

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 258/TT/2015**

**Coram:**

**Shri A.S. Bakshi, Member  
Dr. M.K. Iyer, Member**

**Date of Hearing : 29.04.2016  
Date of Order : 26.05.2016**

**In the matter of:**

Determination of transmission tariff for 2014-19 for LILO-I of Siliguri - Purnea 400 kV D/C line at new pooling station Kishanganj and associated bays at Kishanganj, LILO-II of Siliguri - Purnea 400 kV D/C line at new pooling station Kishanganj and associated bays at Kishanganj, LILO-I of Siliguri - Dalkhola 220 kV D/C line at new pooling station Kishanganj and associated bays at Kishanganj, LILO-II of Siliguri - Dalkhola 220 kV D/C line at new pooling station Kishanganj and associated bays at Kishanganj, 500 MVA, 400/220/33 kV ICT II along with associated bays at Kisanganj Substation, 125 MVAR Bus reactor I at Kisanganj Substation, 500 MVA, 400/220/33 kV ICT I along with associated bays at Kisanganj Substation, 125 MVAR Bus reactor II at Kisanganj Substation under "Transmission System for "Transfer of Power from Generation Projects in Sikkim to NR/WR Part-A" in Eastern Region" for the 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

**And in the matter of:**

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

.....**Petitioner**

**Versus**

1. Gati Infrastructure Chuzachen Ltd.  
1-7-293, MG Road, 268 Udyog Vihar, Phase-IV,  
Secunderabad, Andhra Pradesh – 500003
2. Gati Infrastructure Bhamsay Power Ltd.  
268, Udyog Vihar Phase IV,  
Gurgaon 122 016.



3. PTC India Ltd.  
2nd Floor, NBCC Tower  
15, Bhikaji Cama Palace,  
New Delhi
4. Lanco Energy Pvt. Ltd.  
Plot No. 397, Phase-III, 2<sup>nd</sup> Floor,  
Udyog Vihar, Gurgaon,  
Haryana- 120016
5. Dans Energy Private Ltd.  
5<sup>th</sup> Floor, DLF Building No. 8, Tower C,  
DLF Cyber City Phase- II  
Gurgaon, Haryana- 122002
6. JAL Power Corporation Ltd,  
405-406, Raja House, 30-31,  
Nehru Place, New Delhi- 110019
7. Madhya Bharat Power Corporation Ltd.  
Nh-31-A, Golitar, Singtam,  
Gangtok -737 134, Sikkim
8. Bihar State Power (Holding) Company Ltd  
(Formerly Bihar State Electricity Board -BSEB)  
Vidyut Bhavan, Bailey Road, Patna — 800 001
9. West Bengal State Electricity Distribution Company  
Bidyut Bhawan, Bidhan Nagar  
Block DJ, Sector-II, Salt lake city  
Calcutta - 700 091
10. Grid Corporation of Orissa Ltd.  
Shahid Nagar, Bhubaneswar - 751 007
11. Damodar Valley Corporation  
DVC Tower, Maniktala  
Civic Centre, VIP Road, Calcutta - 700 054
12. Power Department  
Govt. Of Sikkim, Gangtok - 737 101
13. Jharkhand State Electricity Board  
In front of Main Secretariat  
Doranda, Ranchi - 834002

....Respondents



The following were present:-

For Petitioner: Shri S. S. Raju, PGCIL  
Shri M. M. Mondal, PGCIL  
Shri Rakesh Prasad, PGCIL  
Shri Pankaj Sharma, PGCIL

For Respondent: Shri Jatinder Singh, Lanco Teesta Hydro Power Pvt Ltd.  
Shri Amit Bannerjee, Lanco Teesta Hydro Power Pvt Ltd.

### **ORDER**

The present petition has been filed by Power Grid Corporation of India Ltd. ("the petitioner") for determination of tariff for LILO-I of Siliguri - Purnea 400 kV D/C line at new pooling station Kishanganj and associated bays at Kishanganj, LILO-II of Siliguri - Purnea 400 kV D/C line at new pooling station Kishanganj and associated bays at Kishanganj, LILO-I of Siliguri - Dalkhola 220 kV D/C line at new pooling station Kishanganj and associated bays at Kishanganj, LILO-II of Siliguri - Dalkhola 220 kV D/C line at new pooling station Kishanganj and associated bays at Kishanganj, 500 MVA, 400/220/33 kV ICT II along with associated bays at Kishanganj Substation, 125 MVAR Bus reactor I at Kishanganj Substation, 500 MVA, 400/220/33 kV ICT I along with associated bays at Kishanganj Substation, 125 MVAR Bus reactor II at Kishanganj Substation under "Transmission System for "Transfer of Power from Generation Projects in Sikkim to NR/WR Part-A" in Eastern Region" under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter



referred to as “the 2014 Tariff Regulations”) for the period from date of commercial operation to 31.3.2019.

2. The respondents are distribution licensees or electricity departments or power procurement companies of States, who are procuring transmission service from the petitioner, mainly beneficiaries of Eastern Region.

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

(a) The administrative approval and expenditure sanction to the transmission project was accorded by the Board of Directors of the petitioner company vide C/CP/Sikkim Generation project Part A dated 25.5.2010 for ₹25003 lakh including an IDC of ₹1903 lakh based on 3<sup>rd</sup> Quarter, 2010 price level, and Regulatory approval vide CERC Order No. 233/2009 (part of 9 HCPTCs). The total apportioned approved cost for the instant assets was ₹16727.68 lakh. The Revised Cost Estimate (RCE) for the subject project based on the revised scope has been approved vide Memorandum dated 11.3.2016, C/CP/RCE- Sikkim Generation Project Part A by the Board of Directors of the petitioner company in its 326<sup>th</sup> meeting held on 9.3.2016. The Revised cost of the project is ₹39051 lakh including IDC of ₹3088 lakh at August 2015 price level.

(b) Initially the scope of work covered under “Transmission system for transfer of power from generation projects in Sikkim to NR/WR Part-A in Eastern Region” was as follows:-



**Transmission lines:**

- LILO of Siliguri(existing)– Purnea 400 kV D/c line(quad) at new pooling station Kishanganj
- LILO of Siliguri(existing)–Purnea 400 kV D/c line(on which reconductoring is being carried out) at Kishanganj with Quad conductor
- LILO of Siliguri – Dalkhola 220 kV D/c line at new pooling station Kishanganj
- LILO of Gangtok-Melli 132 kV S/c line upto Rangpo, where Chuzachen-Rangpo 132 kV D/c would be connected so as to form Chuzachen-Gangtok and Chuzachen-Melli 132 kV S/c lines. [This would be a temporary arrangement till establishment of Rangpo pooling substation under Part-B of the scheme and termination of Gangtok-Rangpo, Melli-Rangpo and Chuzachen-Rangpo 132 kV lines at Rangpo]

**Substations:**

- Establishment of new 2x315 MVA 400/220 kV GIS substation at Kishanganj

(c) Subsequently, the scope of work covered under “Transmission system for transfer of power from generation projects in Sikkim to NR/WR Part-A in Eastern Region” has been revised as follows:-

**Transmission lines:**

- LILO of Siliguri(existing)– Purnea 400 kV D/C line(quad) at new pooling station Kishanganj
- LILO of Siliguri – Dalkhola 220 kV D/C line at new pooling station Kishanganj

**Substations:**

- New 2x500 MVA 400/220/33 kV GIS substation at Kishanganj



4. Initially the petitioner had claimed vide affidavit dated 29.10.2015, the transmission charges for all the assets based on anticipated COD. Subsequently, the petitioner has submitted vide affidavit dated 17.5.2016 the following details with respect to the assets covered in the instant petition:-

Name of Asset (as filed in the petition dated 29.10.2015)	COD (as filed in petition dated 29.10.2015)	Name of Asset (in final revised submission)	COD (current status)
<b>Asset I:</b> LILO-I of Siliguri - Purnea 400 kV D/C line at new pooling station Kishanganj and associated bays at Kishanganj	1.1.2016 (Anticipated)	<b>Asset-1:</b> LILO of both circuit of Siliguri-Purnea 400 kV D/C line along with associated 400 kV Bays and LILO of both circuit of Siliguri Dhalkhola 220 kV D/C line along with 220 kV associated bays at Kishanganj (GIS), 400/220 kV 500 MVA ICT-II with associated bays at Kishanganj (GIS), 400 kV 125 MVAR Bus reactor I with associated bays at Kishanganj (GIS)	18.3.2016  (actual)
<b>Asset II:</b> LILO-II of Siliguri - Purnea 400 kV D/C line at new pooling station Kishanganj and associated bays at Kishanganj	1.1.2016 (Anticipated)		
<b>Asset III:</b> LILO-I of Siliguri - Dalkhola 220 kV D/C line at new pooling station Kishanganj and associated bays at Kishanganj	1.1.2016 (Anticipated)		
<b>Asset IV:</b> LILO-II of Siliguri - Dalkhola 220 kV D/C line at new pooling station Kishanganj and associated bays at Kishanganj	1.1.2016 (Anticipated)		
<b>Asset V:</b> 500 MVA 400/220 kV ICT II along with associated bays at Kishanganj Substation	1.1.2016 (Anticipated)		
<b>Asset VI:</b> 125 MVAR Bus Reactor I along with associated bays at Kishanganj Substation	1.1.2016 (Anticipated)		



Name of Asset (as filed in the petition dated 29.10.2015)	COD (as filed in petition dated 29.10.2015)	Name of Asset (in final revised submission)	COD (current status)
<b>Asset VII:</b> 500 MVA 400/220 kV ICT I along with associated bays at Kishanganj Substation	1.3.2016 (Anticipated)	<b>Asset 2:</b> 500 MVA, 400/220/33 kV ICT-I along with associated bays; 400 kV 125 MVAr Bus Reactor II at Kishanganj S/S	15.6.2016 (Anticipated)
<b>Asset VIII:</b> 125 MVAR Bus Reactor II along with associated bays at Kishanganj Substation	1.4.2016 (Anticipated)		

Thus, based on the submission vide affidavit dated 17.5.2016, all the assets as per the revised scope of works of the subject project are being covered in the instant petition.

5. The petitioner has submitted the actual COD, IDC on cash basis, Auditor Certificates and tariff forms vide affidavit dated 17.5.2016. The capital cost claimed by the petitioner, as certified vide Auditor's Certificate dated 29.4.2016 and 6.5.2016 for Asset I and dated 16.5.2016 for Asset II along with the estimated additional capital expenditure during 2014-19 tariff period, is as below :

(₹ in lakh)

Asset	FR Apportioned approved cost	Apportioned approved cost as per RCE	Capital Cost up to COD	Estimated Additional Capital Expenditure				Total estimated completion cost as on 31.3.2019
				2015-16	2016-17	2017-18	2018-19	
Asset I	12953.97	31377.83	23565.69	349.94	4690.47	2080.83	0.00	30686.93
Asset II	3773.41	7673.17	4901.28	0.00	898.42	609.68	288.75	6698.13



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

**Asset-I:**

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	45.75	1334.41	1489.37	1534.79
Interest on Loan	56.96	1612.25	1699.97	1628.67
Return on Equity	52.82	1552.41	1752.55	1814.06
Interest on Working Capital	4.76	135.86	147.12	149.05
O&M Expenses	21.29	584.66	603.99	624.10
<b>Total</b>	<b>181.58</b>	<b>5219.59</b>	<b>5693.00</b>	<b>5750.67</b>

**Asset-II:**

(₹ in lakh)

Particulars	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	209.66	300.14	321.89
Interest on Loan	251.56	340.33	340.52
Return on Equity	251.28	360.87	387.42
Interest on Working Capital	23.21	31.90	33.31
O&M Expenses	123.22	160.23	165.56
<b>Total</b>	<b>858.93</b>	<b>1193.47</b>	<b>1248.70</b>

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

**Asset-I:**

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O & M Expenses	47.14	48.72	50.33	52.01
Maintenance Spares	84.86	87.70	90.60	93.62
Receivables	804.15	869.93	948.83	958.45
Total	936.15	1006.35	1089.76	1104.08
Rate of Interest (%)	13.50	13.50	13.50	13.50
<b>Interest</b>	<b>4.76</b>	<b>135.86</b>	<b>147.12</b>	<b>149.05</b>





**Asset-II:****(₹ in lakh)**

<b>Particulars</b>	<b>2016-17 (pro-rata)</b>	<b>2017-18</b>	<b>2018-19</b>
O & M Expenses	12.93	13.35	13.80
Maintenance Spares	23.27	24.03	24.83
Receivables	180.20	198.91	208.12
Total	216.40	236.29	246.75
Rate of Interest (%)	13.50	13.50	13.50
<b>Interest</b>	<b>23.21</b>	<b>31.90</b>	<b>33.31</b>

7. The annual fixed charges for the instant asset were allowed under Regulation 7(7) of the 2014 Tariff Regulations for inclusion in the PoC charges vide order dated 17.12.2015 based on anticipated COD.

8. The petitioner has served the petition to the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003 ("the Act"). No comments have been received from the public in response to the notices published by the petitioner under Section 64 of the Act. The hearing in this matter was held on 29.4.2016. The Commission directed the petitioner vide the Record of Proceedings in hearing dated 29.4.2016, to submit additional information related to commissioning of assets. The petitioner has filed the rejoinder vide affidavit dated 17.5.2016 and 24.5.2016.



9. Having heard the representatives of the petitioner and respondents, and perused the material on record, we proceed to determine the tariff in accordance with the Tariff Regulations, 2014.

**Date of Commercial Operation (COD)**

10. Regulation 4(3) of the 2014 Tariff Regulations provides as follows:-

**“4. Date of Commercial Operation:** The date of commercial operation of a generating station or unit or block thereof or a transmission system or element thereof shall be determined as under:

xxx

(3) Date of commercial operation in relation to a transmission system shall mean the date declared by the transmission licensee from 0000 hour of which an element of the transmission system is in regular service after successful trial operation for transmitting electricity and communication signal from sending end to receiving end:

xxx  
xxx”

11. The petitioner, vide affidavit dated 17.5.2016, has submitted that the Transmission Asset I was put under commercial operation on 18.3.2016 and Asset II is expected to be put under commercial operation from 15.6.2016. The petitioner has submitted the RLDC trial run certificate in support of claim of commercial operation in respect of Asset I. Accordingly, the commercial operation date considered for the Asset I is 18.3.2016 and for Asset II, the commercial operation date is provisionally being considered 15.6.2016. The tariff is worked out for the instant assets from the COD to 31.3.2019.



## Capital Cost

12. The petitioner has claimed the capital cost as mentioned in Para 5 supported by Auditor's Certificate dated 29.4.2016 and 6.5.2016 for Asset I and dated 16.5.2016 for Asset II, after adjusting the interest during construction (IDC) as discharged on cash basis. The total capital cost up to 31.3.2019 includes the IDC, IEDC, capitalized spares and estimated additional capital expenditure from COD to 31.3.2019. The capital cost along with estimated additional capital expenditure during the 2014-19 tariff period is reproduced below:

(₹ in lakh)

Asset	Apportio ned approved cost as per RCE	Capital Cost up to COD	Estimated Additional Capital Expenditure				Total estimated completion cost as on 31.3.2019
			2015- 16	2016-17	2017-18	2018- 19	
Asset I	31377.83	23565.69	349.94	4690.47	2080.83	0.00	30686.93
Asset II	7673.17	4901.28	0.00	898.42	609.68	288.75	6698.13

13. Regulation 9 (1) and (2) and 10 (1) of the 2014 Tariff Regulations specify as follows:-

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

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

- a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;
- b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;
- c) Increase in cost in contract packages as approved by the Commission;
- d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;



- e) capitalised Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;
- f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations;
- g) adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and
- h) adjustment of any revenue earned by the transmission licensee by using the assets before COD.”

**“10. Prudence Check of Capital Expenditure:** The following principles shall be adopted for prudence check of capital cost of the existing or new projects:

(1) In case of the thermal generating station and the transmission system, prudence check of capital cost may be carried out taking into consideration the benchmark norms specified/to be specified by the Commission from time to time: Provided that in cases where benchmark norms have not been specified, prudence check may include scrutiny of the capital expenditure, financing plan, interest during construction, incidental expenditure during construction for its reasonableness, use of efficient technology, cost over-run and time over-run, competitive bidding for procurement and such other matters as may be considered appropriate by the Commission for determination of tariff.”

14. The admissible capital cost of the transmission asset as on COD is worked out in the subsequent paragraphs taking into consideration the initial spares and IEDC and IDC amount.

### **Cost over-run**

15. As per the initial petition submitted vide affidavit dated 29.10.2015, the total apportioned approved cost for the instant assets was ₹16727.68 lakh. Subsequently, the Revised Cost Estimate (RCE) for the subject project based on the revised scope has been approved vide Memorandum dated 11.3.2016, by the Board of Directors of the petitioner company in its 326<sup>th</sup> meeting. The revised apportioned approved costs of Asset I and Asset II are ₹31377.83 lakh and ₹7673.17 lakh respectively.



16. It is observed that the total estimated completion cost of Asset I and Asset II is ₹30686.93 lakh and ₹6698.13 lakh respectively. Thus, there is no cost overrun in the instant assets.

17. The petitioner has submitted reasons for cost variation in few elements with respect to the original FR cost. The cost variation is mainly attributed to change in the scope of the project due to non-availability of land as per original configuration i.e. construction of 2x500 MVA GIS substation in place of AIS substation at Kishanganj. The cost of GIS substation is more than a similar size AIS substation due to higher technology cost and costly components. Thus, there is increase of almost ₹2500 lakh due to change in layout/scope. Further, due to change in location of the sub-station, the route alignment of LILCO circuits has changed due to which 4 nos. of pile foundation and 9 nos. of multi circuit towers (due to land problem) had to be constructed which were not considered in FR leading to cost over run on this account. For procurement of any goods/ services, open competitive bidding route is followed by the petitioner and by providing equal opportunity to all eligible firms, lowest possible market prices for required product/services are obtained and contracts are awarded on the basis of lowest evaluated eligible bidder. The best competitive bid prices against tenders may happen to be lower or higher than the cost estimate depending upon prevailing market condition on which petitioner has no control whatsoever. In view of the aforesaid reasons and the RCE submitted by the petitioner, the Commission approves the cost variations.



### **Time over-run**

18. As per the investment approval, the commissioning schedule of the project is 32 months from the date of investment approval. The investment approval was accorded on 28.5.2010 and hence the schedule date of commercial operation was 27.1.2013. The actual COD for Asset I is 18.3.2016 and the Asset II is expected to be commissioned by 15.6.2016. Hence, there is time over-run of 1146 days in Asset I and expected time overrun of 1235 days in Asset II. The petitioner has submitted following reasons for time overrun:-

### **Finalization of the scope of Kishanganj Sub-station:**

19. The petitioner has submitted that the “Transmission System for Transfer of Power from Generation Projects in Sikkim to NR/WR Part-A in Eastern Region” was approved in the Standing Committee Meeting (SCM) on power System planning of Eastern Region (ER) on 14.9.2009. Subsequently, the Investment Approval was accorded on 28.5.2010 by the Board of Directors for execution of 2x315MVA 400/220/33 kV Kishanganj Sub-station along with LILO lines. In the SCM on power system planning of ER dated 28.12.2010, it was agreed to change the nomenclature of location of the substation from Kishanganj, Bihar to Karandighi, West Bengal. It is relevant to mention here that Kishanganj (Bihar) & Karandighi (West Bengal) are located near to each other just across the north-west border of Bihar & West Bengal.



20. The petitioner has submitted that even after the persistent efforts and constant persuasion by the petitioner with local administration of West Bengal Government/ERPC/SCM, etc. for three years (i.e. from date of approval in SCM on 14.9.2009 till ratification of revised scope by CEA on 13.9.2012), the land for substation could not be acquired near Karandighi in West Bengal. Since, no development on this front was observed, subsequently, the matter was taken up again by the petitioner at various competent forums and as a result, it was agreed in principle for locating the substation as GIS substation back at Kishanganj in Bihar. The same was discussed, agreed and ratified by CEA vide notification/MoM dated 13.9.2012, in the SCM held on 5.1.2013 and subsequently also in TCC / ERPC held on 26/27<sup>th</sup> April 2013.

21. Thereafter, the land acquisition process was started by the petitioner for approximately 28 acres near village Kutti and Barmasia in Kishanganj District of Bihar. With expeditious follow up & efforts of the petitioner officials with district administration, the possession of land was obtained within one year (i.e. requisition for land: 15.10.2012 & possession of land: 13.9.2013).

22. Further, in the SCM dated 5.1.2013, the modification in scope of substation from AIS to GIS was also finalised and agreed by the members. This was subsequently also approved in the TCC/ERPC held on 26/27<sup>th</sup> April 2013. In the 27<sup>th</sup> ERPC meeting held on 30/31<sup>st</sup> May 2014, the scope regarding ICTs was



discussed while in 28<sup>th</sup> ERPC meeting held on 12/13<sup>th</sup> Sept. 2014, the scope was changed from 2X315MVA 400/220kV ICTs to 2X500MVA 400/220kV ICTs.

23. The petitioner has requested that in view of above grounds the Commission may consider April 2013 as the date of finalisation of broad scope at Kishenganj Sub-station and further May 2014 as the date of finalisation of specifics and technical scope at Kishenganj Sub-station. April 2013 may be taken as zero date for the starting of completion schedule of 32 months for the LILO lines covered under subject petition, since the finalisation of technical layout, invitation & assessment of Global bids, and award of GIS equipment, etc. could only have taken place after freezing of the scope.

24. The petitioner has further pleaded that similarly Sept. 2014 may be considered the zero date for starting of completion schedule of corresponding ICTs at Kishenganj Sub-station. Hence, with regard to delay in finalisation of scope & sub-station at Kishenganj, submission is made that the delay from initial approval of scope to finalisation of scope (i.e. from 14.9.2009 to 5.1.2013 / 26-27<sup>th</sup> April 2013) is approx. 3.5 years. The delay of the subject assets may be viewed from the reference of finalization of revised scope.

**Delay due to ROW/ obstruction by villagers in transmission lines:**

25. The petitioner has submitted that there was persistent ROW problem by the villagers / land owners at various locations of LILO lines (part of subject Asset I). There are several instances of right of way problems during construction of





transmission lines. The farmers had stopped construction work in several occasions during construction of 220 kV and 400 kV LILLO lines and Kishanganj S/S under this project. Due to this reason, lines & S/S construction activity got hampered.

26. The petitioner has submitted that the ROW issues in respect of construction of the subject LILLO lines were persistent and as such the time line cannot be specified or quantified even though its effects were always felt from time to time. The consequence of such ROW issues is time consumption in view of frequent mobilization / re-mobilization of work gang, persuasion efforts with the police / local administration, etc.

**Delay due to ROW/obstruction in transportation of ICT & Reactor at Kishenganj Sub-station:**

27. The petitioner has submitted that there was delay due to ROW issue while transporting of 500 MVA ICTs & 125 MVAR reactors at Kishenganj. Before the movement of high weight cargo across the states the prior approval of Ministry of Road Transport & Highways (MORTH) is sought. The approval of the initial route via NH-31 was granted by MORTH on 24.04.2015. However, when the 500 MVA ICT II (part of subject Asset I) reached approximately 20 kms. before Kishanganj substation on 13.6.2015 standing by road side of NH 31, a bridge over river Mahananda was encountered. In view of passing the hydro trailer having 351 tonnes of weight, the transporter applied for passing clearance over bridge on Mahananda river to PWD Kishanganj on 20.6.2015. The PWD Kishanganj

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refused to give the clearance stating that no data were available with them for old bridge for carry heavy consignment & they referred the matter to BRPNNL (Bihar Rajya Pul Nirman Nigam Ltd.). The petitioner has made effort to get permission to pass through bridge over Mahananda river from BRPNNL ,but the same was denied based on their consultant report dated 6.8.2015.

28. Subsequently, alternate route survey was done on 11.9.2015 via Kishanganj-Bagdogra-ThakurGanj-Bahadurganj-Baramasiya. After this survey for alternative transportation route & rigorous follow up with MORTH the clearance for movement was initiated on 17.9.2015 which was initially denied on 16.10.2015 but was finally accorded on 27.10.2015 after permission from respective RO (Regional Office) of the MORTH. After getting the clearance from MORTH, the vehicle started its movement in mid of November 2015. But It was stuck up for 2 weeks in road jam near Naxalbari due to Madheshi movement in Nepal and finally ICT II reached Kishenganj substation in first week of December 2015. Hence, there was delay of around 6 months (i.e. from June 2015 to Dec. 2015) in transporting the said ICT to Kishenganj Sub-station from the nearby vicinity of 20 kms as mentioned above. Further, ICT's placement on foundation, erection of tank & accessories, oil filling & filtration, testing and commissioning took around 3 months. Finally ICT II was charged & loaded on 15.3.16 and COD declared on 18.3.2016.

29. The petitioner has further submitted the following reasons for the anticipated delay of over 37 months in Asset II (ICT-I & Bus Reactor-II):



- a. At times the simultaneous transportation of both the ICTs/ reactors are not possible due to various factors attributed to transportation as explained earlier. The commissioning of ICTs/ Reactors at site is done on different dates as the commissioning activities require special Tools & Plants (T & P) and expert from manufacturer. Normally at a site one set of T&P and team of testing specialists is available. So, deployment of two simultaneous gangs and expert from manufacturer would require additional cost. Therefore commissioning of ICTs is done one after other.
  
- b. Further, the transformer is 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 delay is attributed to such unwanted problems found in testing at site which may require rectification for one ICT whereas in other it may not be required.
  
- c. The petitioner has requested that based on the above unforeseen delay reasons, the Commission may condone the delay in completion of subject assets on merit of the same being out of the control of petitioner in line with CERC Regulations'2014 12(2)(i) "uncontrollable factors".



30. We have considered the submissions of the petitioner with respect to the time overrun. The views of the Commission corresponding to each reasons are as below:

31. First issue is Change in the scope of Kishanganj Sub-station. In the SCM on power system planning, it was agreed to change the location of sub-station from Kishanganj, Bihar to Karandighi, West Bengal. The petitioner has submitted letter dated 31.8.2012 to CEA for consideration of change of sub-station to GIS from AIS. In response to that letter the petitioner has also submitted letter from CEA having in-principle approval for establishment of 400kV GIS at Kishanganj in Bihar instead of AIS at Karandighi in West Bengal. Further, the petitioner has also submitted letter written to DM, Kishanganj for land acquisition dated 15.10.2012. The petitioner has submitted reply of letter from Collector, Kishanganj dated 5.12.2012 with regard to compensation amount to the petitioner, letter from Revenue Department, Government of Bihar dated 24.1.2013, letter dated 12.2.2013 from CEA regarding summary record of discussions of the first 2013 SCM on power system planning in Eastern Region held on 5.1.2013 at PGCIL, Gurgaon and letter from Additional Collector, Kishanganj dated 13.7.2013 regarding submission of compensation amount for land acquisition.

31. The scope of works undertaken in the instant project have been modified after deliberations and discussions in the SCM held on 28.1.2010, 28.12.2010, 5.1.2013, 30.5.2014, and 31.5.2014, 28<sup>th</sup> TCC and ERPC meetings held on

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12.9.2014, 13.9.2014, communication with CEA vide letter dated 31.8.2012 and 10.9.2012. Further, It is evident from the last letter dated 13.7.2013 regarding demand of compensation amount from Additional Collector, Kishanganj for land acquisition that issue was resolved by July,2013. However the petitioner has submitted that issue was resolved in September, 2013. The petitioner has not submitted the receipt/certificate depicting acquisition of land in September.

32. Having perused the available documents, we are of the view that subsequent to change in scope, land acquisition at Kishanganj was completed in July, 2013. Hence delay with regard to change in scope and land acquisition from 28.5.2010 to 13.7.2013 is not attributable to the petitioner. This delay is to the tune of 1142 days.

33. There is a delay due to ROW/ obstruction by villagers in transmission lines. The petitioner has submitted the chronology of events enlisting reasons corresponding to ROW/obstruction by villagers in the construction activities pertaining to the transmission lines. The petitioner has submitted that the farmers had stopped construction work in several occasions during construction of 220 kV and 400 kV LILO lines and Kishanganj S/S under this project. Due to this reason, line & S/S construction activity got hampered. The chronology/tabulation of events/correspondences can be summarised as below:

<b>Date</b>	<b>Correspondence / Remarks</b>
31.1.2015	Work stopped & labourer assaulted at Village Belwa, Chaklaghat during TL construction



Date	Correspondence / Remarks
4.2.2015	
5.2.2015	Letter dated 5.2.2015 from the petitioner to officer incharge, Police station, kishenganj, requesting the police intervention for supporting TL construction work at Belwa Village.
11.2.2015	Work stopped & laborer assaulted at Village Baramashiya, Kochadhaman during TL construction
14.2.2015	Letter dated 14.2.2015 from the petitioner to Officer Incharge, Police station, Kochadhaman, requesting the police intervention for supporting TL construction work.
14.2.2015	Letter dated 14.2.2015 from the petitioner to BDO, Sabhapati & Officer Incharge, Police station, Chalulia, requesting the police intervention for supporting TL construction work at Paschim pally, kishenganj.
24.2.2015	Letter dated 24.2.2015 from the petitioner to DM, Raganj, West Bengal, requesting to pass order under Telegraph Act to facilitate construction of TL works in view of ROW issue creeping in the said area.

34. The petitioner has submitted the documentary evidence in respect of above events depicting the efforts undertaken towards resolution of the same. Thus, there is delay of around 25 days due to aforesaid activities, not attributable to the petitioner.

35. The next issue is delay due to ROW/ obstruction in transportation of ICT & Reactor at Kishenganj Sub-station. As regards delay due to issues while transporting of 500 MVA ICTs & 125 MVAR reactors to Kishenganj, it is observed that the approval of the initial route via NH-31 was granted by Ministry of Road Transport and Highways (MORTH) on 24.4.2015. The letter enclosed by the petitioner towards the grant of permission by MORTH shows that no comments



had been received from R.O, NHAI or R.O, MORTH. Thus, it was assumed in the grant of permission that there is no distress bridge enroute Kishanganj. Further, field officers were directed to satisfy themselves regarding safety of the bridges on which transportation was allowed.

35. It is further observed that the transporter for the petitioner sought permission from the Executive Engineer, PWD, Kishanganj vide letter dated 20.6.2015 regarding crossing the bridge over river Mahananda. The documents submitted by the petitioner depict that the permission was denied as up to 16.10.2015. The petitioner has submitted that the permission was finally accorded on 27.10.2015. However, the petitioner has not submitted any document to support the same. Based on the available documents, the Commission is of the view that the delay from 20.6.2015 to 16.10.2015 cannot be attributed to the petitioner. This amounts to a duration of 115 days.

36. As regards Asset II (ICT-I & Bus Reactor-II), the petitioner's submission that simultaneous transportation, commissioning of both the ICTs/ reactors is not possible due to insufficient tools, specialists etc. is not a convincing reason to justify any delay towards commissioning of the same. However, it is observed that the reasons attributed to delay in commissioning of Asset I are applicable to Asset II also, as the assets are to come at the same location.



37. In view of the above deliberations, it is to conclude that the time overrun of 1142 days for change in scope and concerned land acquisition at Kishanganj towards Asset I and II, 25 days due to ROW/ obstruction by villagers during construction of 220 kV and 400 kV LILO lines in Asset I and 115 days due to transportation of ICTs in Asset I and II is being condoned.

38. The petitioner has claimed delay to the tune of 1146 days and 1235 days in Asset I and Asset II respectively. Thus, the entire time overrun is being condoned as the causes for the time overrun cannot be attributed to the petitioner. The corresponding IDC/IEDC is being capitalised.

### **Initial Spares**

39. The petitioner has claimed initial spares vide Auditor's certificate dated 29.4.2016 and 6.5.2016 for Asset I and dated 16.5.2016 for Asset II in respect of transmission line and substation based on the estimated cost up to cut-off date of 31.3.2019 .

40. Regulation 13 of the 2014 Tariff Regulations provide for ceiling norms for capitalization of initial spares. In case of GIS Sub-station it is 5.00%, and in transmission line it is 1.00% of the capital cost. Accordingly, the initial spares are allowed as specified in the 2014 Tariff Regulations and it is as under:-





(₹ in lakh)

Particulars	P &M cost up to 31.3.2019 (exc. IDC,IEDC, civil works)	Initial spares claimed	Ceiling limit as per 2014 Regulation	Initial spares allowed	Excess initial spares
<b>Asset I</b>					
Transmission Line	9910.12	56.33	1.00%	99.53	0.00
Substation	9020.68	360.83	6.00%	552.76	0.00
Substation(GIS)	3205.25	128.21	5.00%	161.95	0.00
Substation(GIS)	2185.81	87.43	5.00%	110.44	0.00
<b>Asset II</b>					
Substation(GIS)	3205.25	128.21	5.00%	161.95	0.00
Substation(GIS)	2185.81	87.43	5.00%	110.44	0.00

41. The initial spares claimed by the petitioner for instant assets are within the limits prescribed under Regulation 13 of the Tariff Regulation, 2014.

42. Thus, the capital cost on COD considered for tariff determination for Asset I and II are as below:

(₹ in lakh)

Particulars	Asset I: COD 18.3.2016	Asset II: Ant. COD 15.6.2016
Land - Freehold	597.16	205.71
Land - Leasehold	0.00	0.00
Building Civil Works & Colony	468.60	297.16
Transmission Line	10469.92	0.00
Sub Station	11770.81	4398.41
PLCC	259.20	0.00
<b>Total</b>	<b>23565.69</b>	<b>4901.28</b>

### Additional Capital Expenditure

43. The petitioner has proposed additional capitalization of ₹7121.24 lakh, and ₹1796.85 lakh during 2014-19 period for Asset I and II respectively towards



balance and retention payment under Regulation 14(1) of 2014 Tariff Regulations.

44. Clause (13) of Regulation 3 of the 2014 Tariff Regulations defines “cut-off” date as under:-

“cut-off date” means 31<sup>st</sup> March of the year closing after two years of the year of commercial operation of whole or part of the project, and in case the whole or part 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 three years of the year of commercial operation”.

Provided that the cut-off date may be extended by the Commission if it is proved on the basis of documentary evidence that the capitalisation could not be made within the cut-off date for reasons beyond the control of the project developer;”

45. The cut-off date of the transmission asset is 31.3.2019. The additional capital expenditure claimed by the petitioner is certified vide Auditor's certificate dated 29.4.2016 and 6.5.2016 for Asset I and dated 16.5.2016 for Asset II and is on account of balance and retention payments. Further, the total estimated completion cost is within the apportioned approved cost as per RCE. Thus, the additional capital expenditure is allowed under Regulation 14(1) of 2014 Tariff Regulations, subject to true up on actual basis. The additional capital expenditure approved during 2014-19 is as below:

(₹ in lakh)

Asset	Apportioned approved cost as per RCE	Capital Cost up to COD	Estimated Additional Capital Expenditure					Total estimated completion cost as on 31.3.2019
			2015-16	2016-17	2017-18	2018-19	Total	
Asset I	31377.83	23565.69	349.94	4690.47	2080.83	0.00	7121.24	30686.93
Asset II	7673.17	4901.28	0.00	898.42	609.68	288.75	1796.85	6698.13



## Debt: Equity Ratio

46. Regulation 19 (1) of the 2014 Tariff Regulations specifies as under:-

**“19. Debt-Equity Ratio:** (1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. 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:

- i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
- ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
- iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio.”

47. The petitioner has considered debt:equity ratio as 70:30 as on COD and debt:equity ratio as 70:30 for additional capitalization during 2014-19 tariff period. Accordingly, we have considered the same for the purpose of tariff computation for the 2014-19 tariff period is as follows:-

(₹ in lakh)

Funding	As on COD	(%)	Additional capital expenditure during 2014-19	(%)	As on 31.3.2019	(%)
<b>Asset-I</b>						
Debt	16495.98	70.00	4984.87	70.00	21480.85	70.00
Equity	7069.71	30.00	2136.37	30.00	9206.08	30.00
<b>Total</b>	<b>23565.69</b>	<b>100.00</b>	<b>7121.24</b>	<b>100.00</b>	<b>30686.93</b>	<b>100.00</b>
<b>Asset-II</b>						
Debt	3430.90	70.00	1257.80	70.00	4688.69	70.00
Equity	1470.38	30.00	539.06	30.00	2009.44	30.00
<b>Total</b>	<b>4901.28</b>	<b>100.00</b>	<b>1796.85</b>	<b>100.00</b>	<b>6698.13</b>	<b>100.00</b>

## Interest on Loan (“IOL”)

48. Clause (5) & (6) of Regulation 26 of the 2014 Tariff Regulations provides as under:-



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

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

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

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

49. We have considered the weighted average rate of IOL on the basis of rate prevailing as on 1.4.2014. Further, the petitioner has prayed to allow it to bill and adjust impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-19 period, if any from the respondents. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. The petitioner’s prayer to bill and adjust the impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-19 period from the respondents will be considered at the time of truing up. The details of weighted average rate of interest are placed at **Annexure-I** and the IOL has been worked out as follows:-

**Asset I:**

Particulars	(₹ in lakh)			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Gross loan opening	16495.98	16740.94	20024.27	21480.85
Cumulative Repayment upto previous year	0.00	46.63	1381.03	2870.41
Net Loan-Opening	16495.98	16694.31	18643.24	18610.45
Additions during the year	244.96	3283.33	1456.58	0.00



Repayment during the year	46.63	1334.40	1489.38	1534.80
Net Loan-Closing	16694.31	18643.24	18610.45	17075.65
Average Loan	16595.15	17668.78	18626.84	17843.05
Rate of Interest (%)	9.1201	9.1244	9.1260	9.1273
<b>Interest on Loan</b>	<b>58.05</b>	<b>1612.18</b>	<b>1699.88</b>	<b>1628.59</b>

## Asset II:

Particulars	(₹ in lakh)		
	2016-17 (pro-rata)	2017-18	2018-19
Gross loan opening	3430.90	4059.79	4486.57
Cumulative Repayment upto previous year	0.00	209.68	509.82
Net Loan-Opening	3430.90	3850.11	3976.75
Additions during the year	628.89	426.78	202.13
Repayment during the year	209.68	300.14	321.89
Net Loan-Closing	3850.11	3976.75	3856.99
Average Loan	3640.50	3913.43	3916.87
Rate of Interest (%)	8.6978	8.6963	8.6936
<b>Interest on Loan</b>	<b>251.58</b>	<b>340.32</b>	<b>340.52</b>

## Return on Equity ("ROE")

50. Clause (1) & (2) of Regulation 24 and Clause (2) of Regulation 25(2) of the 2014 Tariff Regulations specify as under:-

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

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

xxx

xxx"



**“25. Tax on Return on Equity:**

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

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

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

51. The petitioner has claimed ROE at the rate of 19.705% after grossing up the ROE of 15.5% with MAT rate as per the above said Regulation. The petitioner has further submitted that the grossed up ROE is subject to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax including the interest received from IT authorities, pertaining to the tariff period 2014-19 on actual gross income of any financial year. Any under-recovery or over-recovery of grossed up ROE after truing up shall be recovered or refunded to the beneficiaries on year to year basis.

52. The petitioner has further submitted that adjustment due to any additional tax demand including interest duly adjusted for any refund of the tax including interest received from IT authorities shall be recoverable/ adjustable after completion of income tax assessment of the financial year.

53. We have considered the submissions made by the petitioner. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on



equity. It further provides that in case the generating company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. The petitioner has submitted that MAT rate of 21.342% is applicable to the petitioner's company during 2015-16. Accordingly, the MAT rate applicable during 2015-16 has been considered for the purpose of return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. The ROE allowed for the instant transmission asset is given below:-

**Asset-I:**

(₹ in lakh)

Return on Equity	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Equity	7069.71	7174.69	8581.83	9206.08
Additions	104.98	1407.14	624.25	0.00
Closing Equity	7174.69	8581.83	9206.08	9206.08
Average Equity	7122.20	7878.26	8893.95	9206.08
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	21.342	21.342	21.342	21.342
Rate of Return on Equity (%)	19.705	19.705	19.705	19.705
Return on Equity	53.83	1552.45	1752.59	1814.10

**Asset-II:**

(₹ in lakh)

Return on Equity	2016-17 (pro-rata)	2017-18	2018-19
Opening Equity	1470.38	1739.91	1922.81
Additions	269.53	182.90	86.63
Closing Equity	1739.91	1922.81	2009.44
Average Equity	1605.15	1831.36	1966.13
Return on Equity (Base Rate) (%)	15.500	15.500	15.500
MAT Rate for respective year (%)	21.342	21.342	21.342
Rate of Return on Equity (%)	19.705	19.705	19.705
Return on Equity	251.31	360.88	387.43



## Depreciation

54. Clause (2), (5) and (6) of Regulation 27 of the 2014 Tariff Regulations provide as follows:-

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

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

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

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

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

55. Clause (67) of Regulation 3 of the 2014 Tariff Regulations defines useful life as follows:-

“(67) ‘**Useful life**’ in relation to a unit of a generating station and transmission system from the COD shall mean the following, namely:

- (a) Coal/Lignite based thermal generating station 25 years
- (b) Gas/Liquid fuel based thermal generating station 25 years
- (c) AC and DC sub-station 25 years
- (d) Gas Insulated Substation (GIS) 25 years
- (d) Hydro generating station including pumped Storage hydro generating stations 35 years
- (e) Transmission line (including HVAC & HVDC) 35 years
- (f) Communication system 15 years”





56. The weighted average useful life of the asset has been considered as 29 years for Asset I and in accordance with the above regulation. The details of the depreciation allowed are given hereunder:-

**Asset I:**

Particulars	(₹ in lakh)			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Gross block	23565.69	23915.63	28606.10	30686.93
Additional Capitalization	349.94	4690.47	2080.83	0.00
Closing Gross block	23915.63	28606.10	30686.93	30686.93
Average Gross block	23740.66	26260.87	29646.52	30686.93
Rate of Depreciation (%)	5.12	5.08	5.02	5.00
Depreciable Value	20829.15	22939.86	23876.24	23876.24
Elapsed Life of the assets at beginning of the year	29	28	27	26
Weighted Balance Useful life of the assets	0	1	2	3
Remaining Depreciable Value	20829.15	22893.24	22495.21	21005.83
Depreciation during the year	46.63	1334.40	1489.38	1534.80
Depreciation upto previous year	46.63	1381.03	2870.41	4405.20
Cumulative depreciation	23565.69	23915.63	28606.10	30686.93

**Asset II:**

Particulars	(₹ in lakh)		
	2016-17 (pro-rata)	2017-18	2018-19
Opening Gross block	4901.28	5799.70	6409.38
Additional Capitalization	898.42	609.68	288.75
Closing Gross block	5799.70	6409.38	6698.13
Average Gross block	5350.49	6104.54	6553.76
Rate of Depreciation (%)	4.93	4.92	4.91
Depreciable Value	4630.30	4904.66	5034.60
Elapsed Life of the assets at beginning of the year	25	24	23
Weighted Balance Useful life of the assets	1	2	3
Remaining Depreciable Value	4630.30	4694.98	4524.78
Depreciation during the year	209.68	300.14	321.89
Depreciation upto previous year	209.68	509.82	831.71
Cumulative depreciation	4901.28	5799.70	6409.38



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

57. The petitioner has submitted that the wage revision of the employees of the petitioner company is due during 2014-19 and actual impact of wage hike which will be effective from a future date has also not been factored in fixation of the normative O&M rate specified for the 2014-19 tariff period. The petitioner has also submitted that it will approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase.

58. We have considered the submissions of the petitioner. We would like to clarify that any application filed by the petitioner for revision of O&M Expenses on account of wage revision will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations. The O&M Expenses are allowed for the instant transmission assets as per the prevailing norms.

59. Clause 3(a) of Regulation 29 of the 2014 Tariff Regulations specify the norms for O&M Expenses for the transmission system. The total allowable O&M Expenses for the instant assets are as follows:-

#### **Asset-I:**

<b>Particulars</b>	<b>2015-16 (pro-rata)</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>400 kV GIS bay</b>				
No.	6	6	6	6
Norms (₹ lakh/bay)	53.25	55.02	56.84	58.73
Total O&M Expenses (₹ lakh)	319.50	330.12	341.04	352.38
<b>220 kV bay</b>				
No.	5	5	5	5



Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Norms (₹ lakh/bay)	43.61	45.06	46.55	48.10
Total O&M Expenses (₹ lakh)	218.05	225.30	232.75	240.50
<b>D/C bundled (4 or more sub-con.)</b>				
KMs	5.444	5.444	5.444	5.444
Norms (₹ lakh/KM)	1.097	1.133	1.171	1.21
Total O&M Expenses (₹ lakh)	5.97	6.17	6.37	6.59
<b>D/C Single Conductor</b>				
KMs	15.298	15.298	15.298	15.298
Norms (₹ lakh/KM)	0.313	0.324	0.334	0.346
Total O&M Expenses (₹ lakh)	4.79	4.96	5.11	5.29
<b>Multi Ckt Bundled with 4 or more</b>				
KMs	5.632	5.632	5.632	5.632
Norms (₹ lakh/KM)	1.925	1.989	2.055	2.123
Total O&M Expenses (₹ lakh)	10.84	11.20	11.57	11.96
<b>Multi Ckt Twin/Triple</b>				
KMs	5.222	5.222	5.222	5.222
Norms (₹ lakh/KM)	1.282	1.324	1.368	1.413
Total O&M Expenses (₹ lakh)	6.69	6.91	7.14	7.38
<b>Total O&amp;M Expenses (₹ lakh)</b>	<b>21.70</b>	<b>584.66</b>	<b>603.99</b>	<b>624.10</b>

**Asset-II:**

Particulars	2016-17 (pro-rata)	2017-18	2018-19
<b>400 kV GIS bay</b>			
No.	2	2	2
Norms (₹ lakh/bay)	55.02	56.84	58.73
Total O&M Expenses (₹ lakh)	110.04	113.68	117.46
<b>220 kV bay</b>			
No.	1	1	1
Norms (₹ lakh/bay)	45.06	46.55	48.10
Total O&M Expenses (₹ lakh)	45.06	46.55	48.10
<b>Total O&amp;M Expenses (₹ lakh)</b>	<b>123.23</b>	<b>160.23</b>	<b>165.56</b>



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

60. As per 2014 Tariff Regulations the components of the working capital and the interest thereon are discussed hereinafter:-

### **(i) Receivables**

As per Regulation 28(1) (c) (i) of the 2014 Tariff Regulations, receivables will be equivalent to two months average billing calculated on target availability level. The petitioner has claimed the receivables on the basis of 2 months transmission charges claimed in the petition. In the tariff being allowed, receivables have been worked out on the basis of 2 months transmission charges.

### **(ii) Maintenance Spares**

Regulation 28 (1) (c) (ii) of the 2014 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M Expenses from 1.4.2014. The petitioner has claimed maintenance spares for the instant asset and value of maintenance spares has accordingly been worked out as 15% of O&M Expenses.

### **(iii) O & M Expenses**

Regulation 28 (1) (c) (iii) of the 2014 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 the instant asset and value of O & M Expenses has accordingly been worked out by considering 1 month O&M Expenses.



**(iv) Rate of interest on working capital**

Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later. Further, the Bank Rate' means the base rate of interest as specified by the State Bank of India from time to time or any replacement thereof for the time being in effect plus 350 basis points. The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points).

61. The interest on working capital allowed is shown in the table below:-

**Asset-I:**

(₹ in lakh)

<b>Interest on Working Capital</b>	<b>2015-16 (pro-rata)</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
O & M expenses	47.15	48.72	50.33	52.01
Maintenance Spares	84.88	87.70	90.60	93.61
Receivables	804.13	869.92	948.83	958.44
Total	936.16	1006.34	1089.76	1104.06
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on Working Capital	4.85	135.86	147.12	149.05



**Asset-II:**

(₹ in lakh)

Interest on Working Capital	2016-17 (pro-rata)	2017-18	2018-19
O & M expenses	12.93	13.35	13.80
Maintenance Spares	23.27	24.03	24.83
Receivables	180.19	198.91	208.12
Total	216.38	236.30	246.75
Rate of Interest (%)	13.50	13.50	13.50
Interest on Working Capital	23.21	31.90	33.31

**Annual Transmission Charges**

62. The detailed computation of the various components of the annual fixed charges for the transmission asset for the tariff period 2014-19 is summarised below:-

**Asset I:**

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
<b>Depreciation</b>				
Opening Gross Block	23565.69	23915.63	28606.10	30686.93
Additional Capitalisation	349.94	4690.47	2080.83	0.00
Closing Gross Block	23915.63	28606.10	30686.93	30686.93
Average Gross Block	23740.66	26260.87	29646.52	30686.93
Rate of Depreciation	5.12	5.08	5.02	5.00
Depreciable Value	20829.15	22939.86	23876.24	23876.24
Balance Useful life of the asset	29	28	27	26
Elapsed Life	0	1	2	3
Remaining Depreciable Value	20829.15	22893.24	22495.21	21005.83
Depreciation	46.63	1334.40	1489.38	1534.80
Cumulative depreciation	46.63	1381.03	2870.41	4405.20
<b>Interest on Loan</b>				
Gross Normative Loan	16495.98	16740.94	20024.27	21480.85
Cumulative Repayment upto Previous Year	0.00	46.63	1381.03	2870.41
Net Loan-Opening	16495.98	16694.31	18643.24	18610.45
Additions	244.96	3283.33	1456.58	0.00
Repayment during the year	46.63	1334.40	1489.38	1534.80



<b>Particulars</b>	<b>2015-16 (pro-rata)</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Net Loan-Closing	16694.31	18643.24	18610.45	17075.65
Average Loan	16595.15	17668.78	18626.84	17843.05
Weighted Average Rate of Interest on Loan	9.1201	9.1244	9.1260	9.1273
Interest	58.05	1612.18	1699.88	1628.59
<b>Return on Equity</b>				
Opening Equity	7069.71	7174.69	8581.83	9206.08
Additions	104.98	1407.14	624.25	0.00
Closing Equity	7174.69	8581.83	9206.08	9206.08
Average Equity	7122.20	7878.26	8893.95	9206.08
Return on Equity (Base Rate )	15.500	15.500	15.500	15.500
MAT rate for the respective year	21.342	21.342	21.342	21.342
Rate of Return on Equity	19.705	19.705	19.705	19.705
Return on Equity	53.83	1552.45	1752.59	1814.10
<b>Interest on Working Capital</b>				
O & M expenses	47.15	48.72	50.33	52.01
Maintenance Spares	84.88	87.70	90.60	93.61
Receivables	804.13	869.92	948.83	958.44
Total	936.16	1006.34	1089.76	1104.06
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on working capital	4.85	135.86	147.12	149.05
<b>Annual Transmission Charges</b>				
Depreciation	46.63	1334.40	1489.38	1534.80
Interest on Loan	58.05	1612.18	1699.88	1628.59
Return on Equity	53.83	1552.45	1752.59	1814.10
Interest on Working Capital	4.85	135.86	147.12	149.05
O & M Expenses	21.70	584.66	603.99	624.10
<b>Total</b>	<b>185.06</b>	<b>5219.54</b>	<b>5692.96</b>	<b>5750.63</b>

## Asset II:

<b>Particulars</b>	<b>2016-17 (pro-rata)</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Depreciation</b>			
Opening Gross Block	4901.28	5799.70	6409.38
Additional Capitalisation	898.42	609.68	288.75
Closing Gross Block	5799.70	6409.38	6698.13
Average Gross Block	5350.49	6104.54	6553.76
Rate of Depreciation	4.93	4.92	4.91



<b>Particulars</b>	<b>2016-17 (pro-rata)</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciable Value	4630.30	4904.66	5034.60
Balance Useful life of the asset	25	24	23
Elapsed Life	1	2	3
Remaining Depreciable Value	4630.30	4694.98	4524.78
Depreciation	209.68	300.14	321.89
Cumulative depreciation	209.68	509.82	831.71
<b>Interest on Loan</b>			
Gross Normative Loan	3430.90	4059.79	4486.57
Cumulative Repayment upto Previous Year	0.00	209.68	509.82
Net Loan-Opening	3430.90	3850.11	3976.75
Additions	628.89	426.78	202.13
Repayment during the year	209.68	300.14	321.89
Net Loan-Closing	3850.11	3976.75	3856.99
Average Loan	3640.50	3913.43	3916.87
Weighted Average Rate of Interest on Loan	8.6978	8.6963	8.6936
Interest	251.58	340.32	340.52
<b>Return on Equity</b>			
Opening Equity	1470.38	1739.91	1922.81
Additions	269.53	182.90	86.63
Closing Equity	1739.91	1922.81	2009.44
Average Equity	1605.15	1831.36	1966.13
Return on Equity (Base Rate )	15.500	15.500	15.500
MAT rate for the respective year	21.342	21.342	21.342
Rate of Return on Equity	19.705	19.705	19.705
Return on Equity	251.31	360.88	387.43
<b>Interest on Working Capital</b>			
O & M expenses	12.93	13.35	13.80
Maintenance Spares	23.27	24.03	24.83
Receivables	180.19	198.91	208.12
Total	216.38	236.30	246.75
Rate of Interest (%)	13.50	13.50	13.50
Interest on working capital	23.21	31.90	33.31
<b>Annual Transmission Charges</b>			
Depreciation	209.68	300.14	321.89
Interest on Loan	251.58	340.32	340.52
Return on Equity	251.31	360.88	387.43





<b>Particulars</b>	<b>2016-17 (pro-rata)</b>	<b>2017-18</b>	<b>2018-19</b>
Interest on Working Capital	23.21	31.90	33.31
O & M Expenses	123.23	160.23	165.56
<b>Total</b>	<b>859.00</b>	<b>1193.48</b>	<b>1248.71</b>

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

63. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 52 of the 2014 Tariff Regulations. The petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with clause (1) of Regulation 52 of the 2014 Tariff Regulations.

### **Licence Fee and RLDC Fees and Charges**

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

### **Service Tax**

65. The petitioner has sought to recover service tax on transmission charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list in future. We are of the view that the petitioner's prayer of service tax is premature.



### **Sharing of Transmission Charges**

66. The transmission charges for Asset II shall be applicable from the date of actual commercial operation date and billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010, as amended from time to time, as provided in Regulation 43 of the 2014 Tariff Regulations.

67. This order disposes of Petition No. 258/TT/2015.

Sd/-  
**(Dr. M. K. Iyer)**  
**Member**

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



## ANNEXURE-I

### Asset I:

#### DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO 2014-19

(in ₹ lakh)

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2015/COD	Additions during the tariff period	Total
BOND XXXIII-DOCO Loan 1-	8.64	1171.00	0.00	1171.00
BOND XXXII-DOCO Loan-	8.84	300.00	0.00	300.00
BOND-XXXV-DOCO Loan 2-	9.64	66.00	0.00	66.00
BOND XXXVI-DOCO Loan 3-	9.35	67.00	0.00	67.00
BOND XXXVII-DOCO Loan 4-	9.25	814.00	0.00	814.00
BOND XXXVIII-DOCO Loan 5-	9.25	1100.00	0.00	1100.00
SBI (21.03.2012)-Doco Loan 9-	9.55	100.00	0.00	100.00
BOND XL-DOCO Loan 6-	9.30	788.00	0.00	788.00
BOND - XLI-DOCO Loan 7-	8.85	85.00	0.00	85.00
BOND - XLII-DOCO Loan 8-	8.80	169.00	0.00	169.00
BOND - XLV-DOCO loan 10-	9.65	190.00	0.00	190.00
SBI (2014-15)-ADDCAP FOR 2015-2016 add cap loan-	9.55	0.00	244.96	244.96
SBI (2014-15)-DOCO Loan 11-	9.55	48.00	0.00	48.00
SBI (2014-15)-DOCO Loan 16-	9.55	2657.00	0.00	2657.00
SBI (2014-15)-DOCO Loan 18-	9.55	3749.03	0.00	3749.03
BOND XLVI -DOCO Loan 12-	9.30	1335.00	0.00	1335.00
Bond XLVIII-DOCO Loan 12-	8.20	519.00	0.00	519.00
BOND XLIX-DOCO loan 14-	8.15	581.95	0.00	581.95
BOND L-DOCO Loan 15-	8.40	1650.00	0.00	1650.00
BOND LI-DOCO Loan 17-	8.40	1106.00	0.00	1106.00
<b>Total</b>		<b>16495.98</b>	<b>244.96</b>	<b>16740.94</b>



**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN  
FOR TARIFF PERIOD 2014-19**

(₹ in lakh)

<b>Particulars</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Opening Loan	16495.98	16740.94	16740.94	16740.94
Cumulative Repayments of Loans upto Previous Year	318.50	343.50	625.72	923.77
Net Loans Opening	16177.48	16397.44	16115.22	15817.17
Add: Draw(s) during the Year	244.96	0.00	0.00	0.00
Less: Repayments of Loan during the year	25.00	282.22	298.05	298.05
Net Closing Loan	16397.44	16115.22	15817.17	15519.12
Average Net Loan	16287.46	16256.33	15966.20	15668.15
Rate of Interest on Loan (%)	9.1201%	9.1244%	9.1260%	9.1273%
Interest on Loan	1485.44	1483.30	1457.07	1430.08



**Asset II:****DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO 2014-19**

(in ₹ lakh)

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2016	Additions during the tariff period	Total
BOND -XLI-DOCO loan-	8.85	50.00	0.00	50.00
BOND - XLV-DOCO loan 1-	9.65	110.00	0.00	110.00
SBI (2014-15)-DOCO Loan 2-	9.55	40.00	0.00	40.00
BOND XLVI -DOCO Loan 3-	9.30	175.00	0.00	175.00
Bond XLVIII-DOCO loan 4-	8.20	365.00	0.00	365.00
BOND XLIX-DOCO Loan 5-	8.15	1232.35	0.00	1232.35
BOND L-DOCO Loan 6-	8.40	45.00	0.00	45.00
BOND LI-DOCO Loan 9-	8.40	509.59	0.00	509.59
PROPOSED LOAN 2016-17 9.55%-DOCO Loan 8-	9.55	903.96	0.00	903.96
<b>Total</b>		<b>3430.90</b>	<b>0.00</b>	<b>3430.90</b>

**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR TARIFF PERIOD 2014-19**

(₹ in lakh)

Particulars	2016-17	2017-18	2018-19
Gross Opening Loan	3430.90	3430.90	3430.90
Cumulative Repayments of Loans up to Previous Year	0.00	4.17	17.51
Net Loans Opening	<b>3430.90</b>	<b>3426.73</b>	<b>3413.39</b>
Add: Draw(s) during the Year	0.00	0.00	0.00
Less: Repayments of Loan during the year	4.17	13.34	13.34
Net Closing Loan	<b>3426.73</b>	<b>3413.39</b>	<b>3400.05</b>
Average Net Loan	3428.82	3420.06	3406.72
Rate of Interest on Loan (%)	8.6978%	8.6963%	8.6936%
Interest on Loan	298.23	297.42	296.17

