

# CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No. 9/TT/2021

Coram:

**Shri P. K. Pujari, Chairperson**  
**Shri I. S. Jha, Member**  
**Shri Arun Goyal, Member**  
**Shri P. K. Singh, Member**

Date of Order: 11.06.2021

In the matter of:

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and determination of transmission tariff of 2019-24 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 in respect of the transmission assets under "Transmission System for Solar Power Park at Bhadla" in the Northern Region.

And in the matter of:

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

.....Petitioner

**Vs.**

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited,  
Vidyut Bhawan, Vidyut Marg,  
Jaipur-302005 (Rajasthan).
2. Ajmer Vidyut Vitran Nigam Limited,  
400 kV GSS Building (Ground Floor),  
Ajmer Road, Heerapura, Jaipur (Rajasthan)
3. Jaipur Vidyut Vitran Nigam Limited,  
400 kV GSS Building (Ground Floor),  
Ajmer Road, Heerapura, Jaipur (Rajasthan).
4. Jodhpur Vidyut Vitran Nigam Limited,  
400 kV GSS Building (Ground Floor),  
Ajmer Road, Heerapura, Jaipur (Rajasthan).
5. Himachal Pradesh State Electricity Board,  
Vidyut Bhawan, Kumar House Complex Building II,



Shimla-171004 (Himachal Pradesh).

6. Punjab State Electricity Board,  
Thermal Shed Tia,  
Near 22 Phatak,  
Patiala-147001 (Punjab).
7. Haryana Power Purchase Centre,  
Shakti Bhawan, Sector-6,  
Panchkula-134109 (Haryana).
8. Power Development Department,  
Government of Jammu & Kashmir,  
Mini Secretariat, Jammu.
9. Uttar Pradesh Power Corporation Limited,  
(Formerly Uttar Pradesh State Electricity Board),  
Shakti Bhawan, 14, Ashok Marg,  
Lucknow-226001 (Uttar Pradesh).
10. Delhi Transco Limited,  
Shakti Sadan, Kotla Road,  
New Delhi-110002.
11. BSES Yamuna Power Limited,  
B-Block, Shakti Kiran Building, (Near Karkadooma Court),  
Karkadooma, 2nd Floor,  
New Delhi-110092.
12. BSES Rajdhani Power Limited,  
BSES Bhawan, Nehru Place,  
New Delhi-110019.
13. Tata Power Delhi Distribution Limited,  
NDPL house, Hudson Lines Kingsway Camp,  
Delhi-110009.
14. Chandigarh Administration,  
Sector-9, Chandigarh.
15. Uttarakhand Power Corporation Limited,  
Urja Bhawan,  
Kanwali Road, Dehradun (Uttarakhand).
16. North Central Railway,  
Allahabad (Uttar Pradesh).
17. New Delhi Municipal Council,  
Palika Kendra, Sansad Marg,



New Delhi-110002.

18. Surya Urja Private Limited,  
701-703, 7th Floor, Kailash Tower,  
Near APEX Mall, Lalkothi, Tonk Road,  
Jaipur-302015, Rajasthan.
19. Adani Renewable Private Limited,  
Achalraj, Opp. Mayor Bungalow, Law Garden,  
Ahmedabad, Gujarat-380006.
20. Essel Saurya Urja Company of Rajasthan Limited,  
Office No. F2, 1st Floor, "Jagdamba Tower",  
Amarapali Circle, Vaishali Nagar,  
Jaipur, Rajasthan-302001.
21. Fatehgarh Bhadla Transmission Company Limited,  
3A, Sambhav House, Judges Bungalow Road,  
Bokadev, Ahmedabad-380015.

...Respondent(s)

**For Petitioner:** Shri S.S. Raju, PGCIL  
Shri D.K. Biswal, PGCIL  
Shri Ved Prakash Rastogi, PGCIL  
Shri A.K. Verma, PGCIL

**For Respondents:** Shri Hemant Singh, Advocate, FBTCL  
Shri Lakshyajit Singh Bagdwal, Advocate, FBTCL

### **ORDER**

The instant petition has been filed by Power Grid Corporation of India Limited, a deemed transmission licensee, for determination of tariff for the period from the date of commercial operation (COD) to 31.3.2024 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as "the 2019 Tariff Regulations") in respect of the following transmission assets under "Transmission System for Solar Power Park at Bhadla" in the Northern Region (hereinafter referred to as "the transmission system"):



**Asset-1:** Combined Asset comprising of (a) 400 kV D/C Bhadla (POWERGRID)- Bhadla (RVPNL) Circuits 1 and 2 along with associated bays; (b) 1 number of 400 kV, 125 MVAR Bus Reactor along with associated bays at Bhadla (POWERGRID) Sub-station; (c) 400 kV, 500 MVA ICT-2 along with associated bays at Bhadla (POWERGRID) Sub-station; (d) 220 kV, Adani Bhadla (Pooling station) line-1 bay at Bhadla (POWERGRID) Sub-station;

**Asset-2:** 220 kV Surya Urja line-2 Bay at Bhadla (POWERGRID) Sub-station;

**Asset-3:** 500 MVA ICT-3 along with associated bays at Bhadla (POWERGRID) Sub-station;

**Asset-4:** 500 MVA ICT-1 along with associated bays at Bhadla (POWERGRID) Sub-station;

**Asset-5:** 2 numbers 220 kV line bays (205 & 206) at Bhadla (POWERGRID) Sub-station;

**Asset-6:** 2 numbers 400 kV line bays at Bhadla (POWERGRID) Sub-station; and

**Asset-7:** Combined Asset consisting of (a) 765 kV D/C Bhadla (POWERGRID)- Bikaner (POWERGRID) along with 2 numbers 240 MVAR Switchable Line Reactors along with associated bays at Bhadla (POWERGRID) Sub-station and 2 numbers 240 MVAR Switchable Line Reactors along with associated bays at Bikaner (POWERGRID) Sub-station; (b) 765/400 kV, 1500 MVA ICT-1, 2 and 3 along with associated bays at Bhadla (POWERGRID) Sub-station; (c) 1 number of 240 MVAR Bus Reactor along with associated bays at Bhadla (POWERGRID) Sub-station.

2. The Petitioner has made the following prayers:

*"1) Admit the capital cost as claimed in the Petition and approve the Additional Capitalisation incurred / projected to be incurred.*



2) Approve the Transmission Tariff for the tariff block 2019-24 block for the asset covered under this petition, as per para –8.3 above.

3) 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 in Tariff Regulation 2019 as per para 8 above for respective block.

4) Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 70 (1) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, and other expenditure ( if any) in relation to the filing of petition.

5) Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.

6) 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 2019-24 period, if any, from the beneficiaries.

7) Allow the petitioner to file a separate petition before Hon'ble Commission for claiming the overall security expenses and consequential IOWC on that security expenses as mentioned at para 8.8 above.

8) Allow the initial spare as procured in the current petition in full as claimed in the instant petition under Regulation 54 of the CERC (Terms and Condition of Tariff) Regulation, 2014, "Power to Relax" and Allow the petitioner to claim the capital spares at the end of tariff block as per actual.

9) Allow the Petitioner to bill and recover GST on Transmission Charges separately from the respondents, if GST on transmission is levied at any rate in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be recovered from the beneficiaries.

10) Allow interim tariff in accordance with Regulation 10 (3) of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for purpose of inclusion in the PoC charges.

11) Approve DOCO of asset-6 as 27.9.2019 as per clause 5 (2) of Tariff Regulation'2019.

12) Condone the time overrun of all the assets as per Regulation 22 (2) of Tariff Regulation, 2019 on the merit of the same being out of control of the Petitioner.

and pass such other relief as Hon'ble Commission deems fit and appropriate under the circumstances of the case and in the interest of justice."



## **Background**

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

a. Investment Approval (IA) for implementation of the transmission system was accorded by the Board of Directors of the Petitioner's Company in its 330<sup>th</sup> meeting held on 20.7.2016 and communicated *vide* the Memorandum Ref: C/CP/Bhadla dated 22.7.2016, at an estimated cost of ₹142938.00 lakh including IDC of ₹7424.00 lakh, based on April, 2016 price level. Further, Revised Cost Estimate (RCE) in respect of the transmission system was accorded by the Board of Directors of the Petitioner's Company *vide* the Memorandum Ref: C/CP/PA2021-07-0N-RCE008 dated 15.10.2020, at an estimated cost of ₹147414.00 lakh including IDC of ₹6753.00 lakh, based on April, 2020 price level.

b. MOP *vide* its letter no. 11/74/2014-PG dated 4.8.2015 intimated the Petitioner for taking up the execution of the transmission lines for evacuation of power from nine Solar Generating Parks being set up in seven States alongwith Pooling Stations as ISTS schemes including Solar Power Park at Bhadla on compressed time schedule basis.

c. The transmission scheme was discussed and agreed in 37<sup>th</sup> meeting of Standing Committee on Power System Planning in the Northern Region held on 20.7.2016 and 33<sup>rd</sup> TCC/37<sup>th</sup> NRPC meeting on Transmission for Northern Region held on 21<sup>st</sup> March, 2016/22<sup>nd</sup> March, 2016. Further, the Commission accorded regulatory approval under Regulation 3 of Grant of Regulatory Approval for execution of Inter-State Transmission Scheme to Central Transmission Utility Regulations, 2010 for execution of subject transmission



system *vide* order dated 31.3.2016 and corrigendum order dated 13.6.2016 in  
Petition No. 1/MP/2016.

d. All the transmission assets under the transmission system are covered  
in the instant petition. The scope of work covered under the transmission system  
is as follows:

### **Transmission Line**

- i. Bhadla (POWERGRID) - Bikaner (POWERGRID) 765 kV D/C line
- ii. Bhadla (POWERGRID)- Bhadla (RVPN) 400 kV D/C (Quad)

### **Sub-station**

- a) Establishment of 765/400/220 kV Bhadla (POWERGRID) Sub-station  
765 kV

Line Bays	: 2 Numbers
1500 MVA, 765/400 kV transformer	: 3 Numbers
240 MVAR Bus reactor	: 1 Number
Transformer bays	: 3 Numbers
Bus reactor bay	: 1 Number
240 MVAr switchable line reactors	: 2 Numbers
240 MVAr switchable line reactor bays	: 2 Numbers

#### 400 kV

Line Bays	: 4 Numbers
500 MVA, 400/220 kV transformer	: 3 Numbers
Transformer bays	: 6 Numbers
125 MVAR Bus reactor	: 1 Number
Bus reactor bay	: 1 Number

#### 220 kV

Line Bays	: 4 Numbers
Transformer bays	: 3 Number
BC + TBC	: 1 Number



b) Extension of 765/400 kV Bikaner (POWERGRID) Sub-station

765 kV

Line Bays : 2 Numbers  
240 MVAR switchable line reactors : 2 Numbers  
240 MVAR switchable line reactor bays : 2 Numbers

c) Extension of 400/220 kV Bhadla (RVPN) Sub-station \*

400 kV

Line Bays : 2 Numbers

*\*Note: Bay Extension works at Bhadla (RVPN) Sub-station to be carried out by RVPN on deposit work on behalf of POWERGRID.*

**Reactive Compensation**

Bus Reactor

Bus	Reactor (MVAR)
765 kV Bhadla (POWERGRID)	1 x 240 MVAR (765 kV)
400 kV Bhadla (POWERGRID)	1 x 125 MVAR (400 kV)

Line Reactor

Transmission Line	From end (each Circuit )	To end (each circuit )
Bhadla (POWERGRID) - Bikaner (POWERGRID) 765 kV D/C line	1 x 240 (switchable) (each circuit )	1 x 240 (switchable) (each circuit )

e. As per Investment Approval (IA) dated 20.7.2016, the Scheduled Commercial Operation Date (SCOD) of the transmission assets is 30 months from the date of IA i.e. by 20.1.2019, against which the transmission assets have been declared under commercial operation with delay ranging from 99 to 270 days, the details of which have been given in the subsequent paragraph of this order. The details of COD of the transmission assets covered in the instant petition are also given in the subsequent paragraph.

4. The Respondents are distribution licensees, transmission licensees and power





departments which are procuring transmission service from the Petitioner, mainly the beneficiaries of the Northern Region.

5. The Petitioner has served the petition on the Respondents and notice regarding filing of this petition has also been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003. No comments or suggestions have been received from the general public in response to the aforesaid notice published in the newspapers by the Petitioner. Fatehgarh Bhadla Transmission Company Limited (FBTCL), Respondent No. 21 has filed its reply vide affidavit dated 7.12.2021 and raised the issues of approval of COD and recovery of transmission tariff from the Respondent due to delay in execution of the transmission system. The Petitioner has filed rejoinder to the reply of FBTCL vide affidavit dated 3.2.2022. The issues raised by FBTCL and clarifications thereto given by the Petitioner have been dealt in the relevant paragraphs of this order.

6. The hearing in this matter was held on 26.10.2021 and order was reserved in the matter.

7. This order is issued considering the submissions made by the Petitioner in the petition vide affidavits dated 28.8.2020, 15.6.2021 and 12.7.2021, reply filed by FBTCL vide affidavit dated 7.12.2021 and the Petitioner's rejoinder affidavit dated 3.2.2022 to the reply of FBTCL.

8. Having heard the representatives of the Petitioner and perused the material on record, we proceed to dispose of the petition.



## DETERMINATION OF ANNUAL FIXED CHARGES FOR 2019-24 TARIFF PERIOD

9. The Petitioner has claimed the following transmission charges for 2019-24 tariff period in respect of the transmission assets:

(₹ in lakh)

Asset-1					
Particulars	2019-20 (Pro-rata 338 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	601.90	734.31	764.59	784.79	794.89
Interest on Loan	273.84	312.80	301.06	281.69	255.26
Return on Equity	642.06	787.01	820.72	843.20	854.43
O&M Expenses	421.24	472.21	488.64	505.91	523.02
Interest on Working Capital	41.18	48.26	49.76	50.87	51.43
<b>Total</b>	<b>1980.22</b>	<b>2354.59</b>	<b>2424.77</b>	<b>2466.46</b>	<b>2479.03</b>

(₹ in lakh)

Asset-2					
Particulars	2019-20 (Pro-rata 333 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	15.14	25.48	28.79	30.99	32.09
Interest on Loan	7.80	12.44	13.11	13.03	12.26
Return on Equity	16.16	27.20	30.73	33.08	34.25
O&M Expenses	20.69	23.53	24.35	25.19	26.07
Interest on Working Capital	1.49	2.01	2.16	2.26	2.32
<b>Total</b>	<b>61.28</b>	<b>90.66</b>	<b>99.14</b>	<b>104.55</b>	<b>106.99</b>

(₹ in lakh)

Asset-3					
Particulars	2019-20 (Pro-rata 320 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	119.83	160.09	168.71	174.46	177.34
Interest on Loan	60.63	76.45	74.73	70.95	65.25
Return on Equity	128.52	172.85	182.54	189.00	192.23
O&M Expenses	204.29	242.08	250.57	259.62	268.25
Interest on Working Capital	13.55	16.73	17.35	17.88	18.23
<b>Total</b>	<b>526.82</b>	<b>668.20</b>	<b>693.90</b>	<b>711.91</b>	<b>721.30</b>

(₹ in lakh)

Asset-4					
Particulars	2019-20 (Pro-rata 305 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	108.12	157.38	167.73	174.62	178.06

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Interest on Loan	54.04	74.40	73.62	70.46	65.05
Return on Equity	116.19	170.05	181.51	189.16	192.98
O&M Expenses	194.72	242.08	250.57	259.62	268.25
Interest on Working Capital	12.68	16.62	17.31	17.87	18.25
<b>Total</b>	<b>485.75</b>	<b>660.53</b>	<b>690.74</b>	<b>711.73</b>	<b>722.59</b>

(₹ in lakh)

Asset-5					
Particulars	2019-20 (Pro-rata 238 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	24.38	61.92	71.07	77.17	80.22
Interest on Loan	8.54	20.67	21.87	21.55	19.84
Return on Equity	21.76	55.66	63.97	69.51	72.28
O&M Expenses	30.15	47.93	49.57	51.25	53.01
Interest on Working Capital	2.13	4.18	4.53	4.77	4.90
<b>Total</b>	<b>86.96</b>	<b>190.36</b>	<b>211.01</b>	<b>224.25</b>	<b>230.25</b>

(₹ in lakh)

Asset-6					
Particulars	2019-20 (Pro-rata 187 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	21.32	70.00	89.41	99.13	102.37
Interest on Loan	9.04	28.61	34.49	35.39	33.01
Return on Equity	22.51	74.56	95.53	106.02	109.51
O&M Expenses	33.78	68.38	70.72	73.14	75.64
Interest on Working Capital	2.27	5.59	6.39	6.82	6.98
<b>Total</b>	<b>88.92</b>	<b>247.14</b>	<b>296.54</b>	<b>320.50</b>	<b>327.51</b>

(₹ in lakh)

Asset-7					
Particulars	2019-20 (Pro-rata 167 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	2320.57	5647.68	5853.46	5989.73	6057.86
Interest on Loan	1204.98	2789.41	2637.01	2434.96	2212.67
Return on Equity	2483.03	6056.87	6282.24	6431.51	6506.14
O&M Expenses	1409.90	3196.72	3308.92	3426.93	3545.82
Interest on Working Capital	151.80	358.02	367.11	373.52	376.74
<b>Total</b>	<b>7570.28</b>	<b>18048.70</b>	<b>18448.74</b>	<b>18656.65</b>	<b>18699.23</b>

10. The details of Interest on Working Capital (IWC) claimed by the Petitioner in respect of the transmission assets for 2019-24 tariff period are as follows:



(₹ in lakh)

Asset-1					
Particulars	2019-20 (Pro-rata 338 days)	2020-21	2021-22	2022-23	2023-24
O&M Expenses	38.01	39.35	40.72	42.16	43.59
Maintenance Spares	68.42	70.83	73.30	75.89	78.45
Receivables	263.64	290.29	298.94	304.08	304.80
<b>Total Working Capital</b>	<b>370.07</b>	<b>400.47</b>	<b>412.96</b>	<b>422.13</b>	<b>426.84</b>
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
<b>Interest on Working Capital</b>	<b>41.18</b>	<b>48.26</b>	<b>49.76</b>	<b>50.87</b>	<b>51.43</b>

(₹ in lakh)

Asset-2					
Particulars	2019-20 (Pro-rata 333 days)	2020-21	2021-22	2022-23	2023-24
O&M Expenses	1.90	1.96	2.03	2.10	2.17
Maintenance Spares	3.41	3.53	3.65	3.78	3.91
Receivables	8.28	11.18	12.22	12.89	13.15
<b>Total Working Capital</b>	<b>13.59</b>	<b>16.67</b>	<b>17.90</b>	<b>18.77</b>	<b>19.23</b>
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
<b>Interest on Working Capital</b>	<b>1.49</b>	<b>2.01</b>	<b>2.16</b>	<b>2.26</b>	<b>2.32</b>

(₹ in lakh)

Asset-3					
Particulars	2019-20 (Pro-rata 320 days)	2020-21	2021-22	2022-23	2023-24
O&M Expenses	19.47	20.17	20.88	21.64	22.35
Maintenance Spares	35.05	36.31	37.59	38.94	40.24
Receivables	74.09	82.38	85.55	87.77	88.68
<b>Total Working Capital</b>	<b>128.61</b>	<b>138.86</b>	<b>144.02</b>	<b>148.35</b>	<b>151.27</b>
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
<b>Interest on Working Capital</b>	<b>13.55</b>	<b>16.73</b>	<b>17.35</b>	<b>17.88</b>	<b>18.23</b>

(₹ in lakh)

Asset-4					
Particulars	2019-20 (Pro-rata 305 days)	2020-21	2021-22	2022-23	2023-24
O&M Expenses	19.47	20.17	20.88	21.64	22.35
Maintenance Spares	35.05	36.31	37.59	38.94	40.24
Receivables	71.67	81.44	85.16	87.75	88.84
<b>Total Working Capital</b>	<b>126.19</b>	<b>137.92</b>	<b>143.63</b>	<b>148.33</b>	<b>151.43</b>
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
<b>Interest on Working Capital</b>	<b>12.68</b>	<b>16.62</b>	<b>17.31</b>	<b>17.87</b>	<b>18.25</b>

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(₹ in lakh)

Asset-5					
Particulars	2019-20 (Pro-rata 238 days)	2020-21	2021-22	2022-23	2023-24
O&M Expenses	3.86	3.99	4.13	4.27	4.42
Maintenance Spares	6.95	7.19	7.44	7.69	7.95
Receivables	16.44	23.47	26.01	27.65	28.31
<b>Total Working Capital</b>	<b>27.25</b>	<b>34.65</b>	<b>37.58</b>	<b>39.61</b>	<b>40.68</b>
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
<b>Interest on Working Capital</b>	<b>2.13</b>	<b>4.18</b>	<b>4.53</b>	<b>4.77</b>	<b>4.90</b>

(₹ in lakh)

Asset-6					
Particulars	2019-20 (Pro-rata 187 days)	2020-21	2021-22	2022-23	2023-24
O&M Expenses	5.51	5.70	5.89	6.10	6.30
Maintenance Spares	9.92	10.26	10.61	10.97	11.35
Receivables	21.40	30.47	36.56	39.51	40.27
<b>Total Working Capital</b>	<b>36.83</b>	<b>46.43</b>	<b>53.06</b>	<b>56.58</b>	<b>57.92</b>
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
<b>Interest on Working Capital</b>	<b>2.27</b>	<b>5.59</b>	<b>6.39</b>	<b>6.82</b>	<b>6.98</b>

(₹ in lakh)

Asset-7					
Particulars	2019-20 (Pro-rata 167 days)	2020-21	2021-22	2022-23	2023-24
O&M Expenses	257.50	266.39	275.74	285.58	295.49
Maintenance Spares	463.49	479.51	496.34	514.04	531.87
Receivables	2039.90	2225.18	2274.50	2300.13	2299.09
<b>Total Working Capital</b>	<b>2760.89</b>	<b>2971.08</b>	<b>3046.58</b>	<b>3099.75</b>	<b>3126.45</b>
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
<b>Interest on Working Capital</b>	<b>151.80</b>	<b>358.02</b>	<b>367.11</b>	<b>373.52</b>	<b>376.74</b>

### **Date of Commercial Operation (“COD”)**

11. The Petitioner has claimed actual COD in respect of the transmission assets except for Asset-6 whose COD is proposed under Regulation 5(2) of the 2019 Tariff Regulations. The details of the transmission assets alongwith their dates of commercial operation are as follows:



<b>Assets</b>	<b>Asset Description</b>	<b>SCOD</b>	<b>COD</b>
Asset-1	Combined Asset consisting of: a) 400 kV D/C Bhadla (POWERGRID)- Bhadla (RRVPLN) Circuit -1 & 2 along with associated bays; b) 1 number of 400 kV, 125 MVAR Bus Reactor along with associated bays at Bhadla (POWERGRID) Sub-station; c) 400 kV, 500 MVA ICT-II along with associated bays at Bhadla (POWERGRID) Sub-station; d) 220 kV Adani Bhadla (Pooling Station) line-1 bay at Bhadla (POWERGRID) Sub-station	20.1.2019	29.4.2019 (Actual)
Asset-2	220 kV Saurya Urja line-2 Bay at Bhadla (POWERGRID) Sub-station		4.5.2019 (Actual)
Asset-3	500 MVA ICT-III along with associated bays at Bhadla (POWERGRID) Sub-station		17.5.2019 (Actual)
Asset-4	500 MVA ICT-I along with associated bays at Bhadla (POWERGRID) Sub-station		1.6.2019 (Actual)
Asset-5	2 numbers 220 kV line bays (205 & 206) at Bhadla (POWERGRID) Sub-station		7.8.2019 (Actual)
Asset-6	2 numbers 400 kV line bays at Bhadla (POWERGRID) Sub-station		27.9.2019 (Claimed under Regulation 5(2) of the 2019 Tariff Regulations)
Asset-7	Combined Asset consisting of:  (a) 765 kV D/C Bhadla (POWERGRID)- Bikaner (POWERGRID) along with 2 numbers 240 MVAR Switchable Line Reactors along with associated bays at Bhadla (POWERGRID) Sub-station and 2 numbers 240 MVAR Switchable Line Reactors along with associated bays at Bikaner (POWERGRID) Sub-station;  (b) 765/400 kV, 1500 MVA ICT-I, II and III along with associated bays at Bhadla (POWERGRID) Sub-station;  (c) 1 number of 240 MVAR Bus Reactor along with associated bays at Bhadla (POWERGRID) Sub-station		17.10.2019 (Actual)

12. Regulation 5 of the 2019 Tariff Regulations provides as follows:



**“5. Date of Commercial Operation:** (1) *The date of commercial operation of a generating station or unit thereof or a transmission system or element thereof and associated communication system shall be determined in accordance with the provisions of the Grid Code.*

(2) *In case the transmission system or element thereof executed by a transmission licensee is ready for commercial operation but the interconnected generating station or the transmission system of other transmission licensee as per the agreed project implementation schedule is not ready for commercial operation, the transmission licensee may file petition before the Commission for approval of the date of commercial operation of such transmission system or element thereof:*

*Provided that the transmission licensee seeking the approval of the date of commercial operation under this clause shall give prior notice of at least one month, to the generating company or the other transmission licensee and the long term customers of its transmission system, as the case may be, regarding the date of commercial operation:*

*Provided further that the transmission licensee seeking the approval of the date of commercial operation of the transmission system under this clause shall be required to submit the following documents along with the petition:*

- a) *Energisation certificate issued by the Regional Electrical Inspector under Central Electricity Authority;*
- b) *Trial operation certificate issued by the concerned RLDC for charging element with or without electrical load;*
- c) *Implementation Agreement, if any, executed by the parties;*
- d) *Minutes of the coordination meetings or related correspondences regarding the monitoring of the progress of the generating station and transmission systems;*
- e) *Notice issued by the transmission licensee as per the first proviso under this clause and the response;*
- f) *Certificate of the CEO or MD of the company regarding the completion of the transmission system including associated communication system in all respects.”*

13. In support of the actual COD of Asset-1, Asset-2, Asset-3, Asset-4, Asset-5, and Asset-7, the Petitioner has submitted self-declaration COD letter, CEA Energisation certificate, RLDC charging certificate and CMD Certificate.

14. Taking into consideration CEA Energisation certificate, RLDC charging certificate and CMD certificate submitted by the Petitioner, COD of Asset-1, Asset-2, Asset-3, Asset-4, Asset-5, and Asset-7 is approved as 29.4.2019, 4.5.2019, 17.5.2019, 1.6.2019, 7.8.2019 and 17.10.2019 respectively.



15. The Petitioner has claimed COD of Asset-6 under Regulation 5(2) of the 2019 CERC Regulations. The Petitioner has submitted that as per 39<sup>th</sup> SCM of Northern Region held on 29<sup>th</sup> and 30<sup>th</sup> May, 2017, it was discussed and agreed that Asset-6 i.e. “02 numbers 400 kV line bays at Bhadla (POWERGRID) Sub-station” are to be executed for termination of 765 kV FBTL (initially to be operated at 400 kV). The Petitioner has charged 2 numbers 400 kV bays associated with Asset-6 on 25.9.2019 and CEA Certificate concerning Asset-6 was obtained on 29.3.2019. However, Associated Transmission Line i.e. 765 kV FBTL (initially to be operated at 400 kV) in the scope of FBTCL has not yet been executed. Accordingly, COD of Asset-6 has been claimed under Regulation 5(2) of 2019 Tariff Regulations.

16. FBTCL has submitted that the Petitioner in its petition has made submission that it has charged Asset-6 on 25.9.2019 as associated transmission system i.e. 765 kV FBTL, which was under the scope of FBTCL was not executed by the said date and as such the Petitioner has requested to approve COD of Asset-6 as 27.9.2019 in accordance with Regulation 5(2) of the 2019 Tariff Regulations. However, in terms of the proviso to Regulation 5(2) of the 2019 Tariff Regulations, the Petitioner was required to issue a prior notice of at least one month before COD to the transmission licensee and no such notice was issued to FBTCL. Further, FBTCL has submitted that proviso mentioned under Regulation 5(2) of the 2019 Tariff Regulations is necessarily required to be followed, without which, the main Regulation 5(2) of the 2019 Tariff Regulations cannot be implemented. Therefore, the Petitioner’s prayer in this regard may be rejected.





17. In response, the Petitioner has submitted that Asset-6 was ready for execution on 29.3.2019 which is evident from CEA certificate filed along with instant petition. However, associated transmission line under the scope of FBTCL was not executed. Therefore, Asset-6 was charged by the Petitioner on no-load charging on 25.9.2019 and accordingly COD is being claimed as 27.9.2019 under Regulation 5(2) of the 2019 Tariff Regulations. Further, the Petitioner denied the submission of FBTCL that no prior notice for execution of this asset was given to FBTCL. The Petitioner has, however, submitted that status of Asset-6 was discussed in the 11<sup>th</sup> JCC meeting of Northern Region held on 25.6.2019 wherein the Petitioner vide para 16, point-3 under dedicated/connectivity line and status head intimated that “2 numbers 400 kV line bays at Bhadla (PG) for Fatehgarh-Bhadla 400 kV line” were ready for execution/being declared under commercial operation. The Petitioner has further submitted that later the issue was also discussed in the 12<sup>th</sup> JCC meeting of Northern Region held on 26.9.2019 in which it was recorded that the Petitioner is ready for execution of 02 numbers 400 bays associated with FBTL at Bhadla which is mentioned at paragraph no.21, point-3 under dedicated/connectivity line and status head. Therefore, FBTCL was apprised regarding date of their execution of Asset-6. It is pertinent to mention that in the 13<sup>th</sup> JCC meeting held on 23.12.2019, it was informed that with the execution of connectivity system, LTA shall be operationalized and CTU informed that transmission charges shall be payable for the delayed generation capacity as per applicable Tariff Regulations. Further, as per 9<sup>th</sup> /10<sup>th</sup> and 11<sup>th</sup> JCC of Northern Region, schedule of generation of Adani Renewable Energy Park Rajasthan Limited was given as September, 2019 and accordingly, execution of Asset-6 was planned in September, 2019 and it was finally charged on 25.9.2019. Therefore, the Petitioner has complied with the requirement of giving one-month



advance intimation regarding COD of the Asset-6 in accordance with Regulation 5(2) of the 2019 Tariff Regulations and accordingly, COD of Asset-6 may be approved as 27.9.2019.

18. We have considered the submissions of the Petitioner and FBTL. On perusal of 11<sup>th</sup> Joint Co-ordination Committee Meeting for Generation Projects in NR dated 25.6.2019, we find that in para 16 LTA customers were requested to update the progress of their generation projects. Under paragraph 16, the Petitioner has also given the 'Status of Generation Projects' wherein at Serial No. 3 against LTA Applicant- AREPRL under dedicated/connectivity line and status, it is mentioned that 2 numbers 400 kV line bays at Bhadla (PG) for Fatehgarh-Bhadla 400 kV line is ready for execution. We further note that the said meeting was attended by representative of FBTCL. Similar information is also given by the Petitioner by way of minutes of the meetings of 12<sup>th</sup> JCC of Northern Region held on 26.9.2019 and 13<sup>th</sup> JCC for Generation Projects in NR dated 23.12.2019 and the said meetings were attended by representative of FBTCL. As FBTCL was present in the JCC Meetings held on 25.6.2019 and 23.12.2019, we are not able to agree with the contention of the FBTCL that it was not aware of readiness of Asset-6. We consider that petitioner has deemed to have given notice regarding the COD of Asset-6.

19. From the above submissions of the Petitioner and FBTL, it is clear that non-utilization of Asset-6 of the Petitioner was on account of delay in execution of Fatehgarh Pooling Station-Bhadla (PG) 765 kV DC line (to be operated at 400 kV) under the scope of FBTCL. The Fatehgarh Pooling Station-Bhadla (PG) 765 kV DC line (to be operated at 400 kV) under the scope of FBTCL achieved commercial operation on 31.7.2021. Accordingly, we approve COD of Asset-6 as 27.9.2019 under



Regulation 5(2) of the 2019 Tariff Regulations. As the associated transmission line was ready on 31.7.2021, we are of the view that the Yearly Transmission Charges (YTC) of Asset-6 should be borne by FBTCL from the date of commercial operation of Asset-6 i.e. 27.9.2019 to 30.7.2021. Thereafter, the transmission charges of Asset-6 shall be included in the POC computation.

### **Capital Cost**

20. Regulation 19 of the 2019 Tariff Regulations provides as follows:

**“19. Capital Cost:** (1) *The Capital cost of the generating station or the transmission system, as the case may be, as determined by the Commission after prudence check in accordance with these regulations shall form the basis for determination of tariff for existing and new projects.*

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

- (a) *The expenditure incurred or projected to be incurred up to the date of commercial operation of the project;*
- (b) *Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;*
- (c) *Any gain or loss on account of foreign exchange risk variation pertaining to the loan amount availed during the construction period;*
- (d) *Interest during construction and incidental expenditure during construction as computed in accordance with these regulations;*
- (e) *Capitalised initial spares subject to the ceiling rates in accordance with these regulations;*
- (f) *Expenditure on account of additional capitalization and de-capitalisation determined in accordance with these regulations;*
- (g) *Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the date of commercial operation as specified under Regulation 7 of these regulations;*
- (h) *Adjustment of revenue earned by the transmission licensee by using the assets before the date of commercial operation;*
- (i) *Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
- (j) *Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of the generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;*
- (k) *Capital expenditure on account of biomass handling equipment and facilities, for co-firing;*
- (l) *Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;*



- (m) *Expenditure on account of fulfilment of any conditions for obtaining environment clearance for the project;*
  - (n) *Expenditure on account of change in law and force majeure events; and*
  - (o) *Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.*
- (3) *The Capital cost of an existing project shall include the following:*
- (a) *Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;*
  - (b) *Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;*
  - (c) *Capital expenditure on account of renovation and modernisation as admitted by this Commission in accordance with these regulations;*
  - (d) *Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
  - (e) *Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and*
  - (f) *Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.*
- (4) *The capital cost in case of existing or new hydro generating station shall also include:*
- (a) *cost of approved rehabilitation and resettlement (R&R) plan of the project in conformity with National R&R Policy and R&R package as approved; and*
  - (b) *cost of the developer's 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) and Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) project in the affected area.*
- (5) *The following shall be excluded from the capital cost of the existing and new projects:*
- (a) *The assets forming part of the project, but not in use, as declared in the tariff petition;*
  - (b) *De-capitalised Assets after the date of commercial operation on account of replacement or removal on account of obsolescence or shifting from one project to another project:*

*Provided that in case replacement of transmission asset is recommended by Regional Power Committee, such asset shall be de-capitalised only after its redeployment;*

*Provided further that unless shifting of an asset from one project to another is of permanent nature, there shall be no de-capitalization of the concerned assets.*



- (c) *In case of hydro generating stations, any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State Government by following a transparent process;*
- (d) *Proportionate cost of land of the existing project which is being used for generating power from generating station based on renewable energy; and*
- (e) *Any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment.”*

21. The Petitioner has claimed the following capital cost in respect of the transmission assets and has submitted Auditor’s Certificate in support of the same:

(₹ in lakh)

Assets	Apportioned Approved Cost (as per FR)	Apportioned Approved Cost (as per RCE)	Cost up to COD	Projected Expenditure				Estimated Completion Cost
				2019-20	2020-21	2021-22	2022-23	
Asset-1	16826.81	16989.26	12975.71	2393.01	797.67	398.83	398.83	16964.06
Asset-2	1020.86	651.74	225.71	250.27	83.42	41.71	41.71	642.81
Asset-3	2961.64	3787.14	2625.11	687.96	229.32	114.66	114.66	3771.72
Asset-4	2961.64	3797.14	2428.89	813.61	271.20	135.60	135.60	3784.90
Asset-5	2041.72	1292.30	299.53	589.97	196.66	98.33	98.33	1282.82
Asset-6	2692.35	1951.64	491.02	584.08	496.28	248.14	124.07	1943.60
Asset-7	114433.31	118944.78	92421.51	15894.66	5298.22	2649.11	2649.11	118912.61

### **Cost Over-run**

22. It is observed that the estimated capital cost of the transmission assets is ₹118912.61 which is more than the FR approved cost of ₹114433.31. However, the estimated capital cost of the transmission assets is within the RCE of ₹118944.78.

23. The Petitioner has submitted that estimated completion cost of the individual assets is within RCE apportioned approved cost and prayed for allowing the capital cost as claimed in the instant petition. The Petitioner has further submitted that the item-wise cost variation between apportioned approved cost and estimated completion cost is explained in Form-5. The Petitioner, being a Government enterprise, has been following a well laid down procurement policy which ensures both transparency and



competitiveness in the bidding process. Through this process, lowest possible market prices for required products/services/as per detailed designing is obtained and contracts are awarded on the basis of lowest evaluated eligible bidder. The best competitive bid prices against tenders may vary as compared to the cost estimate depending upon prevailing market forces, design and site requirements. The estimates are prepared by the Petitioner as per well-defined procedures. The FR cost estimate is broad indicative cost worked out generally on the basis of average unit rates of recently awarded contracts/general practice. Further, regarding variation in cost of individual item in Sub-station packages, it is submitted that the packages under subject scope of works comprise of a large number of items and the same are awarded through open competitive bidding. In the said bidding process, bids are received from multiple parties quoting different rates for various BOQ items under the said package. Further, lowest bidder can be arrived at/ evaluated on overall basis only. Hence, item-wise unit prices in contracts and its variation over unit rate considered in FR estimates is beyond the control of the Petitioner.

24. We have considered the submissions of the Petitioner and noted that the estimated completion cost including additional capitalization as mentioned in the table above is within the apportioned approved cost as per RCE.

### **Time Over-run**

25. As per IA dated 20.7.2016, the transmission assets were scheduled to be put into commercial operation within 30 months from the date of IA. Accordingly, SCOD of the transmission assets was 20.1.2019 against which the transmission assets have been put under commercial operation as per the following details:



Assets	SCOD	COD	Time over-run
Asset-1	20.1.2019	29.4.2019	99 Days
Asset-2		4.5.2019	104 Days
Asset-3		17.5.2019	117 Days
Asset-4		1.6.2019	132 Days
Asset-5		7.8.2019	199 Days
Asset-6		27.9.2019	250 Days
Asset-7		17.10.2019	270 Days

26. The Petitioner has submitted that delay in execution of the transmission assets i.e. Asset-1 to Asset-7 is mainly due to encroachment of agitators on sub-station land followed by the court case and Right of Way (RoW) issues pertaining to various locations of 400 kV D/C Bhadla (POWERGRID)-Bhadla (RVPNL) Transmission Line and 765 kV D/C Bhadla (POWERGRID)–Bikaner (POWERGRID) Transmission Line. The Petitioner has further submitted that Letter of Award (LoA) was issued in August, 2016 immediately after the IA. Accordingly, 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, completion of work stretched beyond its scheduled completion date due to encroachment of agitators on sub-station land followed by the court case and ROW problems in various locations. The submissions made by the Petitioner regarding time over-run are as follows:

**Court Case and RoW issue at Bhadla Sub-station Land (affected execution of Asset-1 to Asset-7 covered in the instant petition):**

27. With regard to acquisition of land pertaining to 765/400/220 kV Bhadla Sub-station, the Petitioner has acquired the land within time i.e. possession of subject land was taken on 30.5.2016. However, delay in charging of all the assets covered in the





instant petition is mainly due to the RoW issues which arose in the form of court case and encroachment by local villagers.

28. The Petitioner has submitted that after acquisition of land, they were not able to start work from 11.11.2016 to 20.6.2017 due to court case and encroachment by the local villager. This issue contributed in overall delay of 221 days to clear all hindrances on a part of sub-station land where all the transmission assets pertaining to Bhadla Sub-station were to be executed. The Petitioner has further submitted that even after resolving the RoW issues and court case at Bhadla Sub-station land, the Petitioner faced continuous RoW issues at various locations while executing the 400 kV D/C Bhadla- Bhadla line and 765 kV D/C Bhadla- Bikaner transmission line. The Petitioner has placed on record chronology of events and documents in support of the same.

**RoW issues while executing 400 kV D/C Bhadla-Bhadla line (affected execution of Asset-1 to Asset-6):**

29. The Petitioner has submitted that during construction of 400 kV D/C Bhadla-Bhadla line, they faced severe RoW problems created by the villagers of Baap, District Jodhpur from 2017 onwards. The Petitioner has further submitted that considering the seriousness of the matter, the problem of agitation was taken from local administration to court to resolve the RoW problems and even at some locations, the work was accomplished with the help of District Administration. The Petitioner has submitted that these RoW issues persisted continuously from 16.10.2017 to 14.7.2018 which affected 120 days of work and caused an additional delay of 120 days. The Petitioner has further submitted that encroachment/court case (contributed 221 days delay) and subsequent RoW issues (i.e. 120 days delay) has contributed a total delay of 341 days in execution of Asset-1 to Asset-6 covered in the instant petition. However,





Asset-1 was executed with a delay of 99 days and Asset-2 to Asset-6 were executed with a delay of 250 days. The Petitioner has submitted chronology of events and documents in support of the same.

**RoW issue while executing 765 kV D/C Bhadla- Bikaner line (affected execution of Asset-7):**

30. The Petitioner has submitted that during construction of 765 kV D/C Bhadla-Bikaner transmission line, they faced severe RoW problems due to villagers of Pokaran, Patabari, Kolayat, Gajner, etc. in the Districts of Bikaner, Jodhpur and Jaisalmer from 2017 onwards. The Petitioner has submitted that they faced continuous RoW issues between 30.5.2017 and 11.10.2019 and after resolving the RoW issues on 11.10.2019, 765 D/C Bikaner-Bhadla Transmission Line was executed on 17.10.2019 along with all the assets pertaining to 765 kV level. The Petitioner has submitted chronology of events and documents in support of the same.

31. The Petitioner has submitted that despite facing various challenges and delay on various fronts, the transmission assets were executed between 19.4.2019 to 17.10.2019 and the delay was beyond the control of the Petitioner. The Petitioner has prayed to condone the delay in completion of all the transmission assets in accordance with Regulation 22(2) of the 2019 Tariff Regulations. We have considered the submissions made by the Petitioner. As against the SCOD of 20.1.2019, Asset-1, Asset-2, Asset-3, Asset-4, Asset-5, Asset-6, and Asset-7 were executed with delay of 99 days, 104 days, 117 days, 132 days, 199 days, 250 days and 270 days respectively.

32. We have considered the submissions of the Petitioner. The time over-run in case of Asset-1 to Asset-6 is due to court case and RoW problems at Bhadla Sub-



station, land and RoW issues of 400 kV Bhadla (PGCIL)-Bhadla (RRVPNL) line. The Petitioner has submitted letters dated 13.5.2016, 30.5.2016, 23.8.2016, 11.11.2016, 18.11.2016, 23.12.2016, 10.1.2017, 1.2.2017, 9.3.2017, 14.3.2017 and 26.3.2017. It is observed that the Petitioner obtained possession of land on 30.5.2016 but it was not able to start any work from Bhadla Sub-station land due to court cases, RoW problems and encroachment issues. The Petitioner resolved all these issues by 20.6.2016. We are of the view that the issue with respect to Bhadla Sub-station land had cascading effect on the implementation of the transmission system. Accordingly, delay due to land issue at Bhadla Sub-station end is beyond the control of the Petitioner and the same is condoned.

33. The Petitioner has submitted that execution of 400 kV D/C Bhadla (PGCIL)-Bhadla (RRVPNL) line was delayed due to RoW problems which affected execution of Asset-1 to Asset-6. The Petitioner faced RoW problems at Location Nos 6/5/6/2 & 6/7,2/1 & 3/2,1/0 and 3/3. The Petitioner has communicated letters dated 16.10.2017, 27.10.2017, 15.11.2017, 6.2.2018, 15.3.2018, 27.3.2018, 28.3.2018, 11.6.2018, 30.6.2018, 13.7.2018 and 14.7.2018.

34. We have gone through the documents on record and observe that RoW problems at above mentioned locations impacted execution of the transmission assets. Therefore, delay from 16.10.2017 to 14.7.2018 is noticed to be beyond the control of the Petitioner and the same is accordingly condoned. The Petitioner has executed Asset-1 with overall delay of 99 days. It is observed that the problems as mentioned above occurred prior to SCOD. However, it is noticed the same impacted execution of Asset-1 to Asset-6. Therefore, total delay of 99 days in execution of the Asset-1 is beyond the control of the Petitioner and the same is condoned. Asset-2,



Asset-3 Asset-4, Asset-5 and Asset-6 were to be executed with Asset-1. However, over and above 99 days delay in execution of Asset-1, the Petitioner has taken additional time of 5 days, 18 days, 33 days, 100 days and 151 days in execution of Asset-2, Asset-3, Asset-4, Asset-5 and Asset-6 respectively. The Petitioner has not submitted any specific reason for additional time taken of 5 days, 18 days, 33 days, 100 days and 151 days in execution of Asset-2, Asset-3, Asset-4, Asset-5 and Asset-6 respectively. In the absence of valid documentary proof with respect to delay on account of additional time taken of 5 days, 18 days, 33 days, 100 days and 151 days with respect to execution of Asset-2, Asset-3, Asset-4, Asset-5 and Asset-6 respectively, we do not condone the aforesaid additional delay. However, the Petitioner is at liberty to submit valid reasons and justifications for delay/ additional time taken in execution of Asset-2, Asset-3, Asset-4, Asset-5 and Asset-6, as mentioned above, at the time of truing up.

35. From the scheduled commercial operation date, Asset-7 was executed with delay of 270 days. As mentioned above, we have condoned delay owing to taking possession of land due to court cases and RoW issues. In addition to this, the Petitioner faced RoW problems while executing 765 kV D/C Bhadla (PGCIL)-Bikaner (PGCIL) line. The Petitioner has submitted that it faced RoW problems at Location Nos. 14/5/12/9, 1/01A/0, 1B/0, 1B/1, 1B/2, 1C/0, 10/4, 10/5, 10/6, 11/0, 11/1, 12/0, 12/1, 12/2, 12/3, 12/4, 12/5, 12/8, 25/0, 16/0, 16/1, 17/1, 17/2, 17A/0, 17A/1, 17A/3, 17A/4, 17A/5, 17A/7, 38/0, 30A/4, 31/0, 33/0-34/0, 27/4, 53/2, 38/9, 39/0, 39/6, 38/9, 39/0 and 39/6. The Petitioner has furnished various letters dated from 30.5.2017 to 11.10.2019. On perusal of the same, it is observed that RoW problems at above mentioned locations impacted the execution of Asset-7. Therefore, delay from



20.1.2019 to 17.10.2019 is beyond the control of the Petitioner and the same is condoned.

36. The details of time over-run condoned and not condoned with respect to the transmission assets is as follows: -

Assets	Time over-run in execution of asset	Time over-run condoned	Time over-run not condoned
Asset-1	99 days	99 days	-
Asset-2	104 days	99 days	5 days
Asset-3	117 days	99 days	18 days
Asset-4	132 days	99 days	33 days
Asset-5	199 days	99 days	100 days
Asset-6	250 days	99 days	151 days
Asset-7	270 days	270 days	-

**Interest during Construction (“IDC”)**

37. The Petitioner has claimed the following IDC in respect of the transmission assets and has submitted the statement showing IDC claim, discharge of IDC liability as on COD and thereafter:

(₹ in lakh)

Assets	IDC as per Auditor’s Certificate	IDC discharged upto COD	IDC discharged during 2019-20	IDC discharged during 2020-21
Asset-1	309.65	243.23	66.42	0.00
Asset-2	5.81	4.37	1.44	0.00
Asset-3	71.59	70.72	0.87	0.00
Asset-4	67.18	64.9	2.28	0.00
Asset-5	10.15	9.15	1.00	0.00
Asset-6	18.17	15.62	2.55	0.00
Asset-7	3992.17	3354.71	585.44	52.03

38. With reference to methodology adopted and applicable rate of interest used for computation of IDC of loans obtained with “floating rate”, the Petitioner vide affidavit dated 15.6.2021 has submitted as follows:

- a. IDC is calculated for loan with “floating rate” of interest by multiplying the loan amount with prevailing interest rate for a particular time period.



Changed rate of interest is applied for the next particular time period for which rate of interest is changed. The calculation is done from the date of drawl of the loan to COD.

- b. Further, in the tariff calculation for 2019-24 period, IoL has been calculated on the basis of interest rates prevailing as on 1.4.2019 for respective loans. The change in interest rate due to floating rate of interest applicable, if any, for the project needs to be claimed/adjusted over the tariff block of five years directly from/with the beneficiaries.
- c. In support of rate of interest, a compendium of floating rate of interest of various loans during 2014-19 tariff period has been submitted along with the truing up petition of Agra (POWERGRID)- Agra (UPPCL) 400 kV D/C interconnection in Northern Region in Petition No. 255/TT/2019.

39. We have considered the submissions made by the Petitioner. The allowable IDC has been worked out considering the information submitted by the Petitioner. Further, the loan amount as on COD has been mentioned in Form-6 and Form-9C. The allowable IDC is worked out based on the information available on record and relying on loan amount as per Form 9C. IDC claimed and considered as on COD and summary of discharge of IDC liability up to COD and thereafter for the purpose of tariff determination in respect of the transmission assets is as follows:



(₹ in lakh)

Assets	IDC claimed as per Auditor's Certificates dated 25.6.2020	IDC disallowed due to computational difference/time over-run not condoned	IDC allowed on accrued basis	IDC allowed on cash basis as on COD	Un-discharged IDC liability as on COD	Discharge of IDC liability allowed as ACE	
						2019-20	2020-21
Asset-1	309.65	1.23	308.42	243.23	65.19	65.19	0.00
Asset-2	5.81	0.08	5.73	4.37	1.36	1.36	0.00
Asset-3	71.59	2.31	69.28	69.28	0.00	0.00	0.00
Asset-4	67.18	3.59	63.59	63.59	0.00	0.00	0.00
Asset-5	10.15	1.16	8.99	8.99	0.00	0.00	0.00
Asset-6	18.17	2.94	15.23	15.23	0.00	0.00	0.00
Asset-7	3992.17	0.00	3992.17	3354.71	637.46	585.44	52.03

### **Incidental Expenditure During Construction ("IEDC")**

40. The Petitioner has claimed the following IEDC in respect of the transmission assets covered in the instant petition and has submitted the Auditor's Certificate in this regard. Further, the Petitioner has submitted that entire IEDC claimed in Auditor's Certificates is on cash basis and has been paid up to COD of the transmission assets.

(₹ in lakh)

Assets	IEDC claimed as per Auditor's Certificates
Asset-1	294.80
Asset-2	6.59
Asset-3	72.49
Asset-4	68.20
Asset-5	10.93
Asset-6	10.24
Asset-7	2063.18

41. IEDC considered as on COD for the purpose of tariff determination in respect of the transmission assets in this order is as follows:



(₹ in lakh)

Assets	IEDC claimed as per Auditor's Certificates (A)	IEDC disallowed due to time over-run (B)	IEDC discharged upto COD (C=A-B)
Asset-1	294.80	0.00	294.80
Asset-2	6.59	0.03	6.56
Asset-3	72.49	1.27	71.22
Asset-4	68.20	2.15	66.05
Asset-5	10.93	0.98	9.95
Asset-6	10.24	1.33	8.91
Asset-7	2063.18	0.00	2063.18

### Initial Spares

42. Regulation 23(d) of the 2019 Tariff Regulations provides that Initial Spares shall be capitalized as a percentage of plant and machinery cost up to cut-off date, subject to the following ceiling norms:

*“(d) Transmission System  
Transmission line: 1.00%  
Transmission sub-station (Green Field): 4.00%  
Transmission sub-station (Brown Field): 6.00%  
GIS Sub-station (Green Field): 5.00%  
GIS Sub-station (Brown Field): 7.00%  
Communication System: 3.50%”*

43. The Petitioner has claimed the following Initial Spares in respect of the transmission assets:

(₹ in lakh)

Assets	Details as per Form-13			
	Plant and Machinery excluding IDC, IEDC, land cost and cost of civil works as on cut-off date (A)	Initial Spares claimed by the Petitioner (B)	Ceiling (in %) (C)	Initial Spares worked out by the Petitioner $D = [(A-B)*C/(100-C)]$
<b>For Transmission line</b>				
Asset-1	5304.35	33.17	1.00	53.04
Asset-7	62926.1	601.83	1.00	629.26
<b>Total</b>	<b>68230.45</b>	<b>635.00</b>		<b>682.30</b>
<b>For Sub-station (Green Field)</b>				



Assets	Details as per Form-13			
	Plant and Machinery excluding IDC, IEDC, land cost and cost of civil works as on cut-off date (A)	Initial Spares claimed by the Petitioner (B)	Ceiling (in %) (C)	Initial Spares worked out by the Petitioner
				$D = [(A-B)*C/(100-C)]$
Asset-1	10220.72	478.56	4.00	408.83
Asset-2	580.64	31.46	4.00	23.23
Asset-3	3414.62	133.44	4.00	136.58
Asset-4	3436.26	133.44	4.00	137.45
Asset-5	1122.43	62.92	4.00	44.90
Asset-6	1698.19	89.47	4.00	67.93
Asset-7	40308.46	1477.66	4.00	1612.34
Asset-7*	5677.75	219.14	6.00	358.66
<b>Total</b>	<b>66459.07</b>	<b>2626.09</b>		<b>2780.69</b>
<b>For Communication System</b>				
Asset-1	225.37	8.73	3.50	7.89
Asset-2	12.56	0.57	3.50	0.44
Asset-5	65.32	1.14	3.50	2.29
Asset-6	87.42	3.14	3.50	3.06
Asset-7	979.89	39.63	3.50	34.30
<b>Total</b>	<b>1370.56</b>	<b>53.21</b>		<b>47.78</b>

\* For Brownfield Sub-station

44. The Petitioner has submitted that discharge of Initial Spares has been considered on cash basis in the Auditor's Certificate. The discharge statement of Initial Spares has submitted as follows:

Assets	Total spares Claimed	Initial Spares discharged up to COD	Initial Spares discharged during		
			2019-20	2020-21	2021-22
			(₹ in lakh)		
<b>Transmission Line</b>					
Asset-1	33.17	26.76	2.14	2.14	2.14
Asset-7	601.83	500.12	33.90	33.90	33.90
<b>Sub-station</b>					
Asset-1	478.56	108.22	123.45	123.45	123.45
Asset-2	31.46	0.00	10.49	10.49	10.49
Asset-3	133.44	93.16	13.43	13.43	13.43
Asset-4	133.44	93.16	13.43	13.43	13.43
Asset-5	62.92	3.98	19.65	19.65	19.65





Asset-6	89.47	46.86	14.20	14.20	14.20
Asset-7	1477.66	1076.98	133.56	133.56	133.56
Asset-7	219.14	165.59	17.85	17.85	17.85
<b>Communication System</b>					
Asset-1	8.73	8.73	0.00	0.00	0.00
Asset-2	0.57	0.00	0.19	0.19	0.19
Asset-5	1.14	1.14	0.00	0.00	0.00
Asset-6	3.14	3.14	0.00	0.00	0.00
Asset-7	39.63	39.63	0.00	0.00	0.00

45. The Petitioner has further submitted that Initial Spares are essential spares for smooth functioning of the grid and may be allowed in full by exercising “Power to Relax” under Regulation 76 of the 2019 Tariff Regulations.

46. We have considered the submissions of Petitioner. The Petitioner has claimed excess initial spares towards Asset-1, Asset-2, Asset-5 and Asset-6 and prayed to allow the same by exercising “Power to Relax”. The Petitioner has not submitted any detailed justification for claiming excess Initial Spares towards Asset-1, Asset-2, Asset-5 and Asset-6, except for smooth functioning of grid. In the absence of any valid justification to allow Initial Spares in excess of ceiling, we are not inclined to invoke provision of “Power to Relax” as envisaged under Regulation 76 of the 2019 Tariff Regulations.

47. The Petitioner has claimed Initial Spares separately for PLCC under “Communication System” in the instant petition. The Commission vide order dated 24.1.2021 in Petition No. 126/TT/2020 observed that PLCC is a part of sub-station and, accordingly, did not allow separate O&M Expenses for PLCC. In view of findings of the Commission recorded in order dated 24.1.2021 in Petition No. 126/TT/2020, we are of the view that PLCC has to be considered as a part of sub-station. Therefore,



cost of PLCC has been clubbed with the cost of sub-station while computing Initial Spares.

48. It has been further observed that Plant and Machinery cost (excluding IDC, IEDC, land cost and cost of civil works) claimed for the purpose of computing Initial Spares in Auditor's Certificate is not upto the cut-off date of the transmission assets. The Plant and Machinery cost upto the cut-off date as claimed vide Form-13 has been considered and the Petitioner is directed to furnish Plant and Machinery cost upto the cut-off date duly certified by the Auditor at the time of truing up. Therefore, Initial Spares allowed in respect of the transmission assets for 2019-24 tariff period are as follows:

Assets	Plant & Machinery excluding IDC, IEDC, land cost & civil works cost as on cut-off date as per Form-13 (A)	Initial Spares claimed by the Petitioner (B)	Ceiling (in %) (C)	Initial Spares worked out  D = [(A-B)*C/(100-C)]	Initial Spares Allowed (₹ in lakh) (E)	Excess Initial Spares Dis-allowed (₹ in lakh) (F)	(₹ in lakh) Year-wise deduction of Excess initial spares (₹ in lakh)	
							2020-21	2021-22
							<b>For Transmission Line</b>	
Asset-1	5304.35	33.17	1.00	53.24	33.17	0.00	0.00	0.00
Asset-7	62926.1	601.83	1.00	629.54	601.83	0.00	0.00	0.00
<b>Total</b>	<b>68230.45</b>	<b>635.00</b>		<b>682.78</b>	<b>635.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>For Sub-station (Green Field)</b>								
Asset-1	10446.09	487.29	4.00	414.95	414.95	72.34	0.00	72.34
Asset-2	593.2	32.03	4.00	23.38	23.38	8.65	0.00	8.65
Asset-3	3414.62	133.44	4.00	136.72	133.44	0.00	0.00	0.00
Asset-4	3436.26	133.44	4.00	137.62	133.44	0.00	0.00	0.00
Asset-5	1187.75	64.06	4.00	46.82	46.82	17.24	0.00	17.24
Asset-6	1785.61	92.61	4.00	70.54	70.54	22.07	7.87	14.20



Assets	Plant & Machinery excluding IDC, IEDC, land cost & civil works cost as on cut-off date as per Form-13 (A)	Initial Spares claimed by the Petitioner (B)	Ceiling (in %) (C)	Initial Spares worked out	Initial Spares Allowed (₹ in lakh) (E)	Excess Initial Spares Dis-allowed (₹ in lakh) (F)	Year-wise deduction of Excess initial spares (₹ in lakh)	
				$D = [(A-B) * C / (100 - C)]$			2020-21	2021-22
Asset-7	41288.35	1517.29	4.00	1657.13	1517.29	0.00	0.00	0.00
Asset-7*	5677.75	219.14	6.00	348.42	219.14	0.00	0.00	0.00
<b>Total</b>	<b>67829.63</b>	<b>2679.30</b>		<b>2835.58</b>	<b>2559.00</b>	<b>120.30</b>	<b>7.87</b>	<b>112.43</b>

\* For Brownfield Sub-station

### **Central Finance Assistance (“CFA”)**

49. The Petitioner has submitted that in the transmission system, the CFA grant of ₹8.00 lakh per MW has been sanctioned by Ministry of New and Renewable Energy vide letter dated 29.9.2016. As per milestone mentioned in sanction letter dated 29.9.2016, 50% of the CFA grant shall be released by SECI to CTU on award of work and balance 50% on successful execution. Total 1500 MW generation (250 MW: Adani Renewable, 500 MW: Saurya Urja and 750 MW: Essel Saurya Urja) is associated with “Transmission System for Solar Power Park at Bahdla”. The Petitioner has submitted that it has received CFA grant of ₹6000.00 lakh till now and remaining ₹6000.00 lakh is yet to be received. The Petitioner has deducted CFA grant of ₹6000.00 lakh from the capital cost of the transmission assets as on COD and remaining CFA grant shall be adjusted upon receipt of the same from SECI.

50. The Petitioner has submitted the following details of CFA grant allocated to the transmission assets covered under the transmission system:



(₹ in lakh)

Assets	Total CFA grant received till date	CFA grant adjusted from the capital cost as on COD
Asset-1	<b>6000.00</b>	1800.00
Asset-2		35.00
Asset-3		360.00
Asset-4		360.00
Asset-5		0.00
Asset-6		0.00
Asset-7		3445.00
<b>Total</b>		<b>6000.00</b>

51. Regulation 19(5)(e) of the 2019 Tariff Regulations provides as follows:

*“19 (5) The following shall be excluded from the capital cost of the existing and new projects:*

.....

*(e) Any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment.”*

52. Proviso (iii) of Regulation 18(1) of the 2019 Tariff Regulations provides as follows:

*“iii. Any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt: equity ratio.”*

53. We have considered the submission of the Petitioner and noted that in line with the above provisions, funding through grant is not required to be considered for debt-equity ratio. Thus, in line with the 2019 Tariff Regulations, the entire grant received has been reduced from the allowable capital cost as on COD for the purpose of computation of tariff and the same has been considered in the relevant paragraph of this order.

54. The details of the capital cost as on COD approved in respect of the transmission assets is as follows:



(₹ in lakh)

Assets	Capital Cost claimed as on COD as per Auditor's Certificate (A)	Less: IDC disallowed due to computational difference/ time over-run (B)	Less: Undischarged IDC (C)	Less: IEDC disallowed due to time over-run (D)	Less: grant received as on COD (E)	Capital cost allowed as on COD on cash basis (F) = (A-B-C-D-E)
Asset-1	12975.71	1.23	65.19	0.00	1800.00	11109.29
Asset-2	225.70	0.08	1.36	0.03	35.00	189.23
Asset-3	2625.12	2.31	0.00	1.27	360.00	2261.55
Asset-4	2428.89	3.59	0.00	2.15	360.00	2063.15
Asset-5	299.53	1.16	0.00	0.98	0.00	297.39
Asset-6	491.02	2.94	0.00	1.33	0.00	486.75
Asset-7	92421.51	0.00	637.46	0.00	3445.00	88339.05

#### **Additional Capital Expenditure (“ACE”)**

55. Regulation 24 and Regulation 25 of the 2019 Tariff Regulations provides as follows:

#### **“24. Additional Capitalisation within the original scope and upto the cut-off date**

(1) *The additional capital expenditure in respect of a new project or an existing project incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:*

- (a) *Undischarged liabilities recognized to be payable at a future date;*
- (b) *Works deferred for execution;*
- (c) *Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 23 of these regulations;*
- (d) *Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority or order or decree of any court of law;*
- (e) *Change in law or compliance of any existing law; and*
- (f) *Force Majeure events:*

*Provided that in case of any replacement of the assets, the additional capitalization shall be worked out after adjusting the gross fixed assets and cumulative depreciation of the assets replaced on account of de-capitalization.*

(2) *The generating company or the transmission licensee, as the case may be shall submit the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution.*



25. *Additional Capitalisation within the original scope and after the cut-off date:*

*(1) The additional capital expenditure incurred or projected to be incurred in respect of an existing project or a new project on the following counts within the original scope of work and after the cut-off date may be admitted by the Commission, subject to prudence check:*

- (a) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority, or order or decree of any court of law;*
- (b) Change in law or compliance of any existing law;*
- (c) Deferred works relating to ash pond or ash handling system in the original scope of work;*
- (d) Liability for works executed prior to the cut-off date;*
- e) Force Majeure events;*
- (f) Liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments;*
- (g) Raising of ash dyke as a part of ash disposal system.*

*(2) In case of replacement of assets deployed under the original scope of the existing project after cut-off date, the additional capitalization may be admitted by the Commission, after making necessary adjustments in the gross fixed assets and the cumulative depreciation, subject to prudence check on the following grounds:*

- (a) The useful life of the assets is not commensurate with the useful life of the project and such assets have been fully depreciated in accordance with the provisions of these regulations;*
- (b) The replacement of the asset or equipment is necessary on account of change in law or Force Majeure conditions;*
- (c) The replacement of such asset or equipment is necessary on account of obsolescence of technology; and*
- (d) The replacement of such asset or equipment has otherwise been allowed by the Commission.”*

56. The Petitioner has claimed the following ACE in respect of the transmission assets for 2019-24 period in accordance with the provisions of Regulation 24 of the 2019 Tariff Regulations on account of undischarged liability towards final payment for works executed and for works deferred for execution within the cut-off date:

(₹ in lakh)

Assets	ACE claimed (on cash basis)			
	2019-20	2020-21	2021-22	2022-23
Asset-1	2459.44	797.67	398.84	398.84
Asset-2	251.72	83.42	41.70	41.70
Asset-3	688.83	229.32	114.65	114.65
Asset-4	815.88	271.20	135.60	135.60
Asset-5	590.97	196.66	98.32	98.32
Asset-6	586.62	496.29	248.15	124.06
Asset-7	16480.11	5350.25	2649.12	2649.12



57. Further, the Petitioner has submitted package-wise and vendor-wise details of ACE claimed in respect of the transmission assets during 2019-24 tariff period.

58. We have considered the submissions of the Petitioner. ACE claimed by the Petitioner has been allowed under Regulation 24(1)(a), 24(1)(b) and 24(1)(d) of the 2019 Tariff Regulations as it is towards undischarged liabilities recognised to be payable at a future date and balance works deferred for execution. Further, excess Initial Spares disallowed in the present order have been deducted from ACE of 2020-21 and 2021-22. Accordingly, ACE allowed in respect of the transmission assets for 2019-24 tariff period is as follows:

(₹ in lakh)				
Particulars	2019-20	2020-21	2021-22	2022-23
<b>Asset-1</b>				
ACE as per Auditor's Certificate	2393.02	797.67	398.84	398.84
Less: Excess Initial Spares	0.00	0.00	72.34	0.00
Add: IDC Discharged	65.19	0.00	0.00	0.00
<b>ACE allowed in the instant order</b>	<b>2458.21</b>	<b>797.67</b>	<b>326.50</b>	<b>398.84</b>
<b>Asset-2</b>				
ACE as per Auditor's Certificate	250.27	83.42	41.70	41.70
Less: Excess Initial Spares	0.00	0.00	8.65	0.00
Add: IDC Discharged	1.36	0.00	0.00	0.00
<b>ACE allowed in the instant order</b>	<b>251.64</b>	<b>83.42</b>	<b>33.05</b>	<b>41.70</b>
<b>Asset-3</b>				
ACE as per Auditor's Certificate	687.96	229.32	114.65	114.65
Add: IDC Discharged	0.00	0.00	0.00	0.00
<b>ACE allowed in the instant order</b>	<b>687.96</b>	<b>229.32</b>	<b>114.65</b>	<b>114.65</b>
<b>Asset-4</b>				
ACE as per Auditor's Certificate	813.60	271.20	135.60	135.60
Add: IDC Discharged	0.00	0.00	0.00	0.00
<b>ACE allowed in the instant order</b>	<b>813.60</b>	<b>271.20</b>	<b>135.60</b>	<b>135.60</b>
<b>Asset-5</b>				
ACE as per Auditor's Certificate	589.97	196.66	98.32	98.32



Particulars	2019-20	2020-21	2021-22	2022-23
Certificate				
Less: Excess Initial Spares	0.00	0.00	17.24	0.00
Add: IDC Discharged	0.00	0.00	0.00	0.00
<b>ACE allowed in the instant order</b>	<b>589.97</b>	<b>196.66</b>	<b>81.08</b>	<b>98.32</b>
<b>Asset-6</b>				
ACE as per Auditor's Certificate	584.07	496.29	248.15	124.06
Less: Excess Initial Spares	0.00	7.87	14.20	0.00
Add: IDC Discharged	0.00	0.00	0.00	0.00
<b>ACE allowed in the instant order</b>	<b>584.07</b>	<b>488.42</b>	<b>233.95</b>	<b>124.06</b>
<b>Asset-7</b>				
ACE as per Auditor's Certificate	15894.66	5298.22	2649.12	2649.12
Add: IDC Discharged	585.44	52.03	0.00	0.00
<b>ACE allowed in the instant order</b>	<b>16480.11</b>	<b>5350.25</b>	<b>2649.12</b>	<b>2649.12</b>

59. Accordingly, ACE for 2019-24 tariff period and capital cost as on 31.3.2024 in respect of the transmission assets considered for the purpose of tariff determination for 2019-24 tariff period are as follows:

Assets	Capital Cost as on COD	Projected Expenditure				Capital Cost admitted as on 31.3.2024
		2019-20	2020-21	2021-22	2022-23	
Asset-1	11109.29	2458.21	797.67	326.50	398.84	15090.51
Asset-2	189.23	251.64	83.42	33.05	41.70	599.04
Asset-3	2261.55	687.96	229.32	114.65	114.65	3408.13
Asset-4	2063.15	813.60	271.20	135.60	135.60	3419.15
Asset-5	297.39	589.97	196.66	81.08	98.32	1263.42
Asset-6	486.75	584.07	488.42	233.95	124.06	1917.25
Asset-7	88339.05	16480.11	5350.25	2649.12	2649.12	115467.65

### **Debt-Equity ratio**

60. Regulation 18 of the 2019 Tariff Regulations provides as follows:

**“18. Debt-Equity Ratio:** (1) For new projects, the debt-equity ratio of 70:30 as on date of commercial operation shall be considered. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:





*Provided that:*

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

**Explanation-***The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.*

*(2) The generating company or the transmission licensee, as the case may be, shall submit the resolution of the Board of the company or approval of the competent authority in other cases regarding infusion of funds from internal resources in support of the utilization made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.*

*(3) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, debt: equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2019 shall be considered:*

*Provided that in case of a generating station or a transmission system including communication system which has completed its useful life as on or after 1.4.2019, if the equity actually deployed as on 1.4.2019 is more than 30% of the capital cost, equity in excess of 30% shall not be taken into account for tariff computation;*

*Provided further that in case of projects owned by Damodar Valley Corporation, the debt: equity ratio shall be governed as per sub-clause (ii) of clause (2) of Regulation 72 of these regulations.*

*(4) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2019, the Commission shall approve the debt: equity ratio in accordance with clause (1) of this Regulation.*

*(5) Any expenditure incurred or projected to be incurred on or after 1.4.2019 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this Regulation.*

*(6) Any expenditure incurred for the emission control system during the tariff period as may be admitted by the Commission as additional capital expenditure for determination of supplementary tariff, shall be serviced in the manner specified in clause (1) of this Regulation.”*



61. The Petitioner has considered debt-equity ratio of 70:30 as on COD and for ACE for 2019-24 tariff period. Debt-equity ratio of 70:30 has been considered for ACE allowed during 2019-24 period in accordance with Regulation 19 of the 2019 Tariff Regulations. The details of debt-equity ratio considered in respect of the transmission assets for the purpose of computation of tariff for 2019-24 tariff period is as follows:

Particulars	Capital Cost as on 1.4.2019 (₹ in lakh)	(in %)	Capital Cost as on 31.3.2024 (₹ in lakh)	(in %)
<b>Asset-1</b>				
Debt	7776.50	70.00	10563.36	70.00
Equity	3332.79	30.00	4527.15	30.00
<b>Total</b>	<b>11109.29</b>	<b>100.00</b>	<b>15090.51</b>	<b>100.00</b>
<b>Asset-2</b>				
Debt	132.46	70.00	419.33	70.00
Equity	56.77	30.00	179.71	30.00
<b>Total</b>	<b>189.23</b>	<b>100.00</b>	<b>599.04</b>	<b>100.00</b>
<b>Asset-3</b>				
Debt	1583.08	70.00	2385.69	70.00
Equity	678.46	30.00	1022.44	30.00
<b>Total</b>	<b>2261.55</b>	<b>100.00</b>	<b>3408.13</b>	<b>100.00</b>
<b>Asset-4</b>				
Debt	1444.20	70.00	2393.40	70.00
Equity	618.94	30.00	1025.74	30.00
<b>Total</b>	<b>2063.15</b>	<b>100.00</b>	<b>3419.15</b>	<b>100.00</b>
<b>Asset-5</b>				
Debt	208.17	70.00	884.39	70.00
Equity	89.22	30.00	379.03	30.00
<b>Total</b>	<b>297.39</b>	<b>100.00</b>	<b>1263.42</b>	<b>100.00</b>
<b>Asset-6</b>				
Debt	340.73	70.00	1342.08	70.00
Equity	146.03	30.00	575.18	30.00
<b>Total</b>	<b>486.75</b>	<b>100.00</b>	<b>1917.25</b>	<b>100.00</b>
<b>Asset-7</b>				
Debt	61837.33	70.00	80827.35	70.00
Equity	26501.71	30.00	34640.29	30.00
<b>Total</b>	<b>88339.05</b>	<b>100.00</b>	<b>115467.65</b>	<b>100.00</b>

### **Depreciation**

62. Regulation 33 of the 2019 Tariff Regulations provides as follows:

*“33. Depreciation: (1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system or element thereof including communication system. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication*



system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units:

*Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.*

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

*(3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset:*

*Provided that the salvage value for IT equipment and software shall be considered as NIL and 100% value of the assets shall be considered depreciable;*

*Provided further that in case of hydro generating stations, the salvage value shall be as provided in the agreement, if any, signed by the developers with the State Government for development of the generating station:*

*Provided also that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciated value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff:*

*Provided also that any depreciation disallowed on account of lower availability of the generating station or unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life or the extended life.*

*(4) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.*

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

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

*(6) In case of the existing projects, the balance depreciable value as on 1.4.2019 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2019 from the gross depreciable value of the assets.*

*(7) The generating company or the transmission licensee, as the case may be, shall submit the details of proposed capital expenditure five years before the completion of useful life of the project along with justification and proposed life extension. The*



Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure.

(8) In case of de-capitalization of assets in respect of generating station or unit thereof or transmission system or element thereof, the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the de-capitalized asset during its useful services.

(9) Where the emission control system is implemented within the original scope of the generating station and the date of commercial operation of the generating station or unit thereof and the date of operation of the emission control system are the same, depreciation of the generating station or unit thereof including the emission control system shall be computed in accordance with Clauses (1) to (8) of this Regulation.

(10) Depreciation of the emission control system of an existing or a new generating station or unit thereof where the date of operation of the emission control system is subsequent to the date of commercial operation of the generating station or unit thereof, shall be computed annually from the date of operation of such emission control system based on straight line method, with salvage value of 10%, over a period of-

- a) twenty five years, in case the generating station or unit thereof is in operation for fifteen years or less as on the date of operation of the emission control system; or
- b) balance useful life of the generating station or unit thereof plus fifteen years, in case the generating station or unit thereof is in operation for more than fifteen years as on the date of operation of the emission control system; or
- c) ten years or a period mutually agreed by the generating company and the beneficiaries, whichever is higher, in case the generating station or unit thereof has completed its useful life.”

63. We have considered the submissions of the Petitioner. Weighted Average Rate of Depreciation (WAROD), placed as Annexure-I to this order, has been worked out after taking into account the depreciation rates of the assets as specified in the 2019 Tariff Regulations. Depreciation has been worked out considering ACE as on COD and ACE during 2019-24 period. Depreciation allowed in respect of the transmission assets is as follows:

(₹ in lakh)

Sl. No.	Asset-1					
	Particulars	2019-20 (Pro-rata 338 days)	2020-21	2021-22	2022-23	2023-24
A	Opening Gross Block	11109.29	13567.50	14365.17	14691.67	15090.51



B	Addition during the year 2019-24 due to projected ACE	2458.21	797.67	326.50	398.84	0.00
C	Closing Gross Block (A+B)	13567.50	14365.17	14691.67	15090.51	15090.51
D	Average Gross Block (A+C)/2	12338.40	13966.34	14528.42	14891.09	15090.51
E	Freehold Land	41.82	41.82	41.82	41.82	41.82
F	Weighted average rate of Depreciation (WAROD) (in %)	5.28	5.26	5.25	5.24	5.24
G	Balance useful life at the beginning of the year ( year)	29	29	28	27	26
H	Lapsed Life at the beginning of the year (year)	0	0	1	2	3
I	Aggregated Depreciable Value	11071.69	12537.06	13043.02	13369.47	13548.98
J	<b>Depreciation during the year (DxF)</b>	<b>601.86</b>	<b>734.24</b>	<b>762.62</b>	<b>780.91</b>	<b>791.01</b>
K	Aggregate Cumulative Depreciation at the end of the year	601.86	1336.10	2098.72	2879.63	3670.63
L	Remaining Aggregated Depreciable Value at the end of the year	10469.83	11200.96	10944.29	10489.84	9878.34

(₹ in lakh)

Sl. No.	Particulars	Asset-2				
		2019-20 (Pro-rata 333 days)	2020-21	2021-22	2022-23	2023-24
A	Opening Gross Block	189.23	440.87	524.29	557.34	599.04
B	Addition during the year 2019-24 due to projected ACE	251.64	83.42	33.05	41.70	0.00
C	Closing Gross Block (A+B)	440.87	524.29	557.34	599.04	599.04
D	Average Gross Block (A+C)/2	315.05	482.58	540.82	578.19	599.04
E	Freehold Land	4.35	4.35	4.35	4.35	4.35
F	Weighted Average Rate of Depreciation (WAROD) (in %)	5.28	5.28	5.28	5.28	5.28
G	Balance useful life at the beginning of the year (year)	24	24	23	22	21
H	Lapsed Life at the beginning of the year ( year)	0	0	1	2	3
I	Aggregated Depreciable Value	280.03	431.00	483.48	517.17	535.96
J	<b>Depreciation during the year (DxF)</b>	<b>15.12</b>	<b>25.48</b>	<b>28.55</b>	<b>30.53</b>	<b>31.63</b>
K	Aggregate Cumulative	15.12	40.60	69.15	99.68	131.31



	Depreciation at the end of the year					
L	Remaining Aggregated Depreciable Value at the end of the year	264.90	390.40	414.33	417.49	404.65

(₹ in lakh)

Sl. No.	Asset-3					
	Particulars	2019-20 (Pro-rata 320 days)	2020-21	2021-22	2022-23	2023-24
A	Opening Gross Block	2261.55	2949.51	3178.83	3293.48	3408.13
B	Addition during the year 2019-24 due to projected ACE	687.96	229.32	114.65	114.65	0.00
C	Closing Gross Block (A+B)	2949.51	3178.83	3293.48	3408.13	3408.13
D	Average Gross Block (A+C)/2	2605.53	3064.17	3236.15	3350.80	3408.13
E	Freehold Land	11.51	11.51	11.51	11.51	11.51
F	Weighted Average Rate of Depreciation (WAROD) (in %)	5.25	5.22	5.21	5.20	5.20
G	Balance useful life at the beginning of the year (year)	25	25	24	23	22
H	Lapsed life at the beginning of the year (year)	0	0	1	2	3
I	Aggregated Depreciable Value	2335.90	2748.76	2903.57	3006.78	3058.38
J	<b>Depreciation during the year (DxF)</b>	<b>119.68</b>	<b>159.89</b>	<b>168.52</b>	<b>174.27</b>	<b>177.15</b>
K	Aggregate Cumulative Depreciation at the end of the year	119.68	279.57	448.09	622.37	799.51
L	Remaining Aggregated Depreciable Value at the end of the year	2216.22	2469.19	2455.48	2384.41	2258.87

(₹ in lakh)

Sl. No.	Asset-4					
	Particulars	2019-20 (Pro-rata 305 days)	2020-21	2021-22	2022-23	2023-24
A	Opening Gross Block	2063.15	2876.75	3147.95	3283.55	3419.15
B	Addition during the year 2019-24 due to projected ACE	813.60	271.20	135.60	135.60	0.00
C	Closing Gross Block (A+B)	2876.75	3147.95	3283.55	3419.15	3419.15
D	Average Gross Block (A+C)/2	2469.95	3012.35	3215.75	3351.35	3419.15





E	Freehold Land	11.36	11.36	11.36	11.36	11.36
F	Weighted Average Rate of Depreciation (WAROD) (in %)	5.24	5.21	5.21	5.20	5.20
G	Balance useful life at the beginning of the year (year)	25	25	24	23	22
H	Lapsed life at the beginning of the year (year)	0	0	1	2	3
I	Aggregated Depreciable Value	2213.77	2702.16	2885.31	3007.41	3068.46
J	<b>Depreciation during the year (DxF)</b>	<b>107.91</b>	<b>157.08</b>	<b>167.42</b>	<b>174.32</b>	<b>177.76</b>
K	Aggregate Cumulative Depreciation at the end of the year	107.91	264.99	432.41	606.72	784.49
L	Remaining Aggregated Depreciable Value at the end of the year	2105.86	2437.17	2452.90	2400.68	2283.97

(₹ in lakh)

Sl. No.	Asset-5					
	Particulars	2019-20 (Pro-rata 238 days)	2020-21	2021-22	2022-23	2023-24
A	Opening Gross Block	297.39	887.36	1084.02	1165.10	1263.42
B	Addition during the year 2019-24 due to projected ACE	589.97	196.66	81.08	98.32	0.00
C	Closing Gross Block (A+B)	887.36	1084.02	1165.10	1263.42	1263.42
D	Average Gross Block (A+C)/2	592.38	985.69	1124.56	1214.26	1263.42
E	Freehold Land	10.30	10.30	10.30	10.30	10.30
F	Weighted average rate of Depreciation (WAROD) (in %)	6.31	6.27	6.27	6.27	6.27
G	Balance useful life at the beginning of the year (year)	21	21	20	19	18
H	Lapsed Life at the beginning of the year (year)	0	0	1	2	3
I	Aggregated Depreciable Value	530.72	888.75	1015.25	1096.99	1141.74
J	<b>Depreciation during the year (DxF)</b>	<b>24.30</b>	<b>61.77</b>	<b>70.47</b>	<b>76.12</b>	<b>79.17</b>
K	Aggregate Cumulative Depreciation at the end of the year	24.30	86.07	156.54	232.66	311.82
L	Remaining Aggregated Depreciable Value at the end of the year	506.42	802.67	858.70	864.33	829.91



(₹ in lakh)

Sl. No.	Asset-6					
	Particulars	2019-20 (Pro-rata 187 days)	2020-21	2021-22	2022-23	2023-24
A	Opening Gross Block	486.75	1070.82	1559.24	1793.19	1917.25
B	Addition during the year 2019-24 due to projected ACE	584.07	488.42	233.95	124.06	0.00
C	Closing Gross Block (A+B)	1070.82	1559.24	1793.19	1917.25	1917.25
D	Average Gross Block (A+C)/2	778.79	1315.03	1676.22	1855.22	1917.25
E	Freehold Land	13.03	13.03	13.03	13.03	13.03
F	Weighted Average Rate of Depreciation (WAROD) (in %)	5.34	5.29	5.27	5.27	5.27
G	Balance useful life at the beginning of the year (year)	23	23	22	21	20
H	Lapsed Life at the beginning of the year (year)	0	0	1	2	3
I	Aggregated Depreciable Value	690.35	1173.26	1498.53	1659.73	1715.59
J	<b>Depreciation during the year (DxF)</b>	<b>21.24</b>	<b>69.55</b>	<b>88.39</b>	<b>97.73</b>	<b>100.96</b>
K	Aggregate Cumulative Depreciation at the end of the year	21.24	90.79	179.18	276.91	377.87
L	Remaining Aggregated Depreciable Value at the end of the year	669.11	1082.47	1319.35	1382.83	1337.73

(₹ in lakh)

Sl. No.	Asset-7					
	Particulars	2019-20 (Pro-rata 167 days)	2020-21	2021-22	2022-23	2023-24
A	Opening Gross Block	88339.05	104819.16	110169.41	112818.53	115467.65
B	Addition during the year 2019-24 due to projected ACE	16480.11	5350.25	2649.12	2649.12	0.00
C	Closing Gross Block (A+B)	104819.16	110169.41	112818.53	115467.65	115467.65
D	Average Gross Block (A+C)/2	96579.10	107494.28	111493.97	114143.09	115467.65
E	Freehold Land	150.53	150.53	150.53	150.53	150.53
F	Weighted Average Rate of Depreciation (WAROD) (in %)	5.27	5.25	5.25	5.25	5.25
G	Balance useful life at the beginning of the year (year)	30	30	29	28	27
H	Lapsed life at the beginning of the year (year)	0	0	1	2	3
I	Aggregated Depreciable Value	86791.64	96616.33	100216.43	102600.89	103793.12
J	<b>Depreciation during the year</b>	<b>2320.56</b>	<b>5647.69</b>	<b>5853.46</b>	<b>5989.73</b>	<b>6057.86</b>

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	(DxF)					
K	Aggregate Cumulative Depreciation at the end of the year	2320.56	7968.25	13821.71	19811.44	25869.31
L	Remaining Aggregated Depreciable Value at the end of the year	84471.08	88648.08	86394.71	82789.44	77923.81

### **Interest on Loan (“IoL”)**

64. Regulation 32 of the 2019 Tariff Regulations provides as follows:

**“32. Interest on loan capital:** (1) *The loans arrived at in the manner indicated in Regulation 18 of these regulations shall be considered as gross normative loan for calculation of interest on loan.*

(2) *The normative loan outstanding as on 1.4.2019 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2019 from the gross normative loan.*

(3) *The repayment for each of the year of the tariff period 2019-24 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalisation of such asset.*

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

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

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

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

(5a) *The rate of interest on loan for installation of emission control system shall be the weighted average rate of interest of actual loan portfolio of the emission control system or in the absence of actual loan portfolio, the weighted average rate of interest of the generating company as a whole shall be considered.*

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



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

65. The weighted average rate of IoL has been considered on the basis of rate prevailing as on 1.4.2019. The Petitioner has prayed that change in interest rate due to floating rate of interest applicable, if any, during 2019-24 tariff period may be adjusted. Accordingly, the floating rate of interest, if any, shall be considered at the time of truing up. Therefore, IoL has been allowed in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL allowed in respect of the transmission assets for 2019-24 tariff period is as follows:

(₹ in lakh)

<b>Asset-1</b>					
<b>Particulars</b>	<b>2019-20 (Pro-rata 338 days)</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Gross Normative Loan	7776.50	9497.25	10055.62	10284.17	10563.36
Cumulative Repayments upto Previous Year	0.00	601.86	1336.10	2098.72	2879.63
Net Loan-Opening	7776.50	8895.39	8719.52	8185.45	7683.73
Additions	1720.75	558.37	228.55	279.19	0.00
Repayment during the year	601.86	734.24	762.62	780.91	791.01
Net Loan-Closing	8895.39	8719.52	8185.45	7683.73	6892.72
Average Loan	8335.95	8807.45	8452.48	7934.59	7288.23
Weighted Average Rate of Interest on Loan (in %)	3.5569	3.5512	3.5512	3.5291	3.4816
<b>Interest on Loan</b>	<b>273.81</b>	<b>312.77</b>	<b>300.17</b>	<b>280.02</b>	<b>253.75</b>

(₹ in lakh)

<b>Asset-2</b>					
<b>Particulars</b>	<b>2019-20 (Pro-rata 333 days)</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Gross Normative Loan	132.46	308.61	367.00	390.14	419.33
Cumulative Repayments upto Previous Year	0.00	15.12	40.60	69.15	99.68
Net Loan-Opening	132.46	293.49	326.41	320.99	319.65
Additions	176.15	58.39	23.14	29.19	0.00
Repayment during the year	15.12	25.48	28.55	30.53	31.63
Net Loan-Closing	293.49	326.41	320.99	319.65	288.02

