedule	12 annual installments from 27.3.2014		
2	Bond XXX			
	Gross loan opening	200.00	200.00	200.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	200.00	200.00	200.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	16.67
	Net Loan-Closing	200.00	200.00	183.33
	Average Loan	200.00	200.00	191.67
	Rate of Interest	8.80%	8.80%	8.80%
	Interest	17.60	17.60	16.87
	Rep Schedule	12 Equal Annual Installments from 29.9.2013		
3	BOND-XXXI			
	Gross loan opening	150.00	150.00	150.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	150.00	150.00	150.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	12.50
	Net Loan-Closing	150.00	150.00	137.50
	Average Loan	150.00	150.00	143.75
	Rate of Interest	8.90%	8.90%	8.90%
	Interest	13.35	13.35	12.79
	Rep Schedule	12 Equal Annual Installments from 25.2.2014		
4	Bond XXXIII			
	Gross loan opening	100.00	100.00	100.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	100.00	100.00	100.00



	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	100.00	100.00	100.00
	Average Loan	100.00	100.00	100.00
	Rate of Interest	8.640%	8.640%	8.640%
	Interest	8.64	8.64	8.64
	Rep Schedule	12 Equal Annual Installments from 8.7.2014		
6	Bond XXXVI			
	Gross loan opening	8609.00	8609.00	8609.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	8609.00	8609.00	8609.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	8609.00	8609.00	8609.00
	Average Loan	8609.00	8609.00	8609.00
	Rate of Interest	9.350%	9.35%	9.35%
	Interest	804.94	804.94	804.94
	Rep Schedule	15 Equal Annual Installments from 29.8.2016		
7	Bond XXXV			
	Gross loan opening	5000.00	5000.00	5000.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	5000.00	5000.00	5000.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	5000.00	5000.00	5000.00
	Average Loan	5000.00	5000.00	5000.00
	Rate of Interest	9.640%	9.64%	9.64%
	Interest	482.00	482.00	482.00
	Rep Schedule	12 Equal Annual Installments from 31.5.2015		
8	Bond XXXVI (AddCap for 2011-12 Drawl on 31.3.2012)			
	Gross loan opening	0.00	531.28	531.28
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	0.00	531.28	531.28
	Additions during the year	531.28	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	531.28	531.28	531.28
	Average Loan	265.64	531.28	531.28
	Rate of Interest	9.350%	9.35%	9.35%
	Interest	24.84	49.67	49.67
	Rep Schedule	15 Equal Annual Installments from 29.8.2016		
9	Bond XXIX			
	Gross loan opening	200.00	200.00	200.00
	Cumulative Repayment upto DOCO/previous	0.00	0.00	16.67

year			
Net Loan-Opening	200.00	200.00	183.33
Additions during the year	0.00	0.00	0.00
Repayment during the year	0.00	16.67	16.67
Net Loan-Closing	200.00	183.33	166.67
Average Loan	200.00	191.67	175.00
Rate of Interest	9.20%	9.20%	9.20%
Interest	18.40	17.63	16.10
Rep Schedule	12 annual installments from 12.3.2013		
Total Loan			
Gross loan opening	14309.00	14840.28	14840.28
Cumulative Repayment upto DOCO/previous year	0.00	0.00	16.67
Net Loan-Opening	14309.00	14840.28	14823.61
Additions during the year	531.28	0.00	0.00
Repayment during the year	0.00	16.67	50.00
Net Loan-Closing	14840.28	14823.61	14773.61
Average Loan	14574.64	14831.95	14798.61
Rate of Interest	9.4286%	9.4273%	9.4283%
Interest	1374.19	1398.26	1395.25

Annexure 2

Calculation of Weighted Average Rate of Interest on Actual Loans

(₹ in lakh)

	Details of Loan	2011-12	2012-13	2013-14
1	Bond XXXII			
	Gross loan opening	35.00	35.00	35.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	35.00	35.00	35.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	2.92
	Net Loan-Closing	35.00	35.00	32.08
	Average Loan	35.00	35.00	33.54
	Rate of Interest	8.84%	8.84%	8.84%
	Interest	3.09	3.09	2.97
	Rep Schedule	12 annual installments from 27.3.2014		
2	Bond XXX			
	Gross loan opening	100.00	100.00	100.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	100.00	100.00	100.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	8.33
	Net Loan-Closing	100.00	100.00	91.67
	Average Loan	100.00	100.00	95.83
	Rate of Interest	8.80%	8.80%	8.80%
	Interest	8.80	8.80	8.43
	Rep Schedule	12 Equal Annual Installments from 29.9.2013		
3	BOND-XXXI			
	Gross loan opening	175.00	175.00	175.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	175.00	175.00	175.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	14.58
	Net Loan-Closing	175.00	175.00	160.42
	Average Loan	175.00	175.00	167.71
	Rate of Interest	8.90%	8.90%	8.90%
	Interest	15.58	15.58	14.93
	Rep Schedule	12 Equal Annual Installments from 25.2.2014		
4	Bond XXXIII			
	Gross loan opening	125.00	125.00	125.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	125.00	125.00	125.00
	Additions during the year	0.00	0.00	0.00

	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	125.00	125.00	125.00
	Average Loan	125.00	125.00	125.00
	Rate of Interest	8.640%	8.640%	8.640%
	Interest	10.80	10.80	10.80
	Rep Schedule	12 Equal Annual Installments from 8.7.2014		
6	Bond XXXVI			
	Gross loan opening	2479.40	2479.40	2479.40
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	2479.40	2479.40	2479.40
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	2479.40	2479.40	2479.40
	Average Loan	2479.40	2479.40	2479.40
	Rate of Interest	9.350%	9.35%	9.35%
	Interest	231.82	231.82	231.82
	Rep Schedule	15 Equal Annual Installments from 29.8.2016		
7	Bond XXXV			
	Gross loan opening	3005.00	3005.00	3005.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	3005.00	3005.00	3005.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	3005.00	3005.00	3005.00
	Average Loan	3005.00	3005.00	3005.00
	Rate of Interest	9.640%	9.64%	9.64%
	Interest	289.68	289.68	289.68
	Rep Schedule	12 Equal Annual Installments from 31.5.2015		
8	Bond XXXVI (AddCap for 2011-12 Drawl on 31.3.2012)			
	Gross loan opening	0.00	230.13	230.13
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	0.00	230.13	230.13
	Additions during the year	230.13	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	230.13	230.13	230.13
	Average Loan	115.07	230.13	230.13
	Rate of Interest	9.350%	9.35%	9.35%
	Interest	10.76	21.52	21.52
	Rep Schedule	15 Equal Annual Installments from 29.8.2016		
9	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	83.33
	Average Loan	100.00	95.83	87.50
	Rate of Interest	9.20%	9.20%	9.20%
	Interest	9.20	8.82	8.05
	Rep Schedule	12 annual installments from 12.3.2013		
10	Bond XXXIV			
	Gross loan opening	22.00	22.00	22.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	22.00	22.00	22.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	22.00	22.00	22.00
	Average Loan	22.00	22.00	22.00
	Rate of Interest	8.84%	8.84%	8.84%
	Interest	1.94	1.94	1.94
	Rep Schedule	12 annual installments from 21.10.2010		
	Total Loan			
	Gross loan opening	6041.40	6271.53	6271.53
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	8.33
	Net Loan-Opening	6041.40	6271.53	6263.20
	Additions during the year	230.13	0.00	0.00
	Repayment during the year	0.00	8.33	34.17
	Net Loan-Closing	6271.53	6263.20	6229.03
	Average Loan	6156.47	6267.36	6246.11
	Rate of Interest	9.4483%	9.4466%	9.4482%
	Interest	581.68	592.05	590.14

Annexure 3

Calculation of Weighted Average Rate of Interest on Actual Loans

(₹ in lakh)

	Details of Loan	2012-13	2013-14
1	Bond XXIX		
	Gross loan opening	200.00	200.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	200.00	200.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	16.67
	Net Loan-Closing	200.00	183.33
	Average Loan	200.00	191.67
	Rate of Interest	9.200%	9.20%
	Interest	18.40	17.63
	Rep Schedule	12 Equal Annual Installments from 12.3.2013	
2	Bond XXX		
	Gross loan opening	200.00	200.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	200.00	200.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	16.67
	Net Loan-Closing	200.00	183.33
	Average Loan	200.00	191.67
	Rate of Interest	8.80%	8.80%
	Interest	17.60	16.87
	Rep Schedule	12 Equal Annual Installments from 29.9.2013	
3	BOND-XXXI		
	Gross loan opening	200.00	200.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	200.00	200.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	16.67
	Net Loan-Closing	200.00	183.33
	Average Loan	200.00	191.67
	Rate of Interest	8.90%	8.90%
	Interest	17.80	17.06
	Rep Schedule	12 Equal Annual Installments from 25.2.2014	
4	Bond XXXIII		
	Gross loan opening	100.00	100.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	100.00	100.00



	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	100.00	100.00
	Average Loan	100.00	100.00
	Rate of Interest	8.640%	8.640%
	Interest	8.64	8.64
	Rep Schedule	12 Equal Annual Installments from 8.7.2014	
5	Bond XXXVI		
	Gross loan opening	1571.00	1571.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	1571.00	1571.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	1571.00	1571.00
	Average Loan	1571.00	1571.00
	Rate of Interest	9.350%	9.35%
	Interest	146.89	146.89
	Rep Schedule	15 Equal Annual Installments from 29.8.2016	
	Total Loan		
	Gross loan opening	2271.00	2271.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	2271.00	2271.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	50.00
	Net Loan-Closing	2271.00	2221.00
	Average Loan	2271.00	2246.00
	Rate of Interest	9.2175%	9.2203%
	Interest	209.33	207.09

Annexure 4

Calculation of Weighted Average Rate of Interest on Actual Loans

(₹ in lakh)

	Details of Loan	2012-13	2013-14
1	Bond XXXII		
	Gross loan opening	55.00	55.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	55.00	55.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	4.58
	Net Loan-Closing	55.00	50.42
	Average Loan	55.00	52.71
	Rate of Interest	8.84%	8.84%
	Interest	4.86	4.66
	Rep Schedule	12 annual installments from 27.3.2014	
2	Bond XXX		
	Gross loan opening	200.00	200.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	200.00	200.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	16.67
	Net Loan-Closing	200.00	183.33
	Average Loan	200.00	191.67
	Rate of Interest	8.80%	8.80%
	Interest	17.60	16.87
	Rep Schedule	12 Equal Annual Installments from 29.9.2013	
3	BOND-XXXI		
	Gross loan opening	300.00	300.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	300.00	300.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	25.00
	Net Loan-Closing	300.00	275.00
	Average Loan	300.00	287.50
	Rate of Interest	8.90%	8.90%
	Interest	26.70	25.59
	Rep Schedule	12 Equal Annual Installments from 25.2.2014	
4	Bond XXXIII		
	Gross loan opening	520.00	520.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	520.00	520.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00

	Net Loan-Closing	520.00	520.00
	Average Loan	520.00	520.00
	Rate of Interest	8.640%	8.640%
	Interest	44.93	44.93
	Rep Schedule	12 Equal Annual Installments from 8.7.2014	
5	Bond XXIX		
	Gross loan opening	200.00	200.00
	Cumulative Repayment upto DOCO/previous year	0.00	16.67
	Net Loan-Opening	200.00	183.33
	Additions during the year	0.00	0.00
	Repayment during the year	16.67	16.67
	Net Loan-Closing	183.33	166.67
	Average Loan	191.67	175.00
	Rate of Interest	9.20%	9.20%
	Interest	17.63	16.10
	Rep Schedule	12 Equal Annual Installments from 12.3.2013	
6	Bond XXXVI		
	Gross loan opening	2865.60	2865.60
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	2865.60	2865.60
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	2865.60	2865.60
	Average Loan	2865.60	2865.60
	Rate of Interest	9.350%	9.35%
	Interest	267.93	267.93
	Rep Schedule	15 Equal Annual Installments from 29.8.2016	
7	Bond XXXV		
	Gross loan opening	2000.00	2000.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	2000.00	2000.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	2000.00	2000.00
	Average Loan	2000.00	2000.00
	Rate of Interest	9.640%	9.64%
	Interest	192.80	192.80
	Rep Schedule	12 Equal Annual Installments from 31.5.2015	
	Total Loan		
	Gross loan opening	6140.60	6140.60
	Cumulative Repayment upto DOCO/previous year	0.00	16.67
	Net Loan-Opening	6140.60	6123.93
	Additions during the year	0.00	0.00

Repayment during the year	16.67	62.92
Net Loan-Closing	6123.93	6061.02
Average Loan	6132.27	6092.48
Rate of Interest	9.3352%	9.3373%
Interest	572.46	568.88

