

**CENTRAL ELECTRICITY REGULATORY COMMISSION**

**NEW DELHI**

**Petition No. 242/TT/2018**

**Coram:**

**Shri P. K. Pujari, Chairperson**

**Dr. M. K. Iyer, Member**

**Shri I. S. Jha, Member**

**Date of Order: 25.6.2019**

**In the matter of:**

Approval under regulation-86 of CERC (Conduct of Business) Regulations'1999 and CERC (Terms and Conditions of Tariff) Regulations, 2014 for determination of Transmission Tariff from COD to 31.3.2019 for Asset I : 2X80 MVAR, 400 kV Switchable Line Reactors for 400 kV D/C Agra-Sikar TL at Agra Substation (COD: 1.8.2017), Asset II : 63 MVAR Line Reactor (to be used as Bus Reactor) connected to 400 kV Lower Subansiri-BNC-I Line Bay along with associated bays at  $\pm$  800 kV Biswanath Chariali HVDC Converter Terminal and Asset III : 63 MVAR Line Reactor (to be used as Bus Reactor) connected to 400 kV Lower Subansiri-BNC-III Line Bay at  $\pm$  800 kV Biswanath Chariali HVDC Converter Terminal under the transmission system associated with "NORTH EAST – NORTHERN/WESTERN INTERCONNECTOR-I PROJECT".

**And in the matter of:**

Power Grid Corporation of India Limited

"Saudamini", Plot No.2,

Sector-29, Gurgaon -122 001

**.....Petitioner**

**Vs**

1. Assam Electricity Grid Corporation Limited,  
(Formerly Assam State Electricity Board),  
Bijulee Bhavan, Paltan Bazar, Guwahati-781 001.



2. Meghalaya Energy Corporation Limited,  
(Formerly Meghalaya State Electricity Board),  
Short Round Road, "Lumjingshai",  
Shillong-793 001.
3. Government of Arunachal Pradesh,  
Itanagar, Arunachal Pradesh
4. Power and Electricity Department,  
Government of Mizoram,  
Aizwal, Mizoram
5. Manipur State Electricity Distribution Company Limited,  
(Formerly Electricity Department, Government of Manipur),  
Keishampat, Imphal
6. Department of Power,  
Government of Nagaland,  
Kohima, Nagaland
7. Tripura State Electricity Corporation Limited,  
Vidyut Bhawan, North Banamalipur, Agartala,  
Tripura (W)-799 001 , Tripura
8. Himachal Pradesh State Electricity Board,  
Vidyut Bhawan, Shimla-171 004 (HP)
9. Punjab State Power Corporation Limited,  
Thermal Shed T-1A, Patiala
10. Haryana Power Purchase Centre,  
IInd Floor, Shakti Bhawan, Sector-6,  
Panchkula (Haryana)-134 109
11. Power Development Department,  
Janipura Grid Station, Jammu (Tawi)-180 007
12. Uttar Pradesh Power Corporation Limited (UPPCL),  
10<sup>th</sup> Floor, Shakti Bhawan Extn.,14, Ashok Marg,  
Lucknow-226 001
13. Delhi Transco Limited,  
Shakti Sadan, Kotla Road (Near ITO),  
New Delhi



14. CHIEF ENGINEER,  
Chandigarh Administration, Sector-9, Chandigarh
15. Uttarakhand Power Corporation Limited, Urja  
Bhawan, Kaswali Road, Dehradun
16. Rajasthan Power Procurement Centre, Vidyut  
Bhawan, Janpath, Jaipur
17. Ajmer Vidyut Vitran Nigam Ltd. 400 kV GSS  
Building, Ajmer Road, Heerapura, Jaipur
18. Jodhpur Vidyut Vitran Nigam Ltd., 400 kV GSS  
Building, Ajmer Road, Heerapura, Jaipur
19. Jaipur Vidyut Vitran Nigam Ltd., 400 kV GSS  
Building, Ajmer Road, Heerapura, Jaipur
20. North Central Railway, Allahabad
21. BSES Yamuna Power Limited, Shakti Kiran  
Building, Karkardooma, Delhi-110 092
22. BSES Rajdhani Power Limited (BRPL), BSES  
Bhawan, Nehru Place, New Delhi
23. Tata Power Delhi Distribution Limited,  
33 kV Substation Building, Hudson Lane, Kingsway Camp,  
North Delhi-110 009
24. New Delhi Municipal Council,  
Palika Kendra,  
Sansad Marg, New Delhi-110 001

.....Respondents

**Parties present:**

**For Petitioner:** Shri B. Dash, PGCIL  
Shri S. K. Venkatesh, PGCIL  
Shri S. S .Raju, PGCIL  
Shri Pankaj Sharma, PGCIL  
Smt. Anshul Garg, PGCIL  
Shri Zafrul Hassan, PGCIL



**For Respondent:** Shri R. B. Sharma, Advocate, BRPL  
Shri Mohit Mudgal, Advocate, BRPL

## ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. (hereinafter referred to as “the Petitioner”) for determination of tariff for Asset I : 2X80 MVAR, 400 kV Switchable Line Reactors for 400 kV D/C Agra-Sikar TL at Agra Substation (COD : 1.8.2017), Asset II : 63 MVAR Line Reactor (to be used as Bus Reactor) connected to 400 kV Lower Subansiri-BNC-I Line Bay along with associated bays at  $\pm$  800 kV Biswanath Chariali HVDC Converter Terminal and Asset III : 63 MVAR Line Reactor (to be used as Bus Reactor) connected to 400 kV Lower Subansiri-BNC-III Line Bay at  $\pm$  800 kV Biswanath Chariali HVDC Converter Terminal under the transmission system associated with “NORTH EAST – NORTHERN/WESTERN INTERCONNECTOR–I PROJECT” for 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “The 2014 Tariff Regulations”).

2. The Petitioner has made the following prayers:-

- i. Approve the Transmission Tariff for the tariff block 2014-19 for the assets covered under this petition.*
- ii. Allow the Petitioner to approach the Commission for suitable revision in the norms for O & M expenditure for claiming the impact of wage hike, if any, during period 2014-19.*
- iii. Allow the Petitioner to recover the shortfall or refund the excess Annual Fixed Charges, 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 as provided under clause 25 of the Tariff regulations 2014.*



- iv. *Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 52 Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014, and other expenditure ( if any) in relation to the filing of petition.*
- v. *Allow the Petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 52 Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.*
- vi. *Allow the Petitioner 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.*
- vii. *Allow the Petitioner to bill and recover GST on Transmission charges separately from the respondents, if GST on Transmission of electricity is withdrawn from the exempted (negative) list at any time in future. Further any taxes and duties including cess, etc. imposed by any Statutory/Govt./Municipal Authorities shall be allowed to be recovered from the beneficiaries.*
- viii. *Allow the Petitioner if GST is imposed on transmission charges under the proposed GST the same may be allowed to be recovered from the beneficiaries.*
- ix. *Allow tariff up to 90% of the Annual Fixed Charges in accordance with clause 7 (i) of Regulation 7 Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for purpose of inclusion in the PoC charges.*
- x. *Allow the Petitioner to bill Tariff from anticipated COD and also the Petitioner may be allowed to submit revised Certificate and tariff Forms (as per the Relevant Regulation) based on actual COD And pass such other relief as Hon'ble Commission deems fit and appropriate under the circumstances of the case and in the interest of justice.*

### **Background**

3. The Investment Approval (IA) for implementation of assets under "Transmission system associated with NORTH EAST–NORTHERN/WESTERN INTERCONNECTOR – I PROJECT" was accorded by the Board of Directors of the Petitioner in 219<sup>th</sup> meeting held on 24.2.2009 for ₹1113019 lakh including



IDC of ₹106605 lakh based on 4<sup>th</sup> Quarter, 2008 price level (communicated vide Memorandum No. C/CP/NER-NR,WR Intr-I dated 27.2.2009).

4. The scope of work covered under the project "Transmission system associated with NORTH EAST – NORTHERN/WESTERN INTERCONNECTOR–I PROJECT" is follows:-

### **TRANSMISSION LINES**

#### **Part-A: North East – Northern / Western Interconnector – I**

(i) Biswanath Chariali – Agra  $\pm$ 800kV, 6000MW HVDC Bipolar line

**As per Investment approval:** (This includes 22 km of four (4) nos. of corridors with 800 kV HVDC towers in the chicken neck area. Two of the corridors would be utilized by stringing of the Biswanath Chariyali – Agra HVDC bipolar line (one pole in each corridor) while the other two corridors would be strung with single panther conductor per corridor charged at 132 kV. Further, this would include Earth Electrode line of 50 Km length at Biswanath Chariyali end and of 40 Km length at Agra end.)

**Scope Change As per RCE:** (This includes four (4) nos. of corridors with 800 kV HVDC towers in the chicken neck area. One corridor has been utilized by stringing of the Biswanath Chariyali – Agra HVDC bipolar line while the other three corridors are proposed to be charged at 400 kV. Further, this would include Earth Electrode line at Biswanath Chariyali end and at Agra end.)

(ii) Balipara – Biswanath Chariali 400 kV D/C line

(iii) LILO of Ranganadi – Balipara 400 kV line D/C at Biswanath Chariali

(iv) Biswanath Chariali – Biswanath Chariali (AEGCL) 132 kV D/C line

#### **Part-B: Transmission System for immediate evacuation of power from Kameng HEP includes**

(i) Kameng – Balipara 400 kV D/C line



- (ii) Balipara – Bongaigaon 400 kV D/C (Quad conductor) with 30% Fixed Series Compensation at Balipara end

**Part-C: Transmission System for immediate evacuation of power from Lower Subansiri HEP includes**

- (i) Lower Subansiri – Biswanath Chariali (Pooling Point) –400 kV 2 nos x D/C lines with twin Lapwing conductor

**SUBSTATIONS**

**Part-A: North East – Northern / Western Interconnector – I includes**

- (i) Establishment of 400/132 kV Pooling Station at Biswanath Chariali with 2x200 MVA, 400/132/33 kV Transformers along with associated line bays
- (ii) HVDC rectifier module of 3000 MW at Biswanath Chariali and inverter module of 3000 MW capacity at Agra
- (iii) Augmentation of 400 kV Agra substations by 4x105 MVA, 400/220/33 kV transformer along with associated bays
- (iv) Extension of 400 kV line bays at Balipara substation
- (v) Extension of 132 kV line bays at Biswanath Chariali (AEGCL)

**Part-B: Transmission System for immediate evacuation of power from Kameng HEP includes**

- (i) 2<sup>nd</sup> 315 MVA, 400/220/33 kV ICT at MISA
- (ii) Extension of 400 kV line Bays at Bongaigaon and Balipara substations

**Part-C: Transmission System for immediate evacuation of power from Lower Subansiri HEP includes**

- (i) Extension of 400 kV line bays at Biswanath Chariali Pooling Substation

**REACTIVE COMPENSATION**

SI. No.	Sub Station	Bus Reactor
1	Biswanath Chariali	2x80 MVAR
2	Bongaigaon	1x80 MVAR
3	Balipara	1x80 MVAR
4	Lower Subansiri	1x80 MVAR*
5	Kameng	1x80 MVAR*

\*These reactors would be a part of generation switchyard



Sl. No.	Transmission Line	Line Reactor
1	Lower Subansiri-Biswanath Chariali 400kV D/C Line	4x63 MVAR
2	Balipara-Bongaigaon 400 kV D/C (Quad) Line	4x63 MVAR
3	Balipara-Biswanath Chariali 400 kV D/C line resulting from LLO of Ranganadi-Balipara 400 kV D/C line at Biswanath Chariali	Existing 1x50 MVAR Fixed line reactor in each circuit at Balipara end to be made switchable at the present location itself

**Reactors at Biswanath Chariali** : To contain the issue of continuous high voltage at 400 kV level at Biswanath Chariali, Balipara and Ranganadi substations, the utilization of 2 nos. 63 MVAR Line Reactors, originally envisaged for use of line reactors for Lower Subansiri - Biswanath Chariali 400 kV 2 x D/C line, at Biswanath Chariali as Bus Reactor was discussed and approved during the 6<sup>th</sup> meeting of the Standing Committee of Power System Planning of North Eastern Region and 17<sup>th</sup> NER Power Committee Meeting of held on 3.10.2016.

**Reactors at Agra:** During the 33<sup>rd</sup> Standing Committee of Power System Planning of NR held on 23.12.2013, Reactive Compensation of Agra-Sikar D/C line was discussed and it was agreed that the 50 MVAR line reactors of Agra-Sikar line at Agra end may be replaced by 80 MVAR reactors. Accordingly, the 80 MVAR line reactors at Agra end of Agra-Sikar 400 kV D/C line was included in the subject scheme. The same was also discussed and agreed in the 30<sup>th</sup> Northern Region Power Committee meeting was held on 28.2.2014. Pursuant to the above, the aforesaid 80 MVAR line reactors were included in the scope of work of the subject project vide the Memorandum No. C/CP/RCE: NE-NR/WR Interconnector-I dated 9.12.2015.

5. The Petitioner has submitted that the major portion of the project have been implemented and also submitted the status of tariff petitions for the assets under the project "NORTH EAST-NORTHERN/WESTERN INTERCONNECTOR-I





PROJECT” as shown below:-

Sl. No	Asset	SCOD as per IA/ RCE	Anticipated/ Actual COD	Covered under Petition no
1	± 800 kV HVDC Biswanath Chariali – Agra Pole-1 (1500 MW HVDC Terminals at Biswanath Chariali and Agra each along with the ± 800 kV Hexa Lapwing Transmission Line) (Asset I)	August 2013 (54 months from the date of I.A.)	1.11.2015 (Actual)	67/TT/2015
2	Loop In and Loop Out (LILO) of 400 kV Ranganadi-Balipara-I T/L at Biswanath Chariali PS along with associated bays at Biswanath Chariali PS (Asset II (1.a))		28.10.2015 (Actual)	
3	Loop In and Loop Out (LILO) of 400 kV Ranganadi-Balipara-II T/L at Biswanath Chariali PS along with associated bays at Biswanath Chariali PS (Asset II (1.b))		27.10.2015 (Actual)	
4	132kV D/C BNC (PG) - BNC (AEGCL) T/L along with associated bays at BNC (AEGCL) and BNC Pooling Station (PGCIL) (Asset II (2))		1.10.2015 (Actual)	
5	200MVA, 400/132/33kV ICT – I at Biswanath Chariali PS (Asset II (3))		19.12.2015 (Actual)	
6	0MVA, 400/132/33 kV ICT - 2 along with associated bays at BNC	August 2013 (54 months from the date of I.A.)	1.10.2015 (Actual)	259/TT/2015
7	80MVAR Bus Reactor – 1 along with associated Bays at Biswanath Chariali		3.10.2015 (Actual)	
8	80MVAR Bus Reactor – 2 along with associated Bays at Biswanath Chariali		26.2.2016 (Actual)	
9	Augmentation of 400kV Agra Sub-Station by 1X315 MVA, 400/220/33kV ICT along with associated Bays		10.12.2015 (Actual)	
10	400 kV D/C Balipara-Biswanath Chariali # 3 Transmission Line along with associated bays at Balipara and Biswanath Chariali PS		12.10.2015 (Actual)	
11	400 kV D/C Balipara-Biswanath Chariali # 4 Transmission Line along with associated bays at Balipara and Biswanath Chariali PS		1.10.2015 (Actual)	
12	±800 kV Biswanath Chariali-Agra HVDC POLE-II (1500 MW HVDC Terminal at Biswanath Chariali and Agra) along with Earth Electrode line and Earth Electrode Station for both BNC and Agra : ASSET I	August 2013 (54 months from the date of I.A.)	2.9.2016 (Actual)	184/TT/2016
13	2 <sup>nd</sup> 315 MVA,400/220 kV ICT at Misa	March 2013 (48 months)	1.7.2012 (Actual)	391/TT/2014



Sl. No	Asset	SCOD as per IA/ RCE	Anticipated/ Actual COD	Covered under Petition no
14	80 MVAR Bus Reactor at Balipara	from the date of I.A.)	1.10.2012 (Actual)	131/TT/2015
15	80 MVAR Bus Reactor at Bongaigaon		1.3.2013 (Actual)	217/TT/2015
16	400 kV, D/C (Quad) Balipara - Bongaigaon T/L along with associated bays at Bongaigaon S/s and Balipara S/s including 30% FSC at Balipara and 4 X 63 MVAR, 420 kV Line Reactors		7.11.2014 (Actual)	65/TT/2015
17	Asset I : 2X80 MVAR, 400 kV Switchable Line Reactors for 400 kV D/C Agra-Sikar TL at Agra Substation	December 2017 (As per RCE, asset was included in Scope in RCE)	1.8.2017 (Actual)	<b>Covered in the instant Petition</b>
18	Asset II : 63 MVAR Line Reactor (to be used as Bus Reactor) connected to 400 kV Lower Subansiri-BNC-I Line Bay along with associated bays at ± 800 kV Biswanath Chariali HVDC Converter terminal	August 2013 (54 months from the date of I.A.)	21.7.2017 (Actual)	
19	Asset III : 63 MVAR Line Reactor (to be used as Bus Reactor) connected to 400 kV Lower Subansiri-BNC-III Line Bay along with associated bays at ± 800 kV Biswanath Chariali HVDC Converter terminal		11.12.2017 (Actual)	

6. Balance Assets of the Transmission System are as follows:-

Sl. No	Asset Name	Remarks
1	Kameng – Balipara 400 kV D/C line along with associated bays and 1x80 MVAR Bus reactor	Matching with generation
2	Lower Subansiri – Biswanath Chariali (Pooling Point)–2 nos. 400 kV D/C lines with twin Lapwing conductor along with associated bays and 1x80 MVAR Bus reactor and 4x63 MVAR Line Reactor	Anticipated by 2019-2020 (Matching with Generation)

7. The Petitioner has also submitted that the Board of Directors of the Petitioner in 323<sup>rd</sup> meeting dated 30.11.2015 approved the Revised Cost Estimates (RCE) of



the project with an estimated cost of ₹ 1376271 lakh including IDC of ₹ 174732 lakh based on April, 2015 price level (Communicated vide Memorandum No. C/CP/RCE :NE-NR/WR Interconnector-1 dated 9.12.2015).

8. Vide order dated 8.1.2019, annual transmission charges were allowed by the Commission under the proviso (i) to Regulation 7(7) of the 2014 Tariff Regulations for inclusion in the PoC charges in respect of the following assets covered in the instant Petition:

Asset	(₹ in lakh)	
	2017-18 (pro-rata)	2018-19
Asset-II	248.66	373.46
Asset-III	108.48	372.71

9. The details of the annual transmission charges claimed by the Petitioner are as under :-

Particulars	(₹ in lakh)					
	Asset I		Asset II		Asset III	
	2017-18 (pro-rata)	2018-19	2017-18 (pro-rata)	2018-19	2017-18 (pro-rata)	2018-19
Depreciation	46.73	74.15	82.10	125.99	35.79	125.23
Interest on Loan	53.83	80.08	107.55	154.52	46.93	155.61
Return on Equity	35.32	57.50	66.85	105.60	29.00	104.35
Interest on Working Capital	2.96	4.62	8.01	12.01	3.50	11.99
O & M Expenses	-	-	46.31	68.71	20.38	68.71
<b>Total</b>	<b>138.84</b>	<b>216.35</b>	<b>310.82</b>	<b>466.83</b>	<b>135.60</b>	<b>465.89</b>

10. The details of the interest on working capital (IWC) claimed by the Petitioner are as under:-

Particulars	(₹ in lakh)					
	Asset I		Asset II		Asset III	
	2017-18	2018-19	2017-18	2018-19	2017-18	2018-19
O & M expenses	-	-	5.54	5.73	5.54	5.73
Maintenance Spares	-	-	9.98	10.31	9.98	10.31
Receivables	34.71	36.06	74.40	77.80	73.75	77.65
<b>Total working capital</b>	<b>34.71</b>	<b>36.06</b>	<b>89.92</b>	<b>93.84</b>	<b>89.27</b>	<b>93.68</b>
Rate of Interest	12.80%	12.80%	12.80%	12.80%	12.80%	12.80%



Interest on working capital	4.44	4.62	11.51	12.01	11.43	11.99
Pro-rata Interest on working capital	2.96	4.62	8.01	12.01	3.50	11.99

11. The Petitioner has served the copy of the petition upon the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003. No comments or suggestions have been received from the general public in response to the notices published by the Petitioner under Section 64 of the Electricity Act, 2003. The Respondent No. 12, UPPCL and the Respondent No. 22, BRPL has filed replies vide affidavits dated 29.8.2018 and 17.10.2018.

12. Having heard the representatives of the Petitioner present at the hearing and perused the material on record, we proceed to dispose of the petition.

13. This order has been issued after considering the main petition and Petitioner's affidavits dated 12.7.2018, 12.12.2018, 25.1.2019 & 26.3.2018 and reply dated 29.8.2018 and 17.10.2018 of the of Respondents UPPCL and BRPL.

### **Analysis & Decision**

14. While granting provisional tariff for the assets covered in the instant petition, the Commission vide order dated 8.1.2019 noted as under:

*"7. It is observed that Asset-I (2X80 MVAR Reactors) has already replaced the existing 2x50 MVAR Reactors at Agra which have been shifted to Daltonganj Substation. The tariff for 2x50 MVAR reactors at Agra was trued up for the period 2009-14 and tariff for 2014-19 was allowed in Petition No. 64/TT/2018. In Petition No. 105/TT/2018, tariff has been granted under Regulation 7(7) of the 2014 Tariff Regulations for the said 2x50 MVAR after its transfer to Daltonganj. Therefore, tariff has been claimed and granted for the 2x50 MVAR in two petitions. The Petitioner in the instant petition has made the following submissions:-*

*"Since the Petitioner is entitled for tariff of the present asset and the tariff impact is very less after de-cap & add-cap adjustment, therefore, the Petitioner seeks to submit that the tariff for 2x50 MVAR Reactors at Agra is to be continued in petition no. 64/TT/2018 under System Strengthening in NR for Sasan and Mundra UMPP and same shall be trued up at the end of*



*2014-19 tariff block /beginning of tariff block 2019-24. Further, it is prayed to Hon'ble Commission that, in the meanwhile, tariff of the 2x80MVAR new Reactors at Agra may be allowed as claimed in the instant petition."*

*From the above submissions of the Petitioner, it emerges that the Petitioner wants to continue the tariff of 2x50 MVAR reactors at Agra till the end of the tariff period 2014-19 and at the same time has claimed the tariff for 2x50 MVAR reactors at Daltonganj Substation.*

*As per the approved procedure, the asset under inter-unit transfer is required to be decapitalized in the books of account of the transmission system from where it is replaced and capitalized in the books of account of the transmission system where it is put into service after inter-unit transfer. The Petitioner is directed to explain as to why the Petitioner is claiming the tariff of the 2X50 MVAR Reactors at Agra as well as Daltonganj which results in double charging of tariff for the same assets. We are not allowing tariff in case of Asset-I in this order and tariff of Asset-I will be allowed after proper decapitalization of the said asset at Agra and capitalization at Daltonganj."*

15. Accordingly, the Petitioner was directed to explain as to why the Petitioner is claiming the tariff of the 2X50 MVAR Reactors at Agra as well as Daltonganj which results in double charging of tariff for the same assets.

16. In response, vide affidavit dated 25.1.2019 the Petitioner has submitted the following-

- (i) Asset I was commissioned by replacing the existing 2x50 MVAR Reactors at Agra. These replaced Reactors at Agra were originally covered in true up petition no. 64/TT/2018 under System Strengthening in NR for Sasan and Mundra UMPP in Northern Region. After replacement, these 2x50 MVAR Reactors shall be utilized at Daltonganj Substation (under ERSS-III), for which Petition No. 105/TT/2018 is filed.
- (ii) Replaced Reactors were originally associated with System Strengthening in NR for Sasan and Mundra UMPP in Northern Region where the same to be de-capitalized and further to be capitalized in ERSS-III. Decapitalisation of Reactors at Agra shall be taken care at the time of 2014-19 truing of the



petition for System Strengthening in NR for Sasan and Mundra UMPP in Northern Region & capitalization of 50 MVAR Reactors at Daltonganj will be covered in ERSS-III project. Assets I in the instant petition deals with 2x80 MVAR New Reactors at Agra.

17. It has been noted that shifting of 2 nos. of 50 MVAR Reactors (diverted from Agra and Utilised at Daltonganj) is covered in petition no. 105/TT/2018 under the Asset-I: Combined asset of: (a) 400 kV D/C Sasaram - Daltonganj Transmission Line along with 2 x 50 MVAR LR at Daltonganj Sub-station, (b) 400/220 kV, 315 MVA ICT-I along with bays at Daltonganj Sub-station, (c) 400 kV 80 MVAR Bus Reactor at Daltonganj Sub-station for which order has been reserved. Thus, we are of the view that the issue of accounting treatment and decapitalisation of 2 nos. 50MVAR reactors diverted from Agra to Daltonganj shall be dealt in the petition no. 105/TT/2018 on the basis of other submissions regarding shifting of 2 nos. of 50 MVAR reactor from Agra to Daltonganj and Form 10 provided by the Petitioner vide affidavit dated 25.1.2019 in the instant petition. Accordingly, we are inclined to allow tariff for new 2x80 MVAR reactors.

**Date of Commercial Operation (COD)**

18. The Petitioner has claimed the actual date of commercial operation in respect of Asset-I, Asset-II and Asset-III as 1.8.2017, 21.7.2017 and 11.12.2017 respectively. In support of COD of these Assets, the Petitioner has submitted CEA Energisation Certificates dated 17.7.2017 and 3.7.2017 under Regulation 43 of CEA (Measures Related to Safety & Electricity Supply) Regulations, 2010, RLDC charging certificates dated 23.8.2017, 1.9.2017 and 18.12.2017 and CMD certificate as required under the Grid Code.



19. Taking into consideration the CEA Energisation certificate, RLDC charging certificate and CMD certificate, the COD of the instant Assets are approved as mentioned below and the tariff has been worked out from COD to 31.3.2019:

Asset No.	Asset Name	Actual COD
I	2X80 MVAR, 400 kV Switchable Line Reactors for 400 kV D/C Agra-Sikar TL at Agra Substation	1.8.2017
II	63 MVAR Line Reactor (to be used as Bus Reactor) connected to 400 kV Lower Subansiri-BNC-I Line Bay along with associated bays at $\pm$ 800 kV Biswanath Chariali HVDC Converter terminal	21.7.2017
III	63 MVAR Line Reactor (to be used as Bus Reactor) connected to 400 kV Lower Subansiri-BNC-III Line Bay along with associated bays at $\pm$ 800 kV Biswanath Chariali HVDC Converter terminal	11.12.2017

### **Capital Cost**

20. Clause (1) and (2) of Regulation 9 of the 2014 Tariff Regulations provide as follows:-

*“(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; 39
- (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.”

21. The Petitioner has submitted the apportioned approved cost as per Investment Approval and RCE. The Petitioner has submitted Auditor’s Certificates dated 14.3.2018 and 7.3.2018 claiming capital cost incurred as on COD as well as additional capitalization projected to be incurred during 2017-18 & 2018-19 in respect of the instant assets and the same is summarized below:-

(₹ in lakh)

Asset	Apportioned Approved Cost (FR)	Apportioned Approved Cost (RCE)	Cost up to COD	Projected Expenditure for FY		Estimated Completion Cost
				2017-18	2018-19	
I	*	1452.05	1308.94	69.82	55.56	1434.33
II	1169.00	2710.32	2420.64	57.69	207.15	2685.48
III	1169.00	2710.32	2444.45	8.50	233.28	2686.23

\* Included in the scope of the project in RCE

### **Cost Over-run**

22. The Petitioner has submitted that the estimated completion cost of the instant assets is within the RCE apportioned cost and submitted the details of capital cost as under:





(₹ in lakhs)			
Asset	Apportioned Approved Cost (FR)	Apportioned Approved Cost (RCE)	Estimated Completion Cost
I	-	1452.05*	1434.33
II	1169.00	2710.32	2685.48
III	1169.00	2710.32	2686.23

\* included in the scope of the project in RCE

23. We have examined the submissions of Petitioner and respondents and noted that against the revised apportioned approved cost (RCE) of assets covered in the instant petition as mentioned in Table above, the estimated completion cost as on 31.3.2019 including additional capitalization is within the revised apportioned approved cost. Therefore, there is no cost overrun.

#### **Time Over-run**

24. With regard to Asset-I, the Petitioner has submitted the following:

- (i) During the 33<sup>rd</sup> Standing Committee of Power System Planning of NR held on 23.12.2013, Reactive Compensation of Agra-Sikar D/C line was discussed and it was agreed that the 50 MVAR line reactors of Agra-Sikar line at Agra end may be replaced by 80 MVAR reactors.
- (ii) Accordingly, the 80 MVAR line reactors at Agra end of Agra-Sikar 400 kV D/C line were included in the scope of the project in RCE with schedule completion in December 2017.
- (iii) Subsequent to the approval by the Board of the Petitioner, the Petitioner took up the implementation of these switchable reactors for which the contracts for execution was awarded in February 2016 and the same were



commissioned on 1.8.2017 i.e., within a period of 19 months from the date of RCE. Thus, there is no delay in implementation of Asset I.

25. As regard Asset-II and Asset-III, these Assets were scheduled to be commissioned within 48 months from the date of "IA" (i.e. 24.2.2009) and the scheduled date of these assets work out to 1.3.2013. The actual dates of commissioning of these assets and delay in commissioning are as under:

Asset	SCOD	COD considered (Actual)	Delay (days)
Asset-II	1.3.2013	21.7.2017	1607
Asset-III		11.12.2017	1750

26. The Petitioner has submitted that the delay in execution of Assets II and III is mainly because of delay in land acquisition at Biswanath Chariali, RoW vis-à-vis law and order problem at sites, litigations, forest clearance, heavy monsoon and Flash Flood, strikes, bandhs and delay in commissioning of generation at Lower Subansiri. The Petitioner has bifurcated the delay in execution of Asset-II and Asset-III in two parts which is summarized below:

- (i) **Delay due to Land:** The process of land acquisition was initiated on 16.11.2005, thereafter, in spite of the formal land allocation, full / complete physical possession of the land was not available with the Petitioner. The Petitioner had acquired substation land progressively from 29.7.2010 to 24.3.2011. Thereafter the closing of boundary wall and securing of campus became a tedious task due to severe law and order issues involving firing and killing of site personnel. The same was finally completed on 5.9.2013. Total time attributable to land is about 94 months i.e. from November 2005 to September 2013.



(ii) **Delay due to implementation of Lower Subansiri HEP:** The original scope of work envisaged implementation of Lower Subansiri - Biswanath Chariali 400kV 2xD/C line along with the 4 Nos. of 63 MVAR Line Reactors at Biswanath Chariali. The original schedule of commissioning of Lower Subansiri HEP was December 2011, which was subsequently revised to March 2012, December 2012, March 2013, December 2013 and is now proposed to be commissioned by 2020-21. The matter stands deliberated in various NERPC meetings. The implementation work of associated transmission system was initially slowed down to match the generating plant and subsequently, deferred due to delay in the commissioning of Lower Subansiri HEP.

(iii) Meanwhile, due to high voltages observed at 400 kV level at Biswanath Chariali, Balipara and Ranganadi substations, numbers of 400 kV lines from Bongaigaon, Balipara, Biswanath Chariali, Ranganadi were being kept open in off peak hours to maintain the nodal voltages within stipulated limits. In order to contain high voltage in upper Assam and Arunachal Pradesh, it was decided during the 6<sup>th</sup> SCM of NER and 17<sup>th</sup> NERPC Meeting held on 3.10.2016 that two out of four 63 MVAR Line Reactors at Biswanath Chariali associated with the Lower Subansiri- Biswanath Chariali line may be utilized as Bus Reactors. Immediately thereafter, the Petitioner took up the implementation of these line reactors and commissioned the said reactors under Assets II & III on 21.7.2017 and 11.12.2017, respectively.

27. The Commission vide order dated 8.1.2019 directed the Petitioner to submit the details of time over-run and chronology of activities along with documentary

evidence (asset wise) as per format. In response, the Petitioner vide affidavit dated 25.1.2019 has submitted the following details in respect of time over-run and chronology of activities:

**For Asset I**

Activity	Period of activity				Reason(s) for delay along with reference to supporting documents
	Planned		Achieved		
	From	To	From	To	
LOA	Included in SCOPE after RCE approval vide Memorandum No. C/CP/RCE: NE-NR/WR Interconnector-I dated 09.12.2015.		29.2.2016		During the 33 <sup>rd</sup> Standing Committee of Power System Planning of NR held on 23.12.2013, Reactive Compensation of Agra-Sikar D/C line was discussed and it was agreed that the 50 MVAR line reactors of Agra-Sikar line at Agra end may be replaced by 80 MVAR reactors. Accordingly, the 80 MVAR line reactors at Agra end of Agra-Sikar 400kV D/C line was included in the subject scheme. The same was also discussed and agreed in the 30th Northern Region Power Committee meeting was held on 28th February 2014. Pursuant to the above, the aforesaid 80MVAR line reactors were included in the scope of work of the subject project vide the Memorandum No. C/CP/RCE:NE-NR/WR Interconnector-I dated 09th December'2015.
Supplies			Nov-16	Jan -17	
Civil Works & erection, Stringing			Nov-16	Jun-17	
Testing & Commissioning			30.7.2017		

**For Asset II & III**

Activity	Period of activity				Reason(s) for delay along with reference to supporting documents
	Planned		Achieved		
	From	To	From	To	
LOA	Envisaged subsequent to 17 <sup>th</sup> NERPC meeting held on		1.12.16		That to contain the issue of continuous high voltage at 400kV level at Biswanath Chariali, Balipara and



Activity	Period of activity				Reason(s) for delay along with reference to supporting documents
	Planned		Achieved		
	From	To	From	To	
Supplies	3.10.2016.		Dec-16	Mar-17	Ranganadi substations, the utilization of 2 nos. 63 MVAR Line Reactors, originally envisaged for use of line reactors for Lower Subansiri - Biswanath Chariali 400kV 2 x D/C line, at Biswanath Chariali as Bus Reactor was discussed and approved during the 6 <sup>th</sup> meeting of the Standing Committee of Power System Planning of North Eastern Region and 17 <sup>th</sup> NER Power Committee Meeting of held on 3.10.2016.
Civil Works & erection, Stringing			Dec-16	Jun-17	
Testing & Commissioning			20.7.2017		
Land Acquisition	23.3.2009		16.11.2005	to	
ROW issues			24.3.2011		
Law & Order Problem	23.3.2009		to	5.9.2013	

28. Initially, Asset I was not covered in the Investment Approval. Based on the decision taken during the 33<sup>rd</sup> Standing Committee of Power System Planning of NR held on 23.12.2013, Asset-I was included in the scope of the project in RCE dated 30.11.2015. The scheduled completion date of Asset-I was December, 2017 against which the instant asset has been commissioned on 1.8.2017. Hence, there is no time over-run in respect of Asset-I.

29. The line reactors under Assets II & III were essentially a part of the generation linked line from Lower Subansiri- Biswanath Chariali. Accordingly, it can be argued that the delay in Biswanath Chariali substation land may not be having conclusive bearing on the implementation of the instant assets II & III. Therefore, the reasons of delay due to land are not being discussed further for determining their impact on the time over-run of the instant assets II & III.



30. However, in the event of substantial delay of the generation project itself, the Petitioner had to consciously defer the implementation of line as well as line reactors. The Petitioner took up the implementation of instant assets II & III only after the necessity was felt to contain high voltage in upper Assam and Arunachal Pradesh, subsequent to the decision taken during the aforesaid 6<sup>th</sup> SCM of NER and 17<sup>th</sup> NERPC Meeting.

31. Accordingly, we are of the view that the time overrun of 52 months 21 days (1604 days) and 57 months 11 days (1747 days), respectively in Assets II & III is beyond the control of Petitioner and hence the same is condoned.

**Interest during Construction (IDC)**

32. The Petitioner has claimed IDC for the instant assets and has submitted the Auditor's certificates in support of the same. The Petitioner has submitted IDC computation statement which also shows the discharge details of IDC given below:-

Asset	IDC as per Auditor Certificate	Details of IDC Discharged		
		up to COD	2017-18	2018-19
I	49.98	21.86	23.72	4.40
II	473.52	412.34	60.40	0.78
III	473.44	372.36	95.91	5.17

33. The Petitioner has submitted the statement showing loan wise drawl date, interest rate, interest claimed and discharges made. The IDC statement as submitted by the petitioner is not matching with the IDC claimed in Auditor certificate. Therefore, the IDC as shown in the Auditor certificate has been considered as allowable IDC. IDC has been worked out and allowed as on COD of respective assets on cash basis. The balance IDC discharged after COD of assets



has been considered as part of additional capital expenditure. The IDC has been computed on the basis of available information and is subject to true-up. The allowed IDC is as under:

(₹ in lakh)

Asset	IDC claimed as per Auditor Certificate	IDC Discharged up to COD	IDC discharged in 2017-18	IDC discharged in 2018-19
I	49.98	21.86	23.72	4.40
II	473.52	412.34	60.40	0.78
III	473.44	372.36	95.91	5.17

### **Incidental Expenditure during Construction (IEDC)**

34. The Petitioner vide Auditor's Certificates has claimed IEDC of ₹253.98 lakh, ₹87.14 lakh and ₹87.17 lakh in respect of the instant assets and has submitted that the entire IEDC claimed has been discharged as on COD. The IEDC claimed as on COD by the Petitioner is beyond the 2.95% of hard cost as indicated in the abstract cost estimate of RCE in respect all of the instant Assets. Therefore, IEDC in excess of 2.95% of hard cost is not allowed to be capitalized and the same is summarized below:

(₹ in lakh)

Asset	IEDC claimed as per Auditor Certificate	Excess IEDC Disallowed (beyond 2.95% of the Hard cost)	IEDC allowed to be capitalised
I	253.98	220.63	33.35
II	87.47	24.46	62.68
III	87.17	24.46	62.71

### **Initial spares**

35. Regulation 13(d) of the 2014 Tariff Regulations provides that initial spares shall be capitalised as a percentage of Plant & Machinery cost upto cut-off date, subject to the ceiling norms as specified in the 2014 Tariff Regulations.



36. The initial spares claimed by the Petitioner are within the ceiling limit of the 2014 Tariff Regulations. Thus, claimed initial spares have been allowed. The details are as under:

(₹ in lakh)

Asset	Sub-station (Brown Field)					
	Plant & Machinery Cost (Excluding IDC/IEDC, Land cost & Cost of Civil Works) for the purpose of Initial Spares	Initial Spares Claimed	Initial spares as % of Capital Cost	Ceiling limit (%)	Excess Initial spares	Initial spares allowed
I	1130.37	40.01	3.54	6	NIL	40.01
II	1703.64	8.80	0.52	6	NIL	8.80
III	1704.43	8.80	0.52	6	NIL	8.80

### Capital cost as on COD

37. Accordingly, the capital cost allowed as on COD under Regulation 9(2) of the 2014 Tariff Regulations is summarized as under:-

(₹ in lakh)

Asset	Capital Cost claimed as on COD (A)	Un-discharged IDC liability (B)	Excess IEDC disallowed as on COD (C)	Capital Cost as on COD considered for tariff calculation (D)=A-B-C
I	1308.94	28.12	220.63	1060.19
II	2420.64	61.18	24.46	2335.00
III	2444.45	101.08	24.46	2318.91

### Additional Capital Expenditure (ACE)

38. As per Clause (13) of Regulation 3 of the 2014 Tariff Regulations, the cut-off date in respect of Asset-I, Asset-II and Asset-III is 31.3.2019. The claim of additional capital expenditure has been dealt in accordance with Regulation 14. The Petitioner has claimed the following ACE on estimation basis in respect of the instant assets and submitted the Auditor's Certificates in support of the same:-





(₹ in lakh)

Asset	Estimated Additional capital expenditure in the FY		Total Additional capital expenditure claimed by Petitioner as on 31.3.2019
	2017-18	2018-19	
I	69.82	55.56	125.38
II	57.69	207.15	264.84
III	8.50	233.28	241.78

39. We have considered the submissions of the Petitioner and respondents. The Petitioner has claimed additional capital expenditure towards balance and retention payments and the same may be allowed as per Regulation 14(1) of the Tariff Regulations, 2014 for FY 2017-18 and 2018-19 for instant Asset-I to III. The entitled un-discharged IDC as on COD has been allowed as ACE during the year of its discharge. The allowed Additional Capital expenditure are summarized below which is subject to true up:-

(₹ in lakh)

Allowed Add-cap	Asset-I		Asset-II		Asset-III	
	2017-18	2018-19	2017-18	2018-19	2017-18	2018-19
ACE to the extent of work deferred for execution	69.82	55.56	57.69	207.15	8.50	233.28
Discharges of un-discharged IDC as on COD	23.72	4.40	60.40	0.78	95.91	5.17
<b>Total allowed add-cap</b>	<b>93.54</b>	<b>59.96</b>	<b>118.09</b>	<b>207.93</b>	<b>104.41</b>	<b>238.45</b>

### **Capital cost as on 31.3.2019**

40. Accordingly, the capital cost considered for the tariff period 2014-19, subject to truing up, is as under:-



(₹ in lakh)

Asset	Capital Cost Allowed as on COD	ACE Allowed for FY		Total Estimate Completion Cost as on 31.3.2019
		2017-18	2018-19	
I	1060.19	93.54	59.96	1213.69
II	2335.00	118.09	207.93	2661.02
III	2318.91	104.41	238.45	2661.77

### Debt-Equity Ratio

41. Debt:Equity Ratio is considered as per Regulation 19 of the 2014 tariff Regulations. The financial package up to COD as submitted in form 6 has been considered to determine the debt equity Ratio. The capital cost allowed as on the date of commercial operation arrived at as above and additional capitalization allowed have been considered in the debt-equity ratio of 80:20. The debt-equity as on dates of commercial operation and 31.3.2019 considered on normative basis are as under:-

(₹ in lakh)

Asset I				
Particular	Capital cost as on COD		Capital cost as on 31.3.2019	
	Amount	%	Amount	%
Debt	848.15	80.00	970.95	80.00
Equity	212.03	20.00	242.73	20.00
<b>Total</b>	<b>1060.19</b>	<b>100.00</b>	<b>1213.69</b>	<b>100.00</b>

Asset II				
Particular	Capital cost as on COD		Capital cost as on 31.3.2019	
	Amount	%	Amount	%
Debt	1,868.00	80.00	2128.82	80.00
Equity	467.00	20.00	532.20	20.00



<b>Asset II</b>				
<b>Particular</b>	<b>Capital cost as on COD</b>		<b>Capital cost as on 31.3.2019</b>	
	<b>Amount</b>	<b>%</b>	<b>Amount</b>	<b>%</b>
<b>Total</b>	<b>2335.00</b>	<b>100.00</b>	<b>2661.02</b>	<b>100.00</b>

<b>Asset III</b>				
<b>Particular</b>	<b>Capital cost as on COD</b>		<b>Capital cost as on 31.3.2019</b>	
	<b>Amount</b>	<b>%</b>	<b>Amount</b>	<b>%</b>
Debt	1,855.13	80.00	2129.42	80.00
Equity	463.78	20.00	532.35	20.00
<b>Total</b>	<b>2318.91</b>	<b>100.00</b>	<b>2661.77</b>	<b>100.00</b>

### **Return on Equity**

42. The Petitioner has submitted that RoE has been calculated at the rate of 19.61% after grossing up the RoE with MAT rate of 20.961% as per the above Regulations. The Petitioner has further submitted that the grossed up RoE is subject to truing up based on the effective tax rate of respective financial year applicable to the Petitioner Company.

43. We have considered the submissions made by the Petitioner and 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. Accordingly, the MAT rate applicable during 2013-14 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.

44. Accordingly, the RoE allowed is as follows:-

(₹ in lakh)

<b>Asset I</b>		
<b>Particulars</b>	<b>2017-18 (pro-rata)</b>	<b>2018-19</b>
Opening Equity	212.03	230.74
Addition due to Additional Capitalization	18.71	11.99
Closing Equity	230.74	242.73
Average Equity	221.39	236.74
Return on Equity (Base Rate )	15.50%	15.50%
MAT rate for the Financial year	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%
<b>Return on Equity (Pre-tax)</b>	<b>28.90</b>	<b>46.42</b>

<b>Asset II</b>		
<b>Particulars</b>	<b>2017-18 (pro-rata)</b>	<b>2018-19</b>
Opening Equity	467.00	490.62
Addition due to Additional Capitalization	23.62	41.59
Closing Equity	490.62	532.20
Average Equity	478.81	511.41
Return on Equity (Base Rate )	15.50%	15.50%
MAT rate for the Financial year	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%
<b>Return on Equity (Pre-tax)</b>	<b>65.34</b>	<b>100.29</b>

<b>Asset III</b>		
<b>Particulars</b>	<b>2017-18 (pro-rata)</b>	<b>2018-19</b>
Opening Equity	463.78	484.66
Addition due to Additional Capitalization	20.88	47.69
Closing Equity	484.66	532.35
Average Equity	474.22	508.50
Return on Equity (Base Rate )	15.50%	15.50%
MAT rate for the Financial year	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%
<b>Return on Equity (Pre-tax)</b>	<b>28.28</b>	<b>99.72</b>



### **Interest on loan (IOL)**

45. The IoL has been calculated as per the provisions of Regulation 26 of the 2014 Tariff Regulations as detailed below:-

- a) The Gross Normative loan has been considered as per the Loan amount determined based on the debt equity ratio applied on the allowed capital cost.
- b) The depreciation of every year has been considered as Normative repayment of loan of concerned year;
- c) The weighted average rate of interest on actual loan portfolio has been worked out by considering the Gross amount of loan, repayment & rate of interest as mentioned in the petition, which has been applied on the normative average loan during the year to arrive at the interest on loan.

46. The Petitioner has submitted that the IoL has been claimed on the basis of rate prevailing as on COD and the change in interest due to floating rate of interest applicable, if any, needs to be claimed/ adjusted over the tariff block 2014-19. We have calculated IoL on the basis of rate prevailing as on the date of commercial operation. Any change in rate of interest subsequent to the date of commercial operation will be considered at the time of truing-up. The IOL is allowed considering all the loans submitted in Form-9C. The Petitioner is directed to reconcile the total Gross Loan for the calculation of weighted average Rate of Interest and for the calculation of IDC, which would be reviewed at the time of truing-up.

47. Based on above, details of IOL calculated are as follows:-

(₹ in lakh)		
<b>Asset I</b>		
<b>Particulars</b>	<b>2017-18 (pro-rata)</b>	<b>2018-19</b>
Gross Normative Loan	848.15	922.98
Cumulative Repayment up to previous Year	0.00	38.91



<b>Asset I</b>		
<b>Particulars</b>	<b>2017-18 (pro-rata)</b>	<b>2018-19</b>
Net Loan-Opening	848.15	884.07
Addition due to Additional Capitalization	74.83	47.97
Repayment during the year	38.91	62.50
Net Loan-Closing	884.07	869.54
Average Loan	866.11	876.81
Weighted Average Rate of Interest on Loan	7.8091%	7.7951%
<b>Interest on Loan</b>	<b>45.03</b>	<b>68.35</b>

<b>Asset II</b>		
<b>Particulars</b>	<b>2017-18 (pro-rata)</b>	<b>2018-19</b>
Gross Normative Loan	1868.00	1962.47
Cumulative Repayment up to previous Year	0.00	81.23
Net Loan-Opening	1868.00	1881.25
Addition due to Additional Capitalization	94.47	166.34
Repayment during the year	81.23	124.80
Net Loan-Closing	1881.25	1922.79
Average Loan	1874.62	1902.02
Weighted Average Rate of Interest on Loan	8.1821%	8.1416%
<b>Interest on Loan</b>	<b>106.74</b>	<b>154.86</b>

<b>Asset III</b>		
<b>Particulars</b>	<b>2017-18 (pro-rata)</b>	<b>2018-19</b>
Gross Normative Loan	1855.13	1938.66
Cumulative Repayment up to previous Year	0.00	35.16
Net Loan-Opening	1855.13	1903.50
Addition due to Additional Capitalization	83.53	190.76
Repayment during the year	35.16	124.04
Net Loan-Closing	1903.50	1970.22
Average Loan	1879.32	1936.86
Weighted Average Rate of Interest on Loan	8.0802%	8.0357%
<b>Interest on Loan</b>	<b>46.18</b>	<b>155.64</b>

### Depreciation

48. Depreciation has been dealt with in line of Regulation 27 of 2014 Tariff Regulations. The instant transmission Asset was put under commercial operation during 2017-18. Accordingly, it will complete 12 years after 2018-19. As such, depreciation has been calculated annually based on Straight Line Method at the rates specified in Appendix-II to the 2014 Tariff Regulations. Details of the



depreciation allowed are as under:-

(₹ in lakh)

<b>Asset I</b>		
<b>Particulars</b>	<b>2017-18 (pro-rata)</b>	<b>2018-19</b>
Opening Gross Block	1060.19	1153.73
Additional Capital expenditure	93.54	59.96
Closing Gross Block	1153.73	1213.69
Average Gross Block	1106.96	1183.71
Rate of Depreciation	5.2800%	5.2800%
Depreciable Value	996.26	1065.34
Remaining Depreciable Value	996.26	1026.42
<b>Depreciation</b>	<b>38.91</b>	<b>62.50</b>

<b>Asset II</b>		
<b>Particulars</b>	<b>2017-18 (pro-rata)</b>	<b>2018-19</b>
Opening Gross Block	2335.00	2453.09
Additional Capital expenditure	118.09	207.93
Closing Gross Block	2453.09	2661.02
Average Gross Block	2394.05	2557.06
Rate of Depreciation	4.8756%	4.8805%
Depreciable Value	2154.64	2301.35
Remaining Depreciable Value	2154.64	2220.12
<b>Depreciation</b>	<b>81.23</b>	<b>124.80</b>

<b>Asset III</b>		
<b>Particulars</b>	<b>2017-18 (pro-rata)</b>	<b>2018-19</b>
Opening Gross Block	2318.91	2423.32
Additional Capital expenditure	104.41	238.45
Closing Gross Block	2423.32	2661.77
Average Gross Block	2371.11	2542.54
Rate of Depreciation	4.8754%	4.8785%
Depreciable Value	2134.00	2288.29
Remaining Depreciable Value	2134.00	2253.13
<b>Depreciation</b>	<b>35.16</b>	<b>124.04</b>

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

49. The Petitioner has claimed the following O&M expenses in the instant petition:-



Asset	O & M expenses claimed by the Petitioner (₹ in lakh)	
	2017-18	2018-19
II	46.31	68.71
III	20.38	68.71

50. The Petitioner has submitted that norms for O & M Expenses for the tariff period 2014-19 have been arrived on the basis of normalized actual O&M Expenses during the period 2008-13. The Petitioner has further submitted that the wage revision of the employees of the Petitioner is due during the 2014-19 tariff period and actual impact of wage hike, which will be effective at a future date, has not been factored in fixation of the normative O & M rate specified for the tariff period 2014-19. The Petitioner has submitted that it would approach the Commission for suitable revision in norms for O & M Expenses for claiming the impact of wage hike during 2014-19, if any.

51. The O & M Expenses have been worked out as per the norms specified in the 2014 Tariff Regulations. As regards the impact of wage revision, any application filed by the Petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations.

52. Regulation 29(4)(a) of the 2014 Tariff Regulations specifies the norms for O&M Expenses for the transmission system based on the type of sub-station and the transmission line as follows:-

Element	(₹ in lakh)	
	2017-18	2018-19
Bay: 400 kV	66.51	68.71

53. We have considered the submissions made by the Petitioner. The O&M Expenses have been worked out as per the norms specified in the 2014 Tariff Regulations. Accordingly, the O & M Expenses allowed is given as under:-





Details	(₹ in lakh)	
	2017-18 (pro-rata)	2018-19
<b>Asset II (COD: 21.7.2017)</b>		
1 No. 400 kV Bus reactor Bay	46.31	68.71
<b>Asset III (COD: 11.12.2017)</b>		
1 No. 400 kV Bus reactor Bay	20.38	68.71

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

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

**a) Maintenance spares:**

Maintenance spares @ 15 % of Operation and Maintenance expenses specified in Regulation 28.

**b) O & M expenses:**

O & M expenses have been considered for one month of the O & M expenses.

**c) Receivables:**

The receivables have been worked out on the basis of 2 months' of annual fixed cost as worked out above.

**d) Rate of interest on working capital:**

As per Clause 28 (3) of the 2014 Tariff Regulations, SBI Base Rate (9.10%) as on 01.04.2017 Plus 350 Bps i.e. 12.60% have been considered as the rate of interest on working capital for the asset.

55. Accordingly, the interest on working capital is summarized as under:-

Particulars	(₹ in lakh)					
	Asset I		Asset II		Asset III	
	2017-18 (Pro-rata)	2018-19	2017-18 (Pro-rata)	2018-19	2017-18 (Pro-rata)	2018-19
O&M expenses	0.00	0.00	5.55	5.73	5.58	5.73
Maintenance Spares	0.00	0.00	9.98	10.31	10.05	10.31



Particulars	Asset I		Asset II		Asset III	
	2017-18 (Pro-rata)	2018-19	2017-18 (Pro-rata)	2018-19	2017-18 (Pro-rata)	2018-19
Receivables	28.91	30.24	73.63	76.72	73.11	76.63
<b>Total working capital</b>	28.91	30.24	89.16	92.76	88.74	92.66
Rate of Interest	12.60%	12.60%	12.60%	12.60%	12.60%	12.60%
<b>Interest on working capital</b>	<b>2.43</b>	<b>3.81</b>	<b>7.82</b>	<b>11.69</b>	<b>3.40</b>	<b>11.68</b>

### Annual Transmission Charges

56. Accordingly, the annual transmission charges being allowed for the instant assets are as under:

(₹ in lakh)

Particulars	Asset I		Asset II		Asset III	
	2017-18 (pro-rata)	2018-19	2017-18 (pro-rata)	2018-19	2017-18 (pro-rata)	2018-19
Depreciation	38.91	62.50	81.23	124.80	35.16	124.04
Interest on Loan	45.03	68.35	106.74	154.86	46.18	155.64
Return on Equity	28.90	46.42	65.34	100.29	28.28	99.72
Interest on Working Capital	2.43	3.81	7.82	11.69	3.40	11.68
O & M Expenses	0.00	0.00	46.31	68.71	20.38	68.71
<b>Total</b>	<b>115.49</b>	<b>181.41</b>	<b>307.43</b>	<b>460.34</b>	<b>133.40</b>	<b>459.78</b>

### Filing Fee and Publication Expenses

57. 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 is 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.



### **License Fee and RLDC Fees and Charges**

58. 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 license fee and RLDC fees and charges in accordance with Clause (2)(b) and (2)(a), respectively, of Regulation 52 of the 2014 Tariff Regulations.

### **Goods and Services Tax**

59. The Petitioner has prayed for reimbursement of tax, if any, on account of proposed implementation of GST. GST is not levied on transmission service at present and we are of the view that Petitioner's prayer is premature.

### **Sharing of Transmission Charges**

60. Transmission charges for all the assets allowed in this order shall be recovered on monthly basis in accordance with Regulation 43 of the 2014 Tariff Regulations. 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.

61. This order disposes of Petition No. 242/TT/2018.

Sd/-  
**(I. S. Jha)**  
Member

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

Sd/-  
**(P. K. Pujari)**  
Chairperson

