

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 172/TT/2018

Coram:

**Shri P.K. Pujari, Chairperson
Dr. M. K. Iyer, Member
Shri I. S. Jha, Member**

Date of Order: 06.08.2019

In the matter of:

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for determination of Transmission Tariff from COD to 31.3.2019 for **Asset I:** Combined Assets of (1) 400 kV D/C Ajmer (New)- Ajmer (RVPN) TL along with associated bays at both ends; (2) 400 kV, 125 MVAR Bus Reactor along with associated bay at Ajmer (New) Sub-station; (3) 765/400 kV, 3X500 MVA ICT-I along with associated bays at Ajmer (New) Sub-station; (4) 400 kV D/C Chittorgarh (New)-Chittorgarh (RVPN) TL along with associated bays at both ends; (5) 765 kV, 240 MVAR Bus Reactor along with associated bay at Chittorgarh (New) Sub-station; (6) 400 kV, 125 MVAR Bus Reactor along with associated bay at Chittorgarh (New) Sub-station ;(7) 765/400 kV, 3X500 MVA ICT-I along with associated bays at Chittorgarh (New) Sub-station; (8) 765/400 kV, 3X500 MVA ICT-II along with associated bays at Chittorgarh (New) ; **Asset-II:** Combined Assets of (1) 765 kV, 240 MVAR Bus Reactor along with associated bay at Ajmer (New) Sub-station; (2) 765/400 kV, 3X500 MVA ICT-II along with associated bays at Ajmer (New) Sub-station; **Asset-III:** 2X400 kV D/C(Quad) Tirunelveli Pooling Station-Tuticorin Pooling station line along with new 400/230KV (GIS) Tirunelveli Pooling Sub-station with 2X 125 MVAR 400 kV Bus reactors and associated bays at 400/230 kV Tuticorin Pooling station; **Asset-IV:** 2X500 MVA 400/230 kV transformers along with associated bays and equipments at new 400/230 kV (GIS) Tirunelveli Pooling Sub-station, under Transmission System Associated with "**Green Energy Corridors: Inter State Transmission Scheme (ISTS)- Part A**".

And in the matter of:

Power Grid Corporation of India Limited
"Saudamini", Plot No.2,
Sector-29, Gurgaon -122 001

.....**Petitioner**

Vs

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited
Vidyut Bhawan, Vidyut Marg, Jaipur - 302 005



2. Ajmer Vidyut Vitran Nigam Ltd
132 kV, GSS RVPNL Sub- Station Building,
Caligiri Road, Malviya Nagar, Jaipur-302017 (Rajasthan)
3. Jaipur Vidyut Vitran Nigam Ltd
132 Kv, GSS RVPNL Sub- Station Building,
Caligiri Road, Malviya Nagar, Jaipur-302017 (Rajasthan)
4. Jodhpur Vidyut Vitran Nigam Ltd
132 Kv, GSS RVPNL Sub- Station Building,
Caligiri Road, Malviya Nagar, Jaipur-302017 (Rajasthan)
5. Himachal Pradesh State Electricity Board
Vidyut Bhawan
Kumar House Complex Building II
Shimla-171 004
6. Punjab State Electricity Board
Thermal Shed Tia
Near 22 Phatak, Patiala-147001
7. Haryana Power Purchase Centre
Shakti Bhawan, Sector-6
Panchkula (Haryana) 134 109
8. Power Development Department
Government of Jammu & Kashmir
Mini Secretariat, Jammu
9. Uttar Pradesh Power Corporation Ltd.
(Formerly Uttar Pradesh State Electricity Board)
Shakti Bhawan, 14, Ashok Marg
Lucknow - 226 001
10. Delhi Transco Ltd
Shakti Sadan, Kotla Road,
New Delhi-110 002
11. BSES Yamuna Power Ltd,
BSES Bhawan, Nehru Place,
New Delhi
12. BSES Rajdhani Power Ltd,
BSES Bhawan, Nehru Place,
New Delhi
13. North Delhi Power Ltd,
Power Trading & Load Dispatch Group
Cennet Building,
Adjacent To 66/11 Kv Pitampura-3
Grid Building, Near PP Jewellers



Pitampura, New Delhi – 110034

14. Chandigarh Administration
Sector -9, Chandigarh
15. Uttarakhand Power Corporation Ltd.
Urja Bhawan
Kanwali Road
Dehradun
16. North Central Railway
Allahabad
17. New Delhi Municipal Council
Palika Kendra, Sansad Marg,
New Delhi-110002
18. Mytrah Energy (India) Ltd.
8001, 8th Floor, Q-City,
Nanakramguda, Gachibowli
Hyderabad 500032,
Telangana
19. Suzlon Power Infrastructure Limited
5 Shrimali Society,
Near Shree Krishna Centre,
Navrangpura, Ahmedabad

.....Respondents

For Petitioner : Shri Abhay Choudhary, PGCIL
Shri S. S. Raju, PGCIL
Shri S. K. Niranjana, PGCIL
Shri S. K. Venkatesan, PGCIL
Ms. Kashish Shambhani, PGCIL
Shri Mukesh Khanna, PGCIL

For Respondent : Shri S. Vallinayagam, Advocate, TANGEDCO
Shri R. B. Sharma, Advocate, BRPL
Shri Mohit Mudgal, Advocate, BRPL

ORDER

The present petition has been filed by the petitioner, Power Grid Corporation of India Ltd. ("the petitioner") seeking approval of transmission tariff for **Asset I**: Combined Assets of (1) 400 kV D/C Ajmer (New)- Ajmer (RVPN) TL along with associated bays at both ends; (2) 400 kV, 125 MVAR Bus Rector along with associated bay at Ajmer (New) Sub-station; (3) 765/400 kV, 3X500



MVA ICT-I along with associated bays at Ajmer (New) Sub-station; (4) 400 kV D/C Chittorgarh (New)-Chittorgarh (RVPN) TL along with associated bays at both ends; (5) 765 kV, 240 MVAR Bus Reactor along with associated bay at Chittorgarh (New) Sub-station; (6) 400 kV, 125 MVAR Bus Reactor along with associated bay at Chittorgarh (New) Sub-station ;(7) 765/400 kV, 3X500 MVA ICT-I along with associated bays at Chittorgarh (New) Sub-station; (8) 765/400 kV, 3X500 MVA ICT-II along with associated bays at Chittorgarh (New) ; **Asset-II:** Combined Assets of (1) 765 kV, 240 MVAR Bus Rector along with associated bay at Ajmer (New) Sub-station; (2) 765/400 kV, 3X500 MVA ICT-II along with associated bays at Ajmer (New) Sub-station; **Asset-III:** 2X400 kV D/C(Quad) Tirunelveli Pooling Station-Tuticorin Pooling station line along with new 400/230KV (GIS) Tirunelveli Pooling Sub-station with 2X 125 MVAR 400 kV Bus reactors and associated bays at 400/230 kV Tuticorin Pooling station; **Asset-IV:** 2X500 MVA 400/230 kV transformers along with associated bays and equipments at new 400/230 kV (GIS) Tirunelveli Pooling Sub-station, under Transmission System Associated with "Green Energy Corridors: Inter State Transmission Scheme (ISTS)- Part A" (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 "the 2014 Tariff Regulations").

2. The petitioner has made the following prayers:-

- a) Approve the Transmission Tariff for the tariff block 2014-19 block for the assets covered under this petition.
- b) Admit the capital cost as claimed in the Petition and approve the Additional Capitalization incurred / projected to be incurred.
- c) 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.

- d) Allow the petitioner to recover FERV on the foreign loans deployed as provided under clause 50 of the Tariff Regulations, 2014.
- e) Approve the Additional ROE as claimed in the Petition.
- f) 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.
- g) 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.
- h) 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.
- i) Allow to approach the Hon'ble Commission for suitable revision in the norms for O&M expenditure for claiming the impact of wage hike from 01.01.2017 onwards.
- j) Allow the Petitioner to bill and recover GST on Transmission Charges separately from the respondents, if at any time GST 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.
- k) 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.
- l) Allow the petitioner to bill Tariff from actual DOCO and also the petitioner may be allowed to submit revised Auditor Certificate and tariff Forms (as per the Relevant Regulation) based on actual DOCO.
- m) Pass such other relief as Hon'ble Commission deems fit and appropriate under the circumstances of the case and in the interest of justice."

3. The Investment Approval (IA) for implementation of assets under "Green Energy Corridors: Inter State Transmission Scheme (ISTS)-Part A" was accorded by the Board of Directors of the petitioner in 313th meeting held on 17.4.2015 for ₹147930 lakh including IDC of ₹6283 lakh based on December, 2014 price level vide Memorandum Ref: C/CP/GEC:ISTS Part A dated 22.4.2015.



4. The broad scope of work under "Green Energy Corridors: Inter State Transmission Scheme (ISTS)- Part A" is follows:-

A. Transmission Lines:

- 1 Ajmer (New) - Ajmer (RVPN) 400 kV D/C (quad) line
- 2 Chittorgarh (new) - Chittorgarh (RVPN) 400 kV D/C (quad) line
- 3 Tirunelveli pooling station - Tuticorin pooling station 400 kV D/C (quad) line-1
- 4 Tirunelveli pooling station - Tuticorin pooling station 400 kV D/C (quad) line 2

B. SUB-STATION

a) 765/400 kV CHITTORGARH SUB-STATION (NEW)

765 kV Transformer Bays	: 2 nos.
1500 MVA. 765/400 kV transformer	: 2 nos.
Bus Reactor bays	: 1 no.
240 MVAR Bus Reactors	: 1 no.

400 kV	
Line Bays	: 2 nos.
Transformer Bays	: 2 nos.
Bus Reactor bays	: 1 no.
125 MVAR Bus Reactors	: 1 no.

b) 400 kV CHITTORGARH (RVPN) SUB-STATION (Extn.)

400 kV Line Bays	: 2 nos.
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c) 765/400 kV AJMER SUB-STATION (NEW)

765 kV	
Transformer Bays	: 2 nos.
1500 MVA. 765/400 kV transformer	: 2 nos.
Bus Reactor bays	: 1 no.
240 MVAR Bus Reactors	: 1 no.

400 kV	
Line Bays	: 2 nos.
Transformer Bays	: 2 nos.
Bus Reactor bays	: 1 no.
125 MVAR Bus Reactors	: 1 no.

d) 400/220 kV AJMER (RVPN) Sub-station (Extn.)

<u>400 kV</u>	
Line Bays	: 2 nos.



e) **400/230 kV (GIS) Tirunelveli Pooling Sub-station (New)**

400 kV

Line Bays	: 4 nos.
Transformer Bays	: 2 nos.
500 MVA, 400/230 kV Transformer	: 1 no.
Bus Reactor bays	: 2 nos.
125 MVAR Bus Reactors	: 2 nos.

230 kV

Transformer bays	: 2 nos.
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f) **400/230 kV Tuticorin Pooling Station Extn.**

400 kV

Line Bays	: 4 nos.
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C. Reactive Compensation

Sl. No.	SUB-STATION	Bus Reactor
1	765/400 kV Chittorgarh Sub-station (New)	1 X 240 MVAR (765 kV) 1X 125 MVAR (400 kV)
2	765/400 kV Ajmer Sub-station (New)	1 X 240 MVAR (765 kV) 1X 125 MVAR (400 kV)
3	400/230 kV (GIS) Tirunelveli Pooling Sub-station (New)	2 X 125 MVAR (400 kV)

5. The scope of the scheme has been discussed and agreed in 32nd Standing Committee meeting on Transmission System planning of Northern Region held on 31.8.2013 and 36th Standing Committee meeting on Transmission System planning of Southern Region held on 27.9.2013. The scheme has also been discussed in the 29th and 40th meeting of Northern Regional Power Committee (NRPC) meetings and 23rd meeting of Southern Regional Power Committee (SRPC) meetings held on 13.9.2013, 11.1.2018 and 26.10.2013 respectively.

6. The details of the transmission elements covered in the instant transmission system submitted by the petitioner is mentioned as below:-



Sl. No.	Assets
1	<p><u>Asset-I</u> Combined Assets of (1) 400 kV D/C Ajmer (New)- Ajmer (RVPN) TL along with associated bays at both ends ; (2) 400 kV, 125 MVAR Bus Reactor along with associated bay at Ajmer (New) Sub-station; (3) 765/400 kV, 3X500 MVA ICT-I along with associated bays at Ajmer (New) Sub-station; (4)400 kV D/C Chittorgarh (New)- Chittorgarh (RVPN) TL along with associated bays at both ends ; (5) 765 kV, 240 MVAR Bus Reactor along with associated bay at Chittorgarh (New) Sub-station; (6) 400 kV, 125 MVAR Bus Reactor along with associated bay at Chittorgarh (New) Sub-station; (7) 765/400 kV, 3X500 MVA ICT-I along with associated bays at Chittorgarh (New) Sub-station; (8) 765/400 kV, 3X500 MVA ICT-II along with associated bays at Chittorgarh (New)</p>
2	<p><u>Asset-II:</u> Combined Assets of (1) 765 kV, 240 MVAR Bus Reactor along with associated bay at Ajmer (New) Sub-station; (2) 765/400 kV, 3X500 MVA ICT-II along with associated bays at Ajmer (New) Sub-station</p>
3	<p><u>Asset-III</u> 2 X 400 kV D/C (Quad) Tirunelveli Pooling Station-Tuticorin Pooling station line along with new 400/230 kV (GIS) Tirunelveli Pooling Sub-station with 2X 125 MVAR 400kV Bus reactors & associated bays at 400/230 kV Tuticorin Pooling station</p>
4	<p><u>Asset-IV</u> 2X500 MVA 400/230 kV transformers along with associated bays and equipment at new 400/230 kV (GIS) Tirunelveli Pooling Sub-station</p>

The petitioner has submitted that tariff for all the assets covered in the instant project, i.e. Green Energy Corridors: Inter State Transmission Scheme (ISTS)- Part A is claimed in the instant petition.

7. The details of the Annual Fixed Cost claimed by the petitioner are as under:-

(₹ in lakh)

Particulars	Asset-I		Asset-II	
	2017-18 (pro-rata)	2018-19	2017-18 (pro-rata)	2018-19
Depreciation	879.62	3950.24	162.69	741.40
Interest on Loan	368.66	1597.87	65.85	289.77
Return on Equity	1039.95	4711.98	191.38	880.39
Interest on Working Capital	69.99	304.99	12.49	55.33



O&M Expenses	384.32	1554.81	63.86	261.11
Total	2742.54	12119.89	496.27	2228.00

Particulars	Asset-III		Asset-IV	
	2017-18	2018-19 (pro-rata)	2017-18	2018-19 (pro-rata)
Depreciation	-	878.59	-	363.63
Interest on Loan	-	461.21	-	180.37
Return on Equity	-	1046.86	-	423.87
Interest on Working Capital	-	75.96	-	28.69
O&M Expenses	-	530.54	-	172.71
Total	-	2993.16	-	1169.27

8. The details of the interest on working capital claimed by the petitioner are as under:-

(₹ in lakh)

Particulars	Asset-I		Asset-II	
	2017-18 (pro-rata)	2018-19	2017-18 (pro-rata)	2018-19
O&M expenses	125.41	129.57	21.06	21.76
Maintenance Spares	225.74	233.22	37.91	39.17
Receivables	1789.87	2019.98	327.33	371.33
Total working capital	2141.01	2382.77	386.30	432.26
Rate of Interest	12.80%	12.80%	12.80%	12.80%
Interest on working capital	274.05	304.99	49.45	55.33
Pro-rata interest on working capital	69.99	304.99	12.49	55.33

Particulars	Asset-III		Asset-IV	
	2017-18	2018-19 (pro-rata)	2017-18	2018-19 (pro-rata)
O&M expenses	-	54.69	-	17.81
Maintenance Spares	-	98.45	-	32.05
Receivables	-	617.15	-	241.09
Total working capital	-	770.29	-	290.94
Rate of Interest	-	12.20%	-	12.20%
Interest on working capital	-	93.98	-	35.49
Pro-rata interest on working capital	-	75.96	-	28.69

9. The petitioner has served the petition on the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003 (hereinafter referred to as the Act). 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. However, replies have been received from respondents namely, BRPL, UPPCL



and TANGEDCO to which the petitioner has filed individual rejoinders. The issues raised by the MPPMCL and the clarifications given by the petitioner are addressed in the relevant paragraphs of this order. Having heard the representatives of the petitioner present at the hearing and on perusal of the material on record, we proceed to dispose of the petition.

10. This order is issued after considering the main petition and petitioner's affidavits dated 27.7.2018, 31.7.2018, 3.9.2018 and 14.2.2019, UPPCL reply dated 15.6.2018 and petitioner's rejoinder dated 27.7.2018, BRPL reply dated 24.7.2018 and petitioner's rejoinder dated 21.9.2018, TANGEDCO reply dated 19.7.2018 and 7.9.2018 and petitioner's rejoinder dated 21.9.2018.

Date of commercial operation (COD)

11. The date of commercial operation claimed by petitioner are as follows:-

Assets	COD as submitted in Petition	COD (Actual)	Remarks
Asset-I	30.12.2017 (Actual)	30.12.2017 (Actual)	Actual COD claimed in the petition
Asset-II	31.12.2017 (Actual)	31.12.2017 (Actual)	Actual COD claimed in the petition
Asset-III	28.03.2018 (Anticipated)	10.06.2018 (Actual)	Actual COD claimed vide affidavit dated 27.7.2018
Asset-IV	28.03.2018 (Anticipated)	10.06.2018 (Actual)	Actual COD claimed vide affidavit dated 27.7.2018

12. In support of COD of the instant Assets-I, II & III covered in the instant petition, the petitioner has submitted CEA Energisation Certificates under Regulation 43 of CEA (Measures Related to Safety & Electricity Supply) Regulations, 2010, RLDC charging certificates and CMD certificate as required under Grid Code. The petitioner vide affidavit dated 4.9.2018 has claimed the COD of the Asset-IV as 10.6.2018 under proviso (ii) of Regulation 4(3) of the



2014 Tariff Regulations as the associated generating station has not been completed.

Analysis and decision

13. We have considered the submission of the petitioner. The petitioner has claimed the actual COD of the Asset-I, Asset-II and Asset-III as 30.12.2017, 31.12.2017 and 10.6.2018 respectively. In support of COD of the Asset-I , Asset-II and Asset-III, the petitioner has submitted COD Certificate, RLDC Charging certificate, CEA certificate and CMD certificate. Accordingly, by considering the CEA Energisation certificate, RLDC charging certificate and CMD certificate as required under Grid Code, the COD of the instant Asset-I, Asset-II and Asset-III is approved as 30.12.2017, 31.12.2017 and 10.6.2018 respectively.

14. The petitioner has claimed COD of Asset-IV as 10.6.2018 under provision (ii) of Regulation 4(3) of the 2014 Tariff Regulations and Regulation 6.3A (4)(iv) of Indian Electricity Grid Code (Fourth Amendment) Regulations, 2016 as the petitioner was not able to put the instant asset into regular service due to non-readiness of associated wind generation under the scope of various generators.

15. Regulation 4(3) of the 2014 Tariff Regulations, provides as under:-

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

i) Where the transmission line or sub-station is dedicated for evacuation of power from a particular generating station, the generating company and transmission licensee shall endeavor to commission the generating station and the transmission system simultaneously as far as practicable and shall ensure the same through appropriate Implementation Agreement in accordance with Regulation 12(2) of these Regulations:

ii) in case a transmission system or an element thereof is prevented from regular service for reasons not attributable to the transmission licensee or its supplier or its contractors but is on account of the delay in commissioning of the concerned



generating station or in commissioning of the upstream or downstream transmission system, the transmission licensee shall approach the Commission through an appropriate application for approval of the date of commercial operation of such transmission system or an element thereof.”

16. Regulation 6.3A (4)(iv) of Indian Electricity Grid Code Regulations, 2016 is as follows:-

“6.3A Commercial operation of Central generating stations and inter-State Generating Stations

4. Date of commercial operation in relation to an inter-State Transmission System or an element thereof shall mean the date declared by the transmission licensee from 0000 hour of which an element of the transmission system is in regular service after successful trial operation for transmitting electricity and communication signal from the sending end to the receiving end:

(iv) In case a transmission system or an element thereof is prevented from regular service on or before the Scheduled COD for reasons not attributable to the transmission licensee or its supplier or its contractors but is on account of the delay in commissioning of the concerned generating station or in commissioning of the upstream or downstream transmission system of other transmission licensee, the transmission licensee shall approach the Commission through an appropriate application for approval of the date of commercial operation of such transmission system or an element thereof.”

17. In support of the COD of the Asset-IV, the petitioner has submitted COD certificate, CEA Energisation Certificate, ‘Idle charge’ RLDC charging certificate and CMD certificate as required under Grid Code. The petitioner has submitted that the Asset-IV is prevented from regular service due to non-commissioning of associated wind generators at Tirunelveli end. In consideration to the above, the COD of the Asset-IV has been approved as 10.6.2018 under proviso (ii) of Regulation 4(3) of the 2014 Tariff Regulations.

Capital Cost

18. The petitioner has claimed capital cost as per Clause (1) and (2) of Regulation 9 of the 2014 Tariff Regulations.

19. The petitioner has submitted Audited Cost Certificates dated 14.3.2018 for in case of Assets-I and II in the main petition and further submitted Audited Cost

Certificates dated 25.7.2018 for instant Assets-III and IV. The capital cost incurred as on COD and additional capitalization projected to be incurred during 2017-18 and 2018-19 are as follows:-

(₹ in lakh)

Asset	Apportioned Approved Cost (FR)	Cost up to COD	Projected Expenditure for FY			Estimated Completion Cost
			2017-18	2018-19	2019-20 & 2020-21	
Asset-I	79543.25	58408.06	17322.72	3731.33	0.00	79462.11
Asset-II	14925.89	10846.41	3254.57	794.49	0.00	14895.47
Asset-III	46032.82	20128.87	-	2554.01	625.64	23308.52
Asset-IV	7428.05	8097.18	-	1107.16	130.00	9334.34

20. TANGEDCO has submitted that the petitioner has not followed any standard nomenclature for furnishing the break up details. For example, the CT, PT, Circuit breaker, isolator etc. are clubbed together and a lump sum rate is provided. It has submitted that each and every element is a unique item and has different rates to be quoted in the tender. It is impossible to make out from the break-up whether the petitioner has included the cost of equipment for the future bays or claimed only for the diameters which are essentially required.

21. TANGEDCO has further submitted that there are huge variations in the cost of individual elements. For instance, the cost of switchgears as per original estimate is ₹2302.77 lakh whereas as per actual expenditure the cost is ₹1327.5 lakh which is 42.35 % less. Similarly, the original estimated cost of transformer is ₹2285.90 lakh whereas the completion cost is ₹4432.64 lakh which is 48.25% higher. This establishes that the petitioner is careless and indolent in its approach in quantity and rate estimation and not following any prudent method to control the rate variation in the tendering process. TANGEDCO has brought on record the observations of Ministry of Power in the discussion paper on reducing the cost of transmission communicated vide their letter dated 15.6.2018. In the



paper, it has been observed that cost under TBCB is 20-50% lower than the regulated tariff. Since there is no justification for such a huge deviation in the element-wise cost, the Commission may restrict the capital cost of each element based on the bench mark cost due to failure of the petitioner to follow any prudent methodology.

22. BRPL has submitted that Asset-III has large savings and it is evident that there is huge overestimation. Though the cost over-run may not be visible when viewed asset-wise, but there are large variations in intra-element cost. The variations in intra-element cost are also attributed to the reduction/increase in the route lengths of the transmission lines. Providing such reasons for cost overrun casts shadow on the survey undertaken by the petitioner. BRPL has submitted that the unreasonable grounds furnished by the petitioner for cost over-run may be disallowed.

23. The petitioner, vide affidavits dated 21.9.2018, has submitted the details of capital cost variation and same is as follows:-

(a) The increase/decrease in award cost received in competitive bidding w.r.t. initial estimates (FR cost) is mainly due to open competitive bidding route which is followed by providing equal opportunity to all eligible firms, lowest possible market prices for required product/services is obtained and contracts are awarded on the basis of lowest evaluated eligible bidder. The best competitive bid prices against tenders may happen to be lower or higher than the cost estimate depending upon prevailing market conditions.

(b) With regard to cost variation of Asset-I, the petitioner has submitted that variation of about ₹81.14 lakh is due to variation in cost of Tower steel,

conductor, Earth wire, Insulators, Hardware fittings, Conductor & Earth wire accessories, OPGW, Erection, Stringing & Civil works including foundation, mainly due to increase of line length from 82 km to 114.37 km and variation in bid price. There is reduction of around ₹63.03 lakh due to decrease in the Rate/Low bid prices of sub-station equipment, reduction of around ₹6.69 lakh on account of IDC with respect to FR, reduction of around ₹16.03 lakh in Preliminary Survey. Therefore, total amount of ₹81.14 lakh has reduced in estimated completion cost of Asset-I.

(c) With regard to cost variation of Asset-II, the petitioner has submitted that about ₹30.42 lakh has varied due to actual bid price received through competitive bidding and actual expenditure incurred.

(d) With regard to Asset-III, the petitioner has submitted that about ₹23087 lakh has varied due to reduction in line length of “2 X 400 kV D/C(Quad) Tirunelveli Pooling Station-Tuticorin Pooling station transmission line” from 57 km (envisaged in FR) to 11.5 km (in actual).

(e) With regard to Asset-IV, the petitioner has submitted that cost variation of about ₹13.33 lakh is due to difference between actual bid price received through competitive bidding and actual expenditure incurred.

24. We have considered the submissions of the petitioner and respondents. The estimated completion cost for Assets-I, II and III is within apportioned approved cost. The estimated completion cost of Asset-IV exceeds the approved apportioned cost and the same was restricted to approved apportioned cost. The capital cost allowed as on COD is as under:-



(₹ in lakh)			
Asset	Apportioned Approved Cost as per FR	Capital Cost claimed as on COD	Capital cost allowed as on COD
I	79543.25	58408.06	58408.06
II	14925.89	10846.41	10846.41
III	46032.82	20128.87	20128.87
IV	7428.05	8097.18	7428.05

Time over-run

25. As per the Investment approval, the transmission scheme was scheduled to be put into commercial operation in 24 months from the date of Investment Approval. The date of Investment Approval is 17.4.2015. Hence, the scheduled COD was 16.4.2017 against which COD of Asset-I and II was 30.12.2017 and 31.12.2017 and that of Asset-III and IV is on 10.6.2018 respectively. Thus, there is time over-run of 258 days, 259 days for asset- I and II and 420 Days for asset- III and IV respectively.

26. With regard to time delay for Asset-I and Asset-II, the petitioner has submitted that the delay is due to matching with the commissioning of the 765 kV D/C Chittorgarh-Ajmer alongwith extension of associated sub-station with Part-A scheme. The petitioner also submitted that the construction of 400 kV Ajmer-Ajmer (RVPNL) line and 400 kV D/C Chittorgarh (New)-Chittorgarh (RVPN) transmission line along with associated bays at both ends of POWERGRID faced severe RoW problem and stiff resistance from land owners at 22 locations in Tilora, Devnagar, Chamundiya, Kanas and Jaatli villages since July/August, 2015.

27. With regard to time delay for Asset-III and Asset-IV, the petitioner has submitted that delay is mainly due to delay in commissioning of associated generating units of Mytrah Energy (India) Limited. Further, it is submitted that



Mytrah Energy (India) limited vide letter dated 6.5.2016 intimated to PGCIL that commissioning of its generating units postponed to March, 2018. Accordingly, petitioner decided to postpone the commissioning of Asset-III and IV as per the commissioning schedule of the Generation at Mytrah Energy (India) Limited.

28. Further it is submitted that, as per agenda discussed in 32nd SRPC a meeting was conducted on 1.9.2017 with regard to utilization of upcoming Transmission System in Southern region wherein it was decided to commission “2 X 400 kV D/C (Quad) Tirunelveli Pooling Station -Tuticorin Pooling station line” along with 400 kV system of Tirunelveli GIS with 2*125 MVAR reactors.

29. The respondent TANGEDCO, vide affidavit dated 19.7.2018 has submitted that:-

a. The petitioner has stated that the SCOD of the instant assets under Green Energy Corridors: Inter State Transmission Scheme (ISTS) - Part A is 16.4.2017 and the SCOD of the Green Energy Corridors: Inter State Transmission Scheme (ISTS) - Part B inter-alia 765 kV Ajmer- Chittorgarh is 16.4.2018. The petitioner has phased the commissioning of the instant asset with the commissioning of the Part B scheme. It is evident from the above that the SCOD of the instant assets I&II are delayed to match with the upstream connectivity under part B (as per the petitioner’s demarcation). Since both the schemes are executed by the petitioner itself, the delay is attributed to the petitioner and hence, the Commission may decline the IDC, IEDC for the delayed period from 16.4.2017 to 31.12.2017.

b. Further, in respect of assets III and IV, the petitioner has stated that the wind energy promoter Mytrah Energy (India) Limited has requested to



postpone the commissioning of Asset III and IV to match with the commissioning of generation project. Since delay in commissioning of Assets III and IV are attributed to the generation developer, the transmission charges/IDC and IEDC are to be recovered from the generator. The Commission may restrict the capital cost upto the SCOD and direct the petitioner to recover the cost for the delayed period from the generator bilaterally.

30. The respondent BRPL, vide affidavit dated 24.7.2018 has submitted that:-
- a. The project as covered in this petition would be completed within 24 months from the Investment Approval, has incurred a time overrun varying from 8 months to 12 months. The petitioner is well conversant with the ROW problems of the nature enumerated above which are being encountered day-in and day-out during the construction of the transmission project. Keeping all these aspects in view, a completion period of 24 months was scheduled by the petitioner-Powergrid itself and a copy of the same was endorsed to the beneficiaries and also to the Commission. The alleged problems now narrated by the petitioner-Powergrid are only an excuse for delay as the grounds mentioned for delay are very casual in nature and easily should have been anticipated as the petitioner is operating in this area for more than 25 years now.
 - b. As non-commissioning of Assets III and IV due to postponement of the commissioning schedule of the generation at Mytrah Energy (India) Limited, is concerned it may be stated that the generating company informed the petitioner as back as 6.5.2016 and it is claimed that the petitioner has postponed the commissioning but suddenly in the 32nd



Meeting of SRPC held 22.8.2017. The petitioner informed that some of these elements are in an advanced stage of construction/commissioning. Thus, it may be seen that there was no postponement of the commissioning of Assets III and IV which is claimed but the same was purely a delay on the part of the petitioner. Besides this, the petitioner has also failed to perform its statutory functions as CTU during the course of implementation of its portion of the work resulting into mismatch in the construction of transmission line. Further, the subsequent events including arranging a special meeting on 1.9.2017 is evidently stage managed event which does not show in any manner that the utilization of the Assets III and IV were decided.

c. It may, thus, be noted that the grounds furnished by the petitioner cannot be relied upon. Besides this, both the grounds clearly fall within the controllable factors mentioned in Regulation 12(1) of the 2014 Tariff Regulations and accordingly the delay is entirely attributable to the slackness in project management for which the petitioner is solely responsible. It is also submitted that the necessary coordination in respect of the downstream network is a statutory responsibility of the petitioner. Thus, the IDC and IEDC during the entire time over run period are not permissible and the same is liable to be rejected by the Commission.

d. Although the grounds furnished by the petitioner fall under the controllable factors mentioned in Regulation 12 of the 2014 Tariff Regulations, but the petitioner has not submitted the following supporting documents as per Tariff Filing Forms (Transmission & Communication

System)–for determination of Tariff; (a) Detailed Project Report, (b) CPM Analysis, (c) PERT Chart and Bar Chart

e. The petitioner has only submitted the PERT chart in respect of the scheduled completion and not for actual completion that too for five activities. The petitioner is required to submit the scheduled completion PERT superimposing the actual completion PERT properly indicating the Critical path on both the Scheduled and actual PERT clearly identifying the activity on which the delay has occurred. To determine the time overrun against an activity the PERT charts along with CPM analysis is absolutely necessary. The petitioner had identified above three activities for time overrun but whether only these three activities are responsible for time overrun can be determined only with the help of PERT Chart. No such consolidated PERT chart along with critical path has been filed by the petitioner for which the petitioner is solely responsible.

f. The reasons explained above clearly points that the delay in the execution of the transmission project is attributable to the petitioner. The Commission may not allow such excuses as the delay and the reasons for delay clearly falls within the controllable factors mentioned in Regulation 12 of the 2014 Tariff Regulations. Accordingly, the IDC and IEDC during the entire time run period may not be allowed.

31. The petitioner has submitted that with regard to approximate delay of 8 months in commissioning of Asset-I and Asset-II, the petitioner has furnished justification for delay in main petition wherein it may be noted that during the construction of 400 kV Ajmer-Ajmer (RVPNL) line and 400 kV D/C Chittorgarh

(New)-Chittorgarh (RVPN) transmission line along with associated bays at both ends, the petitioner faced severe RoW problem and stiff resistance from land owners at 22 locations in Tilora, Devnagar, Chamundiya, Kanas and Jaatli villages since July/August, 2015. However, in spite of continuous efforts made by the petitioner, the RoW issue could be resolved only in the month of November, 2017. After resolving RoW problem in November, 2017, the petitioner took additional one month time to complete the remaining work of 2 nos. foundation, 7 nos. erection of tower and 10 kms stringing of line and commissioned Asset-I and II on 30.12.2017 and 31.12.2017 respectively.

32. Further, with regard to approximate delay of 14 months in commissioning of Asset-III and Asset-IV, the petitioner has furnished justification for delay in the main petition wherein it may be noted that Mytrah Energy (India) limited vide letter dated 6.5.2016 intimated to the petitioner that commissioning of its generating units has been postponed to March, 2018. Based on the commissioning status of RE Generation in SR, the petitioner slowed down the work on its assets so as to match the commissioning of its assets with that of RE Generation. Therefore, commissioning of Asset-III and IV was delayed to match the commissioning of these assets with that of the connected generating stations so as to effectively utilize the assets.

33. The Commission directed the petitioner to submit the details of time over-run as per prescribed format. The petitioner vide affidavit dated 4.9.2018 has submitted the following:-

Asset-I and II

Sl. No.	Activity	Schedule		Actual		Remarks if any
		From	To	From	To	
1.	Investment approval by the Board	17.4.2015	17.4.2015	17.4.2015	17.4.2015	
2.	LOA	18.6.2015	15.7.2015	24.4.2015	28.9.2016	Main Package for Trans Lines and Sub-station awarded on 24.4.2015
3.	Supplies	14.10.2015	2.1.2017	15.6.2015	30.7.2017	
4.	Foundation	19.11.2015	10.1.2017	30.6.2015	18.11.2017	
5.	Tower erection	11.2.2016	7.2.2017	31.8.2015	28.11.2017	
6.	Testing commissioning	16.3.2017	17.4.2017	30.11.2017	29.12.2017	

Asset-III and IV

Sl. No.	Activity	Schedule		Actual		Remarks if any
		From	To	From	To	
1.	Investment approval by the Board	17.4.2015	17.4.2015	17.4.2015	17.4.2015	
2.	LOA	18.6.2015	15.7.2015	24.4.2015	2.3.2017	Main Package for Trans Lines and Sub-station awarded on 24.4.2015
3.	Supplies	14.10.2015	2.1.2017	13.5.2016	25.2.2018	
4.	Foundation	19.11.2015	10.1.2017	14.11.2016	23.8.2017	
5.	Tower erection	11.2.2016	7.2.2017	9.2.2017	25.12.2017	
6.	Testing commissioning	16.3.2017	17.4.2017	14.3.2018	8.6.2018	

34. The LOA (Letter of Award) was also issued in April, 2015, immediately after Investment approval. Further, the working gangs were timely mobilized to achieve the scheduled completion target. Proactive actions involving various adaptive and mitigative steps were taken to overcome the hurdles associated with construction of transmission line in compressed time schedule. However, in spite of the best efforts of the petitioner, due to some unforeseen reasons, the completion of transmission line stretched beyond its schedule completion date.



35. The reasons of delay of approx. 8 months in commissioning of Asset-I & II, broadly comprising of ROW problem during July, 2015 to November, 2017 at various locations.

36. Further, with regard to delay justification of approx. 14 months in commissioning of Asset-III and Asset-IV, it is submitted that petitioner has furnished delay justification at para 5.1 of the petition wherein it was submitted that Mytrah Energy (India) limited vide letter dated 6.5.2016 intimated to the petitioner that commissioning of its generating units is postponed to March, 2018. Based on the commissioning status of concerned generation in SR, the petitioner withheld the work accordingly. In addition to above, it is further submitted that petitioner has written a letter to the concerned contractor to hold the supply of ICTs and Reactors vide letter dated 24.11.2016.

Analysis and decision

37. We have considered the submissions of the petitioner and respondents with respect to time over run. As per investment approval dated 17.4.2015, the assets covered under the instant transmission project were scheduled to be commissioned within 24 months. Therefore, against the scheduled COD of 16.4.2017, Asset-I and II were put into commercial operation on 30.12.2017 and 31.12.2017 and Asset-III and IV on 10.6.2018. Hence, there is time over-run of 258 and 259 days in respect of Asset-I and II and 420 days for Asset-III and IV. The petitioner has attributed the time over-run for Asset-I and Asset-II to delay in matching with the commissioning of the 765 kV D/C Chittorgarh-Ajmer alongwith extension of associated sub-station with Part-A scheme. The petitioner also submitted that the construction of 400 kV Ajmer-Ajmer (RVPNL) line and 400 kV D/C Chittorgarh (New)-Chittorgarh (RVPN) transmission line along with



associated bays at both ends, got delayed due to RoW problem and stiff resistance from land owners at 22 locations in Tilora, Devnagar, Chamundiya, Kanas and Jaatli villages since July/August, 2015. The RoW issue could be resolved only in the month of November, 2017. After resolving RoW problem in November, 2017, the petitioner has completed the remaining work of 2 nos. foundation, 7 nos erection of tower and 10 kms stringing of line and commissioned Asset-I and II on 30.7.2017 and 31.12.2017, respectively. We have gone through the submissions of the petitioner and the petitioner has submitted documentary evidence pertaining to RoW problems from 30.7.2015 to 10.11.2017. The details of events in respect of RoW issues at various locations have been considered. The Commission observes that the total time delay due to RoW problems was beyond the control of the petitioner. Therefore, the total time delay 258 days and 259 days for commissioning of the Asset-I and Asset-II is condoned.

38. The petitioner has attributed the time over-run for Asset-III and Asset-IV due to delay in commissioning of associated generating units of Mytrah Energy (India) Limited. Mytrah Energy Limited vide letter dated 6.5.2016 intimated the petitioner that commissioning of its generating units has been postponed to March, 2018. Accordingly, the petitioner decided to postpone the commissioning of Asset-III and IV as per the commissioning schedule of the generation at Mytrah Energy Limited. The petitioner has submitted letter dated 6.5.2016 wherein Mytrah Energy addressed to PGCIL that the pooling station commissioning date may be shifted from February, 2017 to March, 2018. We have gone through the submissions of the petitioner. The petitioner has submitted CEA energisation certificates dated 20.3.2018, 29.3.2018, 4.5.2018.



From these certificates, it observed that Asset-III and IV have become ready only with effect from 4.5.2018. Hence, the time delay 383 days from SCOD (16.4.2017) to 4.5.2018, was within the control of the petitioner as the petitioner on its own preferred to defer the COD to match with the generation. As such, out of total time delay of 420 days, 383 days is not condoned and the time delay of 37 days from 5.5.2018 to 10.6.2018 is condoned for Asset-III and Asset-IV.

Interest During Construction (IDC)

39. The petitioner has claimed IDC for instant assets and has submitted the Auditor's certificate in support of the same. The petitioner has submitted "statement showing IDC discharged upto COD", which, *inter alia*, shows the discharge details of IDC as given below:-

Asset	IDC As per Auditor certificate	IDC Discharged upto COD	(₹ in lakh)	
			IDC Discharged in 2017-18	IDC Discharged in 2018-19
Asset-I	2550.76	2536.13	2.45	12.19
Asset-II	480.67	478.17	0.00	2.50
Asset-III	563.74	403.40	0.00	160.34
Asset-IV	151.11	118.97	0.00	32.14

40. It is observed from the submissions of the petitioner that both the domestic as well as foreign loans were deployed in each asset. There are certain inadequacies in the IDC claimed by the petitioner where no calculation has been furnished with respect to the foreign loans in case of Asset-I and Asset-II. Further the petitioner has not specified the interest rate for SBI loan and instead mentioned 'floating rate'. The petitioner has not furnished the computation of floating interest rate and in this regard the documentary proofs given are not reconcilable. Further the loan portfolio as mentioned in IDC statement are different from Form 9C. The details of loans as submitted by the petitioner are not adequate to check/re-workout the admissible IDC for the purpose of tariff.



Accordingly, for the present, the IDC has not been allowed for the purpose of tariff as prudence of claimed IDC could not be taken. However, the same will be considered at the time of truing up after rectifying the above mentioned deviations with the details of the foreign loan drawn/IDC allocated to the project including the instant transmission assets and submission of adequate information relating to applicable rate of interest/exchange rates together with date of drawl and repayments of various loans.

Incidental Expenditure During Construction (IEDC)

41. The petitioner has claimed IEDC of ₹1642.31 lakh, ₹309.46 lakh, ₹1291.68 lakh and ₹514.37 lakh for the instant Asset-I, II, III and IV, respectively, and has submitted that the entire IEDC claimed has been discharged as on COD. In the instant petition, 5% of hard cost is indicated as IEDC in the abstract cost estimate. The claimed IEDC as on COD is within the percentage on hard cost as indicated in the abstract cost estimate for Asset-I and II. However, the claimed IEDC as on COD is beyond the percentage on hard cost as indicated in the abstract cost estimate for Asset-III and IV. Further IEDC is reduced due to time overrun for Asset-III and IV. Therefore, IEDC considered for determination of tariff in respect of instant Asset-I, II, III and IV, are as follows:-

(₹ in lakh)				
Asset	IEDC claimed	Excess IEDC disallowed	Pro-rata deduction due to time over-run	IEDC allowed
Asset-I	1642.31	0.00	0.00	1642.31
Asset-II	309.46	0.00	0.00	309.46
Asset-III	1291.68	219.02	357.24	715.41
Asset-IV	514.37	80.93	144.36	289.09



Initial spares

42. This has been dealt in line with Regulation 13 of the 2014 Tariff Regulations. The initial spares claimed by the petitioner and allowed for instant assets is as follows:-

(₹ in lakh)

Asset	Plant & Machinery Cost (*)	Initial Spares Claimed	Initial spares as % of Capital Cost	Ceiling limit (%)	Excess Initial spares	Initial spares allowed
	I (S/S)	40732.65	1503.06	3.69%	4%	NIL
I (T/L)	27992.02	279.92	1.00%	1%	NIL	279.92
I (TOTAL)	68724.67	1782.98			NIL	1782.98
II (S/S)	12938.32	476.94	3.69%	4%	NIL	476.94
III (S/S)	14639.56	715.78	4.89%	5%	NIL	715.78
IV (S/S)	8379.50	262.98	3.14%	5%	NIL	262.98

(*) Excluding IDC and IEDC, land cost and cost of Civil Works for the purpose of Initial Spares

43. The petitioner vide affidavit dated 3.9.2018 have submitted year-wise initial spare discharge details. The details of initial spare claimed and allowed year-wise is as below:-

(₹ in lakh)

Asset	COD	Initial Spares (As per Audited certificate)	Initial Spares till COD	Initial Spares COD to 31.3.2018	Initial Spares 2018-19
I	30.12.2017	1782.98	405.25	15.43	1362.30
II	31.12.2017	476.94	79.83	13.69	383.42

Asset	COD	Initial Spares (As per Audited certificate)	Initial Spares till COD	Initial Spares COD to 31.3.2019	Initial Spares 2019-20	Initial Spares 2020-21
III	10.6.2018	715.58	379.65	247.27	63.66	25
IV	10.6.2018	262.98	131.94	89.06	41.98	-

Capital cost as on COD

44. 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)

Asset	I	II	III	IV
Capital Cost claimed/ restricted as on COD	58408.06	10846.41	20128.87	7428.05
Undischarged initial spares liability	1377.73	397.11	335.93	131.04
IDC disallowed	2550.78	480.67	563.74	151.11
Excess IEDC disallowed	0.00	0.00	219.02	80.93
IEDC disallowed due to time overrun	0.00	0.00	357.24	144.36
Capital Cost as on COD considered for tariff calculation	54479.55	9968.63	18652.94	6920.61

Additional Capital Expenditure (ACE)

45. The cut-off date for the instant assets is 31.3.2020 for Asset-I and II respectively and 31.3.2021 for Asset-III and IV respectively, as per Clause (13) of Regulation 3 of the 2014 Tariff Regulations. The claim of additional capital expenditure has been dealt in accordance with Regulation 14. The ACE has been claimed as per Auditor certificates dated 14.3.2018 for Asset-I and II, respectively and 25.7.2018 for Asset-III and IV respectively, on projected basis as per following details:-

(₹ in lakh)

Asset	Estimated Expenditure in the FY		Total Additional capital expenditure claimed by petitioner as on 31.3.2019
	2017-18	2018-19	
I	17322.72	3731.33	21054.05
II	3254.57	794.49	4049.06
III	-	2441.11	2441.11
IV	-	1107.16	1107.16

46. The petitioner has claimed ACE as per Auditor certificate. The petitioner has claimed the entire ACE under Regulation 14(1). The ACE claimed by the petitioner is summarized in the table below:-



(₹ in lakh)

Asset	Year	Work/equipment proposed to be added after COD to cut off date/beyond cut-off date	Amount capitalized and proposed to be capitalized	Justification	Regulation under which covered	
Asset-I	2017-18	Freehold Land	20.10	Balance and retention payment.	14(1) (i)	
		Building	4643.32	Balance and retention payment	14(1) (i)	
		Transmission line	5719.99	Balance and retention payment	14(1) (i)	
		Sub-station	6890.43	Balance and retention payment	14(1) (i)	
		PLCC	51.34	Balance and retention payment	14(1) (i)	
Total			17325.18		14(1) (i)	
Asset-I	2018-19	Building	522.36	Balance and retention payment	14(1) (i)	
		Transmission line	888.60	Balance and retention payment	14(1) (i)	
		Sub-station	2332.50	Balance and retention payment	14(1) (i)	
		PLCC	0.05	Balance and retention payment	14(1) (i)	
Total			3743.51			
Asset-II	2017-18	Freehold Land	13.40	Balance and retention payment	14(1) (i)	
		Building	839.27	Balance and retention payment	14(1) (i)	
		Sub-station	2401.90	Balance and retention payment	14(1) (i)	
	Total			3254.57		
	2018-19	Building	93.69	Balance and retention payment	14(1) (i)	
		SUB-STATION	703.30	Balance and retention payment	14(1) (i)	
Total			796.99			
Asset-III	2018-19	Building civil works, Sub-station, TL and PLC	1171.00	Balance and retention	14(1) (i)	
		Building civil works, Sub-station, TL and PLC	160.34	Accrual IDC	14(1) (i)	
		Building civil works, Sub-station, TL and PLC	1383.01	Work deferred for execution	14(1) (i)	
	Total			2714.35		
	2019-20	Sub-station and transmission line	200.00	Balance and retention	14(1) (i)	
		Sub-station and transmission line	225.64	Work deferred for execution	14(1) (i)	
	Total			425.64		
	2020-21	Building civil works, SUB-STATION, TL&PLC	200.00	Balance and retention	14(1) (i)	
Total			200.00			
	2018-19	Sub-station	547.45	Balance and	14(1) (i)	



Asset	Year	Work/equipment proposed to be added after COD to cut off date/beyond cut-off date	Amount capitalized and proposed to be capitalized	Justification	Regulation under which covered	
Asset-IV				retention		
			32.14	Accrual IDC	14(1) (i)	
			559.71	Work deferred for execution	14(1) (i)	
	Total		1139.3			
	2019-20	Sub-station	130.00	Balance and retention	14(1) (i)	
Total		130.00				

Analysis and decision

47. We have considered the submissions of the petitioner. The petitioner has claimed additional capital expenditure towards balance and retention payments and the same is allowed as per Regulation 14(1) of the 2014 Tariff Regulations for 2017-18 and 2018-19 for instant Asset-I and II and for 2018-19 for instant Asset-III. No additional capital expenditure has been allowed for Asset-IV since the Apportioned Approved Cost as per FR is already achieved. The entitled un-discharged IDC and initial spares liability 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:-

Allowed Add-cap	(₹ in lakh)					
	Asset-I		Asset-II		Asset-III	Asset-IV
	2017-18	2018-19	2017-18	2018-19	2018-19	2018-19
Add cap allowed	17322.72	3731.32	3254.57	794.49	2554.01	0.00
Discharge of un discharge liabilities-initial spares.	15.43	1362.30	13.69	383.42	247.27	131.04
Total allowed add-cap	17338.15	5093.62	3268.26	1177.91	2801.28	131.04

Capital cost as on 31.3.2019

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



(₹ in lakh)

Asset	Capital Cost Allowed as on COD	ACE Allowed		Total Estimate Completion Cost as on 31.3.2019
		2017-18	2018-19	
I	54479.55	17338.15	5093.62	76911.32
II	9968.63	3268.26	1177.91	14414.80
III	18652.94	-	2801.28	21454.22
IV	6920.61	-	131.04	7051.65

Debt-Equity Ratio

49. 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 70:30. 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	38135.69	70.00	53837.92	70.00
Equity	16343.87	30.00	23073.40	30.00
Total	54479.55	100.00	76911.32	100.00

Asset-II				
Particular	Capital cost as on COD		Capital cost as on 31.3.2019	
	Amount	%	Amount	%
Debt	6978.04	70.00	10090.36	70.00
Equity	2990.59	30.00	4324.44	30.00
Total	9968.63	100.00	14414.80	100.00

Asset-III				
Particular	Capital cost as on COD		Capital cost as on 31.3.2019	
	Amount	%	Amount	%
Debt	13057.06	70.00	15017.95	70.00
Equity	5595.88	30.00	6436.27	30.00
Total	18652.94	100.00	21454.22	100.00

Asset-IV				
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Particular	Capital cost as on COD		Capital cost as on 31.3.2019	
	Amount	%	Amount	%
Debt	4844.43	70.00	4936.16	70.00
Equity	2076.18	30.00	2115.50	30.00
Total	6920.61	100.00	7051.65	100.00

Additional RoE

50. The petitioner has submitted that the assets covered in the instant petition has achieved COD within time line specified in Tariff Regulations i.e. 38 months and claimed additional RoE @0.5% for the assets covered in the instant petition.

51. The respondent TANGEDCO has submitted that there is a delay in respect of all assets against the compressed time schedule, the question of additional RoE does not arise. The petitioner in the instant petition has neither provided any information regarding commissioning of the data telemetry, communication system nor claimed any capital cost under that head evidencing that these systems are not commissioned simultaneously. As mandated under the 24(2) (iv) of the 2014 Tariff Regulations, the ROE may be reduced by 1%.

52. The respondent, BRPL has submitted that the transmission Asset-I and Asset-II were for the purposes of evacuation of renewable energy generations in WR and NR to Northern Region States for which a comprehensive ISTS strengthening scheme was implemented by the petitioner in compressed schedule. Similarly, the transmission Asset-III and Asset-IV were for the purposes of evacuation of renewable energy. Since there is a delay in respect of all the assets against the compressed time schedule, the question of additional ROE does not arise.

53. The petitioner has submitted the rejoinder to the reply to TANGEDCO and BRPL that as per Investment Approval dated 17.4.2015, the scheduled COD is 16.4.2017 against which the COD of Asset-I and Asset II is 30.12.2017 (Actual) and 31.12.2017 (Actual) respectively and COD of Asset III and IV is 10.6.2018 (Actual), which is within the Commission's time line specified (38 months for new 400 KV Quad T/L for plain area i.e. by 16.10.2018) for claiming additional ROE of 0.5 %.

Analysis and decision

54. We have considered the submissions of the petitioner and respondent. All the assets of the instant petition have been commissioned within 38 months from the date of investment approval. As per Regulation 24 (2) of the 2014 Tariff Regulations the assets have to be commissioned within 38 months for grant of additional RoE of 0.5%. Additional RoE @ 0.5% is allowed as per Regulation 24 (2) of the 2014 Tariff Regulations.

Return on Equity

55. The petitioner has submitted that RoE has been calculated at the rate of 20.243% 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.

56. 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.

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

Particulars	(₹ in lakh)					
	Asset-I		Asset-II		Asset-III	Asset-IV
	2017-18 (pro-rata)	2018-19	2017-18 (pro-rata)	2018-19	2018-19 (pro-rata)	2018-19 (pro-rata)
Opening Equity	16343.87	21545.31	2990.59	3971.07	5595.88	2076.18
Addition due to Add-Cap	5201.45	1528.09	980.48	353.37	840.38	39.31
Closing Equity	21545.31	23073.40	3971.07	4324.44	6436.27	2115.50
Average Equity	18944.59	22309.35	3480.83	4147.75	6016.07	2095.84
Return on Equity (Base Rate)	16.000%	16.000%	16.000%	16.000%	16.000%	16.000%
Tax Rate	20.961%	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	20.243%	20.243%	20.243%	20.243%	20.243%	20.243%
Return on Equity (Pre-tax)	966.62	4516.08	175.67	839.63	984.28	342.90

Interest on loan (IOL)

58. 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.



59. 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 period 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.

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

Particulars	Asset-I		Asset-II		Asset-III	Asset-IV
	2017-18 (pro-rata)	2018-19	2017-18	2018-19	2018-19	2018-19
			(pro-rata)		(pro-rata)	(pro-rata)
Gross Normative Loan	38135.69	50272.39	6978.04	9265.82	13057.06	4844.43
Cumulative Repayment upto previous Year	0.00	816.73	0.00	149.15	0.00	0.00
Net Loan-Opening	38135.69	49455.66	6978.04	9116.67	13057.06	4844.43
Addition due to Additional Capitalization	12136.71	3565.53	2287.78	824.54	1960.90	91.73
Repayment during the year	816.73	3782.14	149.15	706.23	825.84	293.85
Net Loan-Closing	49455.66	49239.05	9116.67	9234.97	14192.12	4642.31
Average Loan	43795.67	49347.35	8047.35	9175.82	13624.59	4743.37
Weighted Average Rate of Interest on Loan	3.1046%	3.1052%	3.0133%	3.0139%	3.9380%	3.8062%
Interest on Loan	342.71	1532.32	60.46	276.55	433.64	145.92

Depreciation

61. 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 and 2018-19. 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:-

Particulars	Asset-I		Asset-II		Asset-III	Asset-IV
	2017-18 (pro-rata)	2018-19	2017-18 (pro-rata)	2018-19	2018-19 (pro-rata)	2018-19 (pro-rata)
Opening Gross Block	54479.55	71817.70	9968.63	13236.89	18652.94	6920.61
Additional Capital expenditure	17338.15	5093.62	3268.26	1177.91	2801.28	131.04
Closing Gross Block	71817.70	76911.32	13236.89	14414.80	21454.22	7051.65
Average Gross Block	63148.63	74364.51	11602.76	13825.85	20053.58	6986.13
Rate of Depreciation	5.13%	5.09%	5.16%	5.11%	5.10%	5.20%
Depreciable Value	56833.76	66928.06	10442.48	12443.26	18048.22	6287.52
Remaining Depreciable Value	56833.76	66111.32	10442.48	12294.11	18048.22	6287.52
Depreciation	816.73	3782.14	149.15	706.23	825.84	293.85

Operation and Maintenance Expenses (O&M Expenses)

62. The petitioner has claimed the following O&M Expenses in the instant petition:-

Asset	O&M expenses claimed by the petitioner	
	2017-18	2018-19
Asset-I	384.32	1554.81
Asset-II	63.86	261.11
Asset-III	-	530.54
Asset-IV	-	172.71

63. 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.

64. The respondent UPPCL has submitted that tariff is a package consisting of elements such as depreciation, IOL. ROI, O&M and interest on working capital. The profit in one element offsets loss in other. Hence O&M cannot be seen in isolation.

65. The respondent, BRPL has submitted that the increase in the employee cost, if any, due to wage revision must be taken care by improvement in their productivity levels by the petitioner company so that the beneficiaries are not burdened over and above the provisions made in the 2014 Tariff Regulations.

66. In response, the petitioner has submitted that being a CPSU, the scheme of wage revision is binding on the petitioner. However, the actual impact of wage hike (due w.e.f. 1.1.2017) has not been factored in fixation of the normative O&M rates prescribed for the 2014-19 tariff period. In line with the Regulation 19(f)(ii) of the 2014 Tariff Regulations, norms for O&M Expenses for the year 2009-10 were derived considering the impact of wage hike of the employees under PSUs. The petitioner has prayed for suitable revision in the norms for O&M Expenses for claiming the impact of wage hike during 2014-19 periods.

67. 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.

68. 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
Double Circuit (Bundled Conductor with four or more sub-conductors)	1.171	1.210
765 kV Bay	93.11	96.20
400 kV Bay	66.51	68.71
400 kV GIS Bay	56.84	58.73

69. We have considered the submissions of petitioner and respondents. 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	2018-19
Asset-I (COD: 30.12.2017)		
400 kV Ajmer-AJM D/C line(131.26 KM)	38.32	158.82
400 kV D/C Quad (97.48 KM)	28.45	117.95
4 no 765 kV Bay	92.73	384.8
13 nos. 400 kV Bays	215.29	893.23
Total	374.79	1554.81
Asset-II (COD: 31.12.2017)		
2 nos. 765 kV Bays	22.95	192.4
1 no 400 kV Bay	16.36	68.71
Total	39.31	261.11
Asset-III (COD: 10.6.2018)		
400 kV Tuticorin Line 1 (12.05 KM)	-	11.74
400 kV Tuticorin Line 2 (12.01 KM)	-	11.69
6 no of 400 kV GIS bays	-	283.66
4 no of 400 kV Bays	-	189.11
Total	-	496.20
Asset-IV (COD: 10.6.2018)		
2 no 400 kV GIS bays	-	94.55
2 no 220 kV GIS Bays	-	77.44
Total	-	171.99

Interest on Working Capital (IWC)



70. 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 plus 350 Bps have been considered as the rate of interest on working capital for the assets.

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

Particulars	Asset-I		Asset-II		Asset-III	Asset-IV
	2017-18 (pro-rata)	2018-19	2017-18	2018-19	2018-19	2018-19 (pro-rata)
			(pro-rata)		(pro-rata)	
O&M expenses	223.04	233.22	23.65	39.17	92.09	31.92
Maintenance Spares	123.91	129.57	13.14	21.76	51.16	17.73
Receivables	1696.56	1946.04	290.72	356.01	579.72	201.98
Total	2043.51	2308.83	327.51	416.93	722.97	251.63
Rate of Interest	12.60%	12.60%	12.60%	12.60%	12.20%	12.20%
Pro-rata Interest	64.90	290.91	10.29	52.53	71.29	24.81

Annual Fixed Cost



72. In view of the above, the annual transmission charges being allowed for the instant asset is summarized hereunder:-

Particulars	Asset-I		Asset-II		Asset-III	Asset-IV
	2017-18 (pro-rata)	2018-19	2017-18	2018-19	2018-19	2018-19 (pro-rata)
			(pro-rata)		(pro-rata)	
Depreciation	816.73	3782.14	149.15	706.23	825.84	293.85
Interest on Loan	342.71	1532.32	60.46	276.55	433.64	145.92
Return on Equity	966.62	4516.08	175.67	839.63	984.28	342.90
Interest on Working Capital	64.90	290.91	10.29	52.53	71.29	24.81
O&M Expenses	374.79	1554.81	39.31	261.11	496.20	171.99
Total	2565.75	11676.26	434.88	2136.05	2811.24	979.46

Filing Fee and Publication Expenses

73. 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

74. 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



75. 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

76. The petitioner has submitted that the transmission charges of the instant assets should be recovered on monthly basis and the billing, collection and disbursement of Transmission Charges shall be governed by the provisions of CERC (Sharing of Interstate Transmission Charges and Losses Regulations, 2010) as provided under Regulation 43 of the 2014 Tariff Regulations.

77. In response to the Commission's direction in RoP dated 31.7.2018, the petitioner vide affidavit dated 3.9.2018 has made the following submissions:-

- (a) Green Energy Corridor (GEC) was approved as System Strengthening Scheme which was mainly proposed to provide strong Grid Connections to facilitate transfer of power from the RE resource rich states with reliability and security.
- (b) In the 32nd Standing Committee meeting of Northern Region held on 31.8.2013 & 36th Standing Committee meeting of Western Region held on 26.9.2013, it was considered prudent to strengthen grid interconnection through Inter-State Transmission System (ISTS) to cater to the Mundra UMPP/Adani Mundra generation complexes as well as envisaged renewable capacity in Rajasthan (8100 MW) and Gujarat (8300 MW) which have short gestation period of 9 to 16 months. The proposed ISTS was also to enlarge the much needed power-balancing and help in addressing various issues of grid integration of renewable including balancing mechanism.



(c) Further, in the 36th & 37th Standing Committee Meeting of Southern Region held on 4.9.2013 and 31.7.2014 respectively, the proposal for transmission system in respect of connectivity applications were discussed. During the meeting, common transmission system for connectivity for 7 wind applications in the Tirunelveli area in Tamil Nadu with the total capacity of 1764 MW was agreed. It was also decided that the transmission system shall be taken up for implementation, after the wind developers apply for LTA for at least 25% quantum of their installed capacity. The proposal was subsequently approved in the 23rd and 26th SRPC meetings held on 26.10.2013 and 20.12.2014 respectively.

(d) Subsequently, details of RE connectivity/LTA applications received in ISTS for Green Energy Corridors as well as RE Project which will be feeding power to GEC Sub-station through Solar Power Park Pooling stations by July end is as under:-

SI. No	SUB-STATION	Stage-II Connectivity#		LTA#	
		Applied (MW)	Granted /Agreed for Grant (MW)	Applied (MW)	Granted (MW)
1	Bhuj PS	4615	4615	2814.5	2814.5
2	Banaskantha (for Injection at Banaskantha PG)	700	700	700	700
3	Bhadla PS (For Injection at Bhadla PG)	3030	3030	2330#	2330#
4	Bikaner	850	850	-	-
5	Fatehgarh (for Injection at Bikaner Via Bhadla PS)	1600	1600	1000	1000
6	Tuticorin –II (erstwhile Tirunelveli pool)	1000.1	1000.1	950.1*	650.1*

In addition to the granted LTA quantum, an application for grant of LTA for 980 MW by Rajasthan Solar Park Development Company Ltd. was received but for this LTA application Stage-II application is yet to be received.

*In addition to the grant of LTA in Tirunelveli area, LTA of 225 MW (3X75 MW) was granted to Suzlon. However, upon notification of the detailed procedure for grant of



connectivity to project based on renewable energy resources by the Commission on 15.5.2018, Suzlon is a deemed Stage-I connectivity grantee and application for Stage-II connectivity is to be received from Suzlon.

(e) In addition to RE projects mentioned above, Mundra UMPP (5x830 MW) is being connected to Green Energy Corridor (GEC) at Bhuj Pooling Station.

(f) The petitioner has submitted the LTA details with respect to Asset-I and II:-

Bhuj Pooling Station					
Sl. No.	Applicant	Connectivity granted / Agreed for grant (MW) (Stage-II)	LTA quantum (MW)	Start date of LTA	Status of LTA
1.	Srijan Energy Systems Pvt Ltd (SESPL-Bhuj)	300	300	31.3.2019*	Granted
2.	Inox Wind Infrastructure Services Ltd. (IWISL-Dayapar)	500	500	30.6.2018*	Granted
3.	Adani Green Energy Ltd. (AGEL-Khavda)	500**	500	31.3.2019*	Granted (LTA agreement not signed and not applied for Stage-II connectivity)
		1000**	1000	31.3.2019*	
		750**	750	31.12.2018*	
4.	Green Infra Wind Energy Ltd. (GIWEL-Bhuj)	250	250	03/11/18*	Granted
		300	300	30/04/19*	Granted
5.	Adani Green Energy MP Ltd. (AGEMPL-Dayapar)	100	100	50MW – 01/02/19* & 50MW – 02/04/19*	Granted
6.	Torrent Power Ltd. (TPL-Lakhpat Bhuj)	300	300	30/06/19*	Granted
7.	Alfanar energy private limited AEPL- Kotda Madh)	300	300	30/06/19*	Granted
8.	Torrent Power Ltd. (TPL- JunachayBhuj)	200	199.5	31.7.2019*	Granted
9.	ReNew Wind Energy	300	300	24.11.2019*	Granted
10.	(AP2) Private Limited	265	265	28.2.2020*	Granted
Banaskantha					
Sl. No.	Applicant	Connectivity granted / Agreed for grant (MW) (Stage-II)	LTA quantum (MW)	Start date of LTA	Status of LTA



1.	Gujarat Power Corporation Limited	700	700	31.12.2017*	Granted
Bhadla					
Sl. No.	Applicant	Connectivity granted / Agreed for grant (MW) (Stage-II)	LTA quantum (MW)	Start date of LTA	Status of LTA
1.	Saurya Urja Company of Rajasthan Ltd.	500	500	October, 2018*	Granted
2.	Adani Renewable Energy (AREPRL)	250	250	October, 2018*	Granted
3.	Essel Saurya Urja (ESURL)	750	750	October, 2018*	Granted
4.	Mahoba Solar (UP) Private Limited	200	-	-	-
5.	ACME Solar Holdings Limited	250	-	-	-
6.	Tata Power Renewable Energy Limited	150	150	1.5.2019	Agreed for Grant
7.	Azure Power India Private Limited	130	130	31.8.2019	
8.	Azure Power India Private Limited	300	300	15.10.2020	
9.	Azure Power India Private Limited	250	200 & 50	15.10.2020	
10.	Hero Solar Energy Private Limited	250	-	-	-
11.	Rajasthan Solar park development company Ltd.	980 (Stage-I)	980	November, 2019	Under Process
Fatehgarh					
Sl. No.	Applicant	Connectivity granted / Agreed for grant (MW) (Stage-II)	LTA quantum (MW)	Start date of LTA	Status of LTA
1.	Adani Renewable Energy Park Rajasthan Ltd. (AREPRL)-Fatehgarh UMSP	1000	1000	December, 2018*	Granted
2.	ACME Solar Holdings Limited	300	-	-	-
3.	ACME Solar Holdings Limited	300	-	-	-
Bikaner					
Sl. No.	Applicant	Connectivity granted / Agreed for grant (MW) (Stage-II)	LTA quantum (MW)	Start date of LTA	Status of LTA
1.	Renew Solar Power Private Limited	250	--	--	--



2.	Azure Power India Private Limited	300	-	-	-
3.	Azure Power India Private Limited	300	-	-	-

* Or Availability of Proposed Tr. System whichever is later

**Deemed Stage-I

(g) LTA details with respect to Assets-III and IV: The transmission system has been discussed and approved in the 36th and 37th Standing Committee meeting of Southern Region held on 4.9.2013 and 31.7.2014 respectively. The common transmission system was approved for connectivity for 7 wind applications in the Tirunelveli area in Tamil Nadu with the total capacity of 1764 MW. However, the transmission system was to be taken up for implementation, after the wind developers apply for LTA for at least 25% quantum of their installed capacity.

(h) Subsequently, Mytrah Energy (India) Pvt. Ltd. and Suzlon Power Infrastructure Ltd. have submitted the LTA applications for 75 MW and 225 MW (3x75 MW) for their respective wind generation projects in May, 2014 and April, 2015 respectively. Accordingly, as per the approval in Standing Committee meeting, the transmission system was taken up for implementation and awarded in April, 2015 for implementation.

(i) Further, the details of LTA granted as on date is as below:-

Sl. No.	Applicant	Connectivity granted / Agreed for grant (MW) (Stage-II)	LTA quantum (MW)	Start date of LTA	Status of LTA
1.	Suzlon Power Infrastructure Ltd.	300 (Stg-I)	75	1.4.2018*	Granted**
2.	Suzlon Power Infrastructure Ltd.	300 (Stg-I)	75	1.10.2018*	Granted**
3.	Suzlon Power Infrastructure Ltd.	300 (Stg-I)	75	1.4.2019*	Granted**
4.	Mytrah Energy India Pvt. Ltd.	300	75	February, 2016*	Granted
5.	Mytrah Energy India Pvt. Ltd.		175	30.9.2018	Granted
6.	Orange Sironj Wind Power Pvt.	200	200	22.2.2019	Granted



Sl. No.	Applicant	Connectivity granted / Agreed for grant (MW) (Stage-II)	LTA quantum (MW)	Start date of LTA	Status of LTA
	Ltd.				
7.	Green Infra Renewable Energy Ltd.	249.9	249.9	31.10.2018	Granted
8.	Betam Wind Energy Private Limited	250.2	250.2	31.7.2019	Granted

*The LTA for Sl. No. 1-4 has been granted with start date as specified by the applicant subject to availability of transmission system indicated in the intimation.

****Note:**The LTA has been granted to Suzlon Power Infrastructure Ltd. for 3x75 MW at Tuticorin-II GIS. However, upon notification of the Detailed Procedure for grant of connectivity to projects based on renewable energy resources by the Commission on 15.5.2018, the Connectivity already granted is to be considered as Stage-I Connectivity and shall be issued revised grant of LTA along with grant of Stage-II Connectivity.

- (j) ISTS transmission scheme for seven solar parks viz. Ananthapur (1500 MW), Pavagada (2000 MW), Rewa (750 MW), Bhadla-III (500 MW), Bhadla-IV (250 MW), Essel-Phalodi/Pokran (750 MW), Banaskantha (700MW) is already awarded and taken up for implementation by the petitioner, as assigned by the Ministry of Power.
- (k) ISTS for Fatehgarh Solar Park (1000 MW) is being implemented by Fatehgarh- Bhadla Transmission Ltd through TBCB route.
- (l) GEC is a comprehensive transmission strengthening which facilitates transfer of power from Wind/Solar generation complexes as well as Solar Power Parks.
- (m) Transmission scheme is common for GEC as well as Solar parks approved by Government of India. For instance, Ultra Mega Solar Power Parks viz. Banaskantha (Radhanesda) (700 MW) as well as Bhadla/Phalodi-Pokran/Fatehgarh (2500 MW) shall be injecting at GEC Sub-stations and corridors.



(n) Ministry of Power vide OM dated 7.2.2014 assigned the implementation of GEC-ISTS scheme to the petitioner. Further, Ministry of Power vide OM dated 3.3.2015 also assigned the implementation of GEC-Part D ISTS scheme to the petitioner. Copies of the approvals were submitted vide affidavit dated 3.9.2018.

78. TANGEDCO, Respondent No.23, has made the following submissions vide affidavit dated 19.7.2018:-

- a) The assets covered under the instant petition are covered under GEC subjected to waiver of transmission charges for the qualified entities who fulfill the conditions mandated under the 2010 Sharing Regulation.
- b) The instant transmission assets were envisaged to evacuate power from the various wind energy generators based on the LTA application. The detail of such developers in respect of Tirunelveli PS as specified in the Minutes of the 36th meeting of SCPSPSR is given below:-

Sl. No	Applicant	Location	Connectivity for MW	Connectivity system
1	Mytrah Energy (India)	Tirunelveli District	300	Mytrah Wind Farms-Tirunelveli PS 230 kV D/C line
2	Samimeru Wind Farms Private limited		48.5	Samimeru Wind Farms - Tirunelveli PS 230 kV D/C line
3	SISL Green Infra Limited		48.5	
4	Samiran Udaipur Wind Farms Limited		48.5	
5	Shivam Filaments Private Limited		48.5	
6	RS India Global Energy Limited		270	RS India Wind Farms - Tirunelveli PS 230 kV D/C line
7	Suzlon Power Infrastructure Limited		1000	Suzlon Wind Farms - Tirunelveli PS 230 kV D/C line
	Total		1764	



c) The petitioner should furnish the list of RE generators who are granted LTA under this scheme and eligible for waiver of transmission charges. There is no provision to grant blanket waiver for all the generators / beneficiaries. TANGEDCO has raised this issue in various forums like SRPC, Standing Committee, Commercial Sub-committee, LTA meeting and also in the validation Committee. The Chairperson, SRPC has taken up this issue along with other issues with the Commission for redressal.

d) No entity should be allowed to enjoy the benefit of waiver without fulfilling the mandatory requirements of the Regulations at the cost of the existing DICs who are under financial distress which in turn will adversely impact the tariff of the end consumers. The petitioner may be directed to recover the charges bilaterally from the unqualified entities and exclude from PoC billing.

e) The petitioner has not placed on record the details of generators who have commissioned the connectivity lines and the generation projects. The petitioner has to recover the transmission charges from the generators even though they are eligible for waiver of the transmission charge. The same should be recovered as provided under Clause (5) of Regulation 8 of the 2010 Sharing Regulations.

f) The petitioner has filed a reply dated 3.9.2018 in which the issues raised by TANGEDCO have not been addressed and reply has been filed only for the queries raised by the Commission. As stated by the Petitioner in para 2(i) of the above reply, the transmission system shall be taken up for implementation after the wind developers apply for LTA for at least 25% of their installed capacity. As per the approval by the Standing Committee in the 36th meeting held on 4.9.2013, the proposed transmission scheme was approved based on the Connectivity Application for a capacity of 1764 MW, in

which Suzlon Power Infrastructure Ltd had applied for 1000 MW. But, in their reply, the petitioner has stated that Suzlon have applied for 3 x 75 MW (225 MW) and the total LTA granted is only 650 MW. It is evident that even after completion of five years, the petitioner is unable to find LTA customers to fulfill the minimum requirement for establishing a 400/230 kV Pooling Station.

g) As per Regulation 7(1)(z) of the 2010 Sharing Regulations mandates three essential conditions to be fulfilled for availing waiver of transmission charges for RE based Projects. The petitioner has failed to furnish the details of the entities/LTA applicants eligible for waiver of transmission charges. This amounts to non-compliance of the requirement under the 2010 Sharing Regulations.

h) Considering the targeted huge RE Capacity of 175 GW, it is inevitable to classify the eligible entities for waiver of transmission charges. Otherwise, this will lead to huge financial burden to the existing DICs, in particular, the Discoms in RE rich states.

79. The petitioner in its rejoinder, vide affidavit dated 15.2.2019, has made the following submissions:-

a) The Assets-III and IV were put into commercial operation on 10.6.2018. The matter pertaining to utilization of Asset-III was deliberated during 32nd SRPC meeting held on 22.8.2017 and Special meeting in SRPC held on 1.9.2017, wherein it was decided that with the COD of “2 X 400 kV D/C (Quad) Tirunelveli Pooling Station -Tuticorin Pooling station line” along with 400 kV system of Tirunelveli GIS and 2x125 MVAR bus reactors would help in controlling the over voltage situations around Tirunelveli and



Kudankulam areas. Accordingly, Asset-III is getting utilized from 10.6.2018.

b) Asset-IV was put into commercial operation on 10.6.2018 along with Asset-III to meet the contractual obligation. However, the asset was to be utilized for evacuation of power from the wind generation projects of Mytrah Energy India Pvt. Ltd. (LTA-75 MW) and Suzlon Power Infrastructure Ltd. (LTA-3x75 MW) in Tirunelveli area of Tamil Nadu. However, with the notification of Detailed Procedure for RE Sources to ISTS by the Commission on 15.5.2018, the connectivity granted to Suzlon was considered as deemed Stage-I Connectivity and its LTA of 225 MW (3x75 MW) shall be revised with the grant of Stage-II Connectivity. Subsequently, LTAs for 950.1 MW has been granted to wind farms in Tirunelveli area of Tamil Nadu and the same were/being operationalized as per the details below:-

Sl. No.	Applicant	LTA quantum (MW)	Start date of LTA	Status of LT A operationalization
1	Mytrah Energy India Pvt. Ltd.	75	Feb, 2016*	75 MW - 10.6.18
2	Mytrah Energy India Pvt. Ltd.	175	30.9.2018	50 MW - 30.9.18 125 MW – 1.12.18
3	Orange Sironj Wind Power Pvt. Ltd.	200	22.2.2019	200 MW – to be operationalized from 22.2.2019
4	Green Infra Renewable Energy Ltd.	249.9	31.10.2018	249.9 MW - 10.10.18
5	Betam Wind Energy Private Limited	250.2	31.7.2019	250.2 MW – to be operationalized from 31.7.2019
Total		950.1		<ul style="list-style-type: none"> • Under Operation – 499.9 MW • To be operationalized – 450.2 MW

Accordingly, with the commissioning of generation of Green Infra Renewable Energy Ltd. and operationalization of LTA from 10.10.2018, the



Asset-IV is getting utilised for evacuation of power from wind generation project of the area. Further, with regard to the waiver from the transmission charges it is submitted that, as per the ministry of power order dated 13.2.18, it was notified that for generation projects based on solar and wind resources, no inter-state transmission charges and losses will be levied on the transmission of electricity through the inter-state transmission system for sale of power by such projects commissioned till 31st March, 2022.

c) As agreed in the 36th and 37th Standing Committee meeting of Southern Region held on 4.9.2013 and 31.7.2014 respectively, upon receipt of LTA applications from wind developers, common transmission system for connectivity for wind applications in the Tirunelveli area in Tamil Nadu was taken up for implementation. As on date, LTA for about 950.1 MW has been granted to wind developers with the above transmission system.

d) As on date, total LTA of 499.9 MW of Green Infra Renewable Energy Ltd (GIREL) (249.9 MW) and Mytrah Energy (I) (250 MW) has been operationalized utilizing the Assets-III and IV and the LTA of 450.2 MW of Orange Sironj Wind Power Pvt Ltd. (OSWPPL) (200 MW) and Betam Wind Energy Private Limited (BWEPL) (250.2 MW) is being operationalized from the date of grant of LTAs.

e) TANGEDCO in its reply has submitted that OSWPPL and Mytrah have declared that their wind generation capacity has been awarded through SECI competitive bidding and respective PPAs have been executed for sale of power to the DISCOM for compliance of their RPO. Both applicants informed that their project is under construction (OSWPPL- 22.2.2019; Mytrah-31.9.2018 and 1.12.2018). Subsequently, Green Infra Renewable Energy Ltd (GIREL) vide their letter dated 19.9.2018 has informed that total



249.9 MW of generation capacity has been awarded through competitive bidding by SECI and Power Purchase Agreement have been executed for sale of such power to DISCOM for compliance of their RPO.

f) As regards of LTA grant (250 MW) to Mytrah Energy (I) Ltd, LTA of 75 MW was made effective from 10.6.2018 (on target basis) and from 24.7.2018 (on firm basis), LTA of 50 MW is made effective from 30.9.2018 and balance 125 MW w.e.f. 1.12.2018 in line with 2009 Connectivity Regulations and amendments thereof. Mytrah vide their letter dated 29.1.2019 has also informed that they have commissioned part capacity (128.7 MW out of total 250 MW) with COD as 30.1.2019.

g) GIREL had informed that entire 249.9 MW of wind project was commissioned on 7.10.18. Accordingly, LTA of GIREL was made effective from 10.10.2018 in line with 2009 Connectivity Regulations and amendments thereof. LTA of OSWPPL (Orange Sironj Wind Power Pvt. Ltd.) (200 MW) is made effective w.e.f. 22.2.2019, which is yet to come.

h) RE generation is commissioned in small quantum and in a staggered manner. Therefore, considering the uniqueness of RE generators, it is proposed that total YTC shall be part of POC Pool and for the delayed period of generation beyond LTA effectiveness bilateral billing shall be done to the RE generators for YTC proportionate to un-commissioned generation and after receipt of the transmission charges from RE generators same shall be adjusted in POC pool.

i.) The transmission charges of Assets-I, II and III should be included in the POC pool and the transmission charges of Asset-IV should be levied on the concerned generators till the commissioning of the respective generation

from the date of operationalization of LTA and after commissioning of the generators transmission tariff should be the part of POC pool.

Analysis and decision

80. We have considered the submissions of the petitioner and TANGEDCO. TANGEDCO has submitted that the Green Energy Corridor is exclusively designed for evacuation and transfer of RE power from various RE generation projects across the country and the same is evident from minutes of the Standing Committee/SRPC meetings and as such the question of the scheme being “System Strengthening” to be shared by all the existing DICs does not arise. Accordingly, the transmission charges or IDC and IEDC are recoverable from the defaulting generator. TANGEDCO has also submitted that the transmission charges should be recovered bilaterally from the defaulting entities and should be excluded from PoC charges.

81. The petitioner has submitted that the assets covered in the instant petition are part of the transmission system associated with GEC in Northern and Southern Region. Assets-I and II are in Rajasthan and Asset- III and IV are in Tamil Nadu. The petitioner has submitted that Asset-III and IV are for the common transmission system and was approved for connectivity of seven wind generators in the Tirunelveli area in Tamil Nadu with total capacity of 1764 MW. The petitioner has also submitted the details of the connectivity granted and the LTA operationalised for the wind generators in Tirunelveli area of Tamil Nadu. The petitioner has submitted that the transmission charges for Assets-I, II and III has to be included in PoC pool. The transmission charges for Asset-IV should be levied on defaulting generators from the date of operationalization of LTA till the



commissioning of the respective generation and after commissioning of the generators the tariff should be included in PoC.

82. It is observed that the transmission system is common for both GECs and Solar Parks. Assets-I and II is part of comprehensive ISTS strengthening scheme which facilitates transfer of power from Wind and Solar generation complexes as well as Solar Power Parks. In addition to RE projects mentioned above, Mundra UMPP (5x830MW)/Adani Mundra Generation complexes is also connected to GEC at Bhuj Pooling Station. Ministry of Power has also accorded approval for implementation of GEC as ISTS schemes. Therefore, we are of the view, the transmission charges of Assets-I and II, shall be included in PoC Charges w.e.f COD of the respective assets.

83. The petitioner has submitted that Asset-III, i.e. the 400 kV D/C Tirunelveli-Tuticorin line alongwith bus reactors would help in controlling the voltage at Tirunelveli and Kudankulam areas and the same was discussed and agreed in the 32nd SRPC meetings held on 22.8.2017 and 1.9.2017. The petitioner has submitted that the 400 kV D/C Tirunelveli PS-Tuticorin PS alongwith 2X125 MVAR Bus reactors at Tuticorin is utilized from 10.6.2018. It is observed that the same was discussed and agreed in the special meeting held on 1.9.2017 at SRPC, Bangalore. The relevant extract of the minutes of the meeting is hereunder:-

“VIII. Commissioning of Tirunelveli GIS and Tuticorin–Tirunelveli 2x400 kV D/C lines

Sub-Group Deliberation:

Powergrid informed that the system would be commissioned with reactors at Tirunelveli GIS. The line length is only 12 kms and thus reactors would help in controlling the voltage at Tirunelveli and Kudankulam areas. Powergrid informed that the 230 kV bays and 400/230 kV transformers may not be considered. Hence,



the commissioning of this line along with 400 kV system of 400/230 kV Tirunelveli GIS with 2x125 MVAR reactors is recommended.”

It is observed that Asset-III achieved its COD on 10.6.2018 and it is utilized for controlling over voltage at Tirunelveli Pooling Station. As the instant asset has achieved its COD and it is being utilized, we are of the view that the said Asset should be included in the PoC computation w.e.f. COD of the asset.

84. Asset-IV, i.e. 2X500 MVA 400/230 kV transformers alongwith associated 220 kV bays and associated new 400/230 kV GIS Pooling station at Tirunelveli was put into commercial operation on 10.6.2018. It was built alongwith Asset-III for evacuation of power from the seven wind generators in the Tirunelveli area of Tamil Nadu. As per the 38th SCM, seven RE generators had applied for connectivity for about 1764 MW in Tirunelveli area of Tamil Nadu. The petitioner started operationalising the LTA after the COD of Asset-IV on 10.6.2018. It is observed that the start date of LTA for Mytrah Energy was February, 2016. However, Mytrah Energy was not ready with generation on the date of commercial operation of Asset-IV, i.e.10.6.2018. Therefore, we are of the view that Mytrah Energy shall bear the transmission charges proportionate to the quantum of LTA granted to it, i.e. 75 MW from 10.6.2018 to the date of commissioning of its generation.

85. Besides the above said 75 MW of LTA granted to Mytrah Energy, it is observed that further LTA was granted to Mytrah Energy, Orange Sironj, GIREL and Betam Wind for 175 MW, 200 MW, 249.9 MW and 250.2 MW respectively. The start dates for these said LTAs are after the date of commercial operation of Asset-IV, i.e. 10.6.2018. Therefore, we are of the view that these LTA grantees shall pay the transmission charges from the date of operationalisation of the respective LTAs as per the start date of LTA till the commissioning of their respective generation. After the commissioning of the generation by these LTA



grantees, the transmission charges of the Asset-IV shall be included in the POC computation.

86. The transmission charges allowed for Assets-I, II and III from 30.12.2017, 31.12.2017 and 10.6.2018 respectively and Asset-IV, as stated in para 85 above 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.

87. This order disposes of Petition No. 172/TT/2018.

sd/-
(I. S. Jha)
Member

sd/-
(Dr. M. K. Iyer)
Member

sd/-
(P. K. Pujari)
Chairperson

