

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 107/TT/2012

Coram:

**Shri Gireesh B. Pradhan, Chairperson
Shri M. Deena Dayalan, Member
Shri A. K. Singhal, Member**

**Date of Hearing : 26.11.2013
Date of Order : 19.05.2014**

In the matter of

Approval under Regulation-86 for Transmission Tariff for (i) one ckt of Part of 400 kV Korba - Birsinghpur D/C line (from Koran Gantry to LILO point) Loc.-179/2 of BALCO TPS (Ant. DOCO : 01.08.2011), (ii) combined Assets of (i) & One ckt of Part of 400 kV Korba-Birsinghpur D/C line (from Korba Gantry to LILO point) Loc.-179/2 along with bay at Korba and D/C line from Loc 179/2 to 176/0 of Vandana TPS (Notional DOCO:01.12.2011) and (iii) combined Assets of (ii) & Balance portion of 400 KV D/C Korba-Birsinghpur TL [from LILO point 176/0 (take off for Vandana Vidyut) to Birsinghpur (MP)] (Notional DOCO : 01.03.2012) under WRSS-II , set D scheme of Western Region for Tariff Block 2009-14 period.

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 Co Ltd
Shakti Bhawan, Rampur,
Jabalpur – 482008
2. Maharashtra State Electricity Distribution Co. Ltd.
Prakashgad, 4th Floor
Andheri (E), Mumbai-400052.



3. Gujarat Urja Vikas Nigam Ltd
Sardar Patel Vidyut Bhawan,
Race Course Road, Vadodra – 390007
4. Electricity Department, Government of Goa
Vidyut Bhawan,
Near Mandvi Hotel, Panaji – 403001
5. Electricity Department,
Administration of Daman and Diu
Daman–396210
6. Electricity Department,
Administration of Dadra Nagar Haveli
UT Silvassa – 396230
7. Chhattisgarh State Electricity Board
PO Sunder Nagar, Dangania,
Raipur – 492013
8. Madhya Pradesh Audyogic Kandra Vikas Nigam (Indore) Ltd
3/54, Press Complex, Agra-Bombay Road
Indore – 452008
9. Bharat Aluminium Company Ltd
Core 6, Scope Office Complex,
Lodhi Road, New Delhi – 110003
10. Vandana Vidyut Ltd.
Vandana Bhawan,
MG Road, Raipur

.....Respondents

For petitioner : Shri M. M. Mondal, PGCIL
Shri Prashant Sharma, PGCIL
Shri B. K. Sahoo, PGCIL
Shri S.S Raju, PGCIL
Ms. Sangeeta Edwards, PGCIL
Shri A. M. Pavgi, PGCIL

For respondent : Shri Padamjit Singh, PSPCL
Shri R. B. Sharma, Advocate, GRIDCO and BRPL
Shri G. Das, NDMC
Shri H. M. Saxena, NDMC

ORDER

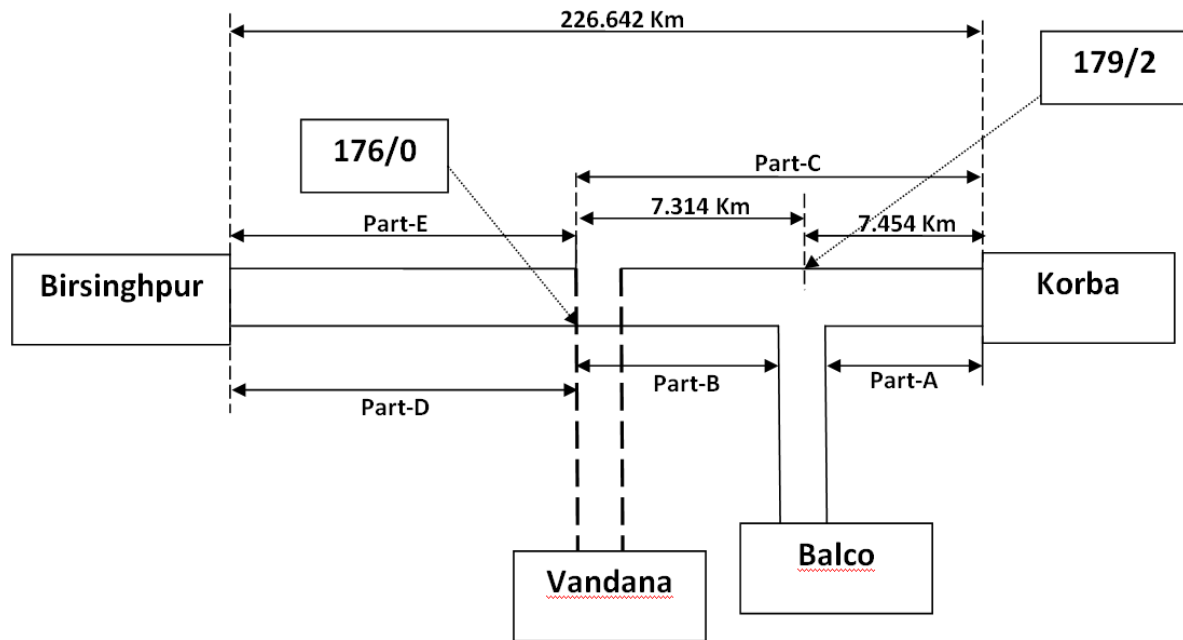
The petition has been filed by Power Grid Corporation of India Limited (PGCIL) seeking approval of transmission charges for the following components/portions of 400 kV Korba - Birsinghpur D/C transmission line (the transmission line) constructed under the Western Region System Strengthening Scheme – II (the Scheme), Set – D, from the anticipated/notional date of commercial operation of the respective component/portion to 31.3.2014 in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (the 2009 Tariff Regulations):

- (i) One ckt of the transmission line from Korba Gantry to LILO point Loc.- 179/2 of Bharat Aluminium Company Ltd (BALCO) TPS (Anticipated DOCO : 1.8.2011),
- (ii) One ckt of the transmission line from Korba Gantry to LILO point Loc.- 179/2 along with bay at Korba and from Loc 179/2 to 176/0 of Vandana Vidyut Ltd (Vandana)TPS (Notional DOCO:1.12.2011), and
- (iii) Balance portion of the transmission line from LILO point 176/0 for takeoff for Vandana TPS to Birsinghpur (MP) (Notional DOCO : 1.3.2012)

2. Subsequently, the petitioner has split up the above assets into five assets vide affidavit dated 19.10.2012 as given overleaf:-

Ser No	Name of Asset	Line length (km)
1.	Korba - BALCO (Loc 179/2) 400 kV D/C transmission line – First ckt (Asset I)	7.454
2.	BALCO (179/2) – Vandana (176/0) 400 kV D/C transmission line – First ckt (Asset II)	22.08
3.	Korba - Vandana (176/0) 400 kV D/C transmission line – Second ckt (Asset III)	
4.	BALCO (179/2) – Birsinghpur 400 kV D/C transmission line – First Ckt (Asset IV)	211.874
5.	Vandana (176/0) – Birsinghpur 400 kV D/C transmission line – Second ckt (Asset V)	211.847

3. The single line diagram for LILO of Korba – Birsinghpur transmission line at BALCO and Vandana is given below:-



4. The investment approval for the Scheme was accorded by Ministry of Power under its letter dated 24.7.2006 at an estimated cost of ₹522123 lakh, including IDC of ₹38042 lakh, based on 4th Quarter, 2005 price level, consisting of (i) ₹358140 lakh (including IDC of ₹25062 lakh) for the petitioner’s portion and (ii) ₹163983 lakh (including IDC of ₹12980 lakh) for IPTC’s portion. The Scheme comprises four sets, named as Set A, Set B, Set C and Set D. While Sets A and D are to be implemented

exclusively by the petitioner, sub-station portions of Sets B and C are to be implemented by the petitioner and transmission lines portions by IPTC. As already noted, the transmission line is an element of Set D.

5. The petitioner has executed the Transmission Service Agreement dated 15.7.2011 with Bharat Aluminium Company Ltd (BALCO) and Vandana Vidyut Ltd (Vandana). It has been agreed by BALCO and Vandana to bear the transmission charges for part/section of 400 kV Korba – Birsinghpur transmission line connecting their generating stations with the sub-station at Korba, owned by the petitioner till commissioning of complete transmission line and thereafter the transmission charges are to be shared on regional basis.

6. For the purpose of tariff determination, Asset II and Asset III have been clubbed by the petitioner. The petitioner under its affidavit dated 7.8.2013 has claimed the transmission charges as under:-

(₹ In lakh)

Particulars	Asset I			Assets II & III		
	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14
Depreciation	36.81	76.41	78.94	29.47	91.63	94.61
Interest on Loan	31.73	61.61	57.54	23.44	68.54	63.83
Return on Equity	37.44	77.74	80.34	29.85	92.85	95.90
Interest on Working Capital	3.65	7.54	7.75	2.73	8.47	8.69
O & M Expenses	31.90	67.44	71.30	22.47	71.26	75.33
Total	141.53	290.74	295.87	107.96	332.75	338.36

(₹ In lakh)

Particulars	Asset IV			Asset V	
	2011-12	2012-13	2013-14	2012-13	2013-14
Depreciation	70.57	906.67	965.12	296.68	308.54
Interest on Loan	40.48	492.74	472.35	137.88	129.16
Return on Equity	70.18	903.01	962.55	296.28	308.68
Interest on Working Capital	4.19	53.25	55.62	25.19	26.03
O & M Expenses	11.94	151.54	160.17	151.54	160.17
Total	197.36	2507.21	2615.81	907.57	932.58

7. The details furnished by the petitioner in support of its claim for Interest on Working Capital are as under:-

Particulars	Asset I			Assets II & III		
	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14
Maintenance Spares	9.57	10.12	10.70	10.11	10.69	11.30
O & M expenses	5.32	5.62	5.94	5.62	5.94	6.28
Receivables	47.18	48.46	49.31	53.98	55.46	56.39
Total	62.07	64.20	65.95	69.71	72.09	73.97
Rate of Interest (%)	11.75	11.75	11.75	11.75	11.75	11.75
Interest	3.65	7.54	7.75	2.73	8.47	8.69

Particulars	Asset IV			Asset V	
	2011-12	2012-13	2013-14	2012-13	2013-14
Maintenance Spares	21.49	22.73	24.03	22.73	24.03
O & M expenses	11.94	12.63	13.35	12.63	13.35
Receivables	394.72	417.87	435.97	151.26	155.43
Total	428.15	453.23	473.35	186.62	192.81
Rate of Interest (%)	11.75	11.75	11.75	13.50	13.50
Interest	4.19	53.25	55.62	25.19	26.03

8. 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. Maharashtra State Electricity Distribution Company Ltd (MSEDCL) has filed its reply.

9. We have heard the representatives of the parties present at the hearing and have perused the material available on record.

Capital cost

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

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

- (a) The expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan – (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the fund deployed, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check.
- (b) capitalised initial spares subject to the ceiling rates specified in regulation 8; and
- (c) additional capital expenditure determined under regulation 9:

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

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

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

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

11. Thus, in accordance with Regulation 7 of the 2009 Tariff Regulations, the capital cost for the purpose of tariff includes the following:-

- (a) Capital expenditure on the date of commercial operation and the expenditure projected to be incurred,
- (b) Cost of initial spares, and
- (c) Additional capital expenditure approved by the Commission.

12. The petitioner has furnished the following details of the capital cost:-

(₹ in lakh)

Particulars	Apportioned Approved Cost	Estimated Expenditure on DOCO	Projected Expenditure	Additional Capital		Estimated Completion Cost
			From DOCO to 31.3.2012	2012-13	2013-14	
Asset I	1418.67	1423.07	9.66	99.17	0.00	1531.90
Assets II & III	1718.70	1702.92	9.50	116.24	0.00	1828.66
Asset IV	18900.30	16025.06	65.94	2255.73	15.00	18361.73
Asset V	6066.43	5420.72	0.00	457.85	15.00	5893.57

Time Over-run

13. In accordance with the investment approval dated 24.7.2006, the Scheme was scheduled to be commissioned within 48 months from that date, that is, latest by 1.8.2010. The petitioner, under its affidavit dated 12.8.2013, has submitted the following details regarding actual dates of commercial operation of the assets:-

Srl. No.	Name of Asset	Date of Commercial Operation
1.	Asset I	1.10.2011
2.	Asset II	1.12.2011
3.	Asset III	1.12.2011
4.	Asset IV	1.3.2012
5.	Asset V	1.4.2012

14. From the above details, it is noticed that there has been delay varying from 14 months to 20 months in commissioning of different components of the transmission line. The petitioner has stated that the delay in commissioning of the transmission line which passes through the forest areas in the States of Madhya Pradesh and Chhattisgarh is mainly attributed to delayed receipt of forest clearance from Ministry of Environment and Forests (Govt of India), the proposal for which was submitted as early as on 17.5.2006, that is, before accord of the investment approval. It has been stated that pending receipt of the forest clearance construction activities on the transmission

line were blocked for a total length of 106.50 km (39 km in the State of Madhya Pradesh and 67.50 km in the State of Chhattisgarh) involving total #144 locations (#63 in the State of Madhya Pradesh and #81 in the State of Chhattisgarh) because of the delay. The total affected forest area is stated to be 254.326 Ha (96.844 Ha in MP and 157.482 Ha in Chhattisgarh). The petitioner has explained that despite constant follow-up, final Stage-II approval for Madhya Pradesh portion was granted by Ministry of Environment and Forests on 9.11.2009 and for Chhattisgarh portion on 14.6.2011. The petitioner has brought out that even after receipt of clearance from Ministry of Environment and Forests, the Forest Department took considerable time to hand over the forest land and permission for working in the forests for tree marking/ cutting activities. The petitioner, vide affidavit filed on 17.7.2012, has submitted copies of certain communications exchanged with Forest Department to establish its efforts of following up the matter to expedite clearance. Accordingly, the petitioner has sought condonation of delay in the commissioning of the assets.

15. We have considered the petitioner's plea. The transmission line traverses through the forest areas in the States of Madhya Pradesh and Chhattisgarh. It was not possible for the petitioner to complete execution of works till such time forests areas were handed over to it by the Forest Department. The generating stations of Vandana and BALCO are situated in the State of Chhattisgarh and connectivity to the generating stations could be provided only after permission by the Forest Department. Asset I, Assets II & III form part of connectivity arrangement to these generating stations. Accordingly, the delay till the petitioner was given final clearance, that is, up to June

2011 is not to be attributed to the petitioner. The petitioner expeditiously completed within the reasonable time and Asset I was commissioned on 1.10.2011 and Assets II & III on 1.12.2011. Therefore, delay in commissioning of Asset I and Assets II & III is to be condoned and time over-run in case of these assets is allowed. As regards Asset IV and Asset V it may be noted that it involved construction of transmission line in the State of Madhya Pradesh, the land for which was available to the petitioner way back since November 2009 and in the State of Chhattisgarh for which forest clearance was given in June 2011, as per the petitioner's own admission. Hence, it was not necessary for the petitioner to wait for completion of construction of works in the State of Chhattisgarh. The work should have been undertaken independently. The works in respect of Asset I, Asset II and Asset III of the transmission line were completed by November 2011, and as such Asset IV and Asset V could be commissioned by 1.12.2011, simultaneously with the commissioning of Assets II & III had the petitioner coordinated implementation of works. There is no justification for the delay in commissioning of Asset IV and Asset V beyond 1.12.2011. Therefore, time over-run from December 2011 in case of Asset IV and Asset V has not been allowed.

16. Accordingly, IDC and IEDC for the period of delay that is unjustified in case of Asset IV and Asset V have been disallowed. Details of IDC and IEDC disallowed are as given overleaf:-

Asset IV

(₹ in lakh)		
Details of IDC and IEDC as per Management Certificate dated 14.8.2012 filed under affidavit dated 17.10.2012)		
	IDC	IEDC
Up to 30.11.2011	441.18	381.86
1.12.2011 to 29.2.2012	83.22	34.84
Total IDC and IEDC Claimed	524.40	416.70
Details of IDC and IEDC Disallowed from December 2011 onwards		
1.12.2011 to 29.2.2012 (for 3 months)	83.22	34.84

Asset V

(₹ in lakh)		
Details of IDC and IEDC as per Management Certificate dated 14.8.2012 filed under affidavit dated 17.10.2012)		
	IDC	IEDC
Up to 30.11.2011	147.23	121.14
1.12.2011 to 29.2.2012	7.05	2.95
1.3.2012 to 31.3.2012	3.10	1.30
Total IDC and IEDC Claimed	157.38	125.39
Details of IDC and IEDC Disallowed from December 2011 onwards		
1.12.2011 to 29.2.2012	7.05	2.95
1.3.2012 to 31.3.2012	3.10	1.30
Total Disallowed IDC and IEDC (for 4 months)	10.15	4.25

17. IDC and IEDC so disallowed have been deducted from the capital cost of the elements of the respective asset on pro-rata basis as on the date of commercial operation.

Cost over-run

18. From the details furnished by the petitioner as per the table under para 12 above it is seen that the estimated completion cost of Asset I and Asset II & III exceeds the apportioned approved cost, though the overall estimated completion cost of Set D assets all of which have since been commissioned is within the apportioned approved

cost. MSEDCL has specifically raised the issue of cost over-run in case of these assets. The Commission has considered the apportioned approved cost of individual asset for the purpose of determination of tariff. The methodology adopted by the Commission has been upheld by the Appellate Tribunal in the judgment dated 28.11.2013 in Appeal No. 165 of 2012. Accordingly, consideration of capital cost has been restricted to the apportioned approved cost of Asset I and Asset II & III.

Initial Spares

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

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

(iv) Transmission system

(a) Transmission line - 0.75%

(b) Transmission Sub-station - 2.5%

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

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

20. The petitioner has claimed the estimated expenditure as on the date of commercial operation inclusive of initial spares, except in case of Asset V in respect of which the petitioner has not claimed the initial spares. The initial spares of ₹16.80 lakh claimed for sub-station for Asset I and Assets III each are within the ceiling limits specified under Regulation 8 and thus in order. The petitioner has claimed initial spares amounting to ₹182.11 lakh for transmission line portion and ₹13.67 lakh for sub-

station portion in case of Asset IV. The initial spares for transmission line portion of Asset IV are in excess of the specified ceiling limits as per details given below:-

(₹ In lakh)

Cost as on cut-off date	Initial spares claimed	IDC and IEDC disallowed in transmission line cost	Proportionate capital cost up to cut-off date after adjusting IDC and IEDC	Proportionate initial spares claimed	Ceiling limits as per Regulation 8	Initial spares worked out	Excess initial spares claimed
16972.46	182.11	110.50	16861.96	180.92	0.75%	126.05	54.87

21. The petitioner has submitted that during the tariff block 2004-09, the norms applicable for initial spares were 1.5% of the capital cost, without any upper limit individually for sub-station or transmission line portions. The petitioner has stated that while working out the requirement of the initial spares in respect of the components of the Scheme at the planning stage, the then prevailing norms were considered. The petitioner has represented that limiting the spares already conceptualized and procured within the limit of 1.5% of the capital cost will put it in a disadvantageous position, besides rendering these spares without use. The petitioner has sought to invoke Regulations 44 (Power to Relax) of the 2009 Tariff Regulations and has prayed for relaxation of ceiling norms specified under Regulation 8 so as to allow the spares incurred/ to be incurred beyond permissible limit.

22. We have considered the petitioner's plea for relaxation which according to us is without any merit. It is true that the investment approval for the Scheme was granted in July 2006 when the norms applicable for 2004-09 tariff block were in force. However, the assets covered under the present petition were commissioned from October, 2011 to April, 2012. By that time the 2009 Tariff Regulations notified in January 2009 had

already come into force with effect from 1.4.2009. It is also pointed out that the cost of initial spares exceeds only in the case of Asset IV and in respect of other assets which form part of the same investment approval, the initial spares are within the ceiling norms specified under the 2009 Tariff Regulations. Therefore, there is no force in the petitioner's plea that the initial spares were planned based on the norms for 2004-09 tariff block. The norms specified under the 2009 Tariff Regulations are being uniformly followed even in respect of other projects of the petitioner conceptualized during 2004-09 tariff block and commissioned during 2009-14. It is further pointed out that the tariff norms on a number of aspects applicable for 2009-14 tariff block were liberalized and the liberalized tariff norms worked to the advantage of the petitioner. In case relaxation of Regulation 8 is granted based on the plea of the petitioner that it had conceptualized initial spares based on the then prevailing norms, the other liberalized norms too should not apply in respect of the projects conceptualized during 2004-09. To us the petitioner's one-sided approach is not fair. Therefore, the excess initial spares of ₹54.87 lakh have been deducted from the capital cost of ₹16025.06 lakh of transmission line portion of Asset IV as on the date of commercial operation, thereby arriving at capital cost of ₹15970.19 lakh. It is, however, pointed out that the aspect of capitalization of initial spares will be reviewed at the time of submission by the petitioner of the actual capital expenditure on the completion of the project or at the time of truing up of tariff.

23. The petitioner has claimed capital expenditure of ₹1423.07 lakh, ₹1702.92 lakh, ₹16025.06 lakh and ₹5420.72 lakh for Part-A, Part-B&C, Part-D and Part-E respectively. Details of the capital expenditure considered as on the date of commercial

operation is as follows:-

(₹ in lakh)

Particular	Part-A	Part-B&C	Part-D	Part-E
Capital Cost claimed	1423.07	1702.92	16025.06	5420.72
Less: IDC and IEDC disallowed	0.00	0.00	118.06	14.40
Less: Excess Initial spares	0.00	0.00	54.87	0.00
Less: Cost Overrun	4.40	0.00	0.00	0.00
Capital cost considered as on DOCO	1418.67	1702.92	15852.13	5406.32

Projected Additional Capital Expenditure

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

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

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

25. 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”.

26. After taking into account the dates of commercial operation of the assets, cut-off date arrived at is 31.3.2015.

27. Additional capital is mainly on account of balance retention payment and falls within cut-off date. Detail of the projected additional capital expenditure claimed and considered for the assets covered in the instant petition is as follows:

Part-A

Particulars	(₹ in lakh)	
	2011-12	2012-13
	Claimed	
Building & Other Civil Works	9.66	12.03
Transmission Line	0.00	55.49
Sub-Station Equipments	0.00	26.72
PLCC	0.00	4.93
Total	9.66	99.17

The total estimated completion cost of Part-A exceeds the apportioned approved cost of the asset by ₹113.23 lakh. Hence, no projected additional capital expenditure has been considered for the purpose of determination of tariff.

Part-B&C

Particulars	(₹ in lakh)			
	2011-12	2012-13	2011-12	2012-13
	Claimed		Allowed	
Building & Other Civil Works	0.00	12.03	0.00	0.65
Transmission Line	9.50	72.56	9.50	3.92
Sub-Station Equipments	0.00	26.72	0.00	1.44
PLCC	0.00	4.93	0.00	0.27
Total	9.50	116.24	9.50	6.28

The total estimated completion cost of Part-B&C exceeds the apportioned approved cost of the asset by ₹109.96 lakh. Accordingly, projected additional capital expenditure for 2012-13 has been restricted to ₹6.28 lakh.

Part-D and Part-E

(₹ in lakh)

Particulars	2011-12	2012-13	2013-14	2012-13	2013-14
	Part-D			Part-E	
	Claimed and Allowed			Claimed and Allowed	
Building & Other Civil Works	0.40	159.17	5.00	67.17	5.00
Transmission Line	64.73	1908.24	0.00	222.81	0.00
Sub-Station Equipments	0.81	169.07	10.00	153.47	10.00
PLCC	0.00	19.25	0.00	14.40	0.00
Total	65.94	2255.73	15.00	457.85	15.00

The projected additional capital expenditure claimed by the petitioner has been considered for the purpose of determination of transmission tariff.

28. The restricted capital expenditure, which is due to cost over-run, will be reviewed on submission of the revised apportionment of the cost estimates or actual capital expenditure, as the case may be.

29. The additional capital expenditure claimed by the petitioner is stated to be on account of balance payments, freight and insurance charges, is within the cut-off date and, therefore, subject to the above decision to limit the capital cost of Asset I and Assets II & III to the apportioned approved cost, projected additional capital expenditure has been allowed.

Gross Block

30. Based on the above, the following gross block for each of the asset has been considered for the purpose of computation of the transmission charges:-

(₹ In lakh)

Particular	Asset I	Assets II & III	Asset IV	Asset V
Capital Cost claimed as on DOCO	1423.07	1702.92	16025.06	5420.72
Less: IDC & IEDC disallowed	0.00	0.00	118.06	14.40
Less: Excess Initial spares	0.00	0.00	54.87	0.00
Less: Cost over-run	0.00	0.00	0.00	0.00
Capital Cost considered as on DOCO	1418.67	1702.92	15852.13	5406.32
Projected Additional Capital Expenditure from DOCO to 31.3.2012	0.00	9.50	65.94	0.00
Projected Additional Capital Expenditure 2012-13	0.00	6.28	2255.73	457.85
Projected Additional Capital Expenditure 2013-14	0.00	0.00	15.00	15.00
Capital Cost as on 31.3.2014	1418.67	1718.70	18188.80	5879.17

Debt- equity ratio

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

“12. Debt-Equity Ratio (1) For a project declared under commercial operation on or after 1.4.2009, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff:

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

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

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

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

32. Debt and equity in respect of the assets each year have been considered in the ratio of 70:30. Details of debt and equity considered as on dates of commercial operation and 31.3.2014 are as follows:-

(₹ in lakh)

Capital cost on date of commercial operation				
Particulars	Asset I	Assets II & III	Asset IV	Asset V
Debt	993.07	1192.04	11096.49	3784.42
Equity	425.60	510.88	4755.64	1621.90
Total	1418.67	1702.92	15852.13	5406.32

Capital cost on 31.3.2014				
Particulars	Asset I	Assets II & III	Asset IV	Asset V
Debt	993.07	1203.09	12732.16	4115.42
Equity	425.60	515.61	5456.64	1763.75
Total	1418.67	1718.70	18188.80	5879.17

Return on equity

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

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

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

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

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

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

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

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

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

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

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

34. The petitioner has claimed return on equity at the base rate of 15.5% in accordance with clause (2) of Regulation 15 which has been allowed. Return on equity allowed is as follows:-

(₹ In lakh)

Particulars	Asset I			Asset II & III		
	2011-12 (pro-rata)	2012-13	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Opening Equity	425.60	425.60	425.60	510.88	513.73	515.61
Addition due to Additional Capitalisation	0.00	0.00	0.00	2.85	1.88	0.00
Closing Equity	425.60	425.60	425.60	513.73	515.61	515.61
Average Equity	425.60	425.60	425.60	512.30	514.67	515.61
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (MAT)	11.33%	11.33%	11.33%	11.33%	11.33%	11.33%
Rate of Return on Equity (Pre Tax)	17.481%	17.481%	17.481%	17.481%	17.481%	17.481%
Return on Equity (Pre Tax)	37.20	74.40	74.40	29.85	89.97	90.13

(₹ In lakh)

Particulars	Asset IV			Asset V	
	2011-12 (pro-rata)	2012-13	2013-14	2012-13	2013-14
Opening Equity	4755.64	4775.42	5452.14	1621.90	1759.25
Addition due to Additional Capitalisation	19.78	676.72	4.50	137.36	4.50
Closing Equity	4775.42	5452.14	5456.64	1759.25	1763.75
Average Equity	4765.53	5113.78	5454.39	1690.57	1761.50
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (MAT)	11.33%	11.33%	11.33%	11.33%	11.33%
Rate of Return on Equity (Pre Tax)	17.481%	17.481%	17.481%	17.481%	17.481%
Return on Equity (Pre Tax)	69.42	893.94	953.48	295.53	307.93

Interest on loan

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

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

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

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

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

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

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

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

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

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

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

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

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

36. In keeping with the provisions of Regulation 16, the petitioner’s entitlement to interest on loan has been calculated on the following basis:-

(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.

(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.

37. Detailed calculations in support of the weighted average rate of interest have been given in Annexure I to IV to this order.

38. Based on the above, interest on loan has been calculated as follows:-

(₹ In lakh)

Particulars	Asset I			Asset II & III		
	2011-12 (pro-rata)	2012-13	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Gross Normative Loan	993.07	993.07	993.07	1192.04	1198.69	1203.09
Cumulative Repayment upto previous year	0.00	36.57	109.72	0.00	29.47	118.28
Net Loan-Opening	993.07	956.50	883.35	1192.04	1169.23	1084.81
Addition due to additional capital expenditure	0.00	0.00	0.00	6.65	4.40	0.00
Repayment during the year	36.57	73.14	73.14	29.47	88.81	88.97
Net Loan-Closing	956.50	883.35	810.21	1169.23	1084.81	995.84
Average Loan	974.78	919.92	846.78	1180.64	1127.02	1040.33
Weighted Average Rate of Interest on Loan	6.4671%	6.4007%	6.2568%	5.9560%	5.8876%	5.7417%
Interest	31.52	58.88	52.98	23.44	66.35	59.73

(₹ In lakh)

Particulars	Asset IV			Asset V	
	2011-12 (pro-rata)	2012-13	2013-14	2012-13	2013-14
Gross Normative Loan	11096.49	11142.65	12721.66	3784.42	4104.92
Cumulative Repayment upto previous year	0.00	69.81	967.35	0.00	295.92
Net Loan-Opening	11096.49	11072.84	11754.31	3784.42	3809.00
Addition due to additional capital expenditure	46.16	1579.01	10.50	320.50	10.50
Repayment during the year	69.81	897.54	956.00	295.92	307.78
Net Loan-Closing	11072.84	11754.31	10808.81	3809.00	3511.71
Average Loan	11084.67	11413.57	11281.56	3796.71	3660.35
Weighted Average Rate of Interest on Loan	4.3350%	4.2738%	4.1477%	3.6222%	3.5201%
Interest	40.04	487.79	467.93	137.52	128.85

Depreciation

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

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

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

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

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

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

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

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

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

(6) Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.”

40. The petitioner has claimed actual depreciation. In our calculations, depreciation has been calculated in accordance with clause (4) of Regulation 17.

41. Asset I, Asset II and III, Asset IV and Asset V were put under commercial operation as on 1.10.2011, 1.12.2011, 1.3.2012, 1.4.2012 and 1.4.2012, respectively.

Accordingly, these assets will complete 12 years beyond 2013-14 and hence depreciation has been calculated annually based on Straight Line Method at the rates specified in Appendix-III to the 2009 Tariff Regulations, as per details given overleaf:-

(₹ in lakh)

Particulars	Asset I			Asset II & III		
	2011-12 (pro-rata)	2012-13	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Opening Gross Block	1418.67	1418.67	1418.67	1702.92	1712.42	1718.70
Addition due to Projected Additional Capitalisation	0.00	0.00	0.00	9.50	6.28	0.00
Closing Gross Block	1418.67	1418.67	1418.67	1712.42	1718.70	1718.70
Average Gross Block	1418.67	1418.67	1418.67	1707.67	1715.56	1718.70
Rate of Depreciation	5.1559%	5.1559%	5.1559%	5.1766%	5.1768%	5.1767%
Depreciable Value	1276.80	1276.80	1276.80	1536.90	1544.00	1546.83
Remaining Depreciable Value	1276.80	1240.23	1167.09	1536.90	1514.54	1428.55
Depreciation	36.57	73.14	73.14	29.47	88.81	88.97

(₹ in lakh)

Particulars	Asset IV			Asset V	
	2011-12 (pro-rata)	2012-13	2013-14	2012-13	2013-14
Opening Gross Block	15852.13	15918.07	18173.80	5406.32	5864.17
Addition due to Projected Additional Capitalisation	65.94	2255.73	15.00	457.85	15.00
Closing Gross Block	15918.07	18173.80	18188.80	5864.17	5879.17
Average Gross Block	15885.10	17045.93	18181.30	5635.25	5871.67
Rate of Depreciation	5.2735%	5.2654%	5.2581%	5.2513%	5.2418%
Depreciable Value	14296.59	15341.34	16363.17	5071.72	5284.50
Remaining Depreciable Value	14296.59	15271.53	15395.82	5071.72	4988.58
Depreciation	69.81	897.54	956.00	295.92	307.78

Operation & maintenance expenses

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

Element	2009-10	2010-11	2011-12	2012-13	2013-14
400 kV D/C twin conductor transmission line (₹ lakh/ km)	0.627	0.663	0.701	0.741	0.783
Single Circuit (Twin & Triple Conductor) (₹ lakh/ km)	0.358	0.378	0.400	0.423	0.447
400 kV bays (₹ lakh/ bay)	52.40	55.40	58.57	61.92	65.46

43. Based on the above norms, O & M expenses have been calculated as follows:-

(₹ in lakh)

Asset	2011-12 (Pro rata)	2012-13	2013-14
Asset-I	31.90	67.44	71.30
Asset-II	22.47	71.26	75.33
Asset-III			
Asset-IV	11.94	151.54	160.17
Asset-V	00.00	151.54	160.17
TOTAL	66.31	441.78	466.97

44. The petitioner has stated that O&M expenditure 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 charges for tariff period 2009-14. The petitioner has submitted that it would approach the Commission for suitable revision in the norms for O&M expenditure in case the impact of wage hike w.e.f 1.1.2007 is more than 50%.

45. While specifying the norms for Operation and Maintenance Expenses, the Commission has in the 2009 Tariff Regulations already factored 50% on account of pay revision of the employees of PSUs after extensive consultation with the stakeholders. At this stage there does not seem to be any justification for deviating from the norms. However, in case the petitioner separately approaches the Commission by making an appropriate application, the same shall be dealt with in accordance with law.

Interest on working capital

46. The petitioner is entitled to claim interest on working capital as per the tariff regulations. The components of the working capital and the petitioner's entitlement to interest thereon are discussed hereunder.

(i) Receivables

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

(ii) Maintenance spares

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

(iii) O & M expenses

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

(iv) Rate of interest on working capital

In accordance with clause (3) of Regulation 18 of the 2009 Tariff Regulations, as amended, rate of interest on working capital shall be on normative basis and shall be equal to State Bank of India Base Rate on 1st April of the year of commercial operation plus 350 bps. The assets were put under commercial operation during 2011-12. State Bank of India Base Rate on 1.4.2011 was 8.50% and 10.00% on 1.4.2012. Accordingly, interest @ 11.75% has been considered for Assets I, II, III and IV and @ 13.50% for Asset V. The interest on working capital for the assets covered in the petition has been worked out accordingly.

47. Necessary computations in support of interest on working capital are as under-

(₹ In lakh)

Particulars	Asset I			Asset II & III		
	2011-12 (pro-rata)	2012-13	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Maintenance Spares	9.57	10.12	10.70	10.11	10.69	11.30
O & M expenses	5.32	5.62	5.94	5.62	5.94	6.28
Receivables	46.94	46.87	46.54	53.98	54.12	53.76
Total	61.83	62.61	63.18	69.71	70.75	71.34
Rate of Interest (%)	11.75	11.75	11.75	11.75	11.75	11.75
Interest	3.63	7.36	7.42	2.73	8.31	8.38

(₹ In lakh)

Particulars	Asset IV			Asset V	
	2011-12 (pro-rata)	2012-13	2013-14	2012-13	2013-14
Maintenance Spares	21.49	22.73	24.03	22.73	24.03
O & M expenses	11.94	12.63	13.35	12.63	13.35
Receivables	390.73	413.93	432.12	150.94	155.12
Total	424.17	449.29	469.50	186.30	192.49
Rate of Interest (%)	11.75	11.75	11.75	13.50	13.50
Interest	4.15	52.79	55.17	25.15	25.99

Transmission charges

48. The transmission charges being allowed for the transmission assets are summarized hereunder:-

(₹ in lakh)

Particulars	Asset I			Asset II & III		
	2011-12 (pro-rata)	2012-13	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Depreciation	36.57	73.14	73.14	29.47	88.81	88.97
Interest on Loan	31.52	58.88	52.98	23.44	66.35	59.73
Return on Equity	37.20	74.40	74.40	29.85	89.97	90.13
Interest on Working Capital	3.63	7.36	7.42	2.73	8.31	8.38
O & M Expenses	31.90	67.44	71.30	22.47	71.26	75.33
Total	140.82	281.22	279.25	107.96	324.71	322.55

(₹ in lakh)

Particulars	Asset IV			Asset V	
	2011-12 (pro-rata)	2012-13	2013-14	2012-13	2013-14
Depreciation	69.81	897.54	956.00	295.92	307.78
Interest on Loan	40.04	487.79	467.93	137.52	128.85
Return on Equity	69.42	893.94	953.48	295.53	307.93
Interest on Working Capital	4.15	52.79	55.17	25.15	25.99
O & M Expenses	11.94	151.54	160.17	151.54	160.17
Total	195.37	2483.61	2592.74	905.67	930.71

49. The transmission charges allowed are subject to truing up in accordance with the 2009 Tariff Regulations.

Filing Fee, Licence Fee and Publication Expenses

50. The petitioner has sought reimbursement of fee paid by it for filing the petition, licence fee and also the publication expenses. The petitioner shall be entitled for reimbursement of fee and licence fee directly from the beneficiaries in accordance with Regulation 42A of the tariff regulations. Similarly, the petitioner shall also be entitled to recover the publication expenses incurred in connection with the present petition. The

reimbursement of filing fee, licence fee and the publication expenses shall be on *pro rata* basis in the same ratio as the transmission charges.

Service tax

51. 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 this prayer is rejected.

Sharing of Transmission Charges

52. The connectivity to ISTS linking BALCO and Vandana generating stations to Korba by commissioning part of the transmission line was approved in the 14th meeting of WR Constituents regarding Connectivity/ Open Access Application and it was agreed that transmission charges for part section of the transmission line shall be borne by BALCO and Vandana till the Commissioning of the transmission line and thereafter the same shall be shared on regional basis. Accordingly, the petitioner has signed Transmission Service Agreement with BALCO and Vandana on 15.07.2011. Accordingly, prior to 1.4.2012 the transmission charges have to be paid by BALCO and Vandana and from 1.4.2012 the transmission charges shall be shared in accordance with the Central Electricity Regulatory Commission (Sharing of inter-state transmission charges and losses) Regulations, 2010, as amended from time to time.

53. This order disposes of Petition Nos. 107/TT/2012.

sd/-
(A. K. Singhal)
Member

sd/-
(M. Deena Dayalan)
Member

sd/-
(Gireesh B. Pradhan)
Chairperson

Annexure-I

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN				
(₹ in lakh)				
	Details of Loan	2011-12	2012-13	2013-14
1	Bond XXVIII			
	Gross loan opening	400.00	400.00	400.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	33.33
	Net Loan-Opening	400.00	400.00	366.67
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	33.33	33.33
	Net Loan-Closing	400.00	366.67	333.33
	Average Loan	400.00	383.33	350.00
	Rate of Interest	9.33%	9.33%	9.33%
	Interest	37.32	35.77	32.66
	Rep Schedule	12 annual installments from 15.12.2012		
2	IBRD IV (Exchange rate @ Rs 49.40/\$)			
	Gross loan opening	371.14	371.14	371.14
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	371.14	371.14	371.14
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	8.21
	Net Loan-Closing	371.14	371.14	362.93
	Average Loan	371.14	371.14	367.03
	Rate of Interest	1.70%	1.70%	1.70%
	Interest	6.31	6.31	6.24
	Rep Schedule	15 half yearly installments from 15.11.2013		
3	Bond XXIX			
	Gross loan opening	225.00	225.00	225.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	18.75
	Net Loan-Opening	225.00	225.00	206.25
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	18.75	18.75
	Net Loan-Closing	225.00	206.25	187.50
	Average Loan	225.00	215.63	196.88
	Rate of Interest	9.20%	9.20%	9.20%
	Interest	20.70	19.84	18.11
	Rep Schedule	12 annual installments from 12.3.2013		
4	Bond XXIX (AddCap for 2012-13 Drawl on 31.3.2012)			

Gross loan opening	0.00	6.76	6.76
Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.56
Net Loan-Opening	0.00	6.76	6.20
Additions during the year	6.76	0.00	0.00
Repayment during the year	0.00	0.56	0.56
Net Loan-Closing	6.76	6.20	5.63
Average Loan	3.38	6.48	5.92
Rate of Interest	9.20%	9.20%	9.20%
Interest	0.31	0.60	0.54
Rep Schedule	12 annual installments from 12.3.2013		
Total Loan			
Gross loan opening	996.14	1002.90	1002.90
Cumulative Repayment upto DOCO/previous year	0.00	0.00	52.65
Net Loan-Opening	996.14	1002.90	950.25
Additions during the year	6.76	0.00	0.00
Repayment during the year	0.00	52.65	60.86
Net Loan-Closing	1002.90	950.25	889.39
Average Loan	999.52	976.58	919.82
Rate of Interest	6.4671%	6.4007%	6.2568%
Interest	64.64	62.51	57.55

Annexure-II

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN				
				(₹ in lakh)
	Details of Loan	2011-12	2012-13	2013-14
1	Bond XXVIII			
	Gross loan opening	400.00	400.00	400.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	33.33
	Net Loan-Opening	400.00	400.00	366.67
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	33.33	33.33
	Net Loan-Closing	400.00	366.67	333.33
	Average Loan	400.00	383.33	350.00
	Rate of Interest	9.33%	9.33%	9.33%
	Interest	37.32	35.77	32.66
	Rep Schedule	12 annual installments from 15.12.2012		
2	IBRD IV (Exchange rate @ Rs 49.40/\$)			
	Gross loan opening	542.04	542.04	542.04
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	542.04	542.04	542.04
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	12.00
	Net Loan-Closing	542.04	542.04	530.04
	Average Loan	542.04	542.04	536.04
	Rate of Interest	1.95%	1.95%	1.95%
	Interest	10.57	10.57	10.45
	Rep Schedule	15 half yearly installments from 15.11.2013		
3	Bond XXIX			
	Gross loan opening	250.00	250.00	250.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	20.83
	Net Loan-Opening	250.00	250.00	229.17
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	20.83	20.83
	Net Loan-Closing	250.00	229.17	208.33
	Average Loan	250.00	239.58	218.75
	Rate of Interest	9.20%	9.20%	9.20%
	Interest	23.00	22.04	20.13
	Rep Schedule	12 annual installments from 12.3.2013		
4	Bond XXIX (AddCap for 2012-13 Drawl on 31.3.2012)			
	Gross loan opening	0.00	6.65	6.65
	Cumulative Repayment upto DOCO/previous	0.00	0.00	0.55

year			
Net Loan-Opening	0.00	6.65	6.10
Additions during the year	6.65	0.00	0.00
Repayment during the year	0.00	0.55	0.55
Net Loan-Closing	6.65	6.10	5.54
Average Loan	3.33	6.37	5.82
Rate of Interest	9.20%	9.20%	9.20%
Interest	0.31	0.59	0.54
Rep Schedule	12 annual installments from 12.3.2013		
Total Loan			
Gross loan opening	1192.04	1198.69	1198.69
Cumulative Repayment upto DOCO/previous year	0.00	0.00	54.72
Net Loan-Opening	1192.04	1198.69	1143.97
Additions during the year	6.65	0.00	0.00
Repayment during the year	0.00	54.72	66.72
Net Loan-Closing	1198.69	1143.97	1077.25
Average Loan	1195.37	1171.33	1110.61
Rate of Interest	5.9560%	5.8876%	5.7417%
Interest	71.20	68.96	63.77

Annexure-III

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN				
				(₹ in Lakh)
	Details of Loan	2011-12	2012-13	2013-14
1	Bond XXVIII			
	Gross loan opening	2421.00	2421.00	2421.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	201.75
	Net Loan-Opening	2421.00	2421.00	2219.25
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	201.75	201.75
	Net Loan-Closing	2421.00	2219.25	2017.50
	Average Loan	2421.00	2320.13	2118.38
	Rate of Interest	9.33%	9.33%	9.33%
	Interest	225.88	216.47	197.64
	Rep Schedule	12 annual installments from 15.12.2012		
2	IBRD IV (Exchange rate @ Rs 49.40/\$			
	Gross loan opening	7587.54	7587.54	7587.54
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	7587.54	7587.54	7587.54
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	167.94
	Net Loan-Closing	7587.54	7587.54	7419.60
	Average Loan	7587.54	7587.54	7503.57
	Rate of Interest	1.95%	1.95%	1.95%
	Interest	147.96	147.96	146.32
	Rep Schedule	15 half yearly installments from 15.11.2013		
3	Bond XXIX			
	Gross loan opening	1076.00	1076.00	1076.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	89.67
	Net Loan-Opening	1076.00	1076.00	986.33
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	89.67	89.67
	Net Loan-Closing	1076.00	986.33	896.67
	Average Loan	1076.00	1031.17	941.50
	Rate of Interest	9.20%	9.20%	9.20%
	Interest	98.99	94.87	86.62
	Rep Schedule	12 annual installments from 12.3.2013		
4	Bond XXVIII (AddCap for 2012-13 Drawl on 31.3.2012)			
	Gross loan opening	0.00	46.16	46.16
	Cumulative Repayment upto DOCO/previous	0.00	0.00	3.85

	year			
	Net Loan-Opening	0.00	46.16	42.31
	Additions during the year	46.16	0.00	0.00
	Repayment during the year	0.00	3.85	3.85
	Net Loan-Closing	46.16	42.31	38.47
	Average Loan	23.08	44.24	40.39
	Rate of Interest	9.33%	9.33%	9.33%
	Interest	2.15	4.13	3.77
	Rep Schedule	12 annual installments from 12.3.2013		
5	Bond XXIV			
	Gross loan opening	133.00	133.00	133.00
	Cumulative Repayment upto DOCO/previous year	11.08	22.17	33.25
	Net Loan-Opening	121.92	110.83	99.75
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	11.08	11.08	11.08
	Net Loan-Closing	110.83	99.75	88.67
	Average Loan	116.38	105.29	94.21
	Rate of Interest	9.95%	9.95%	9.95%
	Interest	11.58	10.48	9.37
	Rep Schedule	12 annual installments from 26.3.2011		
	Total Loan			
	Gross loan opening	11217.54	11263.70	11263.70
	Cumulative Repayment upto DOCO/previous year	11.08	22.17	328.51
	Net Loan-Opening	11206.46	11241.53	10935.19
	Additions during the year	46.16	0.00	0.00
	Repayment during the year	11.08	306.35	474.28
	Net Loan-Closing	11241.53	10935.19	10460.90
	Average Loan	11224.00	11088.36	10698.04
	Rate of Interest	4.3350%	4.2738%	4.1477%
	Interest	486.56	473.90	443.72

Annexure-IV

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN			
			(₹ in Lakh)
	Details of Loan	2012-13	2013-14
1	Bond XXVIII		
	Gross loan opening	471.75	471.75
	Cumulative Repayment upto DOCO/previous year	0.00	39.31
	Net Loan-Opening	471.75	432.44
	Additions during the year	0.00	0.00
	Repayment during the year	39.31	39.31
	Net Loan-Closing	432.44	393.13
	Average Loan	452.09	412.78
	Rate of Interest	9.33%	9.33%
	Interest	42.18	38.51
	Rep Schedule	12 annual installments from 15.12.2012	
2	IBRD IV (Exchange rate @ Rs 49.40/\$)		
	Gross loan opening	2896.49	2896.49
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	2896.49	2896.49
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	64.11
	Net Loan-Closing	2896.49	2832.38
	Average Loan	2896.49	2864.44
	Rate of Interest	1.95%	1.95%
	Interest	56.48	55.86
	Rep Schedule	15 half yearly installments from 15.11.2013	
3	Bond XXIX		
	Gross loan opening	379.96	379.96
	Cumulative Repayment upto DOCO/previous year	0.00	31.66
	Net Loan-Opening	379.96	348.30
	Additions during the year	0.00	0.00
	Repayment during the year	31.66	31.66
	Net Loan-Closing	348.30	316.63
	Average Loan	364.13	332.47
	Rate of Interest	9.20%	9.20%
	Interest	33.50	30.59
	Rep Schedule	12 annual installments from 12.3.2013	
4	Bond XXIV		
	Gross loan opening	46.30	46.30
	Cumulative Repayment upto	7.72	11.58

DOC0/previous year		
Net Loan-Opening	38.58	34.73
Additions during the year	0.00	0.00
Repayment during the year	3.86	3.86
Net Loan-Closing	34.73	30.87
Average Loan	36.65	32.80
Rate of Interest	9.95%	9.95%
Interest	3.65	3.26
Rep Schedule	12 annual installments from 26.3.2011	
Total Loan		
Gross loan opening	3794.50	3794.50
Cumulative Repayment upto DOC0/previous year	7.72	82.55
Net Loan-Opening	3786.78	3711.95
Additions during the year	0.00	0.00
Repayment during the year	74.83	138.94
Net Loan-Closing	3711.95	3573.01
Average Loan	3749.37	3642.48
Rate of Interest	3.6222%	3.5201%
Interest	135.81	128.22