

Average Loan	212.97	309.95	323.70	320.32	303.83
Weighted Average Rate of Interest on Loan (in %)	4.0223	4.0136	4.0136	3.9988	3.9664
Interest on Loan	7.79	12.44	12.99	12.81	12.05

(₹ in lakh)

Asset-3					
Particulars	2019-20 (Pro-rata 320 days)	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	1583.08	2064.65	2225.18	2305.43	2385.69
Cumulative Repayments upto Previous Year	0.00	119.68	279.57	448.09	622.37
Net Loan-Opening	1583.08	1944.98	1945.61	1857.34	1763.32
Additions	481.57	160.52	80.26	80.26	0.00
Repayment during the year	119.68	159.89	168.52	174.27	177.15
Net Loan-Closing	1944.98	1945.61	1857.34	1763.32	1586.17
Average Loan	1764.03	1945.29	1901.48	1810.33	1674.75
Weighted Average Rate of Interest on Loan (in %)	3.9262	3.9257	3.9257	3.9153	3.8924
Interest on Loan	60.55	76.37	74.65	70.88	65.19

(₹ in lakh)

Asset-4					
Particulars	2019-20 (Pro-rata 305 days)	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	1444.20	2013.72	2203.56	2298.48	2393.40
Cumulative Repayments upto Previous Year	0.00	107.91	264.99	432.41	606.72
Net Loan-Opening	1444.20	1905.81	1938.57	1866.07	1786.68
Additions	569.52	189.84	94.92	94.92	0.00
Repayment during the year	107.91	157.08	167.42	174.32	177.76
Net Loan-Closing	1905.81	1938.57	1866.07	1786.68	1608.91
Average Loan	1675.01	1922.19	1902.32	1826.38	1697.80
Weighted Average Rate of Interest on Loan (in %)	3.8645	3.8633	3.8633	3.8513	3.8252
Interest on Loan	53.94	74.26	73.49	70.34	64.94

(₹ in lakh)

Asset-5					
Particulars	2019-20 (Pro-rata 238 days)	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	208.17	621.15	758.81	815.57	884.39



Cumulative Repayments upto Previous Year	0.00	24.30	86.07	156.54	232.66
Net Loan-Opening	208.17	596.85	672.74	659.03	651.74
Additions	412.98	137.66	56.76	68.82	0.00
Repayment during the year	24.30	61.77	70.47	76.12	79.17
Net Loan-Closing	596.85	672.74	659.03	651.74	572.57
Average Loan	402.51	634.80	665.88	655.38	612.15
Weighted Average Rate of Interest on Loan (in %)	3.2524	3.2497	3.2497	3.2285	3.1834
Interest on Loan	8.51	20.63	21.64	21.16	19.49

(₹ in lakh)

Asset-6					
Particulars	2019-20 (Pro-rata 187 days)	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	340.73	749.57	1091.47	1255.23	1342.08
Cumulative Repayments upto Previous Year	0.00	21.24	90.79	179.18	276.91
Net Loan-Opening	340.73	728.33	1000.68	1076.05	1065.17
Additions	408.85	341.90	163.77	86.84	0.00
Repayment during the year	21.24	69.55	88.39	97.73	100.96
Net Loan-Closing	728.33	1000.68	1076.05	1065.17	964.21
Average Loan	534.53	864.51	1038.37	1070.61	1014.69
Weighted Average Rate of Interest on Loan (in %)	3.2968	3.2883	3.2824	3.2563	3.2067
Interest on Loan	9.00	28.43	34.08	34.86	32.54

(₹ in lakh)

Asset-7					
Particulars	2019-20 (Pro-rata 167 days)	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	61837.33	73373.41	77118.58	78972.97	80827.35
Cumulative Repayments upto Previous Year	0.00	2320.56	7968.25	13821.71	19811.44
Net Loan-Opening	61837.33	71052.85	69150.34	65151.25	61015.91
Additions	11536.08	3745.18	1854.38	1854.38	0.00
Repayment during the year	2320.56	5647.69	5853.46	5989.73	6057.86
Net Loan-Closing	71052.85	69150.34	65151.25	61015.91	54958.04
Average Loan	66445.09	70101.59	67150.79	63083.58	57986.98
Weighted Average Rate of Interest on Loan (in %)	3.9745	3.9791	3.9270	3.8599	3.8158
Interest on Loan	1204.97	2789.43	2636.98	2434.96	2212.68



Return on Equity (“RoE”)

66. Regulation 30 and Regulation 31 of the 2019 Tariff Regulations provide as follows:

“30. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with Regulation 18 of these regulations.

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

Provided that return on equity in respect of additional capitalization after cut-off date beyond the original scope, excluding additional capitalization on account of emission control system, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system or in the absence of actual loan portfolio of the generating station or the transmission system, the weighted average rate of interest of the generating company or the transmission licensee, as the case may be, as a whole shall be considered, subject to ceiling of 14%;

Provided further that:

- i. In case of a new project, the rate of return on equity shall be reduced by 1.00% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO) or Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system based on the report submitted by the respective RLDC;*
- ii. in case of existing generating station, as and when any of the requirements under (i) above of this Regulation are found lacking based on the report submitted by the concerned RLDC, rate of return on equity shall be reduced by 1.00% for the period for which the deficiency continues;*
- iii. in case of a thermal generating station, with effect from 1.4.2020:*
 - a) rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute;*
 - b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute, subject to ceiling of additional rate of return on equity of 1.00%;*

Provided that the detailed guidelines in this regard shall be issued by National Load Dispatch Centre by 30.6.2019.”

(3) The return on equity in respect of additional capitalization on account of emission control system shall be computed at the base rate of one year marginal cost of lending rate (MCLR) of the State Bank of India as on 1st April of the year in which the date of



operation (Ode) occurs plus 350 basis point, subject to ceiling of 14%;

“31. Tax on Return on Equity. (1) The base rate of return on equity as allowed by the Commission under Regulation 30 of these regulations shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax paid on income from other businesses including deferred tax liability (i.e. income from business other than business of generation or transmission, as the case may be) shall be excluded for the calculation of effective tax rate.

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

$$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$$

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

Illustration-

(i) In case of a generating company or a transmission licensee paying Minimum Alternate Tax (MAT) @ 21.55% including surcharge and cess:

$$\text{Rate of return on equity} = 15.50 / (1 - 0.2155) = 19.758\%$$

(ii) In case of a generating company or a transmission licensee paying normal corporate tax including surcharge and cess:

- (a) Estimated Gross Income from generation or transmission business for FY 2019-20 is Rs 1,000 crore;
- (b) Estimated Advance Tax for the year on above is Rs 240 crore;
- (c) Effective Tax Rate for the year 2019-20 = Rs 240 Crore / Rs 1000 Crore = 24%;
- (d) Rate of return on equity = $15.50 / (1 - 0.24) = 20.395\%$.

(3) The generating company or the transmission licensee, as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2019-24 on actual gross income of any financial year. However, penalty, if any, arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company or the transmission licensee, as the case may be. Any under-recovery or over-recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries or the long term customers, as the case may be, on year to year basis.”



67. The Petitioner has submitted that MAT rate is applicable to it. Accordingly, MAT rate applicable for 2019-20 has been considered for the purpose of RoE which shall be trued up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations. RoE allowed in respect of the transmission assets is as follows:

(₹ in lakh)

Asset-1					
Particulars	2019-20 (Pro-rata 338 days)	2020-21	2021-22	2022-23	2023-24
Opening Equity	3332.79	4070.25	4309.55	4407.50	4527.15
Additions	737.46	239.30	97.95	119.65	0.00
Closing Equity	4070.25	4309.55	4407.50	4527.15	4527.15
Average Equity	3701.52	4189.90	4358.53	4467.33	4527.15
Return on Equity (Base Rate) (in %)	15.50	15.50	15.50	15.50	15.50
MAT Rate for respective year (in %)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (in %)	18.782	18.782	18.782	18.782	18.782
Return on Equity	642.03	786.95	818.62	839.05	850.29

(₹ in lakh)

Asset-2					
Particulars	2019-20 (Pro-rata 333 days)	2020-21	2021-22	2022-23	2023-24
Opening Equity	56.77	132.26	157.29	167.20	179.71
Additions	75.49	25.03	9.92	12.51	0.00
Closing Equity	132.26	157.29	167.20	179.71	179.71
Average Equity	94.51	144.77	162.24	173.46	179.71
Return on Equity (Base Rate) (in %)	15.50	15.50	15.50	15.50	15.50
MAT Rate for respective year (in %)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (in %)	18.782	18.782	18.782	18.782	18.782
Return on Equity	16.15	27.19	30.47	32.58	33.75

(₹ in lakh)

Asset-3					
Particulars	2019-20 (Pro-rata 320 days)	2020-21	2021-22	2022-23	2023-24
Opening Equity	678.46	884.85	953.65	988.04	1022.44



Additions	206.39	68.80	34.40	34.40	0.00
Closing Equity	884.85	953.65	988.04	1022.44	1022.44
Average Equity	781.66	919.25	970.85	1005.24	1022.44
Return on Equity (Base Rate) (in %)	15.50	15.50	15.50	15.50	15.50
MAT Rate for respective year (in %)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (in %)	18.782	18.782	18.782	18.782	18.782
Return on Equity	128.36	172.65	182.34	188.80	192.03

(₹ in lakh)

Asset-4					
Particulars	2019-20 (Pro-rata 305 days)	2020-21	2021-22	2022-23	2023-24
Opening Equity	618.94	863.02	944.38	985.06	1025.74
Additions	244.08	81.36	40.68	40.68	0.00
Closing Equity	863.02	944.38	985.06	1025.74	1025.74
Average Equity	740.98	903.70	964.72	1005.40	1025.74
Return on Equity (Base Rate) (in %)	15.50	15.50	15.50	15.50	15.50
MAT Rate for respective year (in %)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (in %)	18.782	18.782	18.782	18.782	18.782
Return on Equity	115.98	169.73	181.19	188.83	192.66

(₹ in lakh)

Asset-5					
Particulars	2019-20 (Pro-rata 238 days)	2020-21	2021-22	2022-23	2023-24
Opening Equity	89.22	266.21	325.21	349.53	379.03
Additions	176.99	59.00	24.32	29.50	0.00
Closing Equity	266.21	325.21	349.53	379.03	379.03
Average Equity	177.71	295.71	337.37	364.28	379.03
Return on Equity (Base Rate) (in %)	15.50	15.50	15.50	15.50	15.50
MAT Rate for respective year (in %)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (in %)	18.782	18.782	18.782	18.782	18.782
Return on Equity	21.70	55.54	63.36	68.42	71.19

(₹ in lakh)

Asset-6					
Particulars	2019-20 (Pro-rata 187 days)	2020-21	2021-22	2022-23	2023-24
Opening Equity	146.03	321.25	467.77	537.96	575.18
Additions	175.22	146.53	70.19	37.22	0.00

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Closing Equity	321.25	467.77	537.96	575.18	575.18
Average Equity	233.64	394.51	502.87	556.57	575.18
Return on Equity (Base Rate) (in %)	15.50	15.50	15.50	15.50	15.50
MAT Rate for respective year (in %)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (in %)	18.782	18.782	18.782	18.782	18.782
Return on Equity	22.42	74.10	94.45	104.53	108.03

(₹ in lakh)

Asset-7					
Particulars	2019-20 (Pro-rata 167 days)	2020-21	2021-22	2022-23	2023-24
Opening Equity	26501.71	31445.75	33050.82	33845.56	34640.29
Additions	4944.03	1605.08	794.74	794.74	0.00
Closing Equity	31445.75	33050.82	33845.56	34640.29	34640.29
Average Equity	28973.73	32248.28	33448.19	34242.93	34640.29
Return on Equity (Base Rate) (in %)	15.50	15.50	15.50	15.50	15.50
MAT Rate for respective year (in %)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (in %)	18.782	18.782	18.782	18.782	18.782
Return on Equity	2483.03	6056.87	6282.24	6431.51	6506.14

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

68. O&M Expenses claimed by the Petitioner in respect of the elements covered in the transmission assets for 2019-24 period are as follows:

Asset-1					
Particulars	2019-20 (Pro-rata for 338 days)	2020-21	2021-22	2022-23	2023-24
400 kV: Bhadla:Bhadla Sub-station ICT-2 Bay					
400 kV: Bhadla:Bhadla Sub-station Bus Reactor Bay					
400 kV: Bhadla:Bhadla Sub-station (POWERGRID)- Line Bays					
400 kV: Bhadla:Bhadla Sub-station RRVPN- Line Bays					
Number of bays	6	6	6	6	6
Norms (₹ lakh/Bay)	32.15	33.28	34.45	35.66	36.91
220 kV: Bhadla: Bhadla ICT Bay					
220 kV: Bhadla: Bhadla Sub-station 220 kV Adani Line-1 Bay					
Number of bays	2	2	2	2	2
Norms (₹ lakh/Bay)	22.51	23.30	24.12	24.96	25.84
Bhadla: 500 MVA ICT at Bhadla Sub-station					
400 kV Sub-station ICT (₹ lakh/ MVA)	500	500	500	500	500
Norms (₹ lakh/ MVA)	0.358	0.371	0.384	0.398	0.411
Transmission line: 400 kV D/C Bhadla (POWERGRID)- Bhadla (RVPNL) Circuit -1 &2					



Asset-1					
Particulars	2019-20 (Pro-rata for 338 days)	2020-21	2021-22	2022-23	2023-24
along with associated bays at both ends					
D/C (Bundled conductor with four or more sub) (km)	26.542	26.542	26.542	26.542	26.542
Norms (₹ lakh/ km)	1.322	1.368	1.416	1.466	1.517
PLCC					
Cost	206.04	206.04	206.04	206.04	206.04
Norms (₹ lakh)	2.0% of the original project cost related to such communication system				
Total O&M Expenses (₹ in lakh)	421.24	472.21	488.64	505.91	523.02

Asset-2					
Particulars	2019-20 (Pro-rata for 333 days)	2020-21	2021-22	2022-23	2023-24
220 kV: Bhadla:220 kV Saurya Urja Line-2 Bay at Bhadla (POWERGRID) Sub-station					
Number of bays	1	1	1	1	1
Norms (₹ lakh/Bay)	22.51	23.30	24.12	24.96	25.84
PLCC					
Cost	11.42	11.42	11.42	11.42	11.42
Norms (₹ lakh)	2.0% of the original project cost related to such communication system				
Total O&M Expenses (₹ in lakh)	20.69	23.53	24.35	25.19	26.07

Asset-3					
Particulars	2019-20 (Pro-rata for 320 days)	2020-21	2021-22	2022-23	2023-24
400 kV: Bhadla:Bhadla Sub-station ICT-3 Bay					
Number of bays	1	1	1	1	1
Norms (₹ lakh/ Bay)	32.15	33.28	34.45	35.66	36.91
220 kV: Bhadla:Bhadla Sub-station ICT-3 Bay					
Number of bays	1	1	1	1	1
Norms (₹ lakh/ Bay)	22.51	23.30	24.12	24.96	25.84
Bhadla: 500 MVA ICT-3 at Bhadla Sub-station					
400 kV Sub-station ICT (₹ lakh/ MVA)	500	500	500	500	500
Norms (₹ lakh/ MVA)	0.358	0.371	0.384	0.398	0.411
Total O&M Expenses (₹ in lakh)	204.29	242.08	250.57	259.62	268.25

Asset-4					
Particulars	2019-20 (Pro-rata for 305 days)	2020-21	2021-22	2022-23	2023-24
400 kV: Bhadla:765/400/220 kV Bhadla Sub-station ICT-1 Bay					



Asset-4					
Particulars	2019-20 (Pro-rata for 305 days)	2020-21	2021-22	2022-23	2023-24
Number of bays	1	1	1	1	1
Norms (₹ lakh/Bay)	32.15	33.28	34.45	35.66	36.91
220 kV: Bhadla:765/400/220 kV Bhadla Sub-station ICT-1 Bay					
Number of bays	1	1	1	1	1
Norms (₹ lakh/Bay)	22.51	23.30	24.12	24.96	25.84
Bhadla: 500 MVA ICT-1 at Bhadla Sub-station					
400 kV Sub-station ICT (₹ lakh/ MVA)	500	500	500	500	500
Norms (₹ lakh/ MVA)	0.358	0.371	0.384	0.398	0.411
Total O&M Expenses (₹ in lakh)	194.72	242.08	250.57	259.62	268.25

Asset-5					
Particulars	2019-20 (Pro-rata for 238 days)	2020-21	2021-22	2022-23	2023-24
220 kV: Bhadla:2 Numbers 220 kV Line Bays at Bhadla Sub-station					
Number of bays	2	2	2	2	2
Norms (₹ lakh/ Bay)	22.51	23.30	24.12	24.96	25.84
PLCC					
Cost	66.68	66.68	66.68	66.68	66.68
Norms (₹ lakh)	2.0% of the original project cost related to such communication system				
Total O&M Expenses (₹ in lakh)	30.15	47.93	49.57	51.25	53.01

Asset-6					
Particulars	2019-20 (Pro-rata for 187 days)	2020-21	2021-22	2022-23	2023-24
400 kV: Bhadla: 2 Numbers 400 kV Bays at Bhadla Sub-station					
Number of bays	2	2	2	2	2
Norms (₹ lakh/ Bay)	32.15	33.28	34.45	35.66	36.91
PLCC					
Cost	90.94	90.94	90.94	90.94	90.94
Norms (₹ lakh)	2.0% of the original project cost related to such communication system				
Total O&M Expenses (₹ in lakh)	33.78	68.38	70.72	73.14	75.64

Asset-7					
Particulars	2019-20 (Pro-rata for 167 days)	2020-21	2021-22	2022-23	2023-24
400 kV: Bhadla: 400 kV Bays for ICT-1,2&3 at Bhadla Sub-station					
Number of bays	3	3	3	3	3



Asset-7					
Particulars	2019-20 (Pro-rata for 167 days)	2020-21	2021-22	2022-23	2023-24
Norms (₹ lakh/Bay)	32.15	33.28	34.45	35.66	36.91
765 kV: Bhadla:2 Numbers 765 kV Bays at Bhadla Sub-station for 765 kV Bhadla Bikaner Transmission Line along with 2 Numbers SLR Bays at Bhadla					
765 kV: Bikaner:2 Numbers 765 kV Bays at Bikaner Sub-station for 765 kV Bhadla Bikaner Transmission Line along with 2 Numbers SLR Bays at Bikaner					
765 kV: Bhadla: 765 kV Bays for ICT-1,2 & 3 at Bhadla Sub-station					
765 kV: Bhadla:765 kV Bays for 240 MVAR BR at Bhadla Sub-station					
Number of bays	12	12	12	12	12
Norms (₹ lakh/ Bay)	45.01	46.60	48.23	49.93	51.68
Bhadla: 1500 MVA 765/400 KV ICT-1,2 & 3 at Bhadla Sub-station					
765 kV Sub-station ICT (₹ lakh/ MVA)	1500	1500	1500	1500	1500
Norms (₹lakh/ MVA)	0.491	0.508	0.526	0.545	0.564
Transmission line: 765 kV D/C Bhadla (POWERGRID)- Bikaner (POWERGRID)					
D/C (Bundled conductor with four or more sub-conductor) (km)	169.438	169.438	169.438	169.438	169.438
Norms (₹ lakh/ km)	1.322	1.368	1.416	1.466	1.517
PLCC					
Cost	994.31	994.31	994.31	994.31	994.31
Norms (₹ lakh)	2.0% of the original project cost related to such communication system				
Total O&M Expenses (₹ in lakh)	1409.90	3196.72	3308.92	3426.93	3545.82

69. Regulations 35(3) and (4) of the 2019 Tariff Regulations provides as follows:

“35. Operation and Maintenance Expenses:

...

(3) Transmission system: (a) The following normative operation and maintenance expenses shall be admissible for the transmission system:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Norms for sub-station Bays (₹ Lakh per bay)					
765 kV	45.01	46.60	48.23	49.93	51.68
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84
132 kV and below	16.08	16.64	17.23	17.83	18.46
Norms for Transformers (₹ Lakh per MVA)					
765 kV	0.491	0.508	0.526	0.545	0.564
400 kV	0.358	0.371	0.384	0.398	0.411
220 kV	0.245	0.254	0.263	0.272	0.282
132 kV and below	0.245	0.254	0.263	0.272	0.282
Norms for AC and HVDC lines (₹ Lakh per km)					



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.881	0.912	0.944	0.977	1.011
Single Circuit (Bundled conductor with four sub-conductors)	0.755	0.781	0.809	0.837	0.867
Single Circuit (Twin & Triple Conductor)	0.503	0.521	0.539	0.558	0.578
Single Circuit (Single Conductor)	0.252	0.260	0.270	0.279	0.289
Double Circuit (Bundled conductor with four or more sub-conductors)	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single Conductor)	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple Conductor)	1.544	1.598	1.654	1.713	1.773
Norms for HVDC stations					
HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)	834	864	894	925	958
Gazuwaka HVDC Back-to-Back station (₹ Lakh per 500 MW)	1,666	1,725	1,785	1,848	1,913
500 kV Rihand-Dadri HVDC bipole scheme (Rs Lakh) (1500 MW)	2,252	2,331	2,413	2,498	2,586
±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)	2,468	2,555	2,645	2,738	2,834
±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)	1,696	1,756	1,817	1,881	1,947
±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)	2,563	2,653	2,746	2,842	2,942

Provided that the O&M expenses for the GIS bays shall be allowed as worked out by multiplying 0.70 of the O&M expenses of the normative O&M expenses for bays;

Provided further that:

- i. the operation and maintenance expenses for new HVDC bi-pole schemes commissioned after 1.4.2019 for a particular year shall be allowed pro-rata on the basis of normative rate of operation and maintenance expenses of similar HVDC bi-pole scheme for the corresponding year of the tariff period;*
- ii. the O&M expenses norms for HVDC bi-pole line shall be considered as Double Circuit quad AC line;*
- iii. the O&M expenses of ±500 kV Mundra-Mohindergarh HVDC bipole scheme (2000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ±500 kV Talchar-Kolar HVDC bi-pole scheme (2000 MW);*



- iv. *the O&M expenses of ± 800 kV Champa-Kurukshetra HVDC bi-pole scheme (3000 MW) shall be on the basis of the normative O&M expenses for ± 800 kV, Bishwanath-Agra HVDC bi-pole scheme;*
- v. *the O&M expenses of ± 800 kV, Alipurduar-Agra HVDC bi-pole scheme (3000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ± 800 kV, Bishwanath-Agra HVDC bi-pole scheme; and*
- vi. *the O&M expenses of Static Synchronous Compensator and Static Var Compensator shall be worked at 1.5% of original project cost as on commercial operation which shall be escalated at the rate of 3.51% to work out the O&M expenses during the tariff period. The O&M expenses of Static Synchronous Compensator and Static Var Compensator, if required, may be reviewed after three years.*

(b) The total allowable operation and maintenance expenses for the transmission system shall be calculated by multiplying the number of sub-station bays, transformer capacity of the transformer (in MVA) and km of line length with the applicable norms for the operation and maintenance expenses per bay, per MVA and per km respectively.

(c) The Security Expenses and Capital Spares for transmission system shall be allowed separately after prudence check:

Provided that the transmission licensee shall submit the assessment of the security requirement and estimated security expenses, the details of year-wise actual capital spares consumed at the time of truing up with appropriate justification.

(4) Communication system: *The operation and maintenance expenses for the communication system shall be worked out at 2.0% of the original project cost related to such communication system. The transmission licensee shall submit the actual operation and maintenance expenses for truing up.”*

70. The Petitioner has claimed O&M Expenses separately for PLCC under Regulation 35(4) of the 2019 Tariff Regulation @2% of its original project cost in the instant petition and the Petitioner has made similar claim in other petitions as well. Though PLCC is a communication system, it has been considered as part of the Sub-station in the 2019 Tariff Regulations and the norms for sub-station has been specified accordingly. Accordingly, the Commission *vide* order dated 24.1.2021 in Petition No.126/TT/2020 has already concluded that no separate O&M Expenses can be allowed for PLCC under Regulation 35(4) of the 2019 Tariff Regulations even though



PLCC is a communication system. Therefore, the Petitioner's claim for separate O&M Expenses for PLCC @2% is not allowed.

71. O&M Expenses are being allowed as per the norms specified in the 2019 Tariff Regulations in respect of the transmission assets and the same are as follows:

Asset-1					
Particulars	2019-20 (Pro-rata for 338 days)	2020-21	2021-22	2022-23	2023-24
400 kV: Bhadla:Bhadla Sub-station ICT-2 Bay					
400 kV: Bhadla:Bhadla Sub-station Bus Reactor Bay					
400 kV: Bhadla:Bhadla Sub-station (POWERGRID)- Line Bays					
400 kV: Bhadla:Bhadla Sub-station RRVPN - Line Bays					
Number of bays	6	6	6	6	6
Norms (₹ lakh/ Bay)	32.15	33.28	34.45	35.66	36.91
220 kV: Bhadla:Bhadla ICT Bay					
220 kV: Bhadla:Bhadla Sub-station 220 kV Adani Line-1 Bay					
Number of bays	2	2	2	2	2
Norms (₹ lakh/ Bay)	22.51	23.30	24.12	24.96	25.84
Bhadla: 500 MVA ICT at Bhadla Sub-station					
400 kV Sub-station ICT (₹ lakh/ MVA)	500	500	500	500	500
Norms (₹ lakh/ MVA)	0.358	0.371	0.384	0.398	0.411
Transmission line: 400 kV D/C Bhadla (POWERGRID) - Bhadla (RVPNL) circuit-1 &2 along with Associated Bays at Both Ends					
D/C (Bundled conductor with four or more sub-conductor) (km)	26.542	26.542	26.542	26.542	26.542
Norms (₹ lakh/ km)	1.322	1.368	1.416	1.466	1.517
Total O&M Expenses (₹ in lakh)	417.43	468.09	484.52	501.79	518.90

Asset-2					
Particulars	2019-20 (Pro-rata for 333 days)	2020-21	2021-22	2022-23	2023-24
220 kV: Bhadla:220 kV Saurya Urja Line-2 Bay at Bhadla (POWERGRID) Sub-station					
Number of bays	1	1	1	1	1
Norms (₹ lakh/ Bay)	22.51	23.30	24.12	24.96	25.84
Total O&M Expenses (₹ in lakh)	20.48	23.30	24.12	24.96	25.84



Asset-3					
Particulars	2019-20 (Pro-rata for 320 days)	2020-21	2021-22	2022-23	2023-24
400 kV: Bhadla:Bhadla Sub-station ICT-3 Bay					
Number of bays	1	1	1	1	1
Norms (₹ lakh/Bay)	32.15	33.28	34.45	35.66	36.91
220 kV: Bhadla:Bhadla Sub-station ICT-3 Bay					
Number of bays	1	1	1	1	1
Norms (₹ lakh/Bay)	22.51	23.30	24.12	24.96	25.84
Bhadla: 500 MVA ICT-3 at Bhadla Sub-station					
400 kV Sub-station ICT (₹ lakh/ MVA)	500	500	500	500	500
Norms (₹ lakh/ MVA)	0.358	0.371	0.384	0.398	0.411
Total O&M Expenses (₹ in lakh)	204.29	242.08	250.57	259.62	268.25

Asset-4					
Particulars	2019-20 (Pro-rata for 305 days)	2020-21	2021-22	2022-23	2023-24
400 kV: Bhadla:765/400/220 kV Bhadla Sub-station ICT-1 Bay					
Number of bays	1	1	1	1	1
Norms (₹ lakh/ Bay)	32.15	33.28	34.45	35.66	36.91
220 kV: Bhadla:765/400/220 kV Bhadla Sub-station ICT-1 Bay					
Number of bays	1	1	1	1	1
Norms (₹ lakh/ Bay)	22.51	23.30	24.12	24.96	25.84
Bhadla: 500 MVA ICT-1 at Bhadla Sub-station					
400 kV Sub-station ICT (₹ lakh/ MVA)	500	500	500	500	500
Norms (₹ lakh/ MVA)	0.358	0.371	0.384	0.398	0.411
Total O&M Expenses (₹ in lakh)	194.72	242.08	250.57	259.62	268.25

Asset-5					
Particulars	2019-20 (Pro-rata for 238 days)	2020-21	2021-22	2022-23	2023-24
220 kV: Bhadla:2 Numbers 220 kV Line Bays at Bhadla Sub-station					
Number of bays	2	2	2	2	2
Norms (₹ lakh/Bay)	22.51	23.30	24.12	24.96	25.84
Total O&M Expenses (₹ in lakh)	29.28	46.60	48.24	49.92	51.68

Asset-6					
Particulars	2019-20 (Pro-rata for 187 days)	2020-21	2021-22	2022-23	2023-24
400 kV: Bhadla: 2 Numbers . 400 kV Bays at Bhadla Sub-station					
Number of bays	2	2	2	2	2



Asset-6					
Particulars	2019-20 (Pro-rata for 187 days)	2020-21	2021-22	2022-23	2023-24
Norms (₹ lakh/ Bay)	32.15	33.28	34.45	35.66	36.91
Total O&M Expenses (₹ in lakh)	32.85	66.56	68.90	71.32	73.82

Asset-7					
Particulars	2019-20 (Pro-rata for 167 days)	2020-21	2021-22	2022-23	2023-24
400 kV: Bhadla: 400 kV Bays for ICT-1,2 & 3 at Bhadla Sub-station					
Number of bays	3	3	3	3	3
Norms (₹ lakh/Bay)	32.15	33.28	34.45	35.66	36.91
765 kV: Bhadla:2 Numbers 765 kV Bays at Bhadla Sub-station for 765 kV Bhadla Bikaner Transmission Line along with 2 Numbers SLR Bays at Bhadla					
765 kV: Bikaner:2 Numbers 765 kV Bays at Bikaner Sub-station for 765 kV Bhadla Bikaner Transmission Line along with 2 Numbers SLR Bays at Bikaner					
765 kV: Bhadla: 765 kV Bays for ICT-1,2 & 3 at Bhadla Sub-station					
765 kV: Bhadla:765 kV Bays for 240 MVAR BR at Bhadla Sub-station					
Number of bays	12	12	12	12	12
Norms (₹ lakh/ Bay)	45.01	46.60	48.23	49.93	51.68
Bhadla: 1500 MVA 765/400 kV ICT-1,2 & 3 at Bhadla Sub-station					
765 kV Sub-station ICT (₹ lakh/ MVA)	4500	4500	4500	4500	4500
Norms (₹ lakh/ MVA)	0.491	0.508	0.526	0.545	0.564
Transmission line: 765 kV D/C Bhadla (POWERGRID)- Bikaner (POWERGRID)					
D/C (Bundled conductor with four or more sub-conductor) (km)	169.438	169.438	169.438	169.438	169.438
Norms (₹ lakh/ km)	1.322	1.368	1.416	1.466	1.517
Total O&M Expenses (₹ in lakh)	1400.82	3176.83	3289.03	3407.04	3525.93

Interest on Working Capital (“IWC”)

72. Regulation 34(1)(c), Regulation 34(3), Regulation 34(4) and Regulation 3(7) of the 2019 Tariff Regulations specify as follows:

“34. Interest on Working Capital: (1) The working capital shall cover:

(c) For Hydro Generating Station (including Pumped Storage Hydro Generating Station) and Transmission System:

- (i) Receivables equivalent to 45 days of annual fixed cost;
- (ii) Maintenance spares @ 15% of operation and maintenance expenses including security expenses; and
- (iii) Operation and maintenance expenses, including security expenses for one month.”



“(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2019 or as on 1st April of the year during the tariff period 2019-24 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later:

Provided that in case of truing-up, the rate of interest on working capital shall be considered at bank rate as on 1st April of each of the financial year during the tariff period 2019-24.

(4) Interest on working capital shall be payable on normative basis notwithstanding that the generating company or the transmission licensee has not taken loan for working capital from any outside agency.”

“3. **Definitions.** - In these regulations, unless the context otherwise requires:-

‘(7) **Bank Rate**’ means the one year marginal cost of lending rate (MCLR) of the State Bank of India issued from time to time plus 350 basis points;”

73. The Petitioner has submitted that it has computed IWC for 2019-24 period considering the SBI Base Rate plus 350 basis points as on 1.4.2019. The Petitioner has considered the rate of IWC as 12.05%. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The Rate of Interest (ROI) considered is 12.05% (SBI 1-year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20, 11.25% (SBI 1-year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) for 2020-2021 and from 2021-22 onwards as 10.50% (SBI 1-year MCLR applicable as on 1.4.2021 of 7.00% plus 350 basis points). The components of the working capital and interest allowed thereon in respect of the transmission assets are as follows:

(₹ in lakh)

Asset-1					
Particulars	2019-20 (Pro-rata 338 days)	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	37.67	39.01	40.38	41.82	43.24
Working Capital for Maintenance Spares	67.80	70.21	72.68	75.27	77.84



(15% of O&M Expenses)					
Working Capital for Receivables (Equivalent to 45 days of annual transmission charges)	263.10	289.34	297.00	301.53	302.26
Total Working Capital	368.57	398.56	410.05	418.61	423.34
Rate of Interest on working capital (in %)	12.05	11.25	10.50	10.50	10.50
Interest on Working Capital	41.01	44.84	43.06	43.95	44.45

(₹ in lakh)

Asset-2					
Particulars	2019-20 (Pro-rata 333 days)	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	1.88	1.94	2.01	2.08	2.15
Working Capital for Maintenance Spares (15% of O&M Expenses)	3.38	3.50	3.62	3.74	3.88
Working Capital for Receivables (Equivalent to 45 days of annual transmission charges)	8.25	11.13	12.08	12.68	12.94
Total Working Capital	13.50	16.57	17.71	18.50	18.97
Rate of Interest on working capital (in %)	12.05	11.25	10.50	10.50	10.50
Interest on Working Capital	1.48	1.86	1.86	1.94	1.99

(₹ in lakh)

Asset-3					
Particulars	2019-20 (Pro-rata 320 days)	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	19.47	20.17	20.88	21.64	22.35
Working Capital for Maintenance Spares (15% of O&M Expenses)	35.05	36.31	37.59	38.94	40.24
Working Capital for Receivables (Equivalent to 45 days of annual transmission charges)	74.03	82.18	85.21	87.43	88.34
Total Working Capital	128.55	138.67	143.68	148.00	150.93
Rate of Interest on working capital (in %)	12.05	11.25	10.50	10.50	10.50
Interest on Working Capital	13.54	15.60	15.09	15.54	15.85



(₹ in lakh)

Asset-4					
Particulars	2019-20 (Pro-rata 305 days)	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	19.47	20.17	20.88	21.64	22.35
Working Capital for Maintenance Spares (15% of O&M Expenses)	35.05	36.31	37.59	38.94	40.24
Working Capital for Receivables (Equivalent to 45 days of annual transmission charges)	71.59	81.20	84.79	87.37	88.46
Total Working Capital	126.11	137.69	143.25	147.95	151.05
Rate of Interest on working capital (in %)	12.05	11.25	10.50	10.50	10.50
Interest on Working Capital	12.66	15.49	15.04	15.53	15.86

(₹ in lakh)

Asset-5					
Particulars	2019-20 (Pro-rata 238 days)	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	3.75	3.88	4.02	4.16	4.31
Working Capital; for Maintenance Spares (15% of O&M Expenses)	6.75	6.99	7.24	7.49	7.75
Working Capital for Receivables (Equivalent to 45 days of annual transmission charges)	16.24	23.22	25.59	27.08	27.75
Total Working Capital	26.74	34.10	36.85	38.73	39.81
Rate of Interest on working capital (in %)	12.05	11.25	10.50	10.50	10.50
Interest on Working Capital	2.10	3.84	3.87	4.07	4.18

(₹ in lakh)

Asset-6					
Particulars	2019-20 (Pro-rata 187 days)	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	5.36	5.55	5.74	5.94	6.15
Working Capital for Maintenance Spares (15% of O&M Expenses)	9.65	9.98	10.34	10.70	11.07
Working Capital for Receivables (Equivalent to 45 days of annual transmission charges)	21.11	30.05	35.91	38.74	39.50
Total Working Capital	36.12	45.58	51.99	55.39	56.73

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Rate of Interest on working capital (in %)	12.05	11.25	10.50	10.50	10.50
Interest on Working Capital	2.22	5.13	5.46	5.82	5.96

(₹ in lakh)

Asset-7					
Particulars	2019-20 (Pro-rata 167 days)	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	255.84	264.74	274.09	283.92	293.83
Working Capital for Maintenance Spares (15% of O&M Expenses)	460.51	476.52	493.36	511.06	528.89
Working Capital for Receivables (Equivalent to 45 days of annual transmission charges)	2037.34	2219.66	2266.06	2291.59	2290.51
Total Working Capital	2753.69	2960.92	3033.50	3086.56	3113.23
Rate of Interest on working capital (in %)	12.05	11.25	10.50	10.50	10.50
Interest on Working Capital	151.40	333.10	318.52	324.09	326.89

Annual Fixed Charges of 2019-24 Tariff Period

74. The transmission charges allowed 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
Depreciation	601.86	734.24	762.62	780.91	791.01
Interest on Loan	273.81	312.77	300.17	280.02	253.75
Return on Equity	642.03	786.95	818.62	839.05	850.29
O&M Expenses	417.43	468.09	484.52	501.79	518.90
Interest on Working Capital	41.01	44.84	43.06	43.95	44.45
Total	1976.15	2346.89	2408.99	2445.72	2458.40

(₹ in lakh)

Asset-2					
Particulars	2019-20 (Pro-rata 333 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	15.12	25.48	28.55	30.53	31.63
Interest on Loan	7.79	12.44	12.99	12.81	12.05
Return on Equity	16.15	27.19	30.47	32.58	33.75
O&M Expenses	20.48	23.30	24.12	24.96	25.84



Interest on Working Capital	1.48	1.86	1.86	1.94	1.99
Total	61.03	90.27	98.00	102.82	105.27

(₹ in lakh)

Asset-3					
Particulars	2019-20 (Pro-rata 320 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	119.68	159.89	168.52	174.27	177.15
Interest on Loan	60.55	76.37	74.65	70.88	65.19
Return on Equity	128.36	172.65	182.34	188.80	192.03
O&M Expenses	204.29	242.08	250.57	259.62	268.25
Interest on Working Capital	13.54	15.60	15.09	15.54	15.85
Total	526.43	666.59	691.17	709.12	718.47

(₹ in lakh)

Asset-4					
Particulars	2019-20 (Pro-rata 305 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	107.91	157.08	167.42	174.32	177.76
Interest on Loan	53.94	74.26	73.49	70.34	64.94
Return on Equity	115.98	169.73	181.19	188.83	192.66
O&M Expenses	194.72	242.08	250.57	259.62	268.25
Interest on Working Capital	12.66	15.49	15.04	15.53	15.86
Total	485.21	658.64	687.72	708.64	719.47

(₹ in lakh)

Asset-5					
Particulars	2019-20 (Pro-rata 238 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	24.30	61.77	70.47	76.12	79.17
Interest on Loan	8.51	20.63	21.64	21.16	19.49
Return on Equity	21.70	55.54	63.36	68.42	71.19
O&M Expenses	29.28	46.60	48.24	49.92	51.68
Interest on Working Capital	2.10	3.84	3.87	4.07	4.18
Total	85.89	188.38	207.58	219.68	225.70

(₹ in lakh)

Asset-6					
Particulars	2019-20 (Pro-rata 187 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	21.24	69.55	88.39	97.73	100.96
Interest on Loan	9.00	28.43	34.08	34.86	32.54
Return on Equity	22.42	74.10	94.45	104.53	108.03
O&M Expenses	32.85	66.56	68.90	71.32	73.82



Asset-6					
Particulars	2019-20 (Pro-rata 187 days)	2020-21	2021-22	2022-23	2023-24
Interest on Working Capital	2.22	5.13	5.46	5.82	5.96
Total	87.74	243.76	291.28	314.26	321.31

(₹ in lakh)

Asset-7					
Particulars	2019-20 (Pro-rata 167 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	2320.56	5647.69	5853.46	5989.73	6057.86
Interest on Loan	1204.97	2789.43	2636.98	2434.96	2212.68
Return on Equity	2483.03	6056.87	6282.24	6431.51	6506.14
O&M Expenses	1400.82	3176.83	3289.03	3407.04	3525.93
Interest on Working Capital	151.40	333.10	318.52	324.09	326.89
Total	7560.79	18003.93	18380.23	18587.32	18629.50

Filing Fee and Publication Expenses

75. The Petitioner has sought reimbursement of fees paid by it for filing the petition and publication expenses. The Petitioner is entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with Regulation 70(1) of the 2019 Tariff Regulations.

Licence Fee & RLDC Fees and Charges

76. The Petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 70(4) of the 2019 Tariff Regulations for 2019-24 tariff period. The Petitioner shall also be entitled for recovery of RLDC fees and charges in accordance with Regulations 70(3) of the 2019 Tariff Regulations for 2019-24 tariff period.

Goods and Services Tax

77. The Petitioner has submitted that if GST is levied at any rate and at any point of time in future on charges of transmission of electricity, the same shall be borne and additionally paid by the Respondent(s) to the Petitioner and the same shall be charged



and billed separately by the Petitioner. Further, additional taxes, if any, are to be paid by the Petitioner on account of demand from Government/ Statutory authorities, the same may be allowed to be recovered from the beneficiaries.

78. We have considered the submissions of the Petitioner. Since, GST is not levied on transmission service at present, we are of the view that Petitioner's prayer is premature.

Security Expenses

79. The Petitioner has submitted that security expenses for the transmission assets are not claimed in the instant petition and it would file a separate petition for claiming the overall security expenses and the consequential IWC.

80. We have considered the above submissions of Petitioner. The Petitioner has claimed consolidated security expenses for all the transmission assets owned by it on projected basis for 2019-24 tariff period on the basis of actual security expenses incurred in 2018-19 in Petition No. 260/MP/2020. The said petition has already been disposed of by the Commission vide order dated 3.8.2021 wherein the Commission approved security expenses from 1.4.2019 to 31.3.2024. Accordingly, security expenses will be shared in terms of order dated 3.8.2021 in Petition No. 260/MP/2020. Therefore, the Petitioner's prayer in the instant petition for allowing it to file a separate petition for claiming the overall security expenses and consequential IWC has become infructuous.



Capital Spares

81. The Petitioner has sought reimbursement of capital spares at the end of tariff period. The Petitioner's claim, if any, shall be dealt with in accordance with the provisions of the 2019 Tariff Regulations.

Sharing of Transmission Charges

82. The Petitioner has prayed that transmission charges for 2019-24 period may be allowed to be recovered on monthly basis in accordance with Regulation 57 of the 2019 Tariff Regulations and shall be shared by the beneficiaries and long-term customers as per the 2010 Sharing Regulations as amended from time to time.

83. FBTCL has submitted that there should not be any underlying consequence upon FBTCL if the COD of Asset-6 is approved in accordance with Regulation 5(2) of the 2019 Tariff Regulations. A Transmission Service Agreement (TSA) dated 10.1.2018 was executed between FBTCL and Adani Renewable Energy Park Rajasthan Limited (AREPRL), wherein FBTCL being Transmission Service Provider (TSP) was required to provide transmission services to AREPRL as the Long-Term Transmission Customer and as per Schedule 3 appended to the TSA, the completion target date as specified for all the elements of the transmission system was 30.9.2019. However, on account of various reasons in the nature of *force majeure*, FBTCL achieved COD of the transmission system on 31.7.2021. As per Regulation 13(12) of the 2020 Sharing Regulations, in case of delay in execution of the transmission asset, the Yearly Transmission Charges (YTC) for the transmission system shall be paid by the inter-state transmission licensee till its transmission system achieves COD.



84. FBTCL has submitted that it cannot be made liable for payment of transmission charges in terms of the Regulation 13(12) of the 2020 Sharing Regulations, on account of the following:

i The reason for delay in achieving SCOD was on account of reasons which were beyond the control of FBTCL and as such there were *force majeure* events in terms of Article 11 of the TSA. The brief details of these events are as follows:

- a. Delay on account of re-routing of Fatehgarh-Bhadla line due to GIB Arc;
- b. Delay in grant of NOC by the Defence Department and the restrictions imposed under the said NOC;
- c. Delay on account of operation of first status-quo order passed by Hon'ble Rajasthan High Court in Writ Petitions filed by farmers in respect of land allocated to AREPRL to provide it to FBTL for 400 kV Pooling Station;
- d. Delay in providing adequate land for 400 kV and 220 kV Pooling Station adjacent to the Solar Park of AREPRL on account of status quo order dated 8.9.2020 passed by Hon'ble Rajasthan High Court;
- e. Delay in execution of the transmission system on account of the on-going COVID-19 pandemic; and
- f. Delay on account of intense sandstorm, which is a natural *force majeure* event.

ii The treatment to be meted out when transmission project by an ISTS licensee is delayed on account of force majeure events:

The 2020 Sharing Regulations are silent on the treatment to be meted out in the event of delay in achieving COD by an 'inter-State' transmission licensee is on account of *force majeure* while the associated transmission system by the other inter-state transmission licensee has already been executed. As per Article 11.7 of the TSA,



FBTCL cannot be fastened with any liability under the TSA in the event SCOD/COD is delayed on account of *force majeure* events. Further, the transmission project was awarded pursuant to a bidding process conducted under Section 63 of the Electricity Act, 2003. Once the said bid is conducted, and the transmission project is awarded and a TSA is executed, the same cannot result in imposition of any liability upon the transmission licensee, which is not contemplated in the TSA, nor provided in the RFP/RFQ and there is no provision or requirement under the TSA as well as RFP/RFQ for the prospective bidders to factor in any future costs associated with delay in achieving SCOD/ COD, except imposition of liquidated damages as contemplated under Article 6.4 of the TSA. The same was mandated by the Ministry of Power guidelines that there should not be a levy of transmission charges upon a TBCB licensee based on delay in achieving SCOD/ COD other than liquidated damages to be imposed by the LTTCs. This mandate of the MOP (that transmission charges cannot be imposed upon a TBCB licensee) is applicable irrespective of the fact that delay is occasioned on account of *force majeure*.

- iii The notification of the 2020 Sharing Regulations is a “change in law” event in terms of Article 12 of the TSA:

FBTCL is not liable to bear any transmission charges, in terms of Regulation 13(12) of the 2020 Sharing Regulations which specifically provides for payment of transmission charges by an inter-State transmission licensee, if COD of the transmission system of the



associated transmission licensee is approved, as it is a “change in law” event in terms of Article 12 of the TSA. Further, at the time of bidding for the transmission system, the 2010 Sharing Regulations were in force which did not provide for a provision for payment of transmission charges by an ‘inter-state’ transmission licensee to another ‘inter-state’ transmission licensee in case of a mismatch of COD and no transmission charges were required to be imposed by an ‘inter-State’ transmission licensee upon another ‘inter-State’ transmission licensee. However, the 2020 Sharing Regulations specifically provides for transmission charges required to be paid by an ‘inter-State’ transmission licensee, if the COD of the transmission system of the associated ‘inter-State’ transmission licensee is approved. Therefore, the notification of the 2020 Sharing Regulations is a “change in law” event.

85. In response, the Petitioner has submitted that FBTCL has raised the issue of *force majeure* events encountered during execution of its line and is claiming that due to this it is entitled for extension of SCOD. The Petitioner has submitted that instant petition is for approval of the transmission tariff and FBTCL is trying to delay the approval of tariff in disguise of the instant petition. For extension of time of SCOD of the transmission assets being implemented by FBTCL, it may approach the Commission through a separate petition. In the case of Asset-6, it has already been explained that it was ready for execution but could not be declared under commercial operation due to associated transmission line not being ready and the Petitioner is entitled to receive transmission charges from the COD of Asset-6 i.e. 27.9.2019. In regard to sharing of transmission charges of Asset-6, the Commission in its statutory



powers may approve the sharing methodology of approved tariff as per the Sharing Regulations/relevant orders or agreements.

86. The Petitioner has submitted that deemed COD of FBTL in the scope of FBTCL was declared on 31.7.2021. However, 1st unit of generation at Ultra Mega Solar Power Park at Fatehgarh [being developed by Adani Renewable Energy park Rajasthan Limited (AREPRL)] was commissioned on 30.12.2021. As per the scope of “Transmission System for Solar Energy Zones in Rajasthan” LILO of both circuits of Fatehgarh (TBCB)-Bhadla (PG) 765 kV D/C line (operated at 400 kV) at Fatehgarh-II PS was to be done so as to establish Fatehgarh (TBCB) – Fatehgarh-II 765 kV D/C line (to be operated at 400 kV) and Fatehgarh-II -Bhadla (PG) 765 kV D/C line. With the charging of Fatehgarh-II Bhadla (PG) section at 765 kV level, 2 numbers of 400 kV bays were planned to be spared at Bhadla (PG) Bhadla Sub-station, which could be utilized for 400 kV Bhadla-II-Bhadla (PG) D/C line. However, as per the contingency scheme agreed in the meeting held on 20.7.2021, one 400 kV bay at Bhadla Sub-station was connected to Fatehgarh-II through Loop-in Portion of Circuit-I of 400 kV Fatehgarh-Bhadla (PG) Transmission Line and COD of “Loop in Portion of Circuit-I of 400 kV Fatehgarh-Bhadla (PG) Transmission Line along with associated bays at Fatehgarh-II Bhadla Sub-station” declared on 10.8.2021. Further, another 400 kV bay at Bhadla Sub-station was connected to Bhadla-II Sub-station and COD declared for “Circuit-2 of 400 D/C Bhadla-II-Bhadla PG line along with associated bays at Bhadla-II Bhadla Sub-station” on 5.9.2021. Accordingly, utilization of 2 numbers of 400 kV bays have started since 10.8.2021 and 5.9.2021.

87. The Petitioner has further submitted that they have no comments on FBTCL prayer requesting the Commission to invoke its regulatory powers, in order to ensure



that no transmission charges are imposed upon FBTCL qua delay in achieving SCOD/ COD on account of occurrence of *force majeure* events. FBTL is seeking relief as per the TSA provisions entered between FBTL and its LTTCs which does not pertain to the instant petition.

88. The Petitioner has submitted the status of generation and LTA details and the same are as follows:

Sl. No.	Applicants	Connectivity granted (MW)	LTA quantum (MW)	Status of LTA Operationalization	Status of Generation MW/ Date of commissioning
1	Adani Renewable Energy Park Rajasthan Ltd (AREPRL)	250	250	LTA operationalized w.e.f. 27.10.2019	50 MW: 27.4.2019 50 MW: 27.4.2019 50 MW: 27.4.2019 50 MW: 27.7.2019 50 MW: 27.4.2019 Total 250 MW Commissioned
2	Saurya Urja Company of Rajasthan Ltd. (SUCRL)	500	500	LTA operationalized w.e.f. 27.10.2019	100 MW: 3.5.2019 100 MW: 9.7.2019 100 MW: 10.12.2019 100 MW: 15.2.2020 100 MW: 28.2.2020 Total 500 MW Commissioned
3	Essel Saurya Urja Company of Rajasthan Ltd. (ESUCRL)	750	750	LTA operationalized w.e.f. 1.6.2021.	300 MW is going to be commissioned shortly

89. We have considered the submissions of the Petitioner and FBTL. The relevant extracts of the regulatory approval order (order dated 31.3.2016 in Petition No. 1/MP/2016 with IA. No. 2/2016) is as follows:

“26. With regard to recovery of transmission charges on account of delay in commissioning of solar generation, in the Statement of Reasons for the Central Electricity Regulatory Commission (Grant of Connectivity, Long-term Access and Medium-term Open Access in inter-state Transmission and related matters) (Fifth Amendment) Regulations, 2015, and Central Electricity Regulatory Commission (Grant of Regulatory Approval for execution of Inter-State Transmission Scheme to Central



Transmission Utility) (First Amendment) Regulations, 2015, the following has been clarified:

8.2.1 With regard to the suggestions of PGCIL, it is clarified that SPPD who shall apply for Connectivity/Long term Access shall be liable to deposit Application Bank Guarantee/Construction Bank Guarantee as required under Connectivity Regulation. Further, SPPD shall also be liable for payment of transmission charges for delay in commissioning of generator and relinquishment charges towards transmission access under Connectivity Regulations and Sharing Regulations. Regulation 7(1)(u) of the Sharing Regulations provides that "No transmission charges for the use of ISTS network shall be charged to solar based generation" is applicable only when the power is evacuated through the transmission system to the beneficiaries after the commercial operation of the generating station. Therefore, transmission charges for delay in commissioning of solar power generators shall be payable by such solar generators/SPPD on the same line as the liability for payment by the thermal and hydro generating station in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

8.2.2 With regard to delay of internal system, it is clarified that SPPD shall be executing internal system on behalf of solar power generators. The treatment of delay or other modalities should be covered in Agreement between solar power generators and SPPD. In regard to NTPC's comments on development of transmission matching with generation, it is clarified that CTU shall carry out coordination with the SPPD/solar power generators in accordance with Section 38 of the Act

Therefore, the transmission charges for delay in commissioning of solar power generators shall be paid by such solar generators/SPPD in accordance with the relevant regulation of the Commission."

90. The relevant extracts of the 37th SCM of NR held on 20.1.2016 is as follows:

"25.0 Transmission system for Ultra Mega Solar Parks in Bhadla, Distt. Rajasthan

25.1 Director (PSP&PA-I), CEA stated that in the 36th Meeting of Standing Committee on Power System Planning in Northern Region held on 13/7/2015, inter-state transmission scheme for evacuation of 3000 MW of solar power in Jodhpur (Bhadla :1000 MW) and Jaisalmer (Parewar and Fatehgarh : 2000 MW) was in-principally agreed. In the meeting, it was also agreed that implementation of above system shall be taken up by POWERGRID only after receipt of LTA for at least 25% of their installed capacity from respective Solar park developers.

25.2 ED (SG), PGCIL stated that subsequently following three Solar Power park Developers (SPPDs) have applied for Connectivity/LTA at Bhadla (Jodhpur) in Rajasthan

(a) M/s Surya Urja Company of Rajasthan Ltd: 500 MW out of Bhadla Phase-III Solar park with commissioning schedule of January, 2017; Target region-NR

(b) M/s Adani Renewable Energy Park Rajasthan Ltd: 250MW out of Bhadla Ph-IV Solar park with commissioning schedule of March, 2017; Target region-NR



(c) M/s Essel Saurya Urja Company of Rajasthan Ltd: From Phalodi-Pokaran Solar Park (750 MW) with commissioning schedule of July, 2017; Target region as NR-400 MW and WR-350 MW.

25.3 PGCIL stated that based on the joint visit for site selection for 765/400/220 kV Bhadla Pooling station by RRECL, RVPN, POWERGRID, Solar Power park developers etc., Govt. land (about 130 acres) in Tehsil Bap, Jodhpur district was identified. The above site for Bhadla Pooling Station is at about 20 km from M/s Saurya Urja and Adani Solar Power Park whereas M/s Essel's Park is about 60 km.

25.4 It was informed that M/s Adani (250 MW) and M/s Saurya Urja Co. (500 MW) proposed connectivity at 220 kV voltage level, whereas M/s Essel (750 MW) proposed at 400kV, 220kV and 400 kV D/C interconnecting transmission line from Solar Park Pooling station upto 220/400/765 kV Bhadla Pooling station shall be developed by the respective applicants/SPPD as part of its internal transmission infrastructure. The scope of 4 nos. 220 kV line bays and 2 nos. 400 kV line bays at 220/400/765 kV Bhadla Pooling station for termination of SPPD's interconnecting transmission lines (2 nos. 220 kV each for M/s Saurya Urja and Adani Renewable and 2 nos. 400kV for M/s Essel) would be developed by SPPDs. Further 1 x 125 MVar bus reactor would be constructed by Essel at their end.

25.5 M/s Essel (750 MW) had some reservations regarding the laying of 60 km long D/C line from Solar Park Pooling station upto 220/400/765 kV Bhadla Pooling Station as it would impact on the project cost and the project may become unviable.

25.6 Further, to address reactive power management aspects including during low / no solar generation periods, 1x240 MVar bus reactor at 765 kV Bhadla S/s is proposed. For 765 kV Bhadla-Bikaner D/C line also, 1x240 MVar Switchable line reactor at each end of each circuit is proposed.

25.7 Considering above three (3) LTA applications for 1500 MW Solar Power transfer requirement through Bhadla pooling station, following transmission scheme was agreed to be taken up for implementation as ISTS by POWERGRID:

- (i) Bhadla (PG) – Bikaner (PG) 765 kV D/C line
- (ii) Bhadla (PG) - Bhadla (RVPN) 400 kV D/C (Quad) line
- (iii) Establishment of Pooling Station at Bhadla (PG) (765/400 kV: 3 x 1500 MVA 400/220 kV : 3 x 500 MVA,)
- (iv) 2 nos. 400 kV & 4 nos. 220 kV line bays at Bhadla (PG) for interconnection of solar park
- Interconnection
- (v) 1 x 240 MVar switchable line reactor at each end (each ckt) of 765 kV Bhadla(PG)-Bikaner (PG) D/C line
- (vi) 1x240 MVar (765 kV) Bus reactor at Bhadla Pooling Station"

91. The relevant extracts of the 33rd TCC and 37th NRPC meeting held on 21st and 22nd March, 2016 is as follows:



“D.1.10 Transmission system for Ultra Mega Solar Parks in Bhadla, Distt.

Rajasthan

Representative from CTU, POWERGRID informed that following three Solar Power park Developers (SPPDs) applied for Connectivity & LTA at Bhadla (Jodhpur) in Rajasthan:

- M/s Surya Urja Company of Rajasthan Ltd. - 500 MW out of Bhadla Phase-III Solar park with commissioning schedule of Jan'17, Target region-NR
- M/s Adani Renewable Energy Park Rajasthan Ltd – 250 MW out of Bhadla Ph-IV Solar park with commissioning schedule of Mar'17. Target region- NR
- M/s Essel Saurya Urja Company of Rajasthan Ltd. from Phalodi-Pokaran Solar Park (750 MW) with commissioning schedule of Jul'17. Target region as NR-400 MW and WR- 350 MW.

Further, during the 37th NR Standing Committee Meeting held on 20.1.2016, following Inter-state transmission scheme for transfer of 1500MW of solar power through Bhadla Pooling station was agreed to be implemented by POWERGRID:

- 76 5kV Bhadla (PG) – Bikaner (PG) D/c
- 400 kV Bhadla (PG)- Bhadla (RVPN) D/c (Quad)
- Establishment of Bhadla (PG) Pooling Station (765/400kV: 3x1500MVA & 400/220kV: 3x500MVA)
- 2 nos. of 400kV & 4 nos. of 220kV line bays at Bhadla (PG) for interconnection of solar park interconnection
- 1x240 MVAR switchable line reactor at each end of 765kV Bhadla(PG)- Bikaner (PG) D/c line
- 1x240 MVAR (765kV) Bus reactor at Bhadla Pooling Station”

92. As per the regulatory approval order dated 31.3.2016 in Petition No. 1/MP/2016, 37th SCM of NR held on 20.1.2016, 33rd TCC and 37th NRPC meeting held on 21/22.3.2016, the transmission system for Solar Power Park at Bhadla is planned as inter-State transmission scheme for evacuation of 3000 MW of Solar Power in Jodhpur (Bhadla: 1000 MW) and Jaisalmer (Parewar and Fatehgarh: 2000 MW). It was also agreed that implementation of above-mentioned transmission system shall be taken up by the Petitioner only after receipt of LTA for at least 25% of their installed capacity from respective Solar Park Developers. After grant of LTAs to AREPRL, SUCRL and ESUCRL for 250 MW, 500 MW and 750 MW respectively, totalling to more than 25% of the installed capacity, the Petitioner undertook to implement the transmission system associated with Bhadla Solar Park.



93. It is observed that the Petitioner has implemented transmission system which is capable of transferring about 3000 MW power from Bhadla Solar Park. The transmission system has been developed considering the potential of various RE generators associated with Ultra mega Solar park at Bhadla. In order to facilitate Pooling of power from various solar power generators in the park as well as evacuate and transfer of power from Ultra mega Solar park at Bhadla, the Petitioner has proposed to establish 765/400/220 kV Pooling station at Bhadla along with 765 kV interconnection to Bikaner Substation and Bhadla Poling station is interconnected with Bhadla (RVPN) substation through a 400 kV D/C line. The petitioner also developed necessary 220 kV & 400 kV interconnection line from Solar Power parks upto 220/400/765 kV Bhadla Pooling station. The instant transmission system has been evolved in a comprehensive manner which consists of associated transmission system (ATS) for immediate inter connection and transfer of power and second is common transmission system which can be utilised by the existing and upcoming RE generators, as indicated below:

Saurya Urja Company of Rajasthan Ltd.(500 MW)	Bhadla	ATS: 3x500 MVA, 400/220 kV ICT at Bhadla
		2 numbers of 220 kV bays
		Common transmission system
		Pooling Station at Bhadla (PG) (765/400 kV: 3x1500MVA)
		Bhadla (PG) - Bhadla (RVPN) 400 kV D/C line (Quad)
		Bhadla (PG) - Bikaner 765 kV D/C line along with 240 MVAr Switchable line reactors at each end (each circuit)
		1x240MVAr (765 kV) & 1x125 MVAr (420 kV) Bus Reactors at Bhadla (PG)
Essel Saurya Company of Rajasthan Ltd. (750 MW)	Bhadla	ATS: 3x500MVA+1x500 MVA, 400/220kV ICT at Bhadla
		Common transmission system



		Pooling Station at Bhadla (PG) (765/400 kV: 3x1500MVA)
		Bhadla (PG) - Bhadla (RVPN) 400 kV D/C line (Quad)
		Bhadla (PG) - Bikaner 765 kV D/C line along with 240MVAr Switchable line reactors at each end (each circuit)
		1x240MVAr (765 kV) & 1x125MVAr (420 kV) Bus Reactors at Bhadla (PG)
Adani Renewable Energy Park Rajasthan Ltd. (250 MW)	Bhadla	ATS
		3x500 MVA, 400/220 kV ICT at Bhadla
		2 numbers of 220 kV bays
		Common transmission system
		Pooling Station at Bhadla (PG) (765/400 kV: 3x1500MVA)
		Bhadla (PG) - Bhadla (RVPN) 400 kV D/C line (Quad)
		Bhadla (PG) - Bikaner 765 kV D/C line along with 240MVAr Switchable line reactors at each end (each circuit)
		1x240MVAr (765 kV) & 1x125MVAr (420 kV) Bus Reactors at Bhadla (PG)

94. The Regulation 8(5) and Regulation 8(6) of the 2010 Sharing Regulations provide as follows:

“8. Determination of specific transmission charges applicable for a Designated ISTS Customer:

.....

(5) Where the Approved Withdrawal or Approved Injection in case of a DIC is not materializing either partly or fully for any reason whatsoever, the concerned DIC shall be obliged to pay the transmission charges allocated under these regulations:

Provided that in case the commissioning of a generating station or unit thereof is delayed, the generator shall be liable to pay Withdrawal Charges corresponding to its Long term Access from the date the Long Term Access granted by CTU becomes effective. The Withdrawal Charges shall be at the average withdrawal rate of the target region:

Provided further that where the operationalization of LTA is contingent upon commissioning of several transmission lines or elements and only some of the transmission lines or elements have been declared commercial, the generator shall pay the transmission charges for LTA operationalised corresponding to the transmission system commissioned:

Provided also that where the construction of dedicated transmission line has been taken up by the CTU or the transmission licensee, the transmission charges for



such dedicated transmission line shall be payable by the generator as provided in the Regulation 8 (8) of the Connectivity Regulations:

Provided also that a generating station drawing start-up power or injecting infirm power before commencement of LTA shall be liable to pay the withdrawal or injection charges corresponding to the actual injection of infirm power or withdrawal start-up power during a month (concerned month) and the amount received on account of such payments shall be reimbursed to the DICs in the month following the month of billing, in proportion to the billing of the DICs during the concerned month.

Provided also that CTU shall maintain a separate account for the above amount received in a quarter and deduct the same from the transmission charges of ISTS considered in PoC calculation for the next application period.

(6) For Long Term Transmission Customers availing power supply from inter-State generating stations, the charges attributable to such generation for long term supply shall be calculated directly at drawal nodes as per methodology given in the Annexure-I. Such mechanism shall be effective only after commercial operation of the generator. Till then it shall be the responsibility of the generator to pay transmission charges.”

95. Out of the total LTA of 1500 MW granted, the solar generation of 1050 MW achieved COD on different dates while 450 MW has not achieved COD as on date. The issue for our consideration is how would the transmission charges of 1500 MW pertaining to the LTA granted will be shared by the three Solar Power Park Developers (AREPRL, SUCRL and ESUCRL).

96. The asset wise liabilities of payment of transmission charges as per Regulation 8(5) and Regulation 8(6) of the 2010 Sharing Regulations have been dealt with in the following paragraphs.

Asset-1

97. Asset-1 consists of the following elements:

(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;

98. Out of the above-mentioned elements, Bhadla (PG)-Bhadla (RVPN) 400 kV D/C line along with bays and 125 MVAR Bus Reactor along with bays are part of common transmission system which is interconnected with Bhadla (RVPN) Substation through this 400 kV D/C line and can be used for transfer of power from various solar generators. Therefore, the transmission charges proportionate to these items shall be included in PoC Pool. The 500 MVA ICT-2 is part of associated transmission system (ATS). Therefore, the transmission of 500 MVA ICT-2 for the period of mismatch shall be borne by the three generators namely AREPL, SUCRL and ESUCRL. The 220 kV Adani Bhadla (Pooling station) line-1 bay at Bhadla (POWERGRID) Sub-station is part of ATS for AREPL. Therefore, the transmission charges for the period of mismatch shall be payable by AREPL.

99. In view of the above, the liability of payment of transmission charges of Asset-I is as follows:

COD of the transmission assets	Solar generation capacity (MW) commissioned	Date of commissioning of solar generation capacity	Liability of transmission charges
Asset-1: COD: 29.4.2019			
(a) 400 kV D/C Bhadla (POWERGRID)-Bhadla (RVPNL) Circuits 1 and 2 along with associated bays	-	-	The instant transmission element is treated as system strengthening scheme. Therefore, the transmission charges proportionate to this element shall be included in PoC Pool from the COD of Asset -1.



(b) 1 number of 400 kV, 125 MVAR Bus Reactor along with associated bays at Bhadla (POWERGRID) Sub-station	-	-	The instant transmission element is treated as system strengthening scheme. Therefore, the transmission charges proportionate to this element shall be included in PoC Pool from the COD of Asset -1.
	AREPRL (250 MW)		
(c) 400 kV, 500 MVA ICT-2 along with associated bays at Bhadla (POWERGRID) Sub-station	200 MW (AREPRL)	27.4.2019	Transmission charges proportionate to 200 MW out of 1500 MW shall be included in the common pool from 29.4.2019.
	50 MW (AREPRL)	27.7.2019	From 29.4.2019 to 26.7.2019: Transmission charges proportionate to 50 MW out of 1500 MW shall be borne by AREPRL and from 27.7.2019, shall be included in the common pool
	SUCRL (500 MW)		
	Nil	-----	From 29.4.2019 to 2.5.2019: transmission charges proportionate to 500 MW out of 1500 MW of Asset-1 shall be borne by SUCRL.
	100 MW	3.5.2019	From 3.5.2019 to 8.7.2019: Transmission charges proportionate to 100 MW out of 1500 MW of Asset-1 shall be included in the common pool and balance 400 MW shall be borne by SUCRL.
	100 MW	9.7.2019	From 9.7.2019 to 9.12.2019: transmission charges proportionate to 200 MW out of 1500 MW in case of Asset-I shall be included in the common pool while for 300 MW, it shall be borne by SUCRL.
	100 MW	10.12.2019	From 10.12.2019 to 14.2.2019: transmission charges proportionate to 300 MW out of 1500 MW in case of Asset-1 shall be included in the common pool while for



			200 MW, it shall be borne by SUCRL.
	100 MW	15.2.2020	From 15.2.2020 to 27.2.2020: transmission charges proportionate to 400 MW out of 1500 MW in case of Asset-1, shall be included in the common pool while for 100 MW, it shall be borne by SUCRL.
	100 MW	28.2.2020	From 28.2.2020, the transmission charges proportionate to 500 MW out of 1500 MW shall be included in Common pool.
	ESUCRL (750 MW)		
	Nil	-----	From 29.4.2019 to 17.6.2021: transmission charges proportionate to 750 MW out of 1500 MW of Asset-1 shall be borne by ESUCRL.
	300 MW	18.6.2021	From 18.6.2021:
	450 MW	Yet to commissioned	Transmission charges proportionate to 300 MW out of 1500 MW of Asset-1 shall be included in common pool and balance 450 MW shall be borne by ESUCRL till COD of 450 MW. After COD of 450 MW, It shall be included in the Common Pool.
(d) 220 kV, Adani Bhadla (Pooling station) line-1 bay at Bhadla (POWERGRID) Sub-station;	200 MW (AREPRL)	27.4.2019	Transmission charges proportionate to 200 MW shall be included in the common pool from 29.4.2019.
	50 MW (AREPRL)	27.7.2019	From 29.4.2019 to 26.7.2019: Transmission charges proportionate to 200 MW shall be included in the common pool while for 50 MW shall be borne by AREPRL till 26.7.2019 and from 27.7.2019, transmission charges proportionate to 250 MW of Asset-I shall be



			included in the common pool
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Asset-2

100. Asset-2 has achieved COD on 4.5.2019. Asset-2, i.e 220 kV Saurya Urja line-1 bay is part of ATS for SUCRL. Therefore, the transmission charges shall be payable by SUCRL. The liability of transmission charges payable by SUCRL is as follows:

COD of the transmission assets	Solar generation capacity (MW) commissioned	Date of commissioning of solar generation capacity	Liability of transmission charges
Asset-2: 4.5.2019	SUCRL (500 MW)		
	100 MW	3.5.2019	From 4.5.2019 to 8.7.2019: Transmission charges proportionate to 100 MW out of 500 MW of Asset-2 shall be included in the common pool and balance 400 MW shall be borne by SUCRL.
	100 MW	9.7.2019	From 9.7.2019 to 9.12.2019: transmission charges proportionate to 200 MW out of 500 MW in case of Asset-2 shall be included in the common pool while for 300 MW, it shall be borne by SUCRL.
	100 MW	10.12.2019	From 10.12.2019 to 14.2.2019: transmission charges proportionate to 300 MW out of 500 MW in case of Asset-2 shall be included in the common pool while for 200 MW, it shall be borne by SUCRL.
	100 MW	15.2.2020	From 15.2.2020 to 27.2.2020: transmission charges proportionate to 400 MW out of 500 MW in case of Asset-2, shall be included in the common pool while for 100 MW, it shall



			be borne by SUCRL.
	100 MW	28.2.2020	From 28.2.2020, the transmission charges proportionate to 500 MW of Asset-2 shall be included in Common pool.

Asset-3

101. Asset-3, i.e. 500 MVA ICT-3 along with associated bays at Bhadla Sub-station is common associated transmission system (ATS) associated with three generators namely AREPRL, SUCRL and ESUCRL). Therefore, the transmission charges of Asset-3 shall be borne proportionately by all the three generators and the liability of payment of transmission charges is as follows:

COD of the transmission assets	Solar generation capacity (MW) commissioned	Date of commissioning of solar generation capacity	Liability of transmission charges
Asset-3: 17.5.2019	AREPRL (250 MW)		
	200 MW (AREPRL)	27.4.2019	From 17.5.2019 to 26.7.2019: Transmission charges proportionate to 200 MW out of 1500 MW of Asset-3 shall be included in the common pool while for 50 MW shall be borne by AREPRL
	50 MW (AREPRL)	27.7.2019	From 27.7.2019, transmission charges proportionate to 250 MW of Asset-3 shall be included in the common pool
	SUCRL (500 MW)		
	100 MW	3.5.2019	From 17.5.2019 to 8.7.2019: Transmission charges proportionate to 100 MW out of 1500 MW of Asset-3 shall be included in the common pool and balance 400 MW shall be borne by SUCRL.



	100 MW	9.7.2019	From 9.7.2019 to 9.12.2019: transmission charges proportionate to 200 MW out of 1500 MW in case of Asset-3 shall be included in the common pool while for 300 MW, it shall be borne by SUCRL.
	100 MW	10.12.2019	From 10.12.2019 to 14.2.2019: transmission charges proportionate to 300 MW out of 1500 MW in case of Asset-3 shall be included in the common pool while for 200 MW, it shall be borne by SUCRL.
	100 MW	15.2.2020	From 15.2.2020 to 27.2.2020: transmission charges proportionate to 400 MW out of 1500 MW in case of Asset-3, shall be included in the common pool while for 100 MW, it shall be borne by SUCRL.
	100 MW	28.2.2020	From 28.2.2020, the transmission charges proportionate to 500 MW out of 1500 MW of Asset-3 shall be included in Common pool.
	ESUCRL (750 MW)		
	Nil	-----	From 4.5.2019 to 17.6.2021: transmission charges proportionate to 750 MW out of 1500 MW of Asset-2 shall be borne by ESUCRL.
	300 MW	18.6.2021	From 18.6.2021: Transmission charges proportionate to 350 MW out of 1500 MW of Asset-3 shall be included in common pool and balance 450 MW shall be borne by ESUCRL till COD of 450 MW. After COD of 450 MW, It shall be included in the Common Pool.
	450 MW	Yet to be commissioned	

Asset-4

102. Asset-4, i.e. 500 MVA ICT-1 along with associated bays at Bhadla Sub-station is part of common associated transmission system (ATS) associated with three generators namely AREPRL, SUCRL and ESUCRL. Therefore, the transmission



charges of Asset-4 shall be borne proportionately by all the three generators and the liability of payment of transmission charges is as follows:

COD of the transmission assets	Solar generation capacity (MW) commissioned	Date of commissioning of solar generation capacity	Liability of transmission charges
Asset-4: 1.6.2019	AREPRL (250 MW)		
	200 MW (AREPRL)	27.4.2019	From 1.6.2019 to 26.7.2019: Transmission charges proportionate to 200 MW out of 1500 MW of Asset-4 shall be included in the common pool while for 50 MW shall be borne by AREPRL
	50 MW (AREPRL)	27.7.2019	From 27.7.2019, transmission charges proportionate to 250 MW out of 1500 MW of Asset-4 shall be included in the common pool
	SUCRL (500 MW)		
	100 MW	3.5.2019	From 1.6.2019 to 8.7.2019: Transmission charges proportionate to 100 MW out of 1500 MW of Asset-4 shall be included in the common pool and balance 400 MW shall be borne by SUCRL.
	100 MW	9.7.2019	From 9.7.2019 to 9.12.2019: transmission charges proportionate to 200 out of 1500 MW in case of Asset-4 shall be included in the common pool while for 300 MW, it shall be borne by SUCRL.



	100 MW	10.12.2019	From 10.12.2019 to 14.2.2019: transmission charges proportionate to 300 MW out of 1500 MW in case of Asset-4 shall be included in the common pool while for 200 MW, it shall be borne by SUCRL.
	100 MW	15.2.2020	From 15.02.2020 to 27.02.2020: transmission charges proportionate to 400 MW out of 1500 MW in case of Asset-4, shall be included in the common pool while for 100 MW, it shall be borne by SUCRL.
	100 MW	28.2.2020	From 28.2.2020, the transmission charges proportionate to 500 MW out of 1500 MW of Asset-4 shall be included in common pool.
	ESUCRL (750 MW)		
	Nil	-----	From 1.6.2019 to 17.6.2021: transmission charges proportionate to 750 MW out of 1500 MW of Asset-2 shall be borne by ESUCRL.
	300 MW	18.6.2021	From 18.6.2021:
	450 MW	Yet to be commissioned	Transmission charges proportionate to 350 MW out of 1500 MW of Asset-4 shall be included in common pool and balance 450 MW shall be borne by ESUCRL till COD of 450 MW. After COD of 450 MW, It shall be included in the common Pool.



Asset-5

103. Asset-5 consists of two no of 220 kV line bays which are associated with AREPL and SUCRL. Out of the two 220 kV bays, one bay is associated with AREPL and other bay is associated with SUCRL. AREPRL has commissioned the 250 MW generation prior to COD of Asset-5. Therefore, AREPRL is not liable to pay any transmission charges for one of 220 kV bay. SUCRL is liable to pay transmission charges proportionate to one of 220 kV bay and the liability of payment of transmission charges of Asset-5 are as follows:

COD of the transmission assets	Solar generation capacity (MW) commissioned	Date of commissioning of solar generation capacity	Liability of transmission charges
Asset-5: 7.8.2019	SUCRL (500 MW)		
	200 MW	3.5.2019 & 9.7.2019	From 7.8.2019 to 9.12.2019: transmission charges proportionate to 200 MW out of 500 MW in case of Asset-5 shall be included in the common pool while for 300 MW, it shall be borne by SUCRL.
	100 MW	10.12.2019	From 10.12.2019 to 14.2.2019: transmission charges proportionate to 300 MW out of 500 MW in case of Asset-5 shall be included in the common pool while for 200 MW, it shall be borne by SUCRL.
	100 MW	15.02.2020	From 15.2.2020 to 27.2.2020: transmission charges proportionate to 400 MW out of 500 MW in case of Asset-5, shall be included in the common pool while for 100 MW, it shall be borne by SUCRL.
	100 MW	28.2.2020	From 28.2.2020, the transmission charges proportionate to 500 MW of Asset-5 shall be included in common pool.



Asset-6

104. The COD of Asset-6 has been approved as 27.9.2019 under the second proviso to Regulation 5(2) of the 2019 Tariff Regulations as the associated transmission line i.e. 765 kV Fatehgarh-Bhadla Transmission Line under the scope of FBTCL was not ready on 27.9.2019.

105. The relevant extracts of the minutes of the 39th Meeting of SCM of NR on 29th & 30th May 2017 where 2 numbers of 400 kV line bays at Fatehgarh Pooling Sub-station is approved and the same is extracted as under:

“14.0 Transmission system for Ultra Mega Solar Park in Fatehgarh, distt. Jaisalmer Rajasthan

14.1 CEA stated that the following transmission system for Ultra Mega Solar Park in Fatehgarh, Jaisalmer was agreed in the 38th meeting of SCPSPNR held on 30-05-2016:

i. Establishment of 400 kV Pooling Station at Fatehgarh (with a provision to upgrade at 765kV level)

ii. Fatehgarh Pooling Station-Bhadla (PG) 765 kV D/C line (initially to be operated at 400kV)

iii. 2 Nos. of 400 kV line bays at Fatehgarh Pooling substation

iv. 1x125 MVAR bus reactor at 400 kV Fatehgarh Pooling sub-station

Note: (i) Solar Park Developer to construct 400 kV line from M/s AREPL solar park to Fatehgarh pooling station and provide 1x125 MVAR bus reactor at generation switchyard.

Subsequently, based on the POWERGRID observations on MoM of 38th SCPSPNR regarding 400kV line bays at Bhadla (PG) for termination of 765kV Fatehgarh PSBhadla (PG) D/c line (initially op. at 400kV), CEA vide its letter dated 19.10.2016 has issued Corrigendum-II to the minutes of 38th meeting of SCPSPNR, which, inter-alia, included the following in the note of the scheme “Transmission system for Ultra Mega Solar Park in Fatehgarh, Jaisalmer”:

Note: (ii) POWERGRID to provide two number of line bays at Bhadla (PG)

14.2 In the 36th meeting of the Empowered Committee on Transmission held on 26th July, 2016, the scheme was recommended for implementation through TBCB with the following scope of works:

i. Establishment of 400 kV Pooling Station at Fatehgarh (with a provision to upgrade at 765kV level)



ii. Fatehgarh Pooling S/s-Bhadla (PG) 765 kV D/C line (initially to be operated at 400kV)

iii. 2 Nos. of 400kV line bays at Fatehgarh Pooling substation

iv. 1x125 MVAR Bus reactor at 400 kV Fatehgarh Pooling sub-station

v. Space for future 220 kV (6 Nos.), 400 kV (6 Nos.) and 765 kV (4 Nos.) line bays along with line reactors at Fatehgarh Pooling station

vi. Space for future 220/400 kV transformers (2 Nos.) 400/765 kV transformers (2 Nos.) along with associated transformer bays at each level

vii. Space for future 765 kV bus reactor along with associated bays

Note:

a) Park Developer to construct 400 kV D/C line from M/s AREPL solar park along with 1x125 MVAR bus reactor at generation switchyard.

b) POWERGRID to provide 2 nos. of 400 kV line bays at Bhadla (PG) for Fatehgarh Pooling Station- Bhadla D/C line (initially to be operated at 400 kV)

c) The Solar park developer (M/s AREPL) to provide adequate land for 765/400 kV pooling station adjacent to the proposed solar park for which, transmission licensee shall coordinate with M/s AREPL including commercial aspects for transfer of land.

d) Solar park developer (M/s AREPL) to provide 2 nos. of 400kV line bays at Fatehgarh Pooling Station for termination of 400kV D/C line from AREPL solar park to 400 kV Fatehgarh Pooling station. The commissioning schedule of the scheme was December 2018.

14.3 CTU informed that they have received no. of applications for connectivity from various renewable energy project developers at Fatehgarh viz.

a) M/s Suzlon Power Infrastructure Limited for

i) 900 MW (Wind-Solar Hybrid) ii) 300 MW (Wind Generation) and

b) M/s Green Infra Wind Energy Limited for

450 MW Wind and 450 MW Solar Generation.

The connectivities to these generators are proposed to be given at 220 kV. Therefore, there is a need to add 400/220 kV ICT at Fatehgarh. He also mentioned that all new applications received for interconnection at Fatehgarh Pooling station are for connectivity only. When these generators would apply for LTA, Fatehgarh Pooling S/s Bhadla (PG) 765 kV D/C line (initially to be operated at 400kV) may required to be upgraded at 765kV level.

14.4 Chief Engineer PSPA-1, CEA stated that the scheme "Transmission System for Ultra Mega Solar Park in Fatehgarh, Jaisalmer" is being implemented through TBCB route and presently under bidding process. The RfQ has been issued and for RfP the complete scope of the scheme needs to be intimated to the prospective developer. However, for granting connectivity to new applicants, 220kV level needs to be created with addition of 1x500MVA, 400/220kV transformer at Fatehgarh S/s. The upgradation of Fatehgarh sub-station to 765 kV level would be required as and when new RE



project developers apply for LTA to CTU. Further, as per the tariff policy in vogue, the upgradation work would be carried out through TBCB by new TSP, which involve lot of implementation issues such as sharing of common facilities, control room etc.

14.5 HVPNL stated that while planning a substation, upfront fixing of detailed scope of works is not always possible as STU may require outgoing feeder bays at differnt point of time. The transmission asset is created to serve for a life span of atleast 35 years and as per the existing tariff policy, the upgradation/augmentation works needs to be carried out by New Transmission Service Provider (TSP), which involves a lot of implementation issues. Therefore, provisions should be there for upgradation / augmentation in the scope of works to be done by the existing TSP under regulated tariff mechanism.

14.6 After deliberations, it was decided that CEA would call a separate meeting to decide the scope of works for the scheme "Transmission system for Ultra Mega Solar Park in Fatehgarh, Jaisalmer" in view of new applications received by CTU for grant of connectivity at Fatehgarh and implementation issues in upgradation of Fatehgarh substation to 765 kV level."

106. The relevant extracts of the Minutes of 40th meeting of SCPSPNR held on 22.6.2018 where 2 numbers of 400 kV line bays at Fatehgarh Pooling Sub-station is approved and the same is as follows:

"Name of Scheme: Transmission system for Ultra Mega Solar Park in Fatehgarh, distt. Jaisalmer, Rajasthan

- i) Establishment of 400 kV Pooling Station at Fatehgarh
- ii) Fatehgarh Pooling station-Bhadla (PG) 765 kV D/C line (to be operated at 400 kV).
- iii) 2 Nos. of 400 kV line bays at Fatehgarh Pooling station.**
- iv) 1x125 MVAR Bus reactor at 400kV Fatehgarh Pooling station along with associated bay.
- v) Space for future 220 kV (12 nos.) line bays.
- vi) Space for future 400kV (8 nos.) line bays along with line reactors at Fatehgarh Pooling station. vii) Space for future 220/400kV transformers (05 nos.) along with associated transformer bays at each level.
- vii) Space for future 400kV bus reactor (2 nos.) along with associated bays.

Note: a) Park Developer to construct 400 kV D/C line from M/s AREPL solar park to Fatehgarh along with 1x125 MVAR bus reactor at generation switchyard.

b) POWERGRID to provide 2 nos. of 400kV line bays at Bhadla (PG) for termination of 76 5kV Fatehgarh PS-Bhadla (PG) D/c line (to be operated at 400kV) at Bhadla end.

c) The Solar park developer (M/s AREPL) to provide adequate land for 400kV and 220 kV pooling station adjacent to the proposed solar park for which, transmission licensee shall coordinate with M/s AREPL including commercial aspects for transfer of land.

d) 220 kV line bays at Fatehgarh Pooling station for future connectivity lines shall be under the scope of respective developer e) Solar park developer (M/s AREPL) to



provide 2 nos. of 400kV line bays at Fatehgarh Pooling Station for termination of 400kV D/C line from AREPL solar park to 400kV Fatehgarh Pooling station.”

107. As per the minutes of the 39th Meeting of SCPSPNR and Minutes of 40th meeting of SCPSPNR, PGCIL was to construct 2 numbers of 400 kV line bays at Fatehgarh Pooling Station) for Fatehgarh Pooling Station-Bhadla D/C line (initially to be operated at 400 kV). The Petitioner was ready for COD of two 400 kV line bays at Bhadla (PG), however the associated transmission line under the scope of FBTCL was not ready. The COD of 2 numbers of 400 kV line bays at Bhadla (PG) (Asset-6) has been approved as 27.9.2019 under the second proviso to Regulation 5(2) of the 2019 Tariff Regulations as the associated transmission line i.e. 765 kV Fatehgarh-Bhadla Transmission Line under the scope of FBTCL was not ready on 27.9.2019. FBTCL declared the deemed COD of Fatehgarh Pooling Station-Bhadla D/C line (initially to be operated at 400 kV) on 30.7.2021. Therefore, the transmission charges of Asset-6 from 27.9.2019 to 29.7.2021 shall be borne by FBTCL. As on 30.7.2021 both transmission line and associated bays are ready but the generation under the control of AREPRL is not ready. Therefore, from 30.7.2021 onwards the transmission charges of Asset-6 shall be borne by AREPRL till COD of the generation under the control of AREPRL.

Asset-7

108. Asset-7 consists of the following elements:

- (a) 765 kV D/C Bhadla (POWERGRID)-Bikaner (POWERGRID) Transmission Line 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, ICT-2 and ICT-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.

109. As per the minutes of the 36th SCM of NR held on 13.7.2015, the instant transmission scheme has been developed for evacuation of 3000 MW power from solar parks in Jaisalmer (Parewar & Fategarh) and Jodhpur (Bhadla). In order to facilitate pooling of power from various solar power generators in the park as well as evacuate and transfer of power from various ultra-mega solar parks, establishment of 765/400/220 kV Pooling Station at Bhadla had been proposed along with its 765-kV interconnection with Bhadla Pooling station. The 765 kV transmission line is also interconnected with 765/400 kV Bikaner (PG) Sub-station. The 765 kV Bhadla-Bikaner transmission line is used for transfer of power towards load centres in Punjab/Rajasthan. The generators associated with Bhadla Solar Park are connected to Asset-7. The complete scope of the Transmission System for Solar Power Park at Bhadla is complete and power is flowing through the 765 kV Bhadla-Bikaner Transmission Line. Thus, Asset-7 has been put to use. Therefore, we are of the view that the transmission charges of Asset-7 shall be included in the PoC Pool from its COD.

110. With effect from 1.11.2020, sharing of transmission charges for inter-State transmission systems is governed by the Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses) Regulations, 2020 (2020 Sharing



Regulations). Accordingly, the liabilities of the DICs for arrears of transmission charges determined through this order shall be computed DIC-wise in accordance with the provisions of respective Tariff Regulations and Sharing Regulations and shall be recovered from the concerned DICs through Bill 2 under Regulation 15(2)(b) of the 2020 Sharing Regulations.

111. To summarise:

- a) The Annual Fixed Charges (AFC) allowed 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
AFC	1976.15	2346.89	2408.99	2445.72	2458.40

(₹ in lakh)

Asset-2					
Particulars	2019-20 (Pro-rata 333 days)	2020-21	2021-22	2022-23	2023-24
AFC	61.03	90.27	98.00	102.82	105.27

(₹ in lakh)

Asset-3					
Particulars	2019-20 (Pro-rata 320 days)	2020-21	2021-22	2022-23	2023-24
AFC	526.43	666.59	691.17	709.12	718.47

(₹ in lakh)

Asset-4					
Particulars	2019-20 (Pro-rata 305 days)	2020-21	2021-22	2022-23	2023-24
AFC	485.21	658.64	687.72	708.64	719.47

(₹ in lakh)

Asset-5					
Particulars	2019-20 (Pro-rata 238 days)	2020-21	2021-22	2022-23	2023-24
AFC	85.89	188.38	207.58	219.68	225.70



(₹ in lakh)

Asset-6					
Particulars	2019-20 (Pro-rata 187 days)	2020-21	2021-22	2022-23	2023-24
AFC	87.74	243.76	291.28	314.26	321.31

(₹ in lakh)

Asset-7					
Particulars	2019-20 (Pro-rata 167 days)	2020-21	2021-22	2022-23	2023-24
AFC	7560.79	18003.93	18380.23	18587.32	18629.50

112. Annexure-I to this order form part of this order.

113. This order disposes of Petition No. 9/TT/2021 in terms of the above discussion and findings.

sd/-
(P. K. Singh)
Member

sd/-
(Arun Goyal)
Member

sd/-
(I. S. Jha)
Member

sd/-
(P.K. Pujari)
Chairperson



Annexure-I

Asset-1

2019-24	Admitted Capital Cost as on COD	Projected ACE				Admitted Capital Cost as on 31.3.2024	Rate of Depreciation as per Regulations (in %)	Annual Depreciations as per Regulations				
Particulars		2019-20	2020-21	2021-22	2022-23			2019-20	2020-21	2021-22	2022-23	2023-24
Land - Freehold	41.82	0.00	0.00	0.00	0.00	41.82	0.00%	0.00	0.00	0.00	0.00	0.00
Building Civil Works & Colony	68.02	291.33	96.98	48.49	48.49	553.31	3.34%	7.14	13.62	16.05	17.67	18.48
Transmission Line	4339.10	309.44	94.63	47.31	47.31	4837.78	5.28%	237.27	247.94	251.69	254.19	255.43
Sub Station	6434.55	1837.89	599.99	227.66	300.00	9400.09	5.28%	388.26	452.62	474.47	488.40	496.32
PLCC	179.86	16.12	5.02	2.51	2.51	206.02	6.33%	11.90	12.56	12.80	12.96	13.04
IT Equipment (Including Software)	45.95	3.43	1.05	0.53	0.53	51.49	15.00%	7.15	7.49	7.60	7.68	7.72
Total	11109.29	2458.21	797.67	326.50	398.84	15090.51		651.72	734.24	762.62	780.91	791.01
Average Gross Block								12338.39	13966.33	14528.42	14891.09	15090.51
Weighted Average Rate of Depreciation (in %)								5.28%	5.26%	5.25%	5.24%	5.24%



Asset-2

2019-24	Admitted Capital Cost as on COD	Projected ACE				Admitted Capital Cost as on 31.3.2024	Rate of Depreciation as per Regulations (in %)	Annual Depreciations as per Regulations				
Particulars		2019-20	2020-21	2021-22	2022-23			2019-20	2020-21	2021-22	2022-23	2023-24
Land - Freehold	4.35	0.00	0.00	0.00	0.00	4.35	0.00%	0.00	0.00	0.00	0.00	0.00
Building Civil Works & Colony	7.20	14.43	4.79	2.39	2.39	31.20	3.34%	0.48	0.80	0.92	1.00	1.04
Sub-Station	165.41	233.26	77.35	30.02	38.67	544.72	5.28%	14.89	23.09	25.93	27.74	28.76
PLCC	9.72	1.05	0.32	0.16	0.16	11.41	6.33%	0.65	0.69	0.71	0.72	0.72
IT Equipment (Including Software)	2.54	2.91	0.96	0.48	0.48	7.37	15.00%	0.60	0.89	1.00	1.07	1.11
Total	189.23	251.64	83.42	33.05	41.70	599.04		16.62	25.48	28.55	30.53	31.63
Average Gross Block								315.05	482.58	540.82	578.19	599.04
Weighted Average Rate of Depreciation (in %)								5.28%	5.28%	5.28%	5.28%	5.28%



Asset-3

2019-24	Admitted Capital Cost as on COD	Projected ACE				Admitted Capital Cost as on 31.3.2024	Rate of Depreciation as per Regulations (in %)	Annual Depreciations as per Regulations				
Particulars		2019-20	2020-21	2021-22	2022-23			2019-20	2020-21	2021-22	2022-23	2023-24
Land - Freehold	11.51	0.00	0.00	0.00	0.00	11.51	0.00%	0.00	0.00	0.00	0.00	0.00
Building Civil Works & Colony	19.10	99.27	33.09	16.54	16.54	184.54	3.34%	2.30	4.51	5.34	5.89	6.16
Sub Station	2218.68	587.47	195.82	97.91	97.91	3197.79	5.28%	132.66	153.33	161.09	166.26	168.84
IT Equipment (Including Software)	12.26	1.22	0.41	0.20	0.20	14.28	15.00%	1.93	2.05	2.10	2.13	2.14
Total	2261.55	687.96	229.32	114.65	114.65	3408.13		136.88	159.89	168.52	174.27	177.15
Average Gross Block								2605.53	3064.17	3236.15	3350.80	3408.13
Weighted Average Rate of Depreciation (in %)								5.25%	5.22%	5.21%	5.20%	5.20%



Asset-4

2019-24	Admitted Capital Cost as on COD	Projected ACE				Admitted Capital Cost as on 31.3.2024	Rate of Depreciation as per Regulations (in %)	Annual Depreciations as per Regulations				
Particulars		2019-20	2020-21	2021-22	2022-23			2019-20	2020-21	2021-22	2022-23	2023-24
Land - Freehold	11.36	0.00	0.00	0.00	0.00	11.36	0.00%	0.00	0.00	0.00	0.00	0.00
Building Civil Works & Colony	19.08	99.26	33.09	16.54	16.54	184.51	3.34%	2.29	4.51	5.33	5.89	6.16
Sub Station	2024.02	710.84	236.94	118.48	118.48	3208.76	5.28%	125.63	150.66	160.04	166.29	169.42
IT Equipment (Including Software)	8.69	3.50	1.17	0.58	0.58	14.52	15.00%	1.57	1.92	2.05	2.13	2.18
Total	2063.15	813.60	271.20	135.60	135.60	3419.15		129.50	157.08	167.42	174.32	177.76
Average Gross Block								2469.95	3012.35	3215.75	3351.35	3419.15
Weighted Average Rate of Depreciation (in %)								5.24%	5.21%	5.21%	5.20%	5.20%



Asset-5

2019-24	Admitted Capital Cost as on COD	Projected ACE				Admitted Capital Cost as on 31.3.2024	Rate of Depreciation as per Regulations (in %)	Annual Depreciations as per Regulations				
Particulars		2019-20	2020-21	2021-22	2022-23			2019-20	2020-21	2021-22	2022-23	2023-24
Land - Freehold	10.30	0.00	0.00	0.00	0.00	10.30	0.00%	0.00	0.00	0.00	0.00	0.00
Building Civil Works & Colony	0.00	38.21	12.74	6.37	6.37	63.69	3.34%	0.64	1.49	1.81	2.02	2.13
Sub Station	230.12	462.44	154.15	59.83	77.07	983.60	5.28%	24.36	40.64	46.29	49.90	51.93
PLCC	18.81	28.65	9.55	4.77	4.77	66.55	6.33%	2.10	3.31	3.76	4.06	4.21
IT Equipment (Including Software)	38.17	60.67	20.22	10.11	10.11	139.27	15.00%	10.27	16.34	18.62	20.13	20.89
Total	297.39	589.97	196.66	81.08	98.32	1263.42		37.37	61.77	70.47	76.12	79.17
Average Gross Block								592.38	985.69	1124.56	1214.26	1263.42
Weighted Average Rate of Depreciation (in %)								6.31%	6.27%	6.27%	6.27%	6.27%



Asset-6

2019-24	Admitted Capital Cost as on COD	Projected ACE				Admitted Capital Cost as on 31.3.2024	Rate of Depreciation as per Regulations (in %)	Annual Depreciations as per Regulations				
Particulars		2019-20	2020-21	2021-22	2022-23			2019-20	2020-21	2021-22	2022-23	2023-24
Land - Freehold	13.03	0.00	0.00	0.00	0.00	13.03	0.00%	0.00	0.00	0.00	0.00	0.00
Building Civil Works & Colony	14.48	41.36	35.10	17.55	8.77	117.26	3.34%	1.17	2.45	3.33	3.77	3.92
Sub Station	390.44	526.79	439.81	209.64	111.92	1678.60	5.28%	34.52	60.04	77.19	85.68	88.63
PLCC	58.63	12.79	10.85	5.43	2.71	90.42	6.33%	4.12	4.86	5.38	5.64	5.72
IT Equipment (Including Software)	10.17	3.13	2.66	1.33	0.66	17.94	15.00%	1.76	2.19	2.49	2.64	2.69
Total	486.75	584.07	488.42	233.95	124.06	1917.25		41.57	69.55	88.39	97.73	100.96
Average Gross Block								778.79	1315.03	1676.22	1855.22	1917.25
Weighted Average Rate of Depreciation (in %)								5.34%	5.29%	5.27%	5.27%	5.27%



Asset-7

2019-24	Admitted Capital Cost as on COD	Projected ACE				Admitted Capital Cost as on 31.3.2024	Rate of Depreciation as per Regulations (in %)	Annual Depreciations as per Regulations				
Particulars		2019-20	2020-21	2021-22	2022-23			2019-20	2020-21	2021-22	2022-23	2023-24
Land - Freehold	150.53	0.00	0.00	0.00	0.00	150.53	0.00%	0.00	0.00	0.00	0.00	0.00
Building Civil Works & Colony	255.68	1356.96	451.90	225.88	225.88	2516.30	3.34%	31.20	61.41	72.73	80.27	84.04
Transmission Line	47460.90	10233.12	3334.02	1653.01	1653.01	64334.06	5.28%	2776.09	3134.26	3265.92	3353.20	3396.84
Sub Station	39934.57	4568.35	1457.97	717.21	717.21	47395.31	5.28%	2229.15	2388.24	2445.67	2483.54	2502.47
PLCC	485.80	306.22	101.29	50.50	50.50	994.31	6.33%	40.44	53.34	58.15	61.34	62.94
IT Equipment (Including Software)	51.56	15.46	5.07	2.52	2.52	77.13	15.00%	8.89	10.43	11.00	11.38	11.57
Total	88339.05	16480.11	5350.25	2649.12	2649.12	115467.65		5085.78	5647.69	5853.46	5989.73	6057.86
Average Gross Block								96579.10	107494.28	111493.97	114143.09	115467.65
Weighted Average Rate of Depreciation (in %)								5.27%	5.25%	5.25%	5.25%	5.25%

