

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 43/TT/2013**

**Coram:**

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

**Date of Hearing : 16.09.2014**

**Date of Order : 10.07.2015**

**In the matter of:**

Approval of transmission tariff for Spare ICTs and Reactors under provision of Spare ICTs and Reactors for Eastern Region from COD to 31.3.2014 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  
"Saudamini", Plot No.2,  
Sector-29, Gurgaon -122 001

**.....Petitioner**

**Vs**

1. Bihar State Electricity Board,  
Vidyut Bhawan, Bailey Road,  
Patna-800 001
2. West Bengal State Electricity Distribution Company Limited,  
Bidyut Bhawan, Bidhan Nagar,  
Block DJ, Sector-II, Salt Lake City,  
Kolkata-700 091
3. Grid Corporation of Orissa Limited,  
Shahid Nagar,  
Bhubaneswar-751 007
4. Damodar Valley Corporation,  
DVC Tower, Maniktala  
Civil Centre, VIP Road,  
Kolkata-700 054



5. Power Department,  
Govt. of Sikkim, Gangtok-737 101
6. Jharkhand State Electricity Board,  
In front of Main Secretariat,  
Doranda, Ranchi-834 002

....Respondents

**For petitioner** : Shri S. K. Venkatesan, PGCIL  
Shri M. M. Mondal, PGCIL  
Shri S. S. Raju, PGCIL  
Shri R. Prasad, PGCIL  
Ms. Sangeeta Edwards, PGCIL  
Ms. Seema Gupta, PGCIL

**For respondent** : None

### **ORDER**

The instant petition has been filed by Power Grid Corporation of India Ltd. (PGCIL) seeking approval of transmission tariff for Spare ICTs and Reactors under provision of Spare ICTs and Reactors for Eastern Region from COD to 31.3.2014 based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, (hereinafter referred to as “the 2009 Tariff Regulations”).

2. Investment approval of the project was accorded by the Board of Directors of the petitioner's company vide letter No. C/CP/Spare ICTs and Reactors dated 4.8.2011 for ₹7777 lakh including IDC of ₹210 lakh, based on 1<sup>st</sup> Quarter, 2011 price level.

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



<b>Numbers of Spare ICTs &amp; Reactors</b>	<b>Locations</b>
4 Nos. 315 MVA, 400/220/33 kV ICTs	Biharshariff (Bihar), Durgapur (WB), Jamshedpur (Jharkhand) and Rourkela (Orissa)
2 Nos. 160 MVA, 220/132 kV ICTs	Baripada (Orissa) and Siliguri (WB)
1 No. 50 MVA, 132/66 kV ICT	Gangtok (Sikkim)
1 No. 80 MVAR Shunt Reactor	Rourkela (Orissa)

4. The proposal for the system indicated above was proposed in the 13<sup>th</sup> ERPC meeting held on 25<sup>th</sup> & 26<sup>th</sup> March, 2010. The scheme was approved by ER constituents during 16<sup>th</sup> ERPC meeting held on 17<sup>th</sup> & 18<sup>th</sup> December, 2010 and in the Standing Committee meeting held on 28.12.2010. The latest status on the procurement of Spare ICTs & Reactors as a part of disaster management plan in Eastern Region was informed by the petitioner in 23<sup>rd</sup> TCC meeting held on 21.12.2012.

5. The details of various assets commissioned under Provision of Spare ICTs and Reactors for Eastern Region covered in the instant petition are as given below:-

<b>S. No.</b>	<b>Transmission Element</b>
1	<b>Asset-A:</b> 1 No. 315 MVA, 400/220/33 kV, 3-Phase Transformers at Biharshariff Sub-station and 01 No. 315 MVA, 400/220/33, kV 3-Phase Transformers at Jamshedpur Sub-station
2	<b>Asset-B:</b> 1 No. 80 MVAR, 420 kV, 3-Phase Reactor at Rourkela Sub-station
3	<b>Asset-C:</b> 1 No. 160 MVA, 220/132kV, 3-Phase ICT at Baripada Sub-station (Shifted to Purnea Sub-Station)
4	<b>Asset-D:</b> 1 No. 315 MVA, 400/220 kV, 3-Phase ICT at Durgapur Sub-station
5	<b>Asset-E:</b> 1 No. 160 MVA, 220/132 kV, 3-Phase ICT at Siliguri Sub-station
6	<b>Asset-F:</b> 1 No. 315 MVA, 400/220 kV, 3-Phase ICT at Rourkela Sub-station
7	<b>Asset-G:</b> 1 No. 50 MVA, 132/66 kV, 3-Phase ICT at Gangtok Sub-station

6. This order has been issued after considering the petitioner's affidavits dated 2.9.2013, 30.6.2014 and 9.12.2014.

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

(₹ in lakh)

Particulars	Asset A		Asset B	
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14
Depreciation	75.40	130.60	9.31	26.34
Interest on Loan	90.33	147.94	11.26	30.38
Return on equity	77.30	133.90	9.54	27.00
Interest on Working Capital	5.59	9.49	0.69	1.93
O & M Expenses	-	-	-	-
<b>Total</b>	<b>248.62</b>	<b>421.93</b>	<b>30.80</b>	<b>85.65</b>

(₹ in lakh)

Particulars	Asset C	Asset D	
	2013-14 (pro-rata)	2012-13 (pro-rata)	2013-14
Depreciation	10.97	3.13	49.55
Interest on Loan	12.49	3.68	56.00
Return on equity	10.90	3.11	49.22
Interest on Working Capital	0.77	0.23	3.56
O & M Expenses	-	-	-
<b>Total</b>	<b>35.13</b>	<b>10.15</b>	<b>158.33</b>

(₹ in lakh)

Particulars	Asset E	Asset F
	2013-14 (pro-rata)	2013-14
Depreciation	21.15	49.93
Interest on Loan	22.52	57.35
Return on equity	21.01	49.60
Interest on Working Capital	1.46	3.53
O & M Expenses	-	-
<b>Total</b>	<b>66.14</b>	<b>160.41</b>

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

(₹ in lakh)

Particulars	Asset A		Asset B	
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14
Maintenance Spares	-	-	-	-
O & M expenses	-	-	-	-
Receivables	55.25	70.32	10.27	14.28
<b>Total</b>	<b>55.25</b>	<b>70.32</b>	<b>10.27</b>	<b>14.28</b>
Rate of Interest	13.50%	13.50%	13.50%	13.50%
<b>Interest</b>	<b>5.59</b>	<b>9.49</b>	<b>0.69</b>	<b>1.93</b>

(₹ in lakh)

Particulars	Asset C	Asset D	
	2013-14 (pro-rata)	2012-13 (pro-rata)	2013-14
Maintenance Spares	-	-	-
O & M expenses	-	-	-
Receivables	10.04	20.30	26.39
<b>Total</b>	<b>10.04</b>	<b>20.30</b>	<b>26.39</b>
Rate of Interest	13.20%	13.50%	13.50%
<b>Interest</b>	<b>0.77</b>	<b>0.23</b>	<b>3.56</b>

(₹ in lakh)

Particulars	Asset E	Asset F
	2013-14 (pro-rata)	2013-14
Maintenance Spares	-	-
O & M expenses	-	-
Receivables	13.23	26.74
<b>Total</b>	<b>13.23</b>	<b>26.74</b>
Rate of Interest	13.20%	13.20%
<b>Interest</b>	<b>1.46</b>	<b>3.53</b>

9. 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 (the Act). None of the respondents has filed any reply.

### **Date of Commercial Operation**

10. The scheduled date of completion (SCOD) of the assets covered in the instant petition was 1.1.2013 as per Investment Approval. The petitioner initially claimed tariff from anticipated/actual COD of the instant assets. However, the petitioner, vide affidavit dated 30.6.2014, submitted the actual commissioning dates of all the assets i.e. Assets-A to G. The status of commissioning of the assets in the instant petition is as follows:-

<b>S. No.</b>	<b>Asset</b>	<b>COD as Per Investment Approval</b>	<b>Actual COD</b>	<b>Delay</b>
1	<b>Asset-A:</b> 1 No. 315 MVA, 400/220/33 kV, 3-Phase Transformers at Biharshariff Sub-station and Jamshedpur Sub-station	1.1.2013	1.7.12	No delay
2	<b>Asset-B:</b> 1 No. 80 MVAR, 420 kV, 3-Phase Reactor at Rourkela Sub-station		1.10.12	No delay
3	<b>Asset-C:</b> 1 No. 160 MVA, 220/33 kV, 3-Phase ICT at Baripada Sub-station (Shifted to Purnea)		1.9.13	8 months
4	<b>Asset-D:</b> 1 No. 315 MVA, 400/220 kV, 3-Phase ICT at Durgapur Sub-station		1.3.13	2 months
5	<b>Asset-E:</b> 1 No. 160 MVA, 220/33 kV, 3-Phase ICT at Siliguri Sub-station		1.6.13	5 months
6	<b>Asset-F:</b> 1 No. 315 MVA, 400/220 kV, 3-Phase ICT at Rourkela Sub-station		1.4.13	3 months
7	<b>Asset-G:</b> 1 No. 50 MVA, 132/66 kV, 3-Phase ICT at Gangtok Sub-station		Not yet commissioned	Not yet commissioned

11. The petitioner has also submitted the Revised Management Certificates along with the revised tariff forms for Assets-C, D, E & F. Accordingly, the Tariff has been allowed in this order for all the assets excluding Asset-G i.e. 1

No. 50 MVA, 132/66 kV, 3-Phase ICT at Gangtok Sub-station, claimed in the instant petition which has not been commissioned till date. Hence, the petitioner is directed to file separate petition for tariff of Asset-G in accordance with the 2014 Tariff Regulations.

12. The petitioner has further submitted that in the case of Asset-A, no expenditure was incurred up to the date of COD i.e. 1.7.2012 and as per Auditors' Certificate dated 25.9.2012 submitted for Asset-A, it is noted that the petitioner has not made any capital expenditure including IDC and IEDC up to COD of 1.7.2012 as under:-

Particulars	(₹ in lakh)			
	Capital Cost	IEDC	IDC	Total
Expenditure up to 30.6.2012	-	-	-	-
Expenditure from 1.7.2012 to 31.8.2012	1334.42	-	-	1334.42
Expenditure from 1.9.2012 to 31.3.2013	1139.13	-	-	1139.13

13. As the petitioner has not claimed any expenditure upto COD in respect of the Asset-A in the instant petition, the tariff computation of the Asset-A has been considered from 1.9.2012, subject to consideration of the useful life of the asset from COD of 1.7.2012, as under:-

Particulars	Scheduled COD	Actual COD	Date for tariff computation
Asset-A	1.1.2013	1.7.2012	1.9.2012

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

### **Capital cost**

15. 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.”

16. The petitioner has submitted the management certificate for expenditure up to COD and for total estimated expenditure in respect of Asset-A and B in the original petition. The petitioner has further submitted the revised management certificate for the expenditure upto COD and total estimated



expenditure in respect of Asset-C and for Asset-D, E & F vide affidavits dated 9.12.2014 and 2.9.2013 respectively. The petitioner has also submitted the details of additional capitalization for the year 2014-15. However, as the same falls in the tariff period 2014-19, it has not been considered in this order. As discussed at Para 13, in the case of Asset-A, the date for the tariff purpose has been considered to be 1.9.2012 and accordingly, the capital cost up to COD has been considered.

17. The details of apportioned approved cost, cost as on date of commercial operation and estimated/projected additional capital expenditure to be incurred for the assets covered in this petition have been considered and are as below:-

(₹ in lakh)

S. No.	Particulars	Apportioned approved cost	Expenditure up to COD	Projected expenditure from COD to 31.03.13	Projected estimated expenditure 2013-14	Total estimated expenditure
1	Asset-A*	2513.74	1334.42	1139.13	-	2473.55
2	Asset-B	632.15	302.48	100.00	192.62	595.10
3	Asset-C	755.55	301.50	-	109.47	410.97
4	Asset-D	1268.54	653.49	115.02	340.00	1108.51
5	Asset-E	736.45	338.74	-	283.81	622.55
6	Asset-F	1287.16	784.46	-	322.50	1106.96
7	Asset-G	471.65	353.59	75.00	52.64	481.23
	<b>Total</b>	<b>7665.24</b>	<b>4068.68</b>	<b>1429.15</b>	<b>1301.04</b>	<b>6798.87</b>

(\* Date for tariff purpose has been considered as 1.9.2012)

### **Cost over-run**

18. The total estimated completion cost is ₹6798.87 lakh against the apportioned approved cost ₹7665.24 lakh. Accordingly, there is no cost over-run in commissioning of the assets filed in the instant petition except for Asset-

G which is not being considered in the instant petition. However, the FR estimates made by the petitioner are far too high as compared to actual completion cost.

19. We have also observed that there is cost variation in certain items as per Form-5B of every asset filed in the instant petition. The petitioner has submitted that the cost variation is mainly due to actual award rate turning out to be lower than the FR cost. The cost estimates of the petitioner are not realistic not only in this petition but also in certain other petitions. We have repeatedly directed the petitioner to analyze the reasons for such huge variation and come out with the methodologies or procedures for preparation of cost estimates which are realistic and do not vary widely from the actual expenditure. The petitioner is once again directed to adopt a prudent procedure while estimating the cost of different elements of the transmission projects and to improve upon their procedures and not to take our repeated directions in a casual manner.

20. The 2 nos. 100 MVA ICTs at Purnea Sub-station (commissioned on 1.12.1986) had completed 25 years of service life and they are replaced with 1 no. 160 MVA, 3-Phase ICT. However, the petitioner in the instant petition has not mentioned the details of de-capitalization of the asset that is being replaced. The asset which has completed life of 25 years must be de-capitalized and the petitioner is directed to submit the details at the time of truing-up.

### **Time over-run**

21. As per the investment approval, the scheduled completion of the assets filed in the instant petition was 1.1.2013. However, the assets in the instant petition have been commissioned as discussed at para 10. There is no delay in commissioning of Asset-A and Asset-B. However, there is a delay in commissioning of Asset-C, D, E, F and G. The petitioner was directed by the Commission vide letter dated 5.4.2013 to submit the information regarding the delay in completing the project. In response the petitioner in its affidavit dated 2.9.2013 and 30.6.2014 submitted as follows:-

- a) **Asset-C:** The petitioner has submitted that the 220/132 kV, 160 MVA Spare ICTs were approved by ERPC for the benefit of the Eastern Region constituents. Initially, it had been explored that the Spare ICT is to be placed at Baripada Sub-station, but later on it was observed that the 2 nos. 100 MVA ICT of Purnea Sub-station (Commissioned on 1.12.1986) had completed 25 years of service life and the test results of the same are also indicating violation due to ageing. The ICTs were planned to be replaced by 160 MVA ICTs. Keeping in view the system requirement and supply criticality to meet any exigency, the 160 MVA Spare ICT meant to be kept at Baripada Sub-station was required to be diverted to Purnea Sub-station as approved by ERPC for Eastern Region constituents, and the same was placed at Purnea Sub-station in place of Baripada Sub-station in Eastern Region after amendment of supply LOA.

22. We have considered the submission of the petitioner and for analysis also considered the minutes of 16<sup>th</sup> TCC meetings held on 17.12.2010 and 18.12.2010, 23<sup>rd</sup> TCC meeting held on 21.12.2012 and 87<sup>th</sup> OCC meeting held on 23.7.2013. The extracts of Minutes of 16<sup>th</sup> of meeting of ERPC and 16<sup>th</sup> TCC Meeting held on 17.12.2010 and 18.12. 2010 are as under:-

“At present there are 03 nos. of 100 MVA, 220/132kV transformer at Purnea 220/132 kV substation of POWERGRID. These transformers are feeding power to BSEB. Out of the 03 transformers, 2 were commissioned in the year 1986 and 1 no commissioned in the year 2003. As present cumulative loading of these ICTs, it has exceeded 225 MW on several occasions and even touched 250 MW i.e. 83 MW per transformer.

In view of the above, it is proposed to replace 2 numbers of 100 MVA transformers (commissioned in 1986) with 2 numbers of 160 MVA transformers in a phased manner which incidentally is also completing economic life.

ERPC accepted TCCs recommendation and approved the proposal of POWERGRID to replace 2 nos. 160 MVA, 220/132 kV transformers along with its bay equipment at Purnea sub-station.”

23. The extracts of 23<sup>rd</sup> TCC meeting to be held on 21.12.12 are as under:-

“The procurement of spare transformer and reactors by POWERGRID as a part of disaster management plan in Eastern Region has been discussed and approved in various ERPC meeting (13<sup>th</sup> to 18<sup>th</sup> Meeting). The latest status informed by POWERGRID is given below:-

- 315 MVA spare transformers at Biharshariff and Jamshedpur were already installed, while the same at Durgapur and Rourkela would be installed by March 2013.
- 2 numbers of 150/160 MVA transformers at Baripada & Siliguri would be installed by March 2013.
- 50 MVA transformer at Gangtok would be installed by February 2013.
- One 80 MVAR reactor was already supplied to Rourkela.”

24. Decision taken in 87<sup>th</sup> OCC meeting held on 23.7.2013:-

“In the 86<sup>th</sup> OCC POWERGRID updated the latest status as given below:

- 315 MVA spare transformers at Biharshariff and Jamshedpur were already installed, while the same at Durgapur and Rourkella were already reached the site.
- One 80 MVAR reactor at Rourkella was already commissioned

- 1 nos. of 150/160 MVA, 220/132 kV ICTs of Baripada is being diverted to Purnea.
- 1 number of 160 MVA, 220/132 kV ICT of Siliguri was already commissioned.
- 1 number of 50 MVA, 132/66 kV ICT at Gangtok is at Siliguri. Unable to dispatch due to road clearance problem.”

25. The Commission has noted that as per the deliberations held in above mentioned RPC meetings, the petitioner knew well in advance in December, 2010 that two ICTs at Purnea Sub-station have completed life span of around 25 years and accordingly took approval in the ERPC for replacement of 2 nos. 100 MVA ICTs with 2 nos. 160 MVA ICTs. However, the petitioner while taking approval dated 4.8.2011 for the instant scheme from its Board of Directors had not included the ICTs at Purnea Sub-station. Further, even during RPC meeting held on 12.12.2012, the petitioner had not indicated anything in regard to age and health of ICTs at Purnea Sub-station, rather it informed about the installation of ICTs at Baripada by March, 2013 (i.e. just 3 months ahead). The petitioner for the first time, in the 87<sup>th</sup> OCC meeting held on 23.7.2013 informed that 1 no. of 150/160 MVA, 220/132 kV ICT of Baripada is being diverted to Purnea Sub-station. The petitioner, despite discussion during 16<sup>th</sup>TCC meeting held on 17.12.2010 and 18.12.2010, that the cumulative loading of these ICTs exceeded 225 MW on several occasions and even touched 250 MW i.e. 83 MW per transformer, does not seem to have taken measures to resolve the issue of overloading of transformers which might have endangered grid security. The petitioner surprisingly replaced just one ICT by diverting, instead of taking action for replacement of 2 ICTs, despite 2 nos. 100 MVA ICTs getting overloaded, as decided in the RPC/TCC meeting held on 17.12.2010 and 18.12.2010.

26. We note that this kind of conduct in regard to Grid Security cannot be said to be proper. The petitioner should have taken timely action for procurement of spare ICTs at Purnea in view of overloading of existing ICTs. The petitioner updated the latest status in the 87<sup>th</sup> OCC meeting held on 23.7.2013 regarding shifting of one ICT from Baripada to Purnea but has not submitted approval of constituents of Eastern Region under ERPC forum for shifting of ICT from Baripada Sub-station to Purnea Sub-station. The petitioner has also not taken timely action for procurement of ICTs at Purnea Sub-station and has not acted in a prudent manner till July, 2013, but suddenly took a decision to divert ICT from Baripada to Purnea Sub-station. In view of this, the delay of 8 months in commissioning of ICT at Purnea Sub-station is not condoned. The petitioner has also not provided any details about how ICT requirement at Baripada Sub-station would be met in view of shifting of ICT meant for Baripada to Purnea. The petitioner is directed to submit the details of the same at the time of truing-up and also details regarding ICT which is being replaced for decapitalisation in an appropriate petition.

27. The petitioner has submitted that the delay in the case of Asset-E, i.e. at Siliguri Sub-station is on account of being located in geographically difficult terrain and the delay has occurred mainly due to delay in transportation of heavy equipment to such geographically difficult terrain including various river crossings.

28. We have considered the submissions of the petitioner. The petitioner should have planned logistics for the transportation of heavy equipment having

known the geographical location of Siliguri Sub-station. The petitioner has also not submitted any documentary evidence in support of the efforts made by him to expedite transportation of ICTs to Siliguri. Thus, the Commission is not inclined to condone the delay of 5 months in commissioning of ICT at Siliguri Sub-station.

29. The petitioner regarding the delay in the case of Asset-D and Asset-F has submitted that there is a marginal delay of 2 months & 3 months in commissioning of Asset-D and Asset-F respectively. This is mainly due to the manufacturers who have their production cycle based on their capacity. Their dispatch cycle depends on their production and at times, it would not be possible for them to supply the ICTs/Reactors for a sub-station in one go/simultaneously. At times the simultaneous transportation of the ICTs/Reactors is not possible due to various factors attributed to transportation. The petitioner also submitted that the testing/commissioning of ICTs/Reactors at site is done on different dates as the commissioning activities require special Tools and Plants (T&P) and expert from manufacturer. In the instant case all the ICTs were scheduled to be commissioned by 1.1.2013. However, normally in the region/site, only few set of T & P and team of testing specialists are available. Thus, deployment of simultaneous gangs and expert from manufacture would require additional cost. Therefore, commissioning of ICTs/Reactors is done one after other. Further, the ICT/Reactors are tested at site and at times during testing some of the parameters do not meet the specified technical requirements to set right the same. The petitioner has further submitted that inspite of best efforts to commission the ICTs within time

schedule, the delay was due to above conditions which are beyond the control of the petitioner.

30. We have considered the submission of the petitioner. The petitioner has enormous experience in installation and commissioning of ICTs and Reactors at different Sub-stations. The petitioner is also aware of the requirements of special tools and plants and experts for the commissioning activity and is expected to accordingly plan for special tools & plants and expert manpower for commissioning of the asset. It is also noted from Form-5C that supply and erection of ICTs at Durgapur Sub-station and Rourkela Sub-station has been phased with a gap of 3months (Durgapur-15.7.2012 and Rourkela-7.10.2012). The Commission therefore, fails to appreciate and accept the contention of the petitioner that deployment of simultaneous transportation, testing and commissioning was required in the instant case. The petitioner should have scheduled commissioning of ICTs with appropriate phasing while awarding the contract, knowing and having experienced the issues cited by the petitioner now and earlier in certain other petitions. Thus, the delay of 2 months and 3 months in commissioning of Asset-D and Asset-F respectively is not condoned.

### **Treatment of IDC & IEDC**

31. The petitioner was directed to submit the details of the IDC computation as the same were not filed with the petition. However, the petitioner submitted the allocation of IDC amount to various elements covered in the project, instead of the computation based on interest payment against each loan. In



view of non availability and non submission of complete and proper information by the petitioner, the claim of IDC has been considered by calculating interest paid on the loans as per details furnished by the petitioner. Accordingly, IDC worked out on cash basis, has been considered as under:-

**(₹ in lakh)**

<b>Particulars</b>	<b>IDC worked out till COD on Cash basis</b>
Asset-A	-
Asset-B	-
Asset-C	5.89
Asset-D	-
Asset-E	5.90
Asset-F	11.00

32. The interest of delayed period has also been disallowed from the IDC considered up to COD on Cash Basis as the time over-run has not been condoned in the case of Asset-C, Asset-D, Asset-E and Asset-F, which is as under:-

**(₹ in lakh)**

<b>Asset</b>	<b>IDC till COD on Cash basis</b>	<b>IDC to be disallowed due to Time over-run</b>	<b>IDC allowed after disallowing IDC due to Time over-run (Cash basis)</b>
A	-	-	-
B	-	-	-
C	5.89	1.08	4.81
D	-	-	-
E	5.90	1.10	4.80
F	11.00	2.05	8.95

33. Further, the interest during construction, accrued upto COD and to be discharged after COD, would also have an impact due to the time over run and

actual date of interest payment against loan. Thus, the un-discharged IDC will be considered, after adjusting the time over run impact, at the time of true up on the submission of the relevant information by the petitioner.

34. In view of above, the Capital Cost has been considered up to COD after IDC allowed on cash basis and disallowed IDC due to time over-run on cash basis. Further, It is noted from the loan drawn by the petitioner, that no interest payment has been made by the petitioner prior to COD in respect of the Assets-B and Asset-D. Accordingly, IDC on cash basis has been allowed up to COD and the balance IDC amount would be considered as un-discharged liability once it is discharged subject to prudence check and submission of adequate information by the petitioner at the time of true up. The details of IDC allowed is as follows:-

(₹ in lakh)					
Particulars	Cost as on COD claimed (including claimed IDC)	IDC Claimed	Capital Cost claimed excluding IDC	IDC allowed after disallowing IDC due to Time over-run (Cash basis)	Capital Cost considered as on COD (Cash basis)
Asset-A*	1334.42	-	1334.42	-	1334.42
Asset-B	302.48	28.23	274.25	-	274.25
Asset-C	301.50	6.25	295.25	4.81	300.06
Asset-D	653.49	9.47	644.02	-	644.02
Asset-E	338.74	9.54	329.20	4.80	334.00
Asset-F	784.46	26.23	758.23	8.95	767.18

\*The petitioner has not claimed any IDC for Asset A.

35. Similarly the petitioner has claimed Incidental Expenditure during Construction (IEDC) of NIL, ₹30.77 lakh, ₹4.33 lakh, ₹7.12 lakh, ₹3.67 lakh and

₹8.95 lakh for Assets-A to F respectively. The petitioner has not submitted detailed computations for admissible IEDC. In the absence of non submission of detailed computation of IEDC by the petitioner, the percentage on Hard Cost indicated in the Abstract Cost Estimate submitted by the petitioner is considered as the allowable limit of the IEDC. In the instant petition, 10.75% IEDC is claimed by the petitioner in the abstract cost estimates. Thus, in the absence of proper and sufficient details, IEDC claim is restricted to 10.75% of Hard Cost upto date of commercial operation and allowed for the purpose of tariff calculation in the instant petition.

36. Further, there is a delay of 8 months, 2 months, 5 months and 3 months in the case of Assets-C, Asset-D, Asset-E and Asset-F respectively. As discussed at paras 26, 28 and 30, the delay has not been condoned in the respective assets. Thus, the IEDC for the delayed period of 8 months, 2 Months, 5 months and 3 months period has also been disallowed in the case of Asset-C, Asset-D, Asset-E and Asset-F respectively from the capital cost. The details are as under:-

(₹ in lakh)

Asset-B		
IEDC claimed	IEDC allowed as on COD (10.75% of Hard Cost)	IEDC disallowed
30.77	26.17	4.60

(₹ in lakh)

Asset-C	
As per Auditor's Certificate vide affidavit dated 16.10.2014	
	IEDC
Total IEDC claimed for the total period of completion (24 Months)	4.33
Detail of IEDC disallowed for 8 months	

Pro-rata IEDC disallowed (8 months)	1.44
<b>Total IEDC disallowed (8 months)</b>	<b>1.44</b>
<b>Asset-D</b>	
<b>As per Auditor's Certificate vide affidavit dated 24.06.2013</b>	
	<b>IEDC</b>
Total IEDC claimed for the total period of completion (18 Months)	7.12
<b>Detail of IEDC Disallowed for 2 months</b>	
Pro-rata IEDC disallowed (2 months)	0.79
<b>Total disallowed (2 months)</b>	<b>0.79</b>
<b>Asset-E</b>	
<b>As per Auditor's Certificate vide affidavit dated 24.06.2013</b>	
	<b>IEDC</b>
Total IEDC claimed for the total period of completion (21 Months)	3.67
<b>Detail of IEDC disallowed for 5 months</b>	
Pro-rata IEDC disallowed (5 months)	0.87
<b>Total disallowed (5 months)</b>	<b>0.87</b>
<b>Asset-F</b>	
<b>As per Auditor's Certificate vide affidavit dated 24.06.2013</b>	
	<b>IEDC</b>
Total IEDC claimed for the total period of completion (19 Months)	8.95
<b>Detail of IEDC disallowed for 3 months</b>	
Pro-rata IEDC disallowed (3 months)	1.41
<b>Total disallowed (3 months)</b>	<b>1.41</b>

37. Regulation 9 of the 2009 Tariff Regulations provides for the treatment of undischarged liabilities after the same are discharged. However, as the petitioner has not submitted the required information with regard to the IDC/IEDC actually discharged, we are not inclined to allow the amount of IDC/IEDC as claimed by the petitioner. The petitioner is directed to submit the amount of IDC/IEDC paid and specific to the transmission asset considered in this petition upto date of commercial operation and balance IDC/IEDC discharged after date of commercial operation. IDC/IEDC allowed will be reviewed at the time of truing up on submission of adequate and proper information by the petitioner in respect of interest during construction and incidental expenses during construction at the time of truing-up.

### Initial spares

38. Regulation 8 of the 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%

39. The petitioner has claimed initial spares for sub-station in respect of Asset-A and Asset-B, Asset-C, Asset-D, Asset-E and Asset-F. The details of Initial Spares claimed by the Petitioner for the assets in the instant petition are as under:-

(₹ in lakh)				
S. No.	Particulars	Sub-station Cost	Cost of Spares	Spares as % of sub-station Cost
1	Asset-A	2473.55	151.55	6.12%
2	Asset-B	595.10	10.83	1.82%
3	Asset-C#	410.97	13.72	3.34%
4	Asset-D	1108.51	26.60	2.40%
5	Asset-E	622.51	13.72	2.20%
6	Asset-F	1106.96	26.60	2.40%

#In case of Asset-C, the capital cost considered for calculation of Initial Spares is the estimated completion cost of sub-station till 31.3.2014, as the additional capitalization claimed by the Petitioner for the year 2014-15 shall be dealt as per Tariff Regulations, 2014.

40. Thus, the initial spares claimed but not admissible are in the case of Asset-A and Asset-C. The claim of initial spares in the case of other assets i.e. Asset-B, Asset-D, Asset-E and Asset-F, being within the limit as specified in the 2009 Tariff Regulations, is allowed as claimed. The details of the initial spares restricted in

the case of Asset-A and Asset-C are as under:-

(₹ in lakh)					
Asset-A	Capital Cost claimed as on Cut-off date	Initial Spares claimed ( As per affidavit dated 2.9.2013)	Ceiling Limit	Initial Spares worked out	Excess Initial Spares
Sub-station	2,473.55	151.55	2.50%	59.54	92.01

(₹ in lakh)							
Asset-C	Capital Cost claimed as on Cut-off date	Initial Spares claimed (As per affidavit dated 9.12.2014)	Capital Cost considered as IDC on cash basis after disallowing Time-over run and adjustment of IEDC, as on Cut-off date (31.03.2014)	Proportionate claim of Initial Spares against the adjusted capital cost as on cut-off date (31.03.2014)	Ceiling Limit	Initial Spares worked out	Excess Initial Spares
Sub-station	410.97	13.72	408.10	13.62	2.50%	10.11	3.51

41. The capital cost of ₹1242.41 lakh in respect of Asset-A and of ₹295.11 lakh in respect of Asset C, has been considered up to COD after considering adjustment of excess initial spares in both these assets.

### **Additional Capital Expenditure**

42. As regards Additional Capital Expenditure clause 9(1) 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.”

43. Further, the 2009 Tariff Regulations define cut-off date as:-

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

44. Accordingly, the cut-off date in the instant petition for the Asset-A & Asset-B is 31.3.2015 and for Asset-C, Asset-D, Asset-E & Asset-F is 31.3.2016.

45. The additional capital expenditure claimed for the period 2012-13 and 2013-14 is admissible under Regulation 9(1) of the 2009 Tariff Regulations, and is allowed. The petitioner has also claimed additional capital expenditure for the year 2014-15. However, the same has not been considered as it would be part of the next tariff period i.e. 2014-19.

**Capital cost as on 31.3.2014**

46. The Capital Cost of all the Asset-A to F, after considering the IDC on cash basis, excess IEDC disallowed and allowable initial spares, is as below:-

(₹ in lakh)	
Particulars	Capital Cost up to Cut-off date (31.3.2014)
<b>Asset-A</b>	2,381.54
<b>Asset-B</b>	562.27
<b>Asset-C</b>	404.58
<b>Asset-D</b>	1098.25
<b>Asset-E</b>	616.94

Asset-F	1,088.27
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### **Debt- Equity ratio**

47. 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.”

48. The petitioner has claimed debt equity ratio of 70:30 as on COD of the asset and for additional capitalization which is in accordance with the above regulations. The debt equity ratio of 70:30 has been considered to allow the tariff.



## **Return on Equity (RoE)**

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

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

(2) 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".

50. The details of return on equity calculated are as overleaf:-

(₹ in lakh)

Particulars	Asset-A		Asset-B	
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14
Opening Equity	372.72	714.46	80.90	110.90
Addition due to Additional Capitalization	341.74	0.00	30.00	57.79
Closing Equity	714.46	714.46	110.90	168.68
Average Equity	543.59	714.46	95.90	139.79
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%
<b>Return on Equity (Pre Tax)</b>	<b>55.43</b>	<b>124.89</b>	<b>8.38</b>	<b>24.44</b>

(₹ in lakh)

Particulars	Asset-C	Asset-D	
	(2013-14) (pro-rata)	2012-13 (pro-rata)	2013-14
Opening Equity	88.53	192.97	227.47
Addition due to Additional Capitalization	32.84	34.51	102.00
Closing Equity	121.37	227.47	329.47
Average Equity	104.95	210.22	278.47
Return on Equity (Base Rate )	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (MAT)	11.33%	11.330%	11.330%
Rate of Return on Equity (Pre Tax )	17.481%	17.481%	17.481%
<b>Return on Equity (Pre Tax)</b>	<b>10.70</b>	<b>3.06</b>	<b>48.68</b>

(₹ in lakh)

Particulars	Asset-E	Asset-F
	2013-14 (pro-rata)	2013-14
Opening Equity	99.94	229.73
Addition due to Additional Capitalization	85.14	96.75
Closing Equity	185.08	326.48
Average Equity	142.51	278.10
Return on Equity (Base Rate )	15.50%	15.50%
Tax rate for the year 2008-09 (MAT)	11.33%	11.33%
Rate of Return on Equity (Pre Tax )	17.481%	17.481%
<b>Return on Equity (Pre Tax)</b>	<b>20.76</b>	<b>48.62</b>

### Interest on Loan

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

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



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

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

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

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

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

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

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

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

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

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

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

52. In view of provisions of the 2009 Tariff Regulations, interest on loan has been considered as detailed hereinafter:-

- (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.

53. Interest on loan has been calculated on the basis of prevailing rate of actual loan available as on the date of commercial operation. Any change in rate of interest subsequent to date of commercial operation shall be considered at the time of truing up. The petitioner has initially considered the proposed loan without sufficient details. However, in response to a query by the Commission, the petitioner submitted the documentary proof of proposed loan (having interest rate of 9.30%) and confirmed as a Bond XL vide affidavit dated 2.9.2013. This has been considered for the tariff purpose.

54. Detailed calculation of the weighted average rate of interest has been given at Annexure-1 to 6 of this order.

55. Details of interest on loan calculated are as given hereunder:-

(₹ in lakh)

Particulars	Asset-A		Asset-B	
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14
Gross Normative Loan	869.69	1667.08	188.76	258.76
Cumulative Repayment upto Previous Year	-	55.81	-	8.44
Net Loan-Opening	869.69	1611.27	188.76	250.32
Addition due to Additional Capitalization	797.39	0.00	70.00	134.83
Repayment during the year	55.81	125.75	8.44	24.60
Net Loan-Closing	1611.27	1485.52	250.32	360.55
Average Loan	1240.48	1548.40	219.54	305.44
Weighted Average Rate of Interest on Loan	9.30%	9.30%	9.30%	9.30%
<b>Interest</b>	<b>67.30</b>	<b>144.00</b>	<b>10.21</b>	<b>28.40</b>

(₹ in lakh)

Particulars	Asset-C	Asset-D	
	(2013-14) (pro-rata)	2012-13 (pro-rata)	2013-14
Gross Normative Loan	206.58	450.26	530.77
Cumulative Repayment upto Previous Year	0.00	0.00	3.08
Net Loan-Opening	206.58	450.26	527.69
Addition due to Additional Capitalization	76.63	80.51	238.00
Repayment during the year	10.78	3.08	49.01
Net Loan-Closing	272.43	527.69	716.68
Average Loan	239.50	488.98	622.19
Weighted Average Rate of Interest on Loan	8.7811%	8.9602%	8.9022%
<b>Interest</b>	<b>12.27</b>	<b>3.65</b>	<b>55.39</b>

(₹ in lakh)

Particulars	Asset-E	Asset-F
	2013-14 (pro-rata)	2013-14
Gross Normative Loan	233.19	536.04
Cumulative Repayment upto Previous Year	0.00	0.00
Net Loan-Opening	233.19	536.04
Addition due to Additional Capitalization	198.67	225.75
Repayment during the year	20.90	48.95
Net Loan-Closing	410.95	712.84
Average Loan	322.07	624.44
Weighted Average Rate of Interest on Loan	9.2512%	9.2728%
<b>Interest</b>	<b>24.83</b>	<b>57.90</b>

## **Depreciation**

56. 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.”

57. The Asset-B, Asset-C, Asset-D, Asset-E and Asset-F were put under commercial operation on 1.10.2012, 1.9.2013, 1.3.2013, 1.6.2013 and

1.4.2013 respectively. As discussed at para 13, though the commercial operation of the Asset-A is 1.7.2012, tariff has been considered from 1.9.2012. However, the useful life of the Asset-A will start from 1.7.2012. Accordingly assets 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 the 2009 Tariff Regulations.

58. Details of the depreciation worked out are as follows:-

(₹ in lakh)

Particulars	Asset-A		Asset-B	
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14
Opening Gross Block	1242.41	2381.54	269.65	369.65
Additional Capital Expenditure	1139.13	-	100.00	192.62
Closing Gross Block	2381.54	2381.54	369.65	562.27
Average Gross Block	1811.97	2381.54	319.65	465.96
Rate of Depreciation	5.2800%	5.2800%	5.2800%	5.2800%
Depreciable Value	1713.59	2226.20	287.69	419.37
Remaining Depreciable Value	1713.59	2170.39	287.69	410.93
<b>Depreciation</b>	<b>55.81</b>	<b>125.75</b>	<b>8.44</b>	<b>24.60</b>

(₹ in lakh)

Particulars	Asset-C	Asset-D	
	(2013-14) (pro-rata)	2012-13 (pro-rata)	2013-14
Opening Gross Block	295.11	643.23	758.25
Additional Capital Expenditure	109.47	115.02	340.00
Closing Gross Block	404.58	758.25	1098.25
Average Gross Block	349.84	700.74	928.25
Rate of Depreciation	5.2800%	5.2800%	5.2800%
Depreciable Value	314.86	630.67	835.42
Remaining Depreciable Value	314.86	630.67	832.34
<b>Depreciation</b>	<b>10.78</b>	<b>3.08</b>	<b>49.01</b>

Particulars	(₹ in lakh)	
	Asset-E 2013-14 (pro-rata)	Asset-F 2013-14
Opening Gross Block	333.13	765.77
Additional Capital Expenditure	283.81	322.50
Closing Gross Block	616.94	1088.27
Average Gross Block	475.03	927.02
Rate of Depreciation	5.2800%	5.2800%
Depreciable Value	427.53	834.32
Remaining Depreciable Value	427.53	834.32
<b>Depreciation</b>	<b>20.90</b>	<b>48.95</b>

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

59. The petitioner has not claimed O&M expenses for the assets filed in the instant petition as they are Spare ICTs at various sub-stations of Eastern Region.

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

61. While specifying the norms for the O & M Expenses, the Commission has in the 2009 Tariff Regulations, given effect to impact of pay revision by factoring 50% on account of pay revision of the employees of PSUs after



extensive consultations with the stakeholders, as one time compensation for employee cost. We do not see any reason why the admissible amount is inadequate to meet the requirement of the employee cost. In this order, we have not allowed O&M Expenses as the petitioner has not made any claim for the instant assets being spare ICTs and in any case the O&M Expenses are allowable as per the existing norms.

### **Interest on working capital**

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

#### **(i) Receivables**

As per Regulation 18(1) (c) (i) of the 2009 Tariff Regulations, receivables will be equivalent to two months' 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) Rate of interest on working capital**

In accordance with clause (3) of Regulation 18 of the 2009 Tariff Regulations, as amended, rate of interest on working capital shall be on normative basis and in case of transmission assets declared under commercial operation after 1.4.2009 shall be equal to State Bank of India Base Rate as applicable on 1<sup>st</sup> April of the year of commercial

operation plus 350 bps. State Bank of India base interest rate on 1.4.2012 was 10.00%. Therefore, interest rate of 13.50% has been considered in respect of Asset-A, Asset-B & Asset-D (Base rate as on 1.4.2012 plus 350 basis points) and 13.20% in respect of Asset-C, Asset-E, & Asset-F (Base rate of 9.70% as on 1.4.2013 plus 350 basis points)

63. Necessary computations in support of interest on working capital are as follows:-

(₹ in lakh)

Particulars	Asset-A		Asset-B		Asset-C
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14	2013-14 (pro-rata)
Maintenance Spares	-	-	-	-	-
O & M expenses	-	-	-	-	-
Receivables	52.18	67.29	9.22	13.20	9.86
<b>Total</b>	<b>52.18</b>	<b>67.29</b>	<b>9.22</b>	<b>13.20</b>	<b>9.86</b>
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.20%
<b>Interest</b>	<b>4.11</b>	<b>9.08</b>	<b>0.62</b>	<b>1.78</b>	<b>0.76</b>

(₹ in lakh)

Particulars	Asset-D		Asset-E	Asset-F
	2012-13 (pro-rata)	2013-14	2013-14 (pro-rata)	2013-14
Maintenance Spares	-	-	-	-
O & M expenses	-	-	-	-
Receivables	20.04	26.10	13.60	26.49
<b>Total</b>	<b>20.04</b>	<b>26.10</b>	<b>13.60</b>	<b>26.49</b>
Rate of Interest	13.50%	13.50%	13.20%	13.20%
<b>Interest</b>	<b>0.23</b>	<b>3.52</b>	<b>1.50</b>	<b>3.50</b>

### Transmission charges

64. The transmission charges being allowed for the transmission assets are summarized overleaf:-

(₹ in lakh)

Particulars	Asset-A		Asset-B	
	2012-13 (pro-rata)	2013-14	2012-13 (pro-rata)	2013-14
Depreciation	55.81	125.75	8.44	24.60
Interest on Loan	67.30	144.00	10.21	28.40
Return on equity	55.43	124.89	8.38	24.44
Interest on Working Capital	4.11	9.08	0.62	1.78
O & M Expenses	-	-	-	-
<b>Total</b>	<b>182.65</b>	<b>403.72</b>	<b>27.65</b>	<b>79.23</b>

(₹ in lakh)

Particulars	Asset-C	Asset-D		Asset-E	Asset-F
	2013-14 (pro-rata)	2012-13 (pro-rata)	2013-14	2013-14 (pro-rata)	2013-14
Depreciation	10.78	3.08	49.01	20.90	48.95
Interest on Loan	12.27	3.65	55.39	24.83	57.90
Return on equity	10.70	3.06	48.68	20.76	48.62
Interest on Working Capital	0.76	0.23	3.52	1.50	3.50
O & M Expenses	-	-	-	-	-
<b>Total</b>	<b>34.50</b>	<b>10.02</b>	<b>156.60</b>	<b>67.99</b>	<b>158.96</b>

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

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

### **Licence Fee**

66. The petitioner has submitted that in O&M norms for tariff block 2009-14 the cost associated with license fees had not been captured and the license fee may be allowed to be recovered separately from the respondents. The

petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 42 A (1) (b) of the 2009 Tariff Regulations.

### **Service Tax**

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

### **Sharing of Transmission Charges**

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

69. This order disposes of Petition No. 43/TT/2013.

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

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

sd/-  
**(Gireesh B. Pradhan)**  
**Chairperson**

**Annexure-1**

(₹ in lakh)

<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN</b>			
	<b>Details of Loan</b>	<b>2012-13</b>	<b>2013-14</b>
1	<b>BOND XL (ADDCAP) (9.30%)</b>		
	Gross loan opening	<b>0.00</b>	<b>934.09</b>
	Cumulative Repayment upto DOCO/previous year	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	0.00	934.09
	Additions during the year	934.09	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	934.09	934.09
	Average Loan	467.05	934.09
	Rate of Interest	9.30%	9.30%
	Interest	43.44	86.87
	Rep Schedule	12 Annual installment from 28.6.2016	
	<b>Total Loan</b>		
	Gross loan opening	0.00	934.09
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	934.09
	Additions during the year	934.09	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	934.09	934.09
	Average Loan	467.05	934.09
	Rate of Interest	<b>9.3000%</b>	<b>9.3000%</b>
	<b>Interest</b>	<b>43.44</b>	<b>86.87</b>

**Annexure-2**

(₹ in lakh)

<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN</b>			
	<b>Details of Loan</b>	<b>2012-13</b>	<b>2013-14</b>
<b>1</b>	<b>BOND XL (9.30%)</b>		
	Gross loan opening	210.64	<b>210.64</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>
	Net Loan-Opening	210.64	210.64
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	210.64	210.64
	Average Loan	210.64	210.64
	Rate of Interest	9.30%	9.30%
	Interest	19.59	19.59
	Rep Schedule	12 annual installments from 28.06.2016	
<b>2</b>	<b>Bond XXXVIII</b>		
	Gross loan opening	1.10	<b>1.10</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>
	Net Loan-Opening	1.10	1.10
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	1.10	1.10
	Average Loan	1.10	1.10
	Rate of Interest	9.25%	9.25%
	Interest	0.10	0.10
	Rep Schedule	Bullet Payment as on 09.03.2027	
	<b>Total Loan</b>		
	Gross loan opening	211.74	211.74
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	211.74	211.74
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	211.74	211.74
	Average Loan	211.74	211.74
	Rate of Interest	<b>9.2997%</b>	<b>9.2997%</b>
	<b>Interest</b>	<b>19.69</b>	<b>19.69</b>

**Annexure-3**

(₹ in lakh)

<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN</b>		
	<b>Details of Loan</b>	<b>2013-14</b>
<b>1</b>	<b>Bond XXXVIII</b>	
	Gross loan opening	63.63
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	63.63
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	63.63
	Average Loan	63.63
	Rate of Interest	9.25%
	Interest	5.89
	Rep Schedule	Bullet Payment as on 09.03.2027
<b>2</b>	<b>Bond XLII</b>	
	Gross loan opening	147.42
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	147.42
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	147.42
	Average Loan	147.42
	Rate of Interest	8.80%
	Interest	12.97
	Rep Schedule	Bullet Payment as on 13.03.2023
<b>3</b>	<b>Bond XLIII (Add Cap 2013-2014 Drawl 31.03.2014)</b>	
	Gross loan opening	0.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	76.63
	Repayment during the year	0.00
	Net Loan-Closing	76.63
	Average Loan	38.32
	Rate of Interest	7.93%
	Interest	3.04
	Rep Schedule	12 annual installments from 20.05.2017
	<b>Total Loan</b>	
	Gross loan opening	211.05
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	211.05
	Additions during the year	76.63
	Repayment during the year	0.00
	Net Loan-Closing	287.68

	Average Loan	249.37
	Rate of Interest	<b>8.7811%</b>
	<b>Interest</b>	<b>21.90</b>



**Annexure-4**

(₹ in lakh)

<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN</b>			
	<b>Details of Loan</b>	<b>2012-13</b>	<b>2013-14</b>
<b>1</b>	<b>Bond XXXVIII</b>		
	Gross loan opening	118.90	118.90
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	118.90	118.90
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	118.90	118.90
	Average Loan	118.90	118.90
	Rate of Interest	9.25%	9.25%
	Interest	11.00	11.00
	Rep Schedule	Bullet Payment as on 09.03.2027	
<b>2</b>	<b>Bond XLII</b>		
	Gross loan opening	0.00	308.54
	Cumulative Repayment upto DOCO/previous year	0.00	0.00
	Net Loan-Opening	0.00	308.54
	Additions during the year	308.54	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	308.54	308.54
	Average Loan	154.27	308.54
	Rate of Interest	8.80%	8.80%
	Interest	13.58	27.15
	Rep Schedule	Bullet Payment as on 13.3.2023	
<b>3</b>	<b>BOND XLI</b>		
	Gross loan opening	30.00	<b>30.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>
	Net Loan-Opening	30.00	30.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	30.00	30.00
	Average Loan	30.00	30.00
	Rate of Interest	8.85%	8.85%
	Interest	2.66	2.66
	Rep Schedule	12 Annual installments from 19.10.2016	
<b>4</b>	<b>Bond XLII (ADDCAP for 2012-13 drawl on 31.03.2013)</b>		
	Gross loan opening	0.00	<b>80.51</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>
	Net Loan-Opening	0.00	80.51
	Additions during the year	80.51	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	80.51	80.51
	Average Loan	40.26	80.51
	Rate of Interest	8.80%	8.80%
	Interest	3.54	7.08

Rep Schedule	Bullet Payment as on 13.3.2023	
<b>Total Loan</b>		
Gross loan opening	148.90	537.95
Cumulative Repayment upto DOCO/previous year	0.00	0.00
Net Loan-Opening	148.90	537.95
Additions during the year	389.05	0.00
Repayment during the year	0.00	0.00
Net Loan-Closing	537.95	537.95
Average Loan	343.43	537.95
<b>Weighted Average Rate of Interest</b>	<b>8.9602%</b>	<b>8.9022%</b>
<b>Interest</b>	<b>30.77</b>	<b>47.89</b>

**Annexure-5**

(₹ in lakh)

<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN</b>		
	<b>Details of Loan</b>	<b>2013-14</b>
<b>1</b>	<b>Bond XXXVIII</b>	
	Gross loan opening	63.73
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	63.73
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	63.73
	Average Loan	63.73
	Rate of Interest	9.25%
	Interest	5.90
	Rep Schedule	Bullet Payment as on 09.03.2027
<b>2</b>	<b>Bond XL</b>	
	Gross loan opening	1.60
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	1.60
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	1.60
	Average Loan	1.60
	Rate of Interest	9.30%
	Interest	0.15
	Rep Schedule	12 annual installments from 28.06.2016
	<b>Total Loan</b>	
	Gross loan opening	65.33
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	65.33
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	65.33
	Average Loan	65.33
	Rate of Interest	<b>9.2512%</b>
	<b>Interest</b>	<b>6.04</b>

**Annexure-6**

(₹ in lakh)

<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN</b>		
	<b>Details of Loan</b>	<b>2013-14</b>
<b>1</b>	<b>Bond XXXVIII</b>	
	Gross loan opening	118.90
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	118.90
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	118.90
	Average Loan	118.90
	Rate of Interest	9.25%
	Interest	11.00
	Rep Schedule	Bullet Payment as on 09.03.2027
<b>2</b>	<b>Bond XL</b>	
	Gross loan opening	100.00
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	100.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	100.00
	Average Loan	100.00
	Rate of Interest	9.30%
	Interest	9.30
	Rep Schedule	12 annual installments from 28.06.2016
	<b>Total Loan</b>	
	Gross loan opening	218.90
	Cumulative Repayment upto DOCO/previous year	0.00
	Net Loan-Opening	218.90
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	218.90
	Average Loan	218.90
	Rate of Interest	<b>9.2728%</b>
	<b>Interest</b>	<b>20.30</b>