

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 168/TT/2018**

**Coram:**

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

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

**Date of Hearing: 23.10.2018**

**Date of Order : 20.02.2019**

**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 DOCO to 31-03-2019 for assets under "Fiber Optic Communication system for central sector Sub-stations & Generating Stations" in Southern Region.

**And in the matter of:**

Power Grid Corporation of India Limited

"Saudamini", Plot No.2,

Sector-29, Gurgaon -122 001

**.....Petitioner**

**Vs**

1. National Thermal Power Corporation Ltd. (NTPC)  
NTPC Bhawan, Core-7, Scope Complex  
7, Institutional Area, Lodhi Road, New Delhi 110003
2. Neyveli Lignite Corporation Ltd.  
P.O. Neyveli – 607801  
Cuddalore Dist., Tamil Nadu
3. Nuclear Power Corporation of India Ltd. (NPCIL)  
Nabhikya Bhawan, Anu-Shakti Nagar,  
Mumbai – 400094
4. NTPC Tamil Nadu Energy Company Ltd. (NTECL)  
G-Block, 123 & 123A, 12th Street, Anna Nagar (East)  
Chennai – 600102



5. Meenakshi Energy Private Limited  
Meenakshi Plot 119  
Road No. 10, Jubilee Hills  
Hyderabad – 500033
6. Simhapuri Energy Limited  
6-3-866/2, 3rd Floor, Begumpet  
Madhucon Green lands,  
Hyderabad – 500016
7. LANCO, Kondapalli Power Pvt. Ltd.  
Plot No. 4, Software Units Layout,  
HITECH City, Madhapur,  
Hyderabad – 500081
8. Andhra Pradesh Power Co-ordination Committee  
APTRANSCO, Vidyut Soudha, Hyderabad 500082
9. Power Company of Karnataka Ltd.  
Room No. 503, KPTCL Building, Kaveri Bhavan  
Bangalore -560009, Karnataka
10. Kerala State Electricity Board  
Vydyuthi Bhavanam, Pattom  
Thiruvananthapuram – 695004
11. TANGEDCO  
7th Floor, Eastern Wing  
144, Anna Salai  
Chennai - 600002
12. Electricity Department  
Government of Puducherry  
Puducherry – 605001
13. Electricity Department  
Government of Goa  
Curti- Ponda, Goa – 403401       .....**Respondents**



**Present parties:** Shri S Vallinayagam, Advocate, PGCIL  
Shri V. P. Rastogi, PGCIL  
Shri S. K. Venkatesan, PGCIL  
Shri S. S. Raju, PGCIL

## ORDER

The present petition has been filed by the petitioner, Power Grid Corporation of India Ltd. ("PGCIL") seeking approval of transmission tariff for assets under "Fiber Optic Communication system for central sector Sub-stations & Generating Stations" in Southern Region." (hereinafter referred to as "transmission system") for 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "2014 Tariff Regulations").

2. The petitioner has made the following prayer:

(i) Approve the Transmission Tariff for the tariff block 2014- 19 for the assets covered under this petition.

(ii) Admit the capital cost as claimed in the petition and approve the Additional Capitalisation incurred/ projected to be incurred.

(iii) Tariff may be allowed on the estimated completion cost, since few elements of the project are yet to be completed, the completion cost for the assets covered under instant Petition are within the overall project cost.

(iv) Allow the petitioner to approach Hon'ble Commission for suitable revision in the norms for O&M expenditure for claiming the impact of wage hike, if any, during period 2014-19.

(v) 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.

(vi) 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 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and other expenditure (if any) in relation to the filing of petition.

(vii) Allow the petitioner to bill and recover License fee and RLDC fee and charges, separately from the respondents in terms of Regulation: 52 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

(viii) 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.

(ix) Allow the Petitioner to bill and recover Service tax on Transmission Charges separately from the respondents, if at any time service tax on transmission is withdrawn from 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.

(x) Allow tariff up to 90% of the Annual Fixed Charges in accordance with clause: 7 (i) of Regulation: 7 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for the purpose of POC Charges.

(xi) 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.

(xii) Allow the petitioner to bill Tariff from actual DOCO.

**3.** The investment approval of the project was accorded by Board of Directors of POWERGRID vide the Memorandum No. C/CP/FO-SR dated 06-06-2012, at an estimated cost of ₹ 174.16 Crore including IDC of ₹ 9.74 Crore, price level - February 2012. Further, the RCE of the project was approved by Board of Directors of POWER GRID vide the Memorandum No.: C/CP/PAI718-12-OE-RCE005 dated 28.12.2017, at an estimated cost of ₹ 194.74 Crore including IDC of ₹ 12.33 Crore, price level June' 2017.



### **Scope of the Project:**

4. The scope of work as per Original Investment approval for the project "Fiber Optic Communication system for central sector Sub-stations & Generating Stations" in Southern Region is given below.

i) Installation of

1. 5207KM of OPGW fiber optic cable on existing/ new EHV transmission lines of POWERGRID/SEBs
2. 118No.s of Terminal equipment for communication based on Synchronous Digital Hierarchy (SDH) technology.
3. 90No.s of Multiplexers
4. 45No.s of DC Power supply and
5. 1 No. Network Management System (NMS)

ii) Sharing of 499KM of OPGW Fiber under POWERGRID Telecom network

5. The petitioner submitted that POSOCO vide their correspondences dated 04.05.2012 & 16.08.2012 requested for installation of reliable voice communication facilities (Hot Line Speech Communication Systems for Grid Operation) due to the problems faced in view of expansion of power system in terms of increase in number of power plants, substations etc. that are reporting to RLDCs and SLDCs. Due to limited capacity and functionality it was not possible to accommodate the speech requirement of all the power plants in the existing telephone exchanges. During the grid disturbances on 30.07.2012 and 31.07.2012 the operators at control centers faced many problems in connecting the speech to other control centers and important stations due to non-availability of fast dialing, easy directory sorting and inter-regional voice connectivity etc. which consequently affected the grid restoration process. In view of these requirements, approval for establishment of "Hot Line Speech Communication Systems for Grid Operation" as a part of ongoing ULDC projects was accorded on 31.08.2012. The petitioner submitted that the total cost for



establishment of “Hot Line Speech Communication Systems for Grid Operation” is estimated at ₹ 15.80 Crore and is allocated to these projects as per the following details:

S. No.	Region	Approximate cost Estimate (₹ in Crore)	Project
1	ER	2.89	Establishment of Fiber Optic System for Central Sector Stations in ER
2	NR	4.22	Establishment of Fiber Optic System for Central Sector Stations in NR
3	NER	2.41	Establishment of Fiber Optic System in lieu of existing Microwave links in NER
4	SR	2.64	Establishment of Fiber Optic System for Central Sector Stations in SR
5	WR	3.64	Master Communication Plan
Total estimated cost		15.80 Crore (including taxes)	

Accordingly, apportioned approved cost of ₹ 2.64 Cr for establishment of “Hot Line Speech Communication Systems for Grid Operation” in Southern region has been considered in the Revised Cost estimates.

6. Based on the above developments, the petitioner has revised Scope of the project and the Revised Cost Estimate (RCE) was approved by the board of the petitioner. The revised scope as per the RCE is shown below.

i) Installation of

1. 5256 Kms. of OPGW fiber optic cable on existing/ new EHV transmission lines of POWERGRID/SEBs
2. 140 Nos. of Terminal equipment for communication based on Synchronous Digital Hierarchy (SDH) technology.
3. 143 Nos. of Multiplexers
4. 22 Nos. of DC Power supply and
5. 3 Nos. Network Management System (NMS)



- ii) Sharing of 2288 km of OPGW Fiber under POWERGRID Telecom network.
- iii) Hot line speech communication (Computer dialing) System for Grid Operation under Southern Region.

## 7. Details of the assets with their respective COD(s)

- (i) The details of the assets covered under the instant petition for determination of transmission tariff is given below:-

Asset	Name of the Asset	DOCO
Asset-1A	OPGW Communication Link of 7.47 km for Nellore Pooling Station - 400kV Nellore PG.	01.04.2013
Asset-1B	OPGW Communication Link of 22.88 km 400kV Raichur - 765kV Raichur	01.01.2014
Asset-1C	OPGW Communication Link of 32.73 km for NELLORE POOLING STATION - TPCIL (Thermo Power tech Corporation India Ltd)	01.03.2014
Asset-1D	OPGW Communication Link of 9.88 km for Kurnool (New) - Kurnool Substation.	01.04.2014
Asset-2	148 km OPGW fiber optic cable along with associated equipment's for 1) LILO of N'Sagar - Gooty at Kurnool (PG)-30 km. 2) 765kV Raichur-Kurnool (PG) – 118km.	27.09.2014
Asset-3	159km OPGW fiber optic cable along with associated equipment's for 1) 400kV Kadapa(PG) - Chittor (APTRANSCO) -159 kms 2) 400kV Kadapa(PG) - Chinakampally(APTRANSCO)-approach Cable).	01.10.2014
Asset-4	1717.112KM OPGW fiber optic cable along with associated equipments (includes 966.436Km under cost apportionment with POWERTEL) for 400 kV Neyveli TS-II-400 kV Neyveli TS-1 Expn. (13.921 km), Tuticorin Pooling Station-Madurai S/S (95.361 km), Madurai Sub LDC(TNEB)-MADURAI 230 kV (TNEB)-Madurai(PG)-13.794 km, 400 KV PUGALUR(PG)-Trichy (TNEB)-TRICHY(PG)-94.150 km., 230 kV TANJORE(TNEB)-400 KV TRICHY(TNEB)-58.014 km, 230 KV THIRUVAUR(TNEB)-230kV Tanjore (TNEB)-71.909 km, 400 KV Hassan PG)-Neelmangla (KPTCL) 204.936 km, 400 kV NARENDRA-DAVENGERE- 153.393 km, LILO of Neyveli TS-II –Trichy to Nagapattinam- 45.198 km, and <b>Telecom links under Fibre Sharing</b> Madurai-Trichy-129.584 km, Madurai-Tirunelveli & Tirunelveli Trivandrum- 267.824 km., Sriperambadurur-Kalivindapattu-30.697 km, Udumalpet- Arasur-65.048 km, Salem-Udumalpet-147.383 km, Neyveli TS-II to –Trichy - 163.70 km., KOLAR-Sriperambadur-162.20 km.	30.03.2015
Asset-5	956.599KM OPGW communication links along with associated Communication Equipment (includes 132.30Km under cost apportionment with POWERTEL) for Kochi-Trichur-78.261 kms, Kundakulam-Tirunelveli Link -11(79.517 km), Kolar-HOODY (51.024 km), Kudgi-Kolhapur (191.273 km), Narendra –Kudgi (176.13 km), Kochi-Brahmapuram(KSEB)- 6.598 km, Tiruvarur- Kadalangudi (TANTRANSO)- 47.954 km, Tirunelveli- Edamon (82.59 km), NEYVELI TS 2-Bahour (52.021 km), Salem-Dharampuri (58.931 km), , Sriperambadur-Pondy-132.3 kms Telecom sharing, OPGW Links &EPABX Systems for SRLDC BANGALORE, Main SLDC	31.03.2016



	TANTRANSCO Chennai, Main SLDC KSEB Kalamassery, Backup SLDC KSEB Trivandrum, SCC PED Puduchery, Main SLDC APTRANSCO Vijayawada, Main SLDC TSTRANSCO Hyderabad and EPABX systems (Hot Line Speech Communication Systems for Grid Operation).	
<b>Asset-6</b>	OPGW links for Establishment of Fiber optic communications system for central sector stations Project of Southern Region - 1) 400kV Nagarjun Sagar(PG) - 400kV Mehboob Nagar (185.336 km), 2) 400 kV Raichur (PG) - 400 kV Mehboob Nagar-74.051, 3) Nellore PS- Gooty crossing point to Kadapa – (213.383 kms) 4) 400 kV Simhadri (PG) - 400kV Vemagiri (PG)-194.958 kms, 5) 220 kV Tallapally, APTRANSCO - 220 kV VTPS APTRANSCO-132.636 kms, 6) LILO of Simhadri - Vemagiri (PG) to Gajuwaka-13.207 km, 7) 220 kV Gooty APTRANSCO - 400 kV Gooty (PG)-0419 kms, 8) 220 kV Ghanapur TSTRANSCO - 400 kV Ghanapur PG-0.294 kms, 9) 220 kV Khammam APTransco - 400 kV Khammam PG-0.332 km, 10) 400 kV Vijayawada PG - 220 kV Vijayawada Sub-LDC-0.328 km 11) 400 kV N'Sagar PG- 220 kV Tallapally, APTRANSCO-0.233 km, 12) 400 KV Khammam PG - 400 kV Vijayawada PG-114.565 km (Telecom Sharing), 13) 220 kV Vishakhapatnam VSS - 400 kV Gazuwaka PG- 2 km, 14) Ramagundam NTPC - Repeater-204 -Bhadrawati 15) 400 kV Ghanapur PG - Repeater-346 - Ramagundam NTPC.	01.08.2016
<b>Asset-7</b>	OPGW Communication Link for Bhavani-Sirichery- 36.243 km, 220 kV Kalpakkam (PG-400 kV SP Koil (TNEB)- 30.005 km, 230 kV Kadalangudi-230 kV Neyveli TS-2 – 73.90 km, Mysore-Hootagalli (KPTCL) – 6.384 km, 400 kV Mysore (PG)-400 kV Kozhikode (PG)-215.663 km, Villupuram-Bohour – 16.768 km, 230 kV Neyveli TS-II, 230 kV Neyveli TS-1-8.675 km, 400 kV Kaiga (PG)-Davangere/Gutur – 167.127 km, Alamathy (TNEB)-Vallur-36.023 km, 400 kV LILO of Sriperumbudur-Nellore to Alamathy – 41.253 km, 400 kV Tuticorin PS-Dharmapuri (Upto crossing of Madurai-Tirunelvely)-78.180 km, Telecom and links under Fibre Sharing Kalivindapattu-Sirichery-23.304 km.	30.03.2017
<b>Asset-8</b>	OPGW Communication Link for 1) 400 kV Vijaywada (PG)-Vemagiri (APTRANSCO)-195.366 km; 2) 400 kV LILO of Ramagundam-Khammam to Warangal- 14.198 km; 3) 400 kV Ghanapur-Kurnool (APTRANSCO)-226.502 km, 4) 220 kV KTPS-Khammam TS Transco-67.582 km; 5) 400 kV Munirabad- Raichur; 6) 220 kV Hindupur-Gooty AP Transco and Telecom links under Fibre Sharing: 1) 400kV Nellore-Sriperambudur -188.996 km, 2) 400kV Ramagundam-Warangal – 99.148 km, 3) 400kV Nagarjunsagar- Gooty – 307.529 km, 4) 400kV Vijaywada-Gajuwaka-1416.70 km	01.10.2017

(ii) Petitioner stated that the capital cost of Asset-1A, Asset-1B, Asset-1C and Asset-1D is very small and got commissioned in scattered period of time, thus they have been combined with **Asset 1D**. The combined asset of Asset 1A, 1B, 1C and 1D has been referred as **Asset-1** in instant Petition and tariff for Asset-1 has been claimed w.e.f.01.04.2014.





(iii) Asset-4 under instant petition was initially filed under Petition no. 275/TT/2015.

The Commission, vide Para 11 of order dated 29.07.2016 in Petition no. 275/TT/2015, has directed to withdraw the tariff allowed for Asset-III under Petition no. 275/TT/2015 (Asset-4 under instant Petition) from the computation of POC charges. Petitioner was directed to claim tariff for above mentioned asset afresh along with RLDC certificate as provided under Regulation 5(2) of 2014 Tariff Regulations. Therefore, Asset-III under Petition. No. 275/TT/2015 is being filed as Asset-4 under instant Petition.

8. Petitioner has submitted the Auditor certificate and tariff forms based on actual COD in the petition. Further, the petitioner has submitted the details sought vide ROP for hearing held on 31.07.2018 and 23.10.2018.

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

**Asset-1**

(₹ in lakh)

Particulars	21014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	8.35	11.99	15.49	15.49	15.49
Interest on Loan	7.65	10.48	12.83	11.45	10.09
Return on Equity	7.68	11.06	14.32	14.32	14.32
Interest on Working Capital	0.61	0.85	1.08	1.05	1.02
O&M Expenses	1.11	1.38	1.75	1.81	1.87
<b>Total</b>	<b>25.40</b>	<b>35.76</b>	<b>45.47</b>	<b>44.12</b>	<b>42.79</b>

**Asset-2**

(₹ in lakh)

Particulars	21014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	9.57	21.20	23.66	25.39	25.39
Interest on Loan	10.40	21.19	21.29	20.40	17.88
Return on Equity	8.89	19.71	21.99	23.60	23.60
Interest on Working Capital	0.72	1.56	1.75	1.81	1.76
O&M Expenses	0.95	2.37	3.75	3.87	4.00
<b>Total</b>	<b>30.53</b>	<b>66.03</b>	<b>72.44</b>	<b>75.07</b>	<b>72.63</b>



**Asset-3**

(₹ in lakh)

Particulars	21014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	9.90	22.30	24.78	26.52	26.52
Interest on Loan	10.76	22.33	22.32	21.31	18.67
Return on Equity	9.20	20.73	23.03	24.65	24.65
Interest on Working Capital	0.75	1.64	1.83	1.89	1.84
O&M Expenses	1.06	2.52	3.94	4.07	4.21
<b>Total</b>	<b>31.67</b>	<b>69.52</b>	<b>75.90</b>	<b>78.44</b>	<b>75.89</b>

**Asset-4**

(₹ in lakh)

Particulars	21014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1.03	194.95	197.84	202.16	206.21
Interest on Loan	1.09	196.15	179.98	164.67	148.85
Return on Equity	0.96	181.19	183.87	187.88	191.65
Interest on Working Capital	0.07	14.85	15.01	14.91	14.80
O&M Expenses	0.00	30.44	37.59	38.84	40.13
<b>Total</b>	<b>3.16</b>	<b>617.59</b>	<b>614.30</b>	<b>608.46</b>	<b>601.64</b>

(₹ in lakh)

Particulars	Asset-5				Asset-6		
	2015-16	2016-17	2017-18	2018-19	2016-17	2017-18	2018-19
Depreciation	0.39	142.24	138.97	138.08	71.72	126.25	144.19
Interest on Loan	0.40	138.61	121.63	107.60	65.21	106.73	111.93
Return on Equity	0.36	132.20	129.16	128.33	66.66	117.33	134.00
Interest on Working Capital	0.03	11.35	10.88	10.58	5.26	8.49	9.39
O&M Expenses	0.07	33.42	34.53	35.68	15.79	16.31	16.86
<b>Total</b>	<b>1.25</b>	<b>457.82</b>	<b>435.17</b>	<b>420.25</b>	<b>224.64</b>	<b>375.11</b>	<b>416.37</b>

(₹ in lakh)

Particulars	Asset-7			Asset-8	
	2016-17	2017-18	2018-19	2017-18	2018-19
Depreciation	0.42	86.51	104.28	45.87	165.32
Interest on Loan	0.38	74.01	81.77	37.54	128.65
Return on Equity	0.39	80.40	96.91	42.63	153.65
Interest on Working Capital	0.17	5.40	6.32	4.64	11.72
O&M Expenses	2.68	2.77	2.86	36.27	37.47
<b>Total</b>	<b>4.04</b>	<b>249.09</b>	<b>292.14</b>	<b>166.95</b>	<b>496.81</b>

10. 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. 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. No Respondents have filed their reply. Having heard the representatives of the petitioner and having perused the material on record, we proceed to dispose of the petition after considering the petition and affidavits dated 07.05.2018, 20.08.2018 10.09.2018, 08.10.2018, 15.10.2018 and 15.11.2018 filed by the petitioner.

#### **11. Time over run:**

- (i) As per the Investment approval, the assets were scheduled for completion in 30 months from the date of approval of Board of Directors i.e., 06.06.2012. Hence the scheduled date of commercial operation is 06.12.2014. The actual COD(s) of the assets and delay in commissioning the assets are tabulated below:-

<b>Asset</b>	<b>DOCO</b>	<b>Delay (in days)</b>	<b>Delay not Condoned (as detailed below)</b>
Asset-1A	01.04.2013	NIL	
Asset-1B	01.01.2014	NIL	
Asset-1C	01.03.2014	NIL	
Asset-1D	01.04.2014	NIL	
Combined Asset-1	01.04.2014*	NIL	-
Asset-2	27.09.2014	NIL	-
Asset-3	01.10.2014	NIL	-
Asset-4	30.03.2015	114	114
Asset-5	31.03.2016	481	481
Asset-6	01.08.2016	604	604
Asset-7	30.03.2017	845	845
Asset-8	01.10.2017	1030	1030

\*The tariff for Asset 1A, 1B, 1C and 1D are claimed as Asset 1 and the tariff has been claimed by the petitioner w.e.f. 01.04.2014 for the combined Asset1.

- (ii) The petitioner has submitted that there is time over-run of 114 days in commissioning of Asset-4. The reason for delay in commissioning of asset is due to delay in concurrence from Constituent System Constraints.



- (iii) The petitioner has submitted that Asset-5 is delayed due to delay in concurrence from Constituent/ System Constraints. The petitioner has submitted that Kadalangudi- Thiruvarur OPGW link is part of Neyveli-Thiruvarur line and Neyveli-Thiruvarur line LILoed at Kadalangudi. OPGW link of Kadalangudi- Thiruvarur was delayed on account of delays in arranging shutdown of the lines by TANTRANSCO as it was not possible to carry out live line stringing since there was no earth wire in some of the spans. At the request of PED, Neyveli TS-II – Villianur OPGW link is replaced with Neyveli TS-II – Bahour and the change was approved in 25<sup>th</sup> SRPC meeting held on 26.07.2014. Further, due to re-routing of Neyveli- Bahour line through 06 no. new towers, the OPGW stringing was delayed and the full stringing works were completed in the month of March' 16.
- (iv) The petitioner has submitted that Asset-6 is delayed by 604 days. The petitioner has submitted that delay was on account of OPGW stringing which is affected due to cyclone Hud-Hud which Hit coastal Andhra in Oct-2014. The same has severely damaged the Towers vis-a-vis Tower peaks etc. mainly in 1) 400 KV Simhadri- Vemagiri Line & LILo of Simhadri-Vemagiri to Gajuwaka. Installation of OPGW could be commenced only after restoration of Towers damaged due to cyclone; the delay in issuing of continuous / regular PTW pertaining to 400 KV Vemagiri -Simhadri Line considering critical Simhadri Generation; delay in arranging PTW/shutdown of the lines by Transco as it was not possible to carry out live line stringing since there was no earth wire in some of the spans of the lines pertaining to Transco's Row issues faced during execution of OPGW in 1) Nagarjunasagar -



Mehboobnagar 2) Raichur -Mehboobnagar 3) NPS -Gooty crossing point to Kadapa 4) Tallapally -VTPS lines etc.

- (v) The petitioner has submitted that Asset-7 is delayed by 845 days. The petitioner also submitted that the delay is mainly on account of delay in commissioning of Neyveli TS-II – Kadalangudi, & Kaiga - Davangere links. The Kalpakkam-SP Koil link is held up for want of allotment of fibres by TANTRANSCO between SP Koil & Sriperambadur and SP Koil and Neyveli TS-I. TANTRANSCO approval was received in January 17 only. Neyveli TS-II – Kadalangudi OPGW stringing got delayed on account of delay in arranging shutdown of the line since the earth wire is missing in some of the sections and live line stringing was not possible without line shutdown. After completion of OPGW stringing of Kaiga – Davangere, the transmission tower at Loc-182 collapsed during November' 15 due to which OPGW in that section got damaged. Subsequent to erection of new tower and arranging additional OPGW cable by the agency, the OPGW stringing got completed by May' 16. Further, laying of approach cable inside Kaiga premises got delayed on account of delay in arranging permission by NPCIL, Kaiga and due to heavy rains in the months of July & August' 16.
- (vi) The petitioner has submitted that Asset-8 is delayed by 1030 days. The delay is mainly on account of delay in commissioning of Neyveli TS-II – Kadalangudi, & Kaiga - Davangere links. The main delay was on account of OPGW stringing in 220 KV KTPS -Khammam Line in KTPS portion due to construction of 800 MW Unit -VII at Paloncha. Installation of OPGW cable got affected due to diversion of towers between tower No 15 to 12 for facilitating construction of 800 MW Unit -VII at Paloncha. Delay in arranging



shutdown of the lines by TS Transco also dedas it was not possible to carry out Live Line stringing since there was no earth wire in some of the spans.

(vii) We have considered the submissions of the petitioner and perused documents on record regarding time over-run. As per the Investment Approval dated 6.6.2012, the scheduled COD was 6.12.2014. The COD of Asset-4 is considered as 30.3.2015 with corresponding delay of 114 days. The petitioner has submitted that the delay is due to delay in getting shutdown and delay of associated transmission lines. As per the submissions of the petitioner out of the total OPGW length of 1717.12 KM, the petitioner has submitted only part of the OPGW is affected due to delay in getting shutdown and has not submitted link wise delay details. It is also observed that, as per the single line diagram submitted by the petitioner, the OPGW links are spread at various substations of Southern Region. It is not clear from the submissions as to how the links at other locations were affected because of delay in getting shutdown. We are of the view that the delay was not beyond control of the petitioner and accordingly, the time over-run of 114 days is not condoned.

(viii) The COD of the Asset-5 is considered as 31.3.2016 with corresponding delay of 481 days. The petitioner has submitted that the delay is due to delay in arranging shutdown by TANTRANSCO and re-routing of Neyvelli-Bahour line. The links covered under Asset-V are Kochi – Trichur (78.261 KM), Kundakulam - Tirunelveli (CKT-II) ( 79.517 km), Kolar – Hoody (51.024 km), Kudgi – Kolhapur (191.273 Km), Narendra – Kudgi (176.13), Kochi – Brahmapuram (6.598 KM), Kadalangudi – Thiruvarur (47.954 KM), Thrinelveli – Edamon (82.59), Neyveli – Bahour(52.021), Salem – Dharmapuri (58.931),



Sriperambadur – Pondy (132.3). The petitioner has submitted letters dated 16.10.2014, 25.5.2015, 28.5.2015, 10.7.2015, 15.7.2015, 6.8.2015, 28.3.2016, 14.12.2016. The above mentioned letters are related to shut down request of kandalangudi- Thiruvarur and Neyveli-Bahour lines. We find from the submissions of the petitioner that only 99 KM was affected due to delay on account of shutdown approval. The petitioner has not explained about remaining OPGW links i.e. 857.KM. The SCOD of the Asset-5 is 6.12.2014 and the petitioner has to plan in advance for shut down of the associated lines. The petitioner has also not explained in detail when it was planned for shutdown of lines and when it was actually obtained. We are of the view that the delay was not beyond the control of the petitioner and accordingly, the time over-run of 481 days is not condoned.

- (ix) The COD of the Asset-6 is considered as 1.8.2016 with corresponding delay of 604 days. The petitioner has submitted that asset-6 is delayed due to Hud-Hud because of which cyclone towers were damaged; delay due to shut down by APTRANSCO; and RoW problems. The petitioner has not submitted sufficient documentary evidence to substantiate the delay in commissioning of the Asset-6. We are of the view that the delay was not beyond the control of the petitioner and accordingly, the time over-run of 604 days is not condoned.
- (x) The COD of the Asset-7 is considered as 30.3.2017 with corresponding delay of 845 days. The petitioner has submitted that the delay is due to delay in approval from TANTRANSCO for laying cable, delay in arranging shutdown by TANTRANSCO and heavy rains. The links covered under Asset-VII are Bhavini – Sirichery, 220kV Kalpakkam (PG)-400kV SP Koil (TNEB), 230 kV Kadalangudi- 230 kV Neyvelli TS-2, Mysore - Hootagalli (KPTCL), 400 kV



Mysore (PG) - 400 kv Kozhikode (PG), Vilianur – Bahour, 230 kv Neyveli TS-II - 230 kv Neyveli TS-I, 400 kv Kaiga (PG) - 400 kv Narendra (PG), 400 kv Kaiga (PG) - Davangere / Gutur, Alamathy (TNEB) – Vallur, 400 kV LILO of Sri Perumbadur - Nellore to Alamathy, 400 kV Tuticori PS - Dharmapuri (up to Crossing of Madurai -Tirunalveli), Kalivindapattu – Sirichery. The petitioner has not submitted sufficient documentary evidence to substantiate the delay in commissioning of the Asset-7. We are of the view that the delay was not beyond the control of the petitioner and accordingly, the time over-run of 845 days is not condoned.

- (xi) The COD of the Asset-8 is considered as 1.10.2017 with corresponding delay of 1030 days. The petitioner has submitted that the delay is due to construction of 800 MW Unit-VII at Paloncha and delay in arranging shutdown of the lines by TSTRANSCO. The petitioner has not submitted sufficient documentary evidence to substantiate the delay in commissioning of the Asset-8. We are of the view that the delay was not beyond the control of the petitioner and accordingly, the time over-run of 1030 days is not condoned.

## **12. Capital Cost**

- i) This has been dealt in line with Clause (1) and (2) of Regulation 9 of the 2014 Tariff Regulations.
- ii) The details of apportioned approved cost, capital cost as on COD and incurred/projected additional capital expenditure and the estimated completion cost of the instant assets as per Auditor Certificate given in the original petition are as follows:-





(₹ in lakh)

Asset No.	Apportioned Approved Cost (FR)	Apportioned Approved Cost (RCE)	Exp. Up to DOCO	Add cap			Proj. Add cap		Estimated completion Cost
				2014-15	2015-16	2016-17	2017-18	2018-19	
1	401.23	401.23	134.04	0.00	110.67	0.00	0.00	0.00	244.71
2	500.00	499.91	292.84	53.68	0.00	54.64	0.00	0.00	401.16
3	520.00	520.31	308.66	55.39	0.00	54.92	0.00	0.00	418.97
4	2550.00	3820.85	3084.15	0.00	37.31	8.10	128.13	0.00	3257.69
5	2435.37	2943.43	2284.49	0.00	0.00	-74.79	-28.41	0.00	2181.29
6	2628.16	2813.07	1724.72	0.00	0.00	0.00	553.09	0.00	2277.81
7	2420.57	2472.27	1284.66	0.00	0.00	0.00	219.63	286.25	1790.54
8	1671.00	3464.26	496.21	0.00	0.00	0.00	1921.79	390.33	2808.33
<b>Total</b>	<b>13126.33</b>	<b>16935.33</b>	<b>9609.77</b>	<b>109.07</b>	<b>147.98</b>	<b>42.87</b>	<b>2794.23</b>	<b>676.58</b>	<b>13380.50</b>

iii) The capital cost mentioned in Auditor certificate is derived as per books of accounts but the liability details are not mentioned in the certificate. It creates difficulties in reconciliation with the cost and liability given in Form- 4A and Form- 5. Therefore liability amount mentioned in tariff form 4A has been relied upon to determine the allowable cost. The petitioner is directed to submit the Auditor Certificate by clearly mentioning the liability amount and whether the certified cost is inclusive of liability or exclusive of liability at the time of true up of 2014-19 petition.

### **13. Cost Variation**

- i. The Petitioner has the variation in cost is due to the OPGW cost of POWERTEL links under cost sharing to POWERGRID, which was not considered in the estimated cost of Investment approval. Further, cost over-run is also due to additional cost incurred for establishment of “Hot Line Speech Communication Systems for Grid Operation” as a part of instant project for reliable and robust speech communication facilities for secure grid operation.
- ii. We have considered the submissions of the petitioner. It is observed that the completion cost of the assets covered in the instant petition is within



apportioned approved cost based on RCE for the instant assets. Therefore, there is no cost over-run in comparison with RCE cost.

#### **14. Interest During Construction (IDC)**

- i) The petitioner has claimed IDC for all the assets as per Auditor's certificate given in the original petition. The petitioner has submitted IDC computation statement consisting the name of the loan, Drawl date, loan amount, interest rate and Interest claimed. The loan amount as on COD has also been indicated in Form 6 and Form 9C. While going through these documents we have observed a mismatch in loan amount as depicted in the IDC statement and that in the Forms.
- ii) In case of SBI loans, the petitioner has shown multiple date of infusion in all assets. Since the SBI loan was availed on floating rate of interest, the petitioner has to provide the detailed computation of the rate of interest against each such drawl in the IDC computation sheet. However, the petitioner has not provided the rate of interest against each drawl. In case of Asset 4&5, the name of the SBI loan mentioned in IDC statement and the Loan name as mentioned in Form 9C are not matching.
- iii) The allowable IDC has been worked out based on the drawl date as mentioned in IDC statement and the Loan amount & rate of interest as mentioned in Form 9C.
- iv) In case of Combined Asset-I, the allowable IDC has been worked out up to the actual COD of respective assets (i.e. Asset 1A, IB, IC and 1D) and the total allowed IDC has been considered as IDC of the combined Asset 1.
- v) Considering the time overrun decision and available information the claimed IDC, worked out and allowed is as shown below:-



(₹ in lakh)

Asset	Total IDC Claimed as per the Auditor's Certificate	Entitled IDC as on COD as worked out	IDC Dis-Allowed as on COD due to computation difference and time overrun (A-B)	IDC Allowed on cash basis as on COD	Un-discharged portion of Entitled IDC as on COD	Discharge of IDC: Allowed as ACE
a	b	c	d=b-c	e	f=c-e	g
Combined Asset-1	4.32	4.20	0.12	0.00	4.20	4.20
Asset-2	40.35	16.47	23.88	15.10	1.37	1.37
Asset-3	42.19	17.70	24.49	17.70	0.00	0.00
Asset-4	189.92	125.24	64.68	112.25	12.98	12.98
Asset-5	230.65	84.29	146.36	84.29	0.00	0.00
Asset-6	45.12	0.00	45.12	0.00	0.00	0.00
Asset-7	88.68	0.00	88.68	0.00	0.00	0.00
Asset-8	18.11	0.00	18.11	0.00	0.00	0.00
<b>Total</b>	<b>659.34</b>	<b>247.9</b>	<b>411.44</b>	<b>229.34</b>	<b>18.55</b>	<b>18.55</b>

### 15. Incidental Expenditure During Construction (IEDC)

- (i) The claimed IEDC as on COD is within the percentage on hard cost as indicated in the abstract cost estimate. In the instant petition, 10.75% of hard cost is indicated as IEDC in the abstract cost estimate. The petitioner has submitted that the entire IEDC has been discharged as on COD.
- (ii) IEDC for Asset-4 to Asset-8 has been disallowed for the delayed period. Therefore, IEDC being considered for determination of tariff in respect of instant assets is tabulated below:-

Assets	IEDC claimed as per Auditor certificate	IEDC Disallowed due to time over run	IEDC allowed as on COD
	1	2	3= (1-2)
Asset - 1	3.49	0.00	3.49
Asset - 2	21.93	0.00	21.93
Asset - 3	22.93	0.00	22.93
Asset - 4	59.36	6.59	52.77
Asset - 5	56.43	19.47	36.96
Asset - 6	74.68	29.73	44.95
Asset - 7	36.66	17.62	19.04
Asset - 8	25.82	11.23	14.59
<b>Total</b>	<b>301.30</b>	<b>84.64</b>	<b>216.66</b>



## 16. Initial spares

- i) This has been dealt with in line with Regulation 13 of the 2014 Tariff Regulations. The petitioner has claimed ₹ 66.14 lakh and ₹ 93.23 lakh pertaining to communication system for Asset- 6 and asset-8 respectively. Further, Petitioner vide affidavit dated 10.09.2018 has submitted the details of year-wise discharge of initial spare.
- ii) The initial spares have been worked out as per tariff regulation 2014 as shown below:-

(₹ in lakh)

Asset	Cost up to Cut-off date	Initial spares claimed	Ceiling Limit as per 2014 Tariff Regulations	Initial Spares worked out as per CERC norms	Excess Initial Spares
Asset-6	2091.88	66.14	3.5%	73.47	Nil
Asset-8	2671.17	93.23	3.5%	93.50	Nil

## 17. Treatment of Assets shared to telecom business

- (i) The petitioner has submitted that few OPGW links are being shared between POWERGRID Telecom business and transmission business (ULDC). In case of Asset 4, 5, 6 and 7, the petitioner has adjusted the cost of the asset shared with telecom business by de-capitalizing the amount while claiming the Additional Capital expenditure. During the hearing held on 31-07-2018, the petitioner was directed to justify the reason for decapitalising the assets pertaining to telecom business from the additional capital expenditure instead of the cost as on COD. The petitioner stated that the cost is being de-capitalised as and when these links are shared by the POWERGRID Telecom department and not necessarily as on the COD of the Assets. In this regard the petitioner had submitted Form 10B which shows the following details of the asset being de-capitalized.

Asset No in the instant petition	Date of De-cap	Date of capitalisation	Original Book value of the de-capitalised asset	Cum. Depreciation	Net value as on de-cap	Details of de-capitalised Asset
<b>Asset 4</b>	01-04-2017	30-03-2015	<b>162.43</b>	21.73	<b>140.70</b>	400 kV Narendra- avangere Line
<b>Asset 5</b>	01-04-2016	31-03-2016	78.47	0.00	78.47	Cohin- Trichur
	01-04-2016	31-03-2016	6.62	0.00	6.62	Cochin-Brahmapuram 230kV
	01-04-2017	31-03-2016	176.61	11.78	164.83	Narendra- Kudgi
	01-04-2017	31-03-2016	191.79	12.79	179	Kolhapur-763-kudgi
	Total		<b>453.49</b>	24.57	<b>428.92</b>	
<b>Asset-6</b>	01-04-2017	01-08-2016	<b>9.65</b>	0.42	<b>9.23</b>	OPGW Links from LILO of simhadri-vemagiri(PG) to Gajuwaka
<b>Asset 7</b>	01-04-2017	30-03-2017	41.36	0.00	41.36	Almathy-Lilo of Nelolore Sriperambur
	01-04-2017	30-03-2017	216.1	0.00	216.1	Mysore-Kozhikode
	Total		<b>257.46</b>	0.00	<b>257.46</b>	
The petitioner has claimed tariff for all the de-capitalised assets in the instant petition.						

(ii) We have considered the scope of the original investment approval which states that 5207 km of OPGW fiber optic cable shall be installed out of which 499 km of OPGW fiber shall be used for sharing with Powergrid Telecom Network. This original scope was subsequently revised into 5256 km of OPGW Fiber cable and out of which 2288 km of OPGW Fiber has been earmarked for sharing with POWERGRID Telecom network. Therefore, the apportioned actual cost of such OPGW links pertaining to telecom business should not be included in the Capital Cost for the purpose of transmission tariff. But in the instant case, the petitioner has claimed the tariff on the entire cost (i.e. including the shared portion) starting from its COD and thereafter reducing the written down value amount after 1-2 years in the name of de-capitalisation. We are of the view that, since the investment approval itself includes sharing aspects of certain length of OPGW links with POWERGRID Telecom network and the actual installation of completed asset (including POWERGRID Telecom network part) was done accordingly, the apportioned cost of the asset meant for telecom business should be excluded from the capital cost as on COD of the asset. Although the delay in sharing was procedural, we are of the view that due to procedural delay of POWERGRID,



beneficiaries should not be charged. Accordingly, the Original Book value as on COD of the shared assets as submitted by the petitioner in Form 10B are adjusted from the capital cost as on COD instead of de-capitalising the net value through Additional capitalization.

### **18. Capital Cost allowed as on COD**

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

(₹ in lakh)

Assets	Capital Cost claimed as on COD (A)	IDC Dis-Allowed as on COD due to computational difference (B)	Un-discharged IDC liability (C)	IEDC Disallowed (D)	Excess Initial Spares disallowed as on COD (E)	Assets pertaining to telecom business (F)	Capital Cost as on COD considered for tariff calculation (G)=A-B-C-D-E-F
Asset 1	134.04	0.12	4.20	0.00	-	-	129.72
Asset 2	292.84	23.88	1.37	0.00	-	-	267.59
Asset 3	308.66	24.49	0.00	0.00	-	-	284.17
Asset 4	3084.15	64.68	12.98	6.59	0.00	162.43	2837.46
Asset 5	2284.49	146.36	0.00	19.47	-	453.49	1665.17
Asset 6	1724.72	45.12	0.00	29.73	0.00	9.65	1640.22
Asset 7	1284.66	88.68	0.00	17.62	-	257.46	920.90
Asset 8	496.21	18.11	0.00	11.23	0.00	-	466.87
<b>Total</b>	<b>9609.77</b>	<b>411.44</b>	<b>18.55</b>	<b>84.64</b>	<b>0.00</b>	<b>883.03</b>	<b>8212.10</b>

### **19. Additional Capital Expenditure (ACE)**

i. The cut-off date for the assets as per Clause (13) of Regulation 3 of CERC Tariff

Regulations 2014 is given below:-

Assets	Actual COD	Cut off date
Asset-1A*	01.04.2013	01.04.2016
Asset-1B*	01.01.2014	01.04.2017
Asset-1C*	01.03.2014	01.04.2017
Asset-1D*	01.04.2014	01.04.2017
Asset-2	27.09.2014	01.04.2017
Asset-3	01.10.2014	01.04.2017
Asset-4	30.03.2015	01.04.2018
Asset-5	31.03.2016	01.04.2019
Asset-6	01.08.2016	01.04.2019
Asset-7	30.03.2017	01.04.2020
Asset-8	01.10.2017	01.04.2020

\* These assets are combined as Asset 1.



ii. The claim of additional capital expenditure has been dealt in accordance with Regulation 14.

iii. The ACE claimed as per Auditor certificate is shown in the table at Para 10 above.

In addition to this, the petitioner has claimed the discharge of IDC liability as ACE.

iv. The ACE claimed in Form 7 of the petition is summarized as under

<b>Asset-1</b>		<b>(₹ in lakh)</b>			
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Discharge of un-discharge liabilities on Hard cost	<b>0.00</b>	85.54	0.00	0.00	0.00
Add cap towards works deferred for execution (by addition into gross block)	0.00	25.13	0.00	0.00	0.00
Total add-cap as per Auditor Certificate (excluding IDC liability)(1+2)	0.00	110.67	0.00	0.00	0.00
Discharge of IDC Liability	4.32	0.00	0.00	0.00	0.00
<b>Total add-cap claimed as per Form 7 (3+4)</b>	<b>4.32</b>	<b>110.67</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

<b>Asset-2</b>		<b>(₹ in lakh)</b>			
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Discharge of un-discharge liabilities on Hard cost	7.54	0.00	54.64	0.00	0.00
Add cap towards works deferred for execution (by addition into gross block)	46.14	0.00	0.00	0.00	0.00
Total add-cap as per Auditor Certificate (excluding IDC liability)(1+2)	53.68	0.00	54.64	0.00	0.00
Discharge of IDC Liability	1.63	23.12	0.00	0.00	0.00
<b>Total add-cap claimed as per Form 7 (3+4)</b>	<b>55.31</b>	<b>23.12</b>	<b>54.64</b>	<b>0.00</b>	<b>0.00</b>

<b>Asset-3</b>		<b>(₹ in lakh)</b>			
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Discharge of un-discharge liabilities on Hard cost	<b>17.07</b>	0.00	54.91	0.00	0.00
Add cap towards works deferred for execution (by addition into gross block)	38.32	0.00	0.00	0.00	0.00
Total add-cap as per Auditor Certificate (excluding IDC liability)(1+2)	55.39	0.00	54.91	0.00	0.00
Discharge of IDC Liability	0.57	23.40	0.00	0.00	0.00
<b>Total add-cap claimed as per Form 7 (3+4)</b>	<b>55.96</b>	<b>23.40</b>	<b>54.91</b>	<b>0.00</b>	<b>0.00</b>



**Asset-4****(₹ in lakh)**

Particulars	2015-16	2016-17	2017-18	2018-19
Discharge of un-discharge liabilities on Hard cost	37.31	8.10	128.13	0.00
Add cap towards works deferred for execution (by addition into gross block)	0.00	0.00	0.00	0.00
Total add-cap as per Auditor Certificate (excluding IDC liability)(1+2)	37.31	8.10	128.13	0.00
Discharge of IDC Liability	45.95	0.00	0.00	0.00
<b>Total add-cap claimed as per Form 7 (3+4)</b>	<b>83.26</b>	<b>8.10</b>	<b>128.13</b>	<b>0.00</b>

**Asset-5****(₹ in lakh)**

Particulars	2015-16	2016-17	2017-18	2018-19
Discharge of un-discharge liabilities on Hard cost	0.00	0.00	0.00	0.00
Add cap towards works deferred for execution (by addition into gross block)	0.00	-74.79	-28.41	0.00
Total add-cap as per Auditor Certificate (excluding IDC liability)(1+2)	0.00	0.00	0.00	0.00
Discharge of IDC Liability	0.00	0.00	0.00	0.00
<b>Total add-cap claimed as per Form 7 (3+4)</b>	<b>0.00</b>	<b>-74.79</b>	<b>-28.41</b>	<b>0.00</b>

**Asset-6****(₹ in lakh)**

Particulars	2016-17 (DOCO to 31.03.2017)	2017-18	2018-19
Discharge of un-discharge liabilities on Hard cost	0.00	361.51	0.00
Add cap towards works deferred for execution (by addition into gross block)	0.00	191.58	0.00
Total add-cap as per Auditor Certificate (excluding IDC liability)(1+2)	0.00	553.09	0.00
Discharge of IDC Liability	22.82	13.69	0.00
<b>Total add-cap claimed as per Form 7 (3+4)</b>	<b>22.82</b>	<b>566.78</b>	<b>0.00</b>

**Asset-7****(₹ in lakh)**

Particulars	2016-17	2017-18	2018-19
Discharge of un-discharge liabilities on Hard cost	0.00	219.63	286.25
Add cap towards works deferred for execution (by addition into gross block)	0.00	0.00	0.00
Total add-cap as per Auditor Certificate (excluding IDC liability)(1+2)	0.00	219.63	286.25
Discharge of IDC Liability	0.00	55.48	0.00
<b>Total add-cap claimed as per Form 7 (3+4)</b>	<b>0.00</b>	<b>275.11</b>	<b>286.25</b>





<b>Asset-8</b>		<b>(₹ in lakh)</b>	
<b>Particulars</b>	<b>2017-18</b>	<b>2018-19</b>	
Discharge of un-discharge liabilities on Hard cost	<b>1905.37</b>	97.64	
Add cap towards works deferred for execution (by addition into gross block)	16.42	292.69	
Total add-cap as per Auditor Certificate (excluding IDC liability)(1+2)	1921.79	390.33	
Discharge of IDC Liability	9.65	2.97	
<b>Total add-cap claimed as per Form 7 (3+4)</b>	<b>1931.44</b>	<b>393.30</b>	

**v. Additional capital expenditure allowed in case of Asset-1, Asset-2 and Asset-3**

- As discussed in IDC Para above, the entitled IDC liability which was undischarged on COD has been allowed as additional capital expenditure along with Discharge of Liability on Hard Cost and addition to gross block in the respective year.
- The ACE allowed for the instant assets are summarized as under

<b>Asset-1</b>		<b>(₹ in lakh)</b>				
<b>Allowed Add-cap</b>	<b>Regulation</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Discharge of Liability on Hard Cost	14(1)(i)	0.00	85.54	0.00	0.00	0.00
Add cap to the extent of unexecuted work	14(1)(ii)	0.00	25.13	0.00	0.00	0.00
Discharge of undischarged liabilities-IDC.	14(1)(i)	4.20	0.00	0.00	0.00	0.00
<b>Total allowed add-cap</b>		<b>4.20</b>	<b>110.67</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

<b>Asset-2</b>		<b>(₹ in lakh)</b>				
<b>Allowed Add-cap</b>	<b>Regulation</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Discharge of Liability on Hard Cost	14(1)(i)	7.54	0.00	54.64	0.00	0.00
Add cap to the extent of unexecuted work	14(1)(ii)	46.14	0.00	0.00	0.00	0.00
Discharge of undischarged liabilities-IDC.	14(1)(i)	1.37	0.00	0.00	0.00	0.00
<b>Total allowed add-cap</b>		<b>55.05</b>	<b>0.00</b>	<b>54.64</b>	<b>0.00</b>	<b>0.00</b>



<b>Asset-3</b>		<b>₹ in lakh)</b>				
<b>Allowed Add-cap</b>	<b>Regulation</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Discharge of Liability on Hard Cost	14(1)(i)	17.07	0.00	54.91	0.00	0.00
Add cap to the extent of unexecuted work	14(1)(ii)	38.32	0.00	0.00	0.00	0.00
Discharge of undischarged liabilities-IDC.	14(1)(i)	0.00	0.00	0.00	0.00	0.00
<b>Total allowed add-cap</b>		<b>55.39</b>	<b>0.00</b>	<b>54.91</b>	<b>0.00</b>	<b>0.00</b>

**vi. Additional capital expenditure allowed in case of Asset-4**

- Since the petitioner has not claimed any amount towards the addition of gross block for any of the year, the ACE has been allowed only to the extent of the liability flow as mentioned in Form 4A. As discussed above, the petitioner is entitled for the discharge of IDC liability as ACE only ₹ 12.98 lakh against the claim of ₹ 45.95 lakh. Accordingly the allowable ACE has been summarized below:-

		<b>(₹ in lakh)</b>			
<b>Allowed Add-cap</b>	<b>Regulation</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Discharge of Liability on Hard Cost	14(1)(i)	37.31	8.10	128.13	0.00
Add cap to the extent of unexecuted work	14(1)(ii)	0.00	0.00	0.00	0.00
Discharge of undischarged liabilities-IDC.	14(1)(i)	12.98	0.00	0.00	0.00
<b>Total allowed add-cap</b>		<b>50.29</b>	<b>8.10</b>	<b>128.13</b>	<b>0.00</b>

**vii. Additional capital expenditure allowed in case of Asset-5 and Asset-6**

- As discussed in IDC para, the petitioner is not entitled for IDC as additional capital expenditure in both the assets.
- The petitioner has shown the net amount of ACE in Auditor certificate for both the assets. Subsequently, the petitioner vide affidavit dated 15.11.2018 has provided the detailed break up of the amount claimed in Auditor certificate. It consists of Additional capital expenditure and de-capitalisation of telecom asset. Since the de-capitalisation has been dealt as part of COD cost, the



claimed additional capital expenditure has been allowed.

- **Allowed add cap in case of Asset-5 is as below:-**

(₹ in lakh)

Allowed Add-cap	Regulation	2016-17	2017-18	2018-19
Discharge of Liability on Hard Cost	14(1)(i)	0.00	0.00	0.00
Add cap to the extent of unexecuted work	14(1)(ii)	10.30*	315.42*	0.00
Discharge of undischarged liabilities- IDC.	14(1)(i)	0.00	0.00	0.000
<b>Total allowed add-cap</b>		<b>10.30</b>	<b>315.42</b>	<b>0.00</b>

\*In Form 4A “Discharge of Liability on Hard Cost” and “Add cap by addition of Gross Block” are shown as zero, however as per Form 7, net amount of Additional capital expenditure and de-capitalisation of telecom asset is shown against **Regulation 14(1)(ii)** i.e. Add cap towards unexecuted work. Thus we have considered the claimed add cap under the head “Add cap to the extent of unexecuted work” and allowed in the current petition and same shall be reviewed at the time of true-up subject to the submission of revised reconciled forms.

- **Allowed add cap in case of Asset-6 is as below:-**

(₹ in lakh)

Allowed Add-cap	Regulation	2016-17	2017-18	2018-19
Discharge of Liability on Hard Cost	14(1)(i)	0.00	361.51	0.00
Add cap to the extent of unexecuted work	14(1)(ii)	0.00	191.58	0.00
Discharge of undischarged liabilities- IDC.	14(1)(i)	0.00	0.00	0.000
<b>Total allowed add-cap</b>		<b>0.00</b>	<b>553.09</b>	<b>0.00</b>

viii. **Additional capital expenditure allowed in case of Asset-7**

Since the petitioner has not claimed any amount towards the addition of gross block for any of the year, the ACE has been allowed only to the extent of the liability flow as mentioned in Form 4A. As discussed above, the petitioner is not entitled for the discharge of IDC liability as ACE. Accordingly the discharge of liability on hard cost has been allowed as per the flow of liability as submitted by the petitioner.



(₹ in lakh)

Allowed Add-cap	Regulation	2016-17	2017-18	2018-19
Discharge of Liability on Hard Cost	14(1)(i)	0.00	219.63	286.25
Add cap to the extent of unexecuted work	14(1)(ii)	0.00	0.00	0.00
Discharge of undischarged liabilities-IDC.	14(1)(i)	0.00	0.00	0.00
<b>Total allowed add-cap</b>		<b>0.00</b>	<b>219.63</b>	<b>286.25</b>

ix. **Additional capital expenditure allowed in case of Asset-8**

As discussed in IDC Para, the petitioner is not entitled for any IDC liability as ACE. The amount claimed towards addition of Gross block and discharge of liability on hard cost has been allowed as shown below.

(₹ in lakh)

Allowed Add-cap	Regulation	2017-18	2018-19
1. Discharge of Liability on Hard Cost	14(1)(i)	1905.37	97.64
2. Add cap to the extent of unexecuted work	14(1)(ii)	16.42	292.69
4. Discharge of un-discharge liabilities-IDC.	14(1)(i)	0.00	0.00
<b>4. Total allowed add-cap</b>		<b>1921.79</b>	<b>390.33</b>

**20. Capital Cost summary from COD to 31.3.2019**

The capital cost considered for the purpose of computation of tariff is as follows:-

(₹ in lakh)

Asset	Capital cost allowed as COD	Additional Capitalisation					Total Estimated Completion Cost up to 31.3.2019
		2014-15	2015-16	2016-17	2017-18	2018-19	
1	129.72	4.20	110.67	0.00	0.00	0.00	244.59
2	267.59	55.05	0.00	54.64	0.00	0.00	377.28
3	284.17	55.39	0.00	54.91	0.00	0.00	394.47
4	2837.46	0.00	50.29	8.10	208.78	0.00	3104.64
5	1665.17	0.00	0.00	10.30	315.42	0.00	1990.89
6	1640.22	0.00	0.00	0.00	553.09	0.00	2193.31
7	920.90	0.00	0.00	0.00	219.63	286.26	1426.79
8	466.87	0.00	0.00	0.00	1921.79	390.33	2778.99
<b>Total</b>	<b>8212.10</b>	<b>114.64</b>	<b>160.96</b>	<b>127.95</b>	<b>3218.71</b>	<b>676.59</b>	<b>12510.96</b>



## 21. Debt-Equity Ratio

- i) Debt- Equity Ratio has been 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 for all the assets. 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 70:30.
- ii) The details of debt-equity as on dates of commercial operation and 31.3.2019 considered on normative basis are as under:-

Asset-1 (₹ in lakh)

Particular	Capital cost as on COD		Capital cost as on 31.3.2019	
	Amount	%	Amount	%
Debt	91.20	70.31%	171.61	70.16%
Equity	38.52	29.69%	72.98	29.84%
<b>Total</b>	<b>129.72</b>	<b>100.00%</b>	<b>244.59</b>	<b>100.00%</b>

Asset-2 (₹ in lakh)

Particular	Capital cost as on COD		Capital cost as on 31.3.2019	
	Amount	%	Amount	%
Debt	187.31	70.00%	264.10	70.00%
Equity	80.28	30.00%	113.18	30.00%
<b>Total</b>	<b>267.59</b>	<b>100.00%</b>	<b>377.28</b>	<b>100.00%</b>

Asset-3 (₹ in lakh)

Particular	Capital cost as on COD		Capital cost as on 31.3.2019	
	Amount	%	Amount	%
Debt	198.92	70.00%	276.13	70.00%
Equity	85.25	30.00%	118.34	30.00%
<b>Total</b>	<b>284.17</b>	<b>100.00%</b>	<b>394.47</b>	<b>100.00%</b>

Asset-4 (₹ in lakh)

Particular	Capital cost as on COD		Capital cost as on 31.3.2019	
	Amount	%	Amount	%
Debt	1986.22	70.00%	2173.25	70.00%
Equity	851.24	30.00%	931.39	30.00%
<b>Total</b>	<b>2837.46</b>	<b>100.00%</b>	<b>3104.64</b>	<b>100.00%</b>



Asset-5

(₹ in lakh)

Particular	Capital cost as on COD		Capital cost as on 31.3.2019	
	Amount	%	Amount	%
Debt	1165.62	70.00%	1393.62	70.00%
Equity	499.55	30.00%	597.27	30.00%
<b>Total</b>	<b>1665.17</b>	<b>100.00%</b>	<b>1990.89</b>	<b>100.00%</b>

Asset-6

(₹ in lakh)

Particular	Capital cost as on COD		Capital cost as on 31.3.2019	
	Amount	%	Amount	%
Debt	1148.15	70.00%	1535.32	70.00%
Equity	492.06	30.00%	657.99	30.00%
<b>Total</b>	<b>1640.22</b>	<b>100.00%</b>	<b>2193.31</b>	<b>100.00%</b>

Asset-7

(₹ in lakh)

Particular	Capital cost as on COD		Capital cost as on 31.3.2019	
	Amount	%	Amount	%
Debt	644.64	70.00%	998.76	70.00%
Equity	276.26	30.00%	428.03	30.00%
<b>Total</b>	<b>920.90</b>	<b>100.00%</b>	<b>1426.79</b>	<b>100.00%</b>

Asset-8

(₹ in lakh)

Particular	Capital cost as on COD		Capital cost as on 31.3.2019	
	Amount	%	Amount	%
Debt	326.81	70.00%	1945.29	70.00%
Equity	140.06	30.00%	833.70	30.00%
<b>Total</b>	<b>466.87</b>	<b>100.00%</b>	<b>2778.99</b>	<b>100.00%</b>

## 22. Return on Equity

- i) The petitioner has submitted that RoE has been calculated at the rate of 19.610% after grossing up the RoE with MAT rate of 20.961% as provided under Regulation 25(2)(i) of the 2014 Tariff Regulations.
- ii) 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. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of return on equity, which shall be tried up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. Accordingly, the RoE allowed is as follows:-

<b>Asset-1</b>		<b>(₹in lakh)</b>			
<b>Particular</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Equity	38.52	39.78	72.98	72.98	72.98
Addition due to Additional Capitalization	1.26	33.20	0.00	0.00	0.00
Closing Equity	39.78	72.98	72.98	72.98	72.98
Average Equity	39.15	56.38	72.98	72.98	72.98
Return on Equity (Base Rate )	15.50%	15.50%	15.50%	15.50%	15.50%
MAT rate for the Financial year 2013-14	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%	19.610%	19.610%	19.610%
<b>Return on Equity (Pre-tax)</b>	<b>7.68</b>	<b>11.06</b>	<b>14.31</b>	<b>14.31</b>	<b>14.31</b>

<b>Asset-2</b>		<b>(₹in lakh)</b>			
<b>Particular</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Equity	80.28	96.79	96.79	113.18	113.18
Addition due to Additional Capitalization	16.52	0.00	16.39	0.00	0.00
Closing Equity	96.79	96.79	113.18	113.18	113.18
Average Equity	88.53	96.79	104.99	113.18	113.18
Return on Equity (Base Rate )	15.50%	15.50%	15.50%	15.50%	15.50%
MAT rate for the Financial year 2013-14	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%	19.610%	19.610%	19.610%
<b>Return on Equity (Pre-tax)</b>	<b>8.85</b>	<b>18.98</b>	<b>20.59</b>	<b>22.20</b>	<b>22.20</b>

<b>Asset-3</b>		<b>(₹in lakh)</b>			
<b>Particular</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Equity	85.25	101.87	101.87	118.34	118.34
Addition due to Additional Capitalization	16.62	0.00	16.47	0.00	0.00
Closing Equity	101.87	101.87	118.34	118.34	118.34
Average Equity	93.56	101.87	110.11	118.34	118.34
Return on Equity (Base Rate )	15.50%	15.50%	15.50%	15.50%	15.50%
MAT rate for the Financial year 2013-14	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%	19.610%	19.610%	19.610%
<b>Return on Equity (Pre-tax)</b>	<b>9.15</b>	<b>19.98</b>	<b>21.59</b>	<b>23.21</b>	<b>23.21</b>



**Asset-4****(₹in lakh)**

Particular	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	851.24	851.24	866.33	868.76	931.39
Addition due to Additional Capitalization	0.00	15.09	2.43	62.63	0.00
Closing Equity	851.24	866.33	868.76	931.39	931.39
Average Equity	851.24	858.78	867.54	900.07	931.39
Return on Equity (Base Rate )	15.50%	15.50%	15.50%	15.50%	15.50%
MAT rate for the Financial year 2013-14	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%	19.610%	19.610%	19.610%
<b>Return on Equity (Pre-tax)</b>	<b>0.91</b>	<b>168.41</b>	<b>170.13</b>	<b>176.50</b>	<b>182.65</b>

**(₹in lakh)**

Particular	Asset-5				Asset-6		
	2015-16	2016-17	2017-18	2018-19	2016-17	2017-18	2018-19
Opening Equity	499.55	499.55	502.64	597.27	492.06	492.06	657.99
Addition due to Additional Capitalization	0.00	3.09	94.63	0.00	0.00	165.93	0.00
Closing Equity	499.55	502.64	597.27	597.27	492.06	657.99	657.99
Average Equity	499.55	501.10	549.95	597.27	492.06	575.03	657.99
Return on Equity (Base Rate )	15.50%	15.50%	15.50%	15.50%	15.50%	15.50%	15.50%
MAT rate for the Financial year 2013-14	20.961%	20.961%	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%	19.610%	19.610%	19.610%	19.610%	19.610%
<b>Return on Equity (Pre-tax)</b>	<b>0.27</b>	<b>98.26</b>	<b>107.85</b>	<b>117.12</b>	<b>64.24</b>	<b>112.76</b>	<b>129.03</b>

**(₹in lakh)**

Particular	Asset-7			Asset-8	
	2016-17	2017-18	2018-19	2017-18	2018-19
Opening Equity	276.26	276.26	342.15	140.06	716.60
Addition due to Additional Capitalization	0.00	65.89	85.88	576.54	117.10
Closing Equity	276.26	342.15	428.03	716.60	833.70
Average Equity	276.26	309.21	385.09	428.33	775.15
Return on Equity (Base Rate )	15.50%	15.50%	15.50%	15.50%	15.50%
MAT rate for the Financial year 2013-14	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%	19.610%	19.610%	19.610%
<b>Return on Equity (Pre-tax)</b>	<b>0.30</b>	<b>60.64</b>	<b>75.52</b>	<b>41.88</b>	<b>152.01</b>

**23. Interest on loan (IOL)**

i) The petitioner's entitlement to 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 yearly depreciation has been considered as normative repayment of loan for that 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.
- ii) 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 triung-up.
- iii) The details of IOL allowed are as under:-

<b>Asset-1</b>		<b>(₹ in lakh)</b>			
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Normative Loan	91.20	94.14	171.61	171.61	171.61
Cumulative Repayment up to previous Year	0.00	8.34	20.32	35.81	51.29
Net Loan-Opening	91.20	85.80	151.29	135.80	120.32
Addition due to Additional Capitalization	2.94	77.47	0.00	0.00	0.00
Repayment during the year	8.34	11.98	15.48	15.48	15.48
Net Loan-Closing	85.80	151.29	135.80	120.32	104.84
Average Loan	88.50	118.54	143.54	128.06	112.58
Weighted Average Rate of Interest on Loan	8.6419%	8.8309%	8.9341%	8.9358%	8.9607%
<b>Interest on Loan</b>	<b>7.65</b>	<b>10.47</b>	<b>12.82</b>	<b>11.44</b>	<b>10.09</b>

<b>Asset-2</b>		<b>(₹ in lakh)</b>			
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Normative Loan	187.31	225.85	225.85	264.10	264.10
Cumulative Repayment up to previous Year	0.00	9.52	29.94	52.09	75.98
Net Loan-Opening	187.31	216.33	195.90	212.00	188.12
Addition due to Additional Capitalization	38.54	0.00	38.25	0.00	0.00
Repayment during the year	9.52	20.42	22.15	23.88	23.88
Net Loan-Closing	216.33	195.90	212.00	188.12	164.24
Average Loan	201.82	206.12	203.95	200.06	176.18
Weighted Average Rate of Interest on Loan	10.0594%	9.8862%	9.7156%	9.5486%	9.4975%
<b>Interest on Loan</b>	<b>10.35</b>	<b>20.38</b>	<b>19.82</b>	<b>19.10</b>	<b>16.73</b>



**Asset-3**

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	198.92	237.69	237.69	276.13	276.13
Cumulative Repayment up to previous Year	0.00	9.84	31.34	54.57	79.54
Net Loan-Opening	198.92	227.85	206.36	221.56	196.59
Addition due to Additional Capitalization	38.77	0.00	38.44	0.00	0.00
Repayment during the year	9.84	21.49	23.23	24.97	24.97
Net Loan-Closing	227.85	206.36	221.56	196.59	171.62
Average Loan	213.39	217.10	213.96	209.08	184.11
Weighted Average Rate of Interest on Loan	10.0640%	9.8987%	9.7267%	9.5524%	9.5004%
<b>Interest on Loan</b>	<b>10.71</b>	<b>21.49</b>	<b>20.81</b>	<b>19.97</b>	<b>17.49</b>

**Asset-4**

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	1986.22	1986.22	2021.43	2027.10	2173.25
Cumulative Repayment up to previous Year	0.00	0.98	182.19	365.24	555.15
Net Loan-Opening	1986.22	1985.24	1839.24	1661.86	1618.09
Addition due to Additional Capitalization	0.00	35.21	5.67	146.15	0.00
Repayment during the year	0.98	181.20	183.05	189.92	196.52
Net Loan-Closing	1985.24	1839.24	1661.86	1618.09	1421.57
Average Loan	1985.73	1912.24	1750.55	1639.98	1519.83
Weighted Average Rate of Interest on Loan	9.5527%	9.5341%	9.5175%	9.4724%	9.4269%
<b>Interest on Loan</b>	<b>1.04</b>	<b>182.32</b>	<b>166.61</b>	<b>155.34</b>	<b>143.27</b>

**Asset-5**

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	1165.62	1165.62	1172.83	1393.62
Cumulative Repayment up to previous Year	0.00	0.29	106.02	222.06
Net Loan-Opening	1165.62	1165.33	1066.81	1171.56
Addition due to Additional Capitalization	0.00	7.21	220.79	0.00
Repayment during the year	0.29	105.73	116.04	126.02
Net Loan-Closing	1165.33	1066.81	1171.56	1045.54
Average Loan	1165.48	1116.07	1119.19	1108.55
Weighted Average Rate of Interest on Loan	9.2528%	9.2451%	9.1909%	9.1385%
<b>Interest on Loan</b>	<b>0.30</b>	<b>103.18</b>	<b>102.86</b>	<b>101.30</b>

**Asset-6**

(₹ in lakh)

Particulars	2016-17	2017-18	2018-19
Gross Normative Loan	1148.15	1148.15	1535.32
Cumulative Repayment up to previous Year	0.00	69.12	190.45
Net Loan-Opening	1148.15	1079.03	1344.86
Addition due to Additional Capitalization	0.00	387.16	0.00
Repayment during the year	69.12	121.33	138.84
Net Loan-Closing	1079.03	1344.86	1206.03
Average Loan	1113.59	1211.95	1275.45
Weighted Average Rate of Interest on Loan	8.4770%	8.4623%	8.4472%
<b>Interest on Loan</b>	<b>62.85</b>	<b>102.56</b>	<b>107.74</b>

(₹ in lakh)



Particulars	Asset-7			Asset-8	
	2016-17 (Pro rata)	2017-18	2018-19	2017-18 (Pro-rata)	2018-19
Gross Normative Loan	644.64	644.64	798.38	326.81	1672.06
Cumulative Repayment up to previous Year	0.00	0.32	65.56	0.00	45.06
Net Loan-Opening	644.64	644.32	732.81	326.81	1627.00
Addition due to Additional Capitalization	0.00	153.74	200.38	1345.25	273.23
Repayment during the year	0.32	65.24	81.26	45.06	163.56
Net Loan-Closing	644.32	732.81	851.94	1627.00	1736.67
Average Loan	644.48	688.57	792.38	976.90	1681.84
Weighted Average Rate of Interest on Loan	8.1556%	8.1057%	8.0627%	7.5726%	7.5691%
<b>Interest on Loan</b>	<b>0.29</b>	<b>55.81</b>	<b>63.89</b>	<b>36.89</b>	<b>127.30</b>

## 24. Depreciation

i) The petitioner has claimed the actual depreciation as a component of annual fixed charges as per Regulation 27 of 2014 Tariff Regulations. Depreciation has been calculated annually based on Straight Line Method in accordance with the said Regulation at the rates specified in Appendix-II to the 2014 Tariff Regulations.

ii) The details of the depreciation worked out are as under:-

Asset-1		(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19	
Opening Gross Block	129.72	133.92	244.59	244.59	244.59	
Additional Capital expenditure	4.20	110.67	0.00	0.00	0.00	
Closing Gross Block	133.92	244.59	244.59	244.59	244.59	
Average Gross Block	131.82	189.26	244.59	244.59	244.59	
Rate of Depreciation	6.3300%	6.3300%	6.3300%	6.3300%	6.3300%	
Depreciable Value	118.64	170.33	220.13	0.00	0.00	
Remaining Depreciable Value	118.64	161.99	199.81	0.00	0.00	
<b>Depreciation</b>	<b>8.34</b>	<b>11.98</b>	<b>15.48</b>	<b>15.48</b>	<b>15.48</b>	

Asset-2		(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19	
Opening Gross Block	267.59	322.64	322.64	377.28	377.28	
Additional Capital expenditure	55.05	0.00	54.64	0.00	0.00	
Closing Gross Block	322.64	322.64	377.28	377.28	377.28	
Average Gross Block	295.11	322.64	349.96	377.28	377.28	
Rate of Depreciation	6.3300%	6.3300%	6.3300%	6.3300%	6.3300%	
Depreciable Value	265.60	290.37	314.96	0.00	0.00	
Remaining Depreciable Value	265.60	280.86	285.02	0.00	0.00	
<b>Depreciation</b>	<b>9.52</b>	<b>20.42</b>	<b>22.15</b>	<b>23.88</b>	<b>23.88</b>	



**Asset-3**

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	284.17	339.56	339.56	394.47	394.47
Additional Capital expenditure	55.39	0.00	54.91	0.00	0.00
Closing Gross Block	339.56	339.56	394.47	394.47	394.47
Average Gross Block	311.87	339.56	367.02	394.47	394.47
Rate of Depreciation	6.3300%	6.3300%	6.3300%	6.3300%	6.3300%
Depreciable Value	280.68	305.61	330.32	0.00	0.00
Remaining Depreciable Value	280.68	295.76	298.98	0.00	0.00
<b>Depreciation</b>	<b>9.84</b>	<b>21.49</b>	<b>23.23</b>	<b>24.97</b>	<b>24.97</b>

**Asset-4**

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	2837.46	2837.46	2887.76	2895.86	3104.64
Additional Capital expenditure	0.00	50.29	8.10	208.78	0.00
Closing Gross Block	2837.46	2887.76	2895.86	3104.64	3104.64
Average Gross Block	2837.46	2862.61	2891.81	3000.25	3104.64
Rate of Depreciation	6.3300%	6.3300%	6.3300%	6.3300%	6.3300%
Depreciable Value	2553.72	2576.35	2602.63	0.00	0.00
Remaining Depreciable Value	2553.72	2575.37	2420.44	0.00	0.00
<b>Depreciation</b>	<b>0.98</b>	<b>181.20</b>	<b>183.05</b>	<b>189.92</b>	<b>196.52</b>

(₹ in lakh)

Particulars	Asset-5				Asset-6		
	2015-16	2016-17	2017-18	2018-19	2016-17	2017-18	2018-19
Opening Gross Block	1665.17	1665.17	1675.47	1990.89	1640.22	1640.22	2193.31
Additional Capital expenditure	0.00	10.30	315.42	0.00	0.00	553.09	0.00
Closing Gross Block	1665.17	1675.47	1990.89	1990.89	1640.22	2193.31	2193.31
Average Gross Block	1665.17	1670.32	1833.18	1990.89	1640.22	1916.76	2193.31
Rate of Depreciation	6.3300%	6.3300%	6.3300%	6.3300%	6.3300%	6.3300%	6.3300%
Depreciable Value	1498.65	1503.29	1649.86	0.00	1476.19	1725.08	1973.98
Remaining Depreciable Value	1498.65	1503.00	1543.84	0.00	1476.19	1655.96	1783.52
<b>Depreciation</b>	<b>0.29</b>	<b>105.73</b>	<b>116.04</b>	<b>126.02</b>	<b>69.12</b>	<b>121.33</b>	<b>138.84</b>

(₹ in lakh)

Particulars	Asset-7			Asset-8	
	2016-17 (Pro-rata)	2017-18	2018-19	2017-18 (Pro rata)	2018-19
Opening Gross Block	920.90	920.90	1140.53	466.87	2388.66
Additional Capital expenditure	0.00	219.63	286.26	1921.79	390.33
Closing Gross Block	920.90	1140.53	1426.79	2388.66	2778.99
Average Gross Block	920.90	1030.71	1283.66	1427.77	2583.83
Rate of Depreciation	6.3300%	6.3300%	6.3300%	6.3300%	6.3300%
Depreciable Value	828.81	927.64	1155.29	1284.99	2325.44
Remaining Depreciable Value	828.81	927.32	1089.73	1284.99	2280.38
<b>Depreciation</b>	<b>0.32</b>	<b>65.24</b>	<b>81.26</b>	<b>45.06</b>	<b>163.56</b>



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

i) Petitioner has submitted that O&M for the Central portion has been considered on actual basis for 2014-15, 2015-16 and 2016-17 and escalated by 3.32% per annum for 2017-18 and 2018-19. For Asset-8, the same has been considered as @ 7.5% of the capital cost which will be subject to actual expenditure every year at the time of truing up. It is submitted that the wage revision of the employees of the petitioner company is due 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 rates prescribed for the tariff block 2014-19. The petitioner has prayed to be allowed to approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase during 2014-19, if any.

ii) Petitioner has submitted Auditor Certificate for the actual O&M Expenses claimed up to financial year 2016-17 and thereby escalating 3.32% per annum for financial year(s) 2017-18 and 2018-19. The claimed O&M are submitted below:-

<b>Asset</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Asset-1	1.11	1.38	1.75	1.81	1.87
Asset-2	0.95	2.37	3.75	3.87	4.00
Asset-3	1.06	2.52	3.94	4.07	4.21
Asset-4	-	30.44	37.59	38.84	40.13
Asset-5	-	0.07	33.42	34.53	35.68
Asset-6	-	-	15.79	16.31	16.86
Asset-7	-	-	2.68	2.77	2.86
*Asset-8	-	-	-	36.27	37.47

\*Claimed in Form-1. No Auditor Certificate has been provided.

iii) We have considered the submission of the petitioner and observed that petitioner has claimed "self -insurance Reserve" as a part of O&M expenses for Asset-1 to Asset-7 which was disallowed in petition no. 275/TT/2015 vide order dated 29.7.2016. The relevant Para has been quoted as below:-



*“45.....the petitioner has claimed self-insurance reserved as expenses under O&M Expenses which is not allowable as expenses.....”*

iv) Accordingly “self-Insurance Reserve” claimed by petitioner have been dis-allowed from the total O&M Expenses claimed for Assets-1 to Asset-7. The details of O&M Expenses allowed for the said assets are as below :-

(₹ in Lakhs)					
Asset	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-1	0.88	1.02	1.41	1.45	1.49
Asset-2	0.76	1.94	3.3	3.40	3.51
Asset-3	0.85	2.06	3.47	3.58	3.69
Asset-4	-	24.93	34.78	35.93	37.12
Asset-5	-	0.06	30.47	31.48	32.52
Asset-6	-	-	13.35	13.79	14.24
Asset-7	-	-	0.07	0.07	0.07

With regard to Asset-8, the petitioner has not submitted Auditor Certificate and has claimed O&M expenses @7.5% of capital cost as on COD. No O&M expenses have been allowed for the instant asset. Petitioner is directed to submit the actual O&M expenses at the time of truing up and the same will be reviewed at the time of truing up.

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

i) As per 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:**

- (i) As per Clause 28 (3) of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014, SBI Base Rates as per COD(s) of the respective assets plus 350 basis points have been considered as the rate of interest on working capital. Rate of interest on working capital is shown below:-



	Actual COD	SBI Base Rates	Rate of interest on working capital
1	01.04.2014	10.00%	13.50%
2	27.09.2014	10.00%	13.50%
3	01.10.2014	10.00%	13.50%
4	30.03.2015	10.00%	13.50%
5	31.03.2016	10.00%	13.50%
6	01.08.2016	9.30%	12.80%
7	30.03.2017	9.30%	12.80%
8	01.10.2017	9.10%	12.60%

(ii) The interest on working capital allowed for the instant assets is shown in the table given below: -

Asset-1		(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19	
Maintenance Spares	0.13	0.15	0.21	0.22	0.22	
O & M expenses	0.07	0.09	0.12	0.12	0.12	
Receivables	4.19	5.89	7.51	7.29	7.06	
Total	<b>4.40</b>	<b>6.13</b>	<b>7.84</b>	<b>7.62</b>	<b>7.41</b>	
Interest	0.59	0.83	1.06	1.03	1.00	
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%	13.50%	

Asset-2		(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19	
Maintenance Spares	0.22	0.29	0.50	0.51	0.53	
O & M expenses	0.12	0.16	0.28	0.28	0.29	
Receivables	9.87	10.53	11.25	11.71	11.33	
Total	<b>10.22</b>	<b>10.99</b>	<b>12.02</b>	<b>12.50</b>	<b>12.15</b>	
Interest	0.70	1.48	1.62	1.69	1.64	
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%	13.50%	

Asset-3		(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19	
Maintenance Spares	0.26	0.31	0.52	0.54	0.55	
O & M expenses	0.14	0.17	0.29	0.30	0.31	
Receivables	10.46	11.10	11.80	12.25	11.85	
Total	<b>10.85</b>	<b>11.58</b>	<b>12.61</b>	<b>13.08</b>	<b>12.71</b>	
Interest	0.73	1.56	1.70	1.77	1.72	
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%	13.50%	

Asset-4		(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19	
Maintenance Spares	0.00	3.74	5.22	5.39	5.57	
O & M expenses	0.00	2.08	2.90	2.99	3.09	
Receivables	91.43	95.08	94.74	95.28	95.61	
Total	91.43	100.90	102.86	103.67	104.27	
Interest	<b>0.07</b>	<b>13.62</b>	<b>13.89</b>	<b>13.99</b>	<b>14.08</b>	
Rate of Interest (%)	0.00	3.74	5.22	5.39	5.57	



(₹ in lakh)

Particulars	Asset-5				Asset-6		
	2015-16	2016-17	2017-18	2018-19	2016-17	2017-18	2018-19
Maintenance Spares	3.29	4.57	4.72	4.88	3.01	2.07	2.14
O & M expenses	1.83	2.54	2.62	2.71	1.67	1.15	1.19
Receivables	56.91	57.73	61.25	64.45	53.71	59.75	66.46
Total	62.02	64.84	68.59	72.04	58.39	62.97	69.79
Interest	<b>0.02</b>	<b>8.75</b>	<b>9.26</b>	<b>9.73</b>	<b>4.98</b>	<b>8.06</b>	<b>8.93</b>
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%	12.80	12.80	12.80

(₹ in lakh)

Particulars	Asst-7			Asset-8	
	2016-17 (pro-rata)	2017-18	2018-19	2017-18 (pro-rata)	2018-19
Maintenance Spares	1.92	0.01	0.01	0.00	0.00
O & M expenses	1.06	0.01	0.01	0.00	0.00
Receivables	30.34	30.95	37.59	42.28	75.39
Total	33.33	30.97	37.61	<b>42.28</b>	<b>75.39</b>
Rate of Interest	12.80%	12.80%	12.80%	12.60%	12.60%
Interest	<b>0.02</b>	<b>3.96</b>	<b>4.81</b>	<b>2.66</b>	<b>9.50</b>

## 27. Annual Fixed Charges

In view of the above, the annual transmission charges being allowed for the instant assets are summarized hereunder:-

### Asset-1

(₹ in lakh)

Particulars	21014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	8.34	11.98	15.48	15.48	15.48
Interest on Loan	7.65	10.47	12.82	11.44	10.09
Return on Equity	7.68	11.06	14.31	14.31	14.31
Interest on Working Capital	0.59	0.83	1.06	1.03	1.00
O&M Expenses	0.88	1.02	1.41	1.45	1.49
<b>Total</b>	<b>25.14</b>	<b>35.35</b>	<b>45.09</b>	<b>43.72</b>	<b>42.37</b>

### Asset-2

(₹ in lakh)

Particulars	21014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	9.52	20.42	22.15	23.88	23.88
Interest on Loan	10.35	20.38	19.82	19.10	16.73
Return on Equity	8.85	18.98	20.59	22.20	22.20
Interest on Working Capital	0.70	1.48	1.62	1.69	1.64
O&M Expenses	0.76	1.94	3.30	3.40	3.51
<b>Total</b>	<b>30.18</b>	<b>63.20</b>	<b>67.48</b>	<b>70.27</b>	<b>67.96</b>

### Asset-3

(₹ in lakh)

Particulars	21014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	9.84	21.49	23.23	24.97	24.97
Interest on Loan	10.71	21.49	20.81	19.97	17.49
Return on Equity	9.15	19.98	21.59	23.21	23.21
Interest on Working Capital	0.73	1.56	1.70	1.77	1.72
O&M Expenses	0.85	2.06	3.47	3.58	3.69
<b>Total</b>	<b>31.28</b>	<b>66.58</b>	<b>70.81</b>	<b>73.50</b>	<b>71.07</b>





Asset-4		(₹ in lakh)			
Particulars	21014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	0.98	181.20	183.05	189.92	196.52
Interest on Loan	1.04	182.32	166.61	155.34	143.27
Return on Equity	0.91	168.41	170.13	176.50	182.65
Interest on Working Capital	0.07	13.62	13.89	13.99	14.08
O&MExpenses	0.00	24.93	34.78	35.93	37.12
<b>Total</b>	<b>3.01</b>	<b>570.48</b>	<b>568.45</b>	<b>571.69</b>	<b>573.64</b>

		Asset-5				Asset-6		
Particulars	2015-16	2016-17	2017-18	2018-19	2016-17	2017-18	2018-19	
Depreciation	0.29	105.73	116.04	126.02	69.12	121.33	138.84	
Interest on Loan	0.30	103.18	102.86	101.30	62.85	102.56	107.74	
Return on Equity	0.27	98.26	107.85	117.12	64.24	112.76	129.03	
Interest on Working Capital	0.02	8.75	9.26	9.73	4.98	8.06	8.93	
O&MExpenses	0.06	30.47	31.48	32.52	13.35	13.79	14.24	
<b>Total</b>	<b>0.94</b>	<b>346.40</b>	<b>367.49</b>	<b>386.70</b>	<b>214.54</b>	<b>358.50</b>	<b>398.78</b>	

		Asset-7			Asset-8	
Particulars	2016-17	2017-18	2018-19	2017-18	2018-19	
Depreciation	0.32	65.24	81.26	45.06	163.56	
Interest on Loan	0.29	55.81	63.89	36.89	127.30	
Return on Equity	0.30	60.64	75.52	41.88	152.01	
Interest on Working Capital	0.02	3.96	4.81	2.66	9.50	
O&MExpenses	0.07	0.07	0.07	0.00	0.00	
<b>Total</b>	<b>1.00</b>	<b>185.73</b>	<b>225.54</b>	<b>126.49</b>	<b>452.36</b>	

## **28. Filing fee and the publication expenses**

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.

## **29. License fee and RLDC Fees and Charges**

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.

### **30. Goods and Services Tax**

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.

### **31. Sharing of Transmission Charges**

- (i) The commission vide RoP for hearing dated 23.10.2018 directed the petitioner to submit Whether the provisions of Central Electricity Regulatory Commission (Sharing of revenue derived from utilization of transmission assets for other business) Regulations, 2007 were considered to arrive at the tariff claimed for the instant assets especially on the manner of sharing of revenue, reduction in transmission charges and maintenance of accounts. The relevant portion of the Revenue sharing regulation is re-produced as under.

#### **Quote:**

**4. Manner of sharing of revenue.** (1) *The transmission owner shall share the revenue from the other business in the following manner, namely:*

**(a) Telecommunication business.**

*(i) In case the other business is the telecommunication business the criterion for sharing of revenue shall be the length of the right-of-way used for laying optical fibre cable or optical fibre composite overhead ground wire over the transmission towers owned by the transmission owner for telecommunication business.*

*(ii) The transmission owner shall share revenue @ Rs.3000/- per year per km of the right-of-way utilised for laying one optical fibre cable or optical fibre composite overhead ground wire over the transmission towers and the revenue shared may be apportioned between the users of the optic fibre cable or optical fibre composite overhead ground wire in proportion to the number of fibres identified for utilization.*

*Explanation: If an optical fibre cable or optical fibre composite overhead ground wire having 'm' fibres has been installed on a transmission line, and 'n' fibres are*



meant to be used for telecommunication business (remaining fibres being used for Unified Load Despatch and Communication scheme), telecommunication business will reimburse

Rs.(n/m) x 3000 per Km to the transmission business for reduction of annual transmission charges.

(iii) Length of the right-of-way existing on 1st April shall be considered for calculation of revenue sharable for the period 1<sup>st</sup> April to 30th September and that existing on 1<sup>st</sup> October for the period from 1<sup>st</sup> October to 31<sup>st</sup> March of the relevant financial year:

Provided that in case of the transmission owner undertaking telecommunication business before commencement of these regulations, length of right-of-way as existing on 1st January 2008 shall be considered for calculation of revenue sharable for the period 1<sup>st</sup> January 2008 to 31st March 2008.

Xxxx

Xxxx

**Un-Quote:**

- (ii) In response to the ROP query, the petitioner vide affidavit dated 15.11.2018 has submitted that sharing of Fiber Optic cable with Telecom in case of Asset 4, 5, 6, 7 and 8. As per revenue sharing regulation'2007 separately consolidated revenue being shared @ ₹ 3000/ per year per km of Right of way utilized for laying optical fiber links and used for telecom purpose, which is shared with beneficiary on half year basis. The asset wise details of No. of fibres installed and No. of fibres meant for telecom business in an OPGW link not available, but the petitioner has mentioned only the actual commission length of OPGW links and the length of OPGW Links shared for telecom business which are summarized below.

Asset	COD	Total OPGW Communication Links in Kms.	Telecom Sharing in Km.
Asset-1	01-04-2013	72.96	0.00
Asset-2	27-09-2014	148.00	0.00
Asset-3	01-10-2014	159.00	0.00
Asset-4	31-03-2015	1717.11	966.44
Asset-5	31-03-2016	956.60	132.30
Asset-6	01-08-2016	931.74	114.57
Asset-7	31-03-2017	840.64	23.30
Asset-8	01-10-2017	1416.70	913.05
<b>Total</b>		<b>6242.75</b>	<b>2149.66</b>



- (iii) We have considered the submissions of the petitioner. 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, as provided in Regulation 43 of the 2014 Tariff Regulations.

**32.** This order disposes of Petition No. 168/TT/2018.

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

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

