

Pro-forma for furnishing Actual annual performance/operational expenses for the Transmission Systems for the 5-year period from 2017-18 to 2021-22

Name of Transmission Company:		Power Grid Corporation of India Limited					
Name of Transmission Region:		Western Region					
Table-1 - Region wise information (average for the year, but otherwise total for the region) for AC system							
Sl. No.	Particulars	Units	2017-18	2018-19	2019-20	2020-21	2021-22
1.	Number of AC Substation in operation	No.					
	(1) 765 kV		18.5	20	21	21	21
	(2) 400 kV		22.5	23.5	24	24.5	25
	(3) 220 kV		0	0	0	0	0
	(4) 132 kV		0	0	0	0	0
(Nomenclature are as per highest available voltage level)			"Note : (a) Average is calculated based on data as on 1st April and data as on 31 march for that FY. (b) Yearwise data is the cumulative figure of that year."				
2.	Transformation capacity of AC Substation in operation	No.					
	(1) 765 kV		69250.0	76000.0	79000.0	79750.0	81250.0
	(2) 400 kV		21172.5	25455.0	28705.0	30705.0	33205.0
	(3) 220 kV		0	0	0	0	0
	(4) 132 kV		0	0	0	0	0
(Nomenclature are as per highest available voltage level)			"In earlier submitted data for 2017-18, classification of MVA considered was based on highest voltage level available in a particular substation. Presently, MVA has been clasified based on highest voltage level of each Transformer. Further, earlier submitted data for 2017-18 included MVA corresponding to SVC/ STATCOM Coupling transformers and same has been removed."				
3.	Number of bays in each AC Substation in operation	No.					
	(1) 765 kV		254.5	292	319.5	324	330
	(2) 400 kV		533.5	581.5	609	618	633.5
	(3) 220 kV		179.5	197.5	212	219	230
	(4) 132 kV		0	0	0	0	0
(Nomenclature are as per highest available voltage level)			Note : (a) Average is calculated based on data as on 1st April and data as on 31 march for that FY. (b) Yearwise data is the cumulative figure of that year.				
4.	Ckt-km of AC lines in operation	No.					
	(1) 765 kV		13991.31	15668.44	16409.17	16409.17	16409.17
	2 400 kV		27754.88	29063.84	29183.95	29298.45	30061.75
	3 220 kV		1281.38	1281.38	1281.38	1281.38	1299.97
	4 132 kV		0	0	0	0	0
(Nomenclature are as per highest available voltage level)			Note : (a) Average is calculated based on data as on 1st April and data as on 31 march for that FY. (b) Yearwise data is the cumulative figure of that year.				
5.	Total number of employees* engaged in O&M of Sub-station						
	(1) 765 kV	No.	921.00	446	485	457	463
	(2) 400 kV			404	408	383	358
	(3) 220 kV			0	0	0	0
	(4) 132 kV			0	0	0	0
	(1) 765 kV	Cost (Rs. Lakhs)	13120.00	7460.41	9663.90	11473.43	11111.68
	(2) 400 kV			6757.86	8129.63	9615.59	8591.75
	(3) 220 kV			0	0	0	0
	(4) 132 kV			0	0	0	0

Pro-forma for furnishing Actual annual performance/operational expenses for the Transmission Systems for the 5-year period from 2017-18 to 2021-22

Name of Transmission Company:		Power Grid Corporation of India Limited					
Name of Transmission Region:		Western Region					
Table-1 - Region wise information (average for the year, but otherwise total for the region) for AC system							
Sl. No.	Particulars	Units	2017-18	2018-19	2019-20	2020-21	2021-22
	(Nomenclature are as per highest available voltage level)						
6.	Total number of employees* engaged in O&M of Transmission Lines						
	(1) 765 kV	No.	450.00	202	252	251	302
	(2) 400 kV			204	207	205	228
	(3) 220 kV			0	0	0	0
	(4) 132 kV			0	0	0	0
	(1) 765 kV	Cost (Rs. Lakhs)	6410.60	3378.93	5021.24	6301.60	7247.79
	(2) 400 kV			3412.39	4124.59	5146.73	5471.84
	(3) 220 kV			0	0	0	0
	(4) 132 kV			0	0	0	0
	(Nomenclature are as per highest available voltage level)						
7.	Auxiliary Power Consumption (excluding colony power)	MU					
	(1) 765 kV		20.550	24.350	23.871	24.109	24.245
	(2) 400 kV		18.361	19.052	18.367	18.937	18.728
	(3) 220 kV		0	0	0	0	0
	(4) 132 kV		0	0	0	0	0
	(Nomenclature are as per highest available voltage level)						
8.	Colony Power Consumption	MU					
	(1) 765 kV		0.723	0.784	0.794	0.893	0.892
	(2) 400 kV		2.078	1.704	1.861	1.865	1.835
	(3) 220 kV		0	0	0	0	0
	(4) 132 kV		0	0	0	0	0
	(Nomenclature are as per highest available voltage level)						
9.	Spare ICTs/Reactors						
	(1) 765 kV	No.					
	400 kV 80 MVAR Reactor	No.	0	0	0	0	0
		Cost (Rs. Lakhs)	0	0	0	0	0
	400 kV 125 MVAR Reactor	No.	0	0	0	0	0
		Cost (Rs. Lakhs)	0	0	0	0	0
	400/220 kV 315 MVA ICT	No.	0	0	0	0	0
		Cost (Rs. Lakhs)	0	0	0	0	0
	(Nomenclature are as per highest available voltage level)						
10.	Spare Smoothing Reactors						
	(1) 765 kV	No./Cost (Rs. Lakhs)	0	0	0	0	0
	(2) 400 kV		0	0	0	0	0
	(3) 220 kV		0	0	0	0	0
	(4) 132 kV		0	0	0	0	0
	(Nomenclature are as per highest available voltage level)						
11.	ICTs						
	(1) 765 kV	No.	47.5	52	54	54.5	55.5
		Cost (Rs. Lakhs)	Data seperately not available/ maintained				
	(2) 400 kV	No.	63.5	72.5	79	83	88
		Cost (Rs. Lakhs)	Data seperately not available/ maintained				
	(3) 220 kV	No.	0	0	0	0	0
		Cost (Rs. Lakhs)	Data seperately not available/ maintained				

Pro-forma for furnishing Actual annual performance/operational expenses for the Transmission Systems for the 5-year period from 2017-18 to 2021-22

Name of Transmission Company:		Power Grid Corporation of India Limited					
Name of Transmission Region:		Western Region					
Table-1 - Region wise information (average for the year, but otherwise total for the region) for AC system							
Sl. No.	Particulars	Units	2017-18	2018-19	2019-20	2020-21	2021-22
	(4) 132 kV	No.	0	0	0	0	0
		Cost (Rs. Lakhs)	Data seperately not available/ maintained				
	(Nomenclature are as per highest available voltage level)						
12.	Reactors						
	(1) 765 kV	No.	118.5	131.5	142.5	145	146.5
		Cost (Rs. Lakhs)	Data seperately not available/ maintained				
	(2) 400 kV	No.	202	206	210	212.5	214.5
		Cost (Rs. Lakhs)	Data seperately not available/ maintained				
	(3) 220 kV	No.	0	0	0	0	0
		Cost (Rs. Lakhs)	Data seperately not available/ maintained				
	(4) 132 kV	No.	0	0	0	0	0
		Cost (Rs. Lakhs)	Data seperately not available/ maintained				
	(Nomenclature are as per highest available voltage level)						
13.	+)(-400 MVAR STATCOM	No.	1	2	0	0	0
		Cost (Rs. Lakhs)	20123.35	42642.38	0	0	0
	+)(-300 MVAR STATCOM	No.	0	1	0	0	0
		Cost (Rs. Lakhs)	0	130.27	0	0	0
14.	Average outage duration for	Hours/year					
A.	Transmission Lines						
(1)	765 kV		2.199	33.435	31.807	28.415	16.639
(2)	400 kV		1.461	22.435	21.501	22.558	18.026
(3)	220 kV		1.913	14.107	17.078	7.293	13.020
(4)	132 kV		NA	NA	NA	NA	NA
B.	Transformers						
(1)	765 kV		0.858	12.208	9.250	14.663	42.948
(2)	400 kV		4.278	44.107	31.675	27.837	17.051
(3)	220 kV		0	0	0	0	0
(4)	132 kV		0	0	0	0	0
C.	Reactors						
(1)	765 kV		0.747	5.915	6.106	9.587	4.066
(2)	400 kV		1.118	8.626	6.161	11.281	6.929
(3)	220 kV		0	0	0	0	0
(4)	132 kV		0	0	0	0	0
	(Nomenclature are as per highest available voltage level)						
15.	Cost of Initial spares (for S/S)	(Rs. In Lakhs)					
	A.	Capitalized					
	(1)	765 kV					
	(2)	400 kV		6919.8	7923.4	2605.0	540.0
	(3)	220 kV					
	(4)	132 kV					
	B.	In Stock					
	(1)	765 kV		Data seperately not available/ maintained			
	(2)	400 kV		Data seperately not available/ maintained			
	(3)	220 kV		Data seperately not available/ maintained			
	(4)	132 kV		Data seperately not available/ maintained			
	C.	Cost of initial spares consumed					
	(1)	765 kV		Data seperately not available/ maintained			
	(2)	400 kV		Data seperately not available/ maintained			
(3)	220 kV		Data seperately not available/ maintained				
(4)	132 kV		Data seperately not available/ maintained				

**Pro-forma for furnishing Actual annual performance/operational expenses for the Transmission Systems for the 5-year period
from 2017-18 to 2021-22**

Name of Transmission Company:		Power Grid Corporation of India Limited					
Name of Transmission Region:		Western Region					
Table-1 - Region wise information (average for the year, but otherwise total for the region) for AC system							
Sl. No.	Particulars	Units	2017-18	2018-19	2019-20	2020-21	2021-22
16.	Cost of O&M spares Consumed (for S/s)	(Rs. In Lakhs)					
	(1) 765 kV						
	(2) 400 kV		5,703.23	2,766.00	1,845.00	2,280.00	1,448.00
	(3) 220 kV						
	(4) 132 kV						
	(Nomenclature are as per highest available voltage level)						
17.	Cost of Initial spares (for Lines)	(Rs. In Lakhs)					
	A. Capitalized						
	(1) 765 kV						
	(2) 400 kV		2713.5	1883.7	36.0	115.2	757.8
	(3) 220 kV						
	(4) 132 kV						
	B. In Stock						
	(1) 765 kV		Data seperately not available/ maintained				
	(2) 400 kV		Data seperately not available/ maintained				
	(3) 220 kV		Data seperately not available/ maintained				
	(4) 132 kV		Data seperately not available/ maintained				
	C. Cost of initial spares consumed						
	(1) 765 kV		Data seperately not available/ maintained				
	(2) 400 kV		Data seperately not available/ maintained				
	(3) 220 kV		Data seperately not available/ maintained				
	(4) 132 kV		Data seperately not available/ maintained				
18.	Cost of O&M spares Consumed (for Lines)	(Rs. In Lakhs)					
	(1) 765 kV						
	(2) 400 kV		2,577.35	1,406.00	347.00	647.00	638.00
	(3) 220 kV						
	(4) 132 kV						
	(Nomenclature are as per highest available voltage level)						

Note:* Executive & Non-Executive / contract labour

**Pro-forma for furnishing Actual annual performance/operational expenses for the Transmission Systems
for the 5-year period from 2017-18 to 2021-22**

Name of Transmission Company:	Power Grid Corporation of India Limited
Name of Transmission Region:	Western Region

Table-2- Station wise information (average for the year) for HVDC systems

1) Champa HVDC

Sl. No.	Particulars	Units	2017-18	2018-19	2019-20	2020-21	2021-22
1	Total number of employees* engaged in sub-station O&M	No.	12	26	31	34	45
		Cost (Rs. In lakh)	170.95	206.33	273.13	356.26	928.87
2	Total number of employees* engaged in O&M of Transmission Lines	No.	"Separate data for manpower for HVDC transmission line is not available as the same is included in AC line system"				
		Cost (Rs. In lakh)					
3	Auxiliary power consumption (excluding colony power)	(MU)	17.230	12.200	13.250	15.620	16.200
4	Colony power consumption	(MU)	0	0	0.016	0.066	0.103
5	Outage duration	Pole-days	17.56	18.24	11.05	9.54	10.78
6	Load curtailment	MW – days	Data seperately not available/ maintained				
7	Cost of initial spares	(Rs. in lakh)	0	0	0	4850.42	0
	a) Capitalized						
	b) In Stock						
	c) Consumed						
8	Cost of O&M spares consumed	(Rs. in lakh)	175.05	48.00	19.00	74.00	92.00

Note: *Executive & non-executive/~~contract labour~~

2) Bhadrawati HVDC

Sl. No.	Particulars	Units	2017-18	2018-19	2019-20	2020-21	2021-22
1	Total number of employees* engaged in sub-station O&M	No.	17	26	29	31	37
		Cost (Rs. In lakh)	242.00	503.00	482.00	575.00	699.00
2	Total number of employees* engaged in O&M of Transmission Lines	No.	"Separate data for manpower for HVDC transmission line is not available as the same is included in AC line system"				
		Cost (Rs. In lakh)					
3	Auxiliary power consumption (excluding colony power)	(MU)	8.750	7.083	6.833	7.089	6.877
4	Colony power consumption	(MU)	0	0.139015	0.118	0.157	0.146
5	Outage duration	Pole-days	2.23	1.16	21.62	21.89	8.19
6	Load curtailment	MW – days	Data seperately not available/ maintained				
7	Cost of initial spares	(Rs. in lakh)	0	0	0	0	0
	a) Capitalized						
	b) In Stock						
	c) Consumed						
8	Cost of O&M spares consumed	(Rs. in lakh)	135.52	218.00	777.00	202.00	137.00

Note: *Executive & non-executive/~~contract labour~~

**Pro-forma for furnishing Actual annual performance/operational expenses for the Transmission Systems
for the 5-year period from 2017-18 to 2021-22**

Name of Transmission Company:	Power Grid Corporation of India Limited
Name of Transmission Region:	Western Region

Table-2- Station wise information (average for the year) for HVDC systems

3) Raigarh HVDC

Sl. No.	Particulars	Units	2017-18	2018-19	2019-20	2020-21	2021-22
1	Total number of employees* engaged in sub-station O&M	No.	0	0	0	15	23
		Cost (Rs. In lakh)	0.00	0.00	0.00	713.63	644.86
2	Total number of employees* engaged in O&M of Transmission Lines	No.	"Separate data for manpower for HVDC transmission line is not available as the same is included in AC line system"				
		Cost (Rs. In lakh)					
3	Auxiliary power consumption (excluding colony power)	(MU)	NA	NA	NA	3.183	11.534
4	Colony power consumption	(MU)	NA	NA	NA	NA	0.086
5	Outage duration	Pole-days	NA	NA	NA	0.28	3.25
6	Load curtailment	MW – days	Data seperately not available/ maintained				
7	Cost of initial spares	(Rs. in lakh)	0	0	0	8557	2743.5
	a) Capitalized						
	b) In Stock						
	c) Consumed						
8	Cost of O&M spares consumed	(Rs. in lakh)	-	-	-	-	16.00

Note: *Executive & non-executive/~~contract labour~~

Pro-forma for furnishing Actual annual performance/operational data for the communication system for the 5-year period from 2017-18 to 2021-22

Name of Transmission Company:			Power Grid Corporation of India Limited				
Name of Transmission Region:			Western Region				
Table- 3 Region wise information (average for the year, but otherwise total for the region) for Communication system - WR							
Sl. No.	Particulars	Units	2017-18	2018-19	2019-20	2020-21	2021-22
1.	Number of Wideband Communication Nodes in operation	(No.)	118	131	141.5	145	163.5
2.	Average length of OPGW links in operation	(in Kms.)	9972.0	11118.5	12280.0	12879.0	13884.0
3.	Number of Remote Terminal Units(RTUs)	(No.)	9	9	9	9	9
4.	Number of PLCC links	(No.)	0	0	0	0	0
5.	Number of OPGW links	(No.)	72	90	94	97	112
6.	Number of Auxiliary Power Supply(DC) Nodes	(No.)	28	32.5	43.5	50	57.5
7.	Number of employees engaged in O&M of RTU and Communication System	(No.)					
	1) Executive		3	5	4	10	10
	2) Non executive		0	0	0	11	11
	3) outsourced		14	18	22	24	24
8.	Average outage duration for	(hours/year)	0	0	0	0	0
	a) Wideband Communication Links	Hours/Years	80	80	80	80	80
	b) RTUs		20	20	20	20	20
	c) PLCC		0	0	0	0	0
	d) Auxiliary Power Supply System		15	15	15	15	15
9.	Cost of Initial spares	(Rs.in lakh)					
	a) Capitalized		238.31	159.06	230.91	209.72	131.26
	b) In Stock		293.6	390.66	523.57	630.29	655.55
	c) Consumed		55	62	98	103	103
10.	Cost of O&M spares Consumed	(Rs.in lakh)	0	8.425	42.075	50.49	50.49
11.	Number of PMU installed in the region	(No.)	7	373	406	407	407
12.	O & M expenses of PMU incurred in the region	(Rs.in lakh)	0	0	0	129.26	173.87

(Note: separate note on utilization of PMU is to be given along with benefit availed during the year)

Annexure VI- (B-1)

Details of Operation & Maintenance Expenses of Transmission O&M service (To be filled for each of the Transmission Region)

Name of Transmission Company:		POWER GRID TRANSMISSION OF INDIA LIMITED				
Name of Transmission Region:		Western Region				
(Rs. In Lakhs)						
Sr.No.	ITEM	2017-18	2018-19	2019-20	2020-21	2021-22
1	2	3	4	5	6	7
1.0	Repairs and Maintenance Expenses :					
1)	Repairs of Plant & Machinery	5,009.08	7,879.00	8,254.14	8,279.20	8,359.89
2)	Consumption of Stores (not capitalized)	8,591.15	7,429.93	7,521.08	6,061.56	10,004.09
3)	Consumption of Spares (not capitalized)	Included in 1.0 (1)				
4)	Patrolling expenses	Included in natural heads of expenditure				
5)	Power Charges (electricity consumed for repairing activity)	4,665.33	4,776.87	4,664.11	4,652.53	5,613.06
6)	Expenses of Diesel Generating sets	19.68	32.4	30.76	40.29	57.58
7)	Provisions	0	0	0	0	0
8)	Prior Period Adjustment , if any	0	0	0	0	0
9)	Other expenses, if any (please provide details)	0	0	0	0	0
	Sub-total (R&M Expenses)	18,285.24	20,118.20	20,470.09	19,033.58	24,034.62
2.0	Administrative & General Expenses:					
1)	Insurance	395.68	508.38	448.23	473.01	1,667.23
2)	Security (General other than special)	3,073.31	3,384.54	3,699.41	3,933.30	4,206.64
3)	Rent	97.32	694.2	915.55	790.32	854.74
4)	Electricity Charges					
5)	Traveling and conveyance	1,561.22	1,851.60	1,875.26	1,431.86	1,800.70
6)	Communication expenses	209.6	337.37	508.14	431.03	429.39
7)	Advertisement and publicity	456.86	508.04	425.5	139.65	209.43
8)	Foundation laying and inauguration	1.75	0	0	0	0
9)	Books Periodicals and Journals	4.71	48.71	34.53	22.87	34.52
10)	Research expenses	0	124.12	238.35	107.72	10.29
11)	Cost Audit Fees	38.36	26.86	21.86	29.53	31.19
12)	Horticulture Expenses	683.83	800.29	881.67	927.75	1,079.31
13)	Bandwidth charges dark fibre lease charges (Telecom) etc	1,958.80	2,026.78	1,897.70	1,797.78	1,126.13
14)	Donations expenses	0	0	0	0	0
15)	Entertainment expenses	31.31	43.32	54.35	73.55	80.59
16)	Filing Fees	1,965.25	2,364.35	2,557.83	2,209.31	2,318.11
17)	Legal Expenses	168.86	216.98	250.59	197.8	259.05
18)	Consultancy Expenses	11.82	35.06	31.57	13.26	0.53
19)	Professional charges (not covered under employee expenses)	30.69	231.55	270.15	241.23	332.95
20)	Printing and Stationary	97.26	120.59	146.59	77.92	86.5
21)	Hiring of Vehicle (excluding construction & Corporate exp)	2,083.94	2,350.01	2,271.67	2,359.37	2,487.90
22)	Training and Recruitment expenses	215.17	949.63	952.36	593.2	557.98
23)	Rates and taxes	522.63	977.09	1,137.91	1,138.49	1,089.70
24)	Rebate to Customers	6,828.41	6,813.58	4,190.29	37,772.36	5,251.88
25)	Self Insurance Reserve	7,679.30	8,391.17	8,471.82	8,768.71	9,058.42
26)	Provisions (Provide details)	0	0	0	0	0
27)	Prior Period Adjustment , if any	0	0	0	0	0
28)	Any other A&G expenses (Provide details)	11,830.11	16,341.95	3,556.73	1,198.73	2,657.16
	Sub-total(A&G Expenses)	39,946.19	49,146.17	34,838.06	64,728.75	35,630.34
3.0	Employee Expenses					
1)	Salaries, wages and allowances	14,900.79	9,807.42	15,194.73	17,871.56	19,081.69
2)	Staff welfare expenses					
	a) Contribution to Provident and other funds	707.18	2,994.15	2,402.94	6,348.75	4,363.17
	b) Gratuity	-796.16	35.96	68.55	65.4	68.34
	c) Pension	740.8	188.01	218.25	228.02	232.62
	d) Employee Medical Expenses	966.64	1,248.76	1,041.63	1,084.32	1,667.08
	e) Liveries and Uniforms	92.42	498.3	1,269.54	646.32	566.71

Annexure VI- (B-1)

Details of Operation & Maintenance Expenses of Transmission O&M service (To be filled for each of the Transmission Region)

Name of Transmission Company:		POWER GRID TRANSMISSION OF INDIA LIMITED				
Name of Transmission Region:		Western Region				
(Rs. In Lakhs)						
Sr.No.	ITEM	2017-18	2018-19	2019-20	2020-21	2021-22
	f) Safety & Appliances expenses	41.59	82.62	78.21	12.54	73.07
	g) Others	860.22	1,356.82	1,374.45	1,174.45	2,149.24
3)	Productivity linked incentive	0	0	0	0	0
4)	Expenditure on VRS	0	0	0	0	0
5)	Ex-gratia	0	0	0	0	0
6)	Performance related pay (PRP)	2,473.29	5,504.69	6,046.20	6,750.88	6,493.86
7)	Any other expenses	0	0	0	0	0
8)	Provisions (furnish details separately)	0	0	0	0	0
9)	Prior Period Adjustment , if any (furnish details separately)	0	2.2	0	0	0
10)	VII Pay Arrears Paid Pertaining to period prior to 20	0	0	0	0	0
	Sub-total(Employee Expenses)	19,986.77	21,718.93	27,694.50	34,182.24	34,695.78
4.0	Additional /Specific Security it any on the advise of Govt. Agency/ Statutory Authority/ any other reasons	0	1.29	0	0	0
5.0	Loss of store/Disposal/Write off	0	0	0	0	0
6.0	Provisions (other than above)	0	0	0	0	0
7.0	Prior Period Adjustment , if any (not covered above)	0	0	0	0	0
8.0	Corporate office expenses allocation	0	0	0	0	0
	(i) Transmission O&M Service	14,178.89	10,422.29	9,581.23	8,845.59	9,343.30
	(ii) Projects under construction	0	0	0	0	0
	(iii) ULDC -Communication	0	0	0	0	0
	(iv) Consultancy services, if any	0	0	0	0	0
	(v) Other business (Telecom)	0	0	0	0	0
	(vi) Other business (if any)	0	0	0	0	0
9.0	Corporate Social Responsibility expenses	1,074.57	3,368.20	8,402.60	5,553.65	7,399.00
10.0	- Others (Specify items not included above)	0	0	0	0	0
	Sub Total (1 to 10)	93,471.66	1,04,775.08	1,00,986.48	1,32,343.81	1,11,103.04
11	Other Income, Revenue and Recoveries, if any	0	0	0	0	0
a)	Short term open access (other than transmission service)	0	0	0	0	0
b)	System & Market operation charges	0	0	0	0	0
c)	Interest on differential tariff recovered	0	0	0	0	0
d)	Consultancy Services	0	0	0	0	0
e)	Interest against Loans and advances	0	0	0	0	0
f)	Interest from advanced to contractors/suppliers	0	0	0	0	0
g)	Income from lease of assets	0	0	0	0	0
h)	Disposal of scrap/stores (not covered under capitalized assets)	0	0	0	0	0
i)	Interest on Government securities	0	0	0	0	0
j)	Miscellaneous income from operations	0	0	0	0	0
k)	Revenue/ Recoveries, if any	0	0	0	0	0
12	Net Expenses	93,471.66	1,04,775.08	1,00,986.48	1,32,343.81	1,11,103.04
13	Capital spares consumed not included in (A) (1) above and not claimed/allowed by Commission for capitalization	Capital Spares not claimed/allowed by CERC have been consumed as O&M Spares				
13A	Expenses against Capital expenditure incurred for Operation and Maintenance of Transmission System (not included in Capital Cost/Repair & Maintenance expenditure indicated 1.0(1) above)	1,087.85	To be claimed separately			
14	Total Expenses (12) + (13A)	94,559.51	1,04,775.08	1,00,986.48	1,32,343.81	1,11,103.04

Annexure VI- (B-1)

Details of Operation & Maintenance Expenses of Transmission O&M service (To be filled for each of the Transmission Region)

Name of Transmission Company:	POWER GRID TRANSMISSION OF INDIA LIMITED
Name of Transmission Region:	Western Region

(Rs. In Lakhs)

Sr.No.	ITEM	2017-18	2018-19	2019-20	2020-21	2021-22
Notes:						
	I. The details of Corporate Expenses and the methodology of allocation of corporate expenses to various functional activities					
	II. An annual increase in O&M expenses under a given head in excess of 10% percent should be explained.					
	III. The data should be based on audited balance sheets, duly reconciled and certified.					
	IV. Employee cost should be excluding arrears paid for pay hike/prior period adjustment / payment					
	IV. Details of arrears, if any, pertaining to period prior to the year 2017-18 should be mentioned separately.					
	V. No. of employees opting for VRS during each year should be indicated.					
	VI. Details of abnormal expenses, if any, shall be furnished separately.					
	VII Break-up of staff welfare expenses should be furnished					
	VIII Details of Consumptive Water requirement , contracted quantum and actual water consumed with source , rate etc.					
	IX. Details of capital spares consumed each year which were not claimed/allowed in the tariff should be furnished giving item					

Break Up of other A & G Expenses (Indicated at 2 (28) above)

Sr. No.	Item	2017-18	2018-19	2019-20	2020-21	2021-22
1	Tax and Statutory Audit Fees	48.97	98.12	155.87	90.82	104.16
2	EDP Expenses	26.44	548.61	321.14	313.36	318.42
3	Miscellaneous Expenses	4,484.00	3,920.88	1,029.09	766.48	2,278.46
4	Bad Debts Expenses	-	11,796.02	0.15	17.40	(47.39)
5	FERV Expense	7,270.70	(21.68)	2,050.48	10.67	3.50
	Total	11,830.11	16,341.95	3,556.73	1,198.73	2,657.16

Reason for Year on Year Variance

Name of Transmission Company:	POWER GRID TRANSMISSION OF INDIA LIMITED	
Name of Transmission Region:	Western Region	
Head	FY	Reason
Repairs of Plant & Machinery	2018-19	In FY 2017-18 , Actual Repairs of Plant & Machinery expense was approx 72 Crs . However inadvertently around Rs 22 Crs of it was shown as part of Consumption of Stores (not
Insurance	2018-19	Increase in insurance cost of HVDC substations
Security (General other than special)	2018-19	Changes due to increase in transmission assets
Advertisement and publicity	2018-19	Higher Advertisement expenditure due to new projects
Horticulture Expenses	2018-19	Increase due to addition of assets
Filing Fees	2018-19	Increase due to asset addition
Legal Expenses	2018-19	Increase in arbitration/ cases
Printing and Stationary	2018-19	Increase due to asset addition
Hiring of Vehicle (excluding construction & Corporate exp)	2018-19	Increase due to asset addition
Any other A&G expenses (Provide details)	2018-19	provision for bad debts and decrease in ferv

Head	FY	Reason
Rent	2019-20	Creation of Short term lease as per IND AS 116 for hiring of Vehicle
Communication Expenses	2019-20	Increase due to revision in employee entitlements.
Entertainment expenses	2019-20	Increase in expenses due to asset increase
Professional charges (not covered under employee exp)	2019-20	Increase due to asset addition
Printing and Stationary	2019-20	Increase due to asset addition
Rates and taxes	2019-20	Increase due to asset addition
Rebate to Customers	2019-20	Reduction in rebate due to change of rate from 2% to 1.5% in new tariff block
Any other A&G expenses (Provide details)	2019-20	increase in FERV and decrease of bad debts and increase in rldc Fees

Head	FY	Reason
1. Repairs of Plant & Machinery	2020-21	Replacement of Faltenbalg in convertor transformer at Bhadrawati in 2019-20
Traveling and conveyance	2020-21	Decrease mainly due to Covid-19 impact
Communication Expenses	2020-21	Decrease in mobile charges due to covid 19
Advertisement and publicity	2020-21	Due to reduction in advertisement cost for tender notices due to shift to online mode
Entertainment expenses	2020-21	Increase in expenses due to asset increase
Legal Expenses	2020-21	Reduction due to Covid 19
Training and Recruitment expenses	2020-21	Reduction in training cost due to covid 19
Rebate to Customers	2020-21	Reduction in rebate due to covid
Any other A&G expenses (Provide details)	2020-21	decrease in ferv
Rent	2020-21	reduction in Short term lease as per IND AS 116 for hiring of Vehicle
Rebate to Customers	2020-21	Increase in rebate due to special covid rebate

Head	FY	Reason
Repairs of Plant & Machinery	2021-22	Refurbishment of 25 years old converter transformers at Bhadrawati for improvement of reliability of HVDC Bhadrawati system
Insurance	2021-22	Increase in insurance cost of HVDC substations and addition of new asset
Electricity Charges	2021-22	Increase due to addition of HVDC Assets
Traveling and conveyance	2021-22	Increase in travel due to relaxation of covid norms
7. Advertisement and publicity	2021-22	Higher Advertisement expenditure due to new projects
Horticulture Expenses	2021-22	Increase due to addition of assets
Entertainment expenses	2021-22	Increase in expenses due to asset increase
Professional charges (not covered under employee exp)	2021-22	Increase due to asset addition
Rebate to Customers	2021-22	Decrease in rebate due to special covid rebate given in FY 2020-21.
Any other A&G expenses (Provide details)	2021-22	increase in rldc fees due to asset addition
Electricity Charges	2021-22	General increase in electricity charges

Details of Operation & Maintenance Expenses of Transmission O&M service (To be filled for each of the

Name of Transmission Company:		POWER GRID TRANSMISSION OF INDIA LIMITED				
Name of Transmission Region:		WR-ULDC				
(Rs. In Lakhs)						
Sr.No	ITEM	2017-18	2018-19	2019-20	2020-21	2021-22
1	2	3	4	5	6	7
1.0	Repairs and Maintenance Expenses :					
1)	Repairs of Plant & Machinery	62.57	116.95	147.59	178.37	117.73
2)	Consumption of Stores (not capitalized)	66.36	63.07	31.12	0.00	0.00
3)	Consumption of Spares (not capitalized)	Included in 1.0 (1)				
4)	Patrolling expenses	Included in natural heads of expenditure				
5)	Power Charges (electricity consumed for repairing activity)	0.00	0.00	0.22	1.28	2.67
6)	Expenses of Diesel Generating sets	0.00	0.02	0.00	0.00	0.00
7)	Provisions	0.00	0.00	0.00	0.00	0.00
8)	Prior Period Adjustment , if any	0.00	0.00	0.00	0.00	0.00
9)	Other expenses, if any (please provide details)	0.00	0.00	0.00	0.00	0.00
	Sub-total (R&M Expenses)	128.94	180.05	178.93	179.65	120.40
2.0	Administrative & General Expenses:					
1)	Insurance	0.00	0.00	0.00	0.00	0.00
2)	Security (General other than special)	2.06	0.00	0.00	0.00	0.00
3)	Rent	1.63	1.56	1.47	1.31	0.98
4)	Electricity Charges	0.00	0.00			
5)	Traveling and conveyance	17.20	0.15	0.73	2.04	-0.24
6)	Communication expenses	3.12	0.09	0.30	0.36	0.94
7)	Advertisement and publicity	2.94	0.00	2.96	9.88	0.00
8)	Foundation laying and inauguration	0.00	0.00	0.00	0.00	0.00
9)	Books Periodicals and Journals	0.08	0.00	0.00	0.00	0.00
10)	Research expenses	0.00	0.00	0.00	0.00	0.00
11)	Cost Audit Fees	0.17	0.00	0.00	0.00	0.05
12)	Horticulture Expenses	0.19	0.00	0.00	0.00	0.00
13)	Bandwidth charges dark fibre lease charges (Telecom) etc	93.50	188.57	187.39	179.71	98.28
14)	Donations expenses	0.00	0.00	0.00	0.00	0.00
15)	Entertainment expenses	1.06	0.13	0.11	0.17	0.15
16)	Filing Fees	8.14	0.00	11.78	20.52	19.72
17)	Legal Expenses	0.75	0.00	0.00	0.00	0.00
18)	Consultancy Expenses	0.06	0.00	0.00	0.00	0.00
19)	Professional charges (not covered under employee expenses)	0.00	0.00	0.26	0.00	0.00
20)	Printing and Stationary	0.05	0.00	0.00	0.00	0.00
21)	Hiring of Vehicle (excluding construction & Corporate exp)	1.80	0.00	0.00	0.00	58.19
22)	Training and Recruitment expenses	2.60	0.00	0.36	0.02	0.47
23)	Rates and taxes	0.00	0.00	0.00	-0.03	0.00
24)	Rebate to Customers	0.00	41.48	26.42	138.62	21.38
25)	Self Insurance Reserve	0.00	0.00	0.00	0.00	0.00
26)	Provisions (Provide details)	0.00	0.00	0.00	0.00	0.00
27)	Prior Period Adjustment , if any	0.00	0.00	0.00	0.00	0.00
28)	Any other A&G expenses (Provide details)	189.88	224.86	278.95	342.45	6.45
	Sub-total(A&G Expenses)	325.24	456.84	510.72	695.04	206.37

Details of Operation & Maintenance Expenses of Transmission O&M service (To be filled for each of the

Name of Transmission Company:		POWER GRID TRANSMISSION OF INDIA LIMITED				
Name of Transmission Region:		WR-ULDC				
(Rs. In Lakhs)						
Sr.No	ITEM	2017-18	2018-19	2019-20	2020-21	2021-22
1	2	3	4	5	6	7
3.0	Employee Expenses					
1)	Salaries, wages and allowances	38.75	6.50	29.87	42.01	36.27
2)	Staff welfare expenses	0.00	0.11	0.39	1.21	0.47
	a) Contribution to Provident and other funds	1.97				
	b) Gratuity	-2.23	1.00	-1.77	4.87	0.09
	c) Pension	3.10	0.00	0.00	0.14	0.15
	d) Employee Medical Expenses	0.04	0.04	0.12	0.34	0.03
	e) Liveries and Uniforms	2.69	0.09	0.26	2.90	0.04
	f) Safety & Appliances expenses	0.19	0.00	0.20	1.62	1.41
	g) Safety & Appliances expenses	0.09	0.00	0.00	0.00	0.00
	g) Others	2.24	0.00	0.00	0.00	0.00
3)	Productivity linked incentive	0.00	0.00	0.00	0.00	0.00
4)	Expenditure on VRS	0.00	0.00	0.00	0.00	0.00
5)	Ex-gratia	0.00	0.00	0.00	0.00	0.00
6)	Performance related pay (PRP)	0.00	0.00	0.00	0.00	0.00
7)	Any other expenses	5.90	0.00	8.91	12.06	15.70
8)	Provisions (furnish details separately)	0.00	0.00	0.00	0.00	0.00
9)	Prior Period Adjustment , if any (furnish details separately)	0.00	0.00	0.00	0.00	0.00
10)	VII Pay Arrears Paid Pertaining to period prior to 2	0.00	0.00	0.00	0.00	0.00
	Sub-total(Employee Expenses)	52.69	7.74	37.97	65.15	54.14
4.0	Additional /Specific Security it any on the advise of Govt. Agency/ Statutory Authority/ any other reasons	0.00	0.00	0.00	0.00	0.00
5.0	Loss of store/Disposal/Write off	0.00	0.00	0.00	0.00	0.00
6.0	Provisions (other than above)	0.00	0.00	0.00	0.00	0.00
7.0	Prior Period Adjustment , if any (not covered above)	0.00	0.00	0.00	0.00	0.00
8.0	Corporate office expenses allocation	0.00	0.00	0.00	0.00	0.00
	(i) Transmission O&M Service	0.00	0.00	0.00	0.00	0.00
	(ii) Projects under construction	0.00	0.00	0.00	0.00	0.00
	(iii) ULDC -Communication	0.00	14.72	55.50	0.00	0.00
	(iv) Consultancy services, if any	0.00	0.00	0.00	0.00	0.00
	(v) Other business (Telecom)	0.00	0.00	0.00	0.00	0.00
	(vi) Other business (if any)	0.00	0.00	0.00	0.00	0.00
9.0	Corporate Social Responsibility expenses	0.00	0.00	0.00	0.00	0.00
10.0	- Others (Specify items not included above)	0.00	0.00	0.00	0.00	0.00
	Sub Total (1 to 10)	506.86	659.35	783.12	939.84	380.91
11	Other Income, Revenue and Recoveries, if any	0.00	0.00	0.00	0.00	0.00
a)	Short term open access (other than transmission service)	0.00	0.00	0.00	0.00	0.00
b)	System & Market operation charges	0.00	0.00	0.00	0.00	0.00
c)	Interest on differential tariff recovered	0.00	0.00	0.00	0.00	0.00
d)	Consultancy Services	0.00	0.00	0.00	0.00	0.00

Details of Operation & Maintenance Expenses of Transmission O&M service (To be filled for each of the

Name of Transmission Company:	POWER GRID TRANSMISSION OF INDIA LIMITED
Name of Transmission Region:	WR-ULDC

(Rs. In Lakhs)

Sr.No	ITEM	2017-18	2018-19	2019-20	2020-21	2021-22
1	2	3	4	5	6	7
e)	Interest against Loans and advances	0.00	0.00	0.00	0.00	0.00
f)	Interest from advanced to contractors/suppliers	0.00	0.00	0.00	0.00	0.00
g)	Income from lease of assets	0.00	0.00	0.00	0.00	0.00
h)	Disposal of scrap/stores (not covered under capitalized assets)	0.00	0.00	0.00	0.00	0.00
i)	Interest on Government securities	0.00	0.00	0.00	0.00	0.00
j)	Miscellaneous income from operations	0.00	0.00	0.00	0.00	0.00
k)	Revenue/ Recoveries, if any	0.00	0.00	0.00	0.00	0.00
12	Net Expenses	506.86	659.35	783.12	939.84	380.91
13	Capital spares consumed not included in (A) (1) above and not claimed/allowed by Commission for capitalization	Capital Spares not claimed/allowed by CERC have been consumed as O&M Spares				
13A	Expenses against Capital expenditure incurred for Operation and Maintenance of Transmission System (not included in Capital Cost/Repair & Maintenance expenditure indicated 1.0(1) above)					
14	Total Expenses (12) + (13A)	506.86	659.35	783.12	939.84	380.91

Notes :						
	I. The details of Corporate Expenses and the methodology of allocation of corporate expenses to various functional activities and					
	II. An annual increase in O&M expenses under a given head in excess of 10% percent should be explained.					
	III. The data should be based on audited balance sheets, duly reconciled and certified.					
	IV. Employee cost should be excluding arrears paid for pay hike/prior period adjustment /payment					
	IV. Details of arrears, if any, pertaining to period prior to the year 2017-18 should be mentioned separately.					
	V. No. of employees opting for VRS during each year should be indicated.					
	VI. Details of abnormal expenses, if any, shall be furnished separately.					
	VII Break-up of staff welfare expenses should be furnished					
	VIII Details of Consumptive Water requirement , contracted quantum and actual water consumed with source , rate etc. Should be					
	IX. Details of capital spares consumed each year which were not claimed/allowed in the tariff should be furnished giving item wise					

Break Up of other A & G Expenses (Indicated at 2 (28) above)						
Sr. No	Item	2017-18	2018-19	2019-20	2020-21	2021-22
1	Tax and Statutory Audit Fees	0	0	0	0	0
2	EDP Expenses	0.15	0	0	0	0
3	Miscellaneous Expenses	189.73	70.57	126.82	74.20	6.45
4	Bad Debts Expenses	0	0	0	0	0
5	FERV Expense	0	154.29	152.13	268.25	0
	Total	189.88	224.86	278.95	342.45	6.45

Additional Region-wise Information required from Transmission Licensees

Name of Transmission Company:	Power Grid Corporation of India Limited
Name of Transmission Region:	Western Region

Table-1- Length (km) of Transmission Lines in Commercial Operation

		Status as on				
		1.4.2018	1.4.2019	1.4.2020	1.4.2021	1.4.2022
1	HVDC					
	a) S/C	0.00	0.00	0.00	0.00	0.00
2	765 kV					
	a) S/C	7142.836	7142.836	7142.836	7142.836	7142.836
	b) D/C	3892.435	4633.168	4633.168	4633.168	4633.168
3	765 kV Charged at 400 KV					
	a) S/C	0.00	0.00	0.00	0.00	0.00
	b) D/C	0.00	0.00	0.00	0.00	0.00
4	400 kV					
	a) S/C	3118.01	3118.01	3118.01	3118.01	3118.01
	b) D/C	12768.02	12890.14	12939.34	13353.64	13353.64
	c) M/C	49.73	56.38	56.38	56.38	56.38
	d) D/C on M/C	5.47	5.47	5.47	5.47	5.47
5	400 kV Charged at 220 KV					
	a) D/C	0.00	0.00	0.00	0.00	0.00
5	400 kV Charged at 132 KV					
	a) D/C	0.00	0.00	0.00	0.00	0.00
6	220 kV					
	a) S/C	204.560	204.560	204.560	204.560	204.560
	b) D/C	538.409	538.409	538.409	538.409	557.004
7	Up to 132 kV					
	a) S/C	0.00	0.00	0.00	0.00	0.00
	b) D/C	0.00	0.00	0.00	0.00	0.00

Table-2-Ckt km by Conductor Configuration

		Type of Conductor	Status as on				
			1.4.2018	1.4.2019	1.4.2020	1.4.2021	1.4.2022
1	Hexa	Zebra D/C	7784.87	9266.336	9266.336	9266.336	9266.336
2	Quad	Bersimis S/C	7142.84	7142.836	7142.836	7142.836	7142.836
		Moose D/C	3830.68	3830.68	3830.68	4528.68	4528.68
		Moose S/C	0.00	0	0	0	0
		AAAC D/C	703.46	703.458	703.458	703.458	703.458
		Moose M/C	225.54	225.536	225.536	225.536	225.536
3	Triple	Snowbird D/C	3064.63	3163.037	3261.444	3261.444	3261.444
4	Twin	Moose S/C	3118.01	3118.01	3118.01	3118.01	3118.01
		Moose D/C	16866.62	16910.028	16910.028	17040.688	17040.688
		ACKC D/C	1184.00	1184	1184	1184	1184
5	Single	ACSR Zebra D/C	1076.82	1076.818	1076.818	1076.818	1114.008
		AAAC Zebra S/C	204.56	204.56	204.56	204.56	204.56
Grand Total			45202.02	46825.30	46923.71	47752.37	47789.56

Additional Region-wise Information required from Transmission Licensees

Name of Transmission Company:		Power Grid Corporation of India Limited					
Name of Transmission Region:		Western Region					
Table-3- Number of AC Substations in Commercial Operation							
Status as on							
			1.4.2018	1.4.2019	1.4.2020	1.4.2021	1.4.2022
1	765 kV		19	21	21	21	21
2	400 kV		23	24	24	25	25
3	220 kV		0	0	0	0	0
4	Up to 132 kV		0	0	0	0	0

Table-4- Number of Sub-station bays in Commercial Operation

Status as on							
			1.4.2018	1.4.2019	1.4.2020	1.4.2021	1.4.2022
1	HVDC		55	55	79	108	137
2	765 kV		269	315	324	324	336
3	400 kV		557	606	612	624	643
4	220 kV		184	211	213	225	235
5	Up to 132 kV		0	0	0	0	0

Table-5- Cost of Outsourcing of Services (Rs. lakh)

			2017-18	2018-19	2019-20	2020-21	2021-22
	Substation O&M		2,072.85	2,086.21	4,521.44	2,390.50	7,331.25
	Lines O&M		965.90	934.71	869.67	840.80	875.15
	Security		3,200.65	3,657.99	3,883.84	3,996.73	4,168.68
	Others		421.01	400.72	523.08	563.85	579.90
	Grand Total		6,660.41	7,079.63	9,798.03	7,791.88	12,954.98

Table-6- Total O&M Expenditure Including RHQ, but Excluding HVDC Stations (Rs lakh)

			2017-18	2018-19	2019-20	2020-21	2021-22
	O&M		92899	100574	93817	126291	100054
	Total		92899	100574	93817	126291	100054

Annexure X

Name of Transmission Company:		Power Grid Corporation of India Limited			
Name of Transmission Region:		Western Region			
Station wise O&M Expenditure at HVDC Station (Rs. lakh)					
Particulars	2017-18	2018-19	2019-20	2020-21	2021-22
Name of HVDC Station:	Bhadrawati-HVDC				
i) No of Employees	12.00	26.00	31.00	34.00	45.00
ii) A&G Expenses	705.00	601.00	507.00	482.00	521.00
iii) Repairs & Maintenance	268.00	850.00	3,528.00	741.00	4,455.00
iv) Employee Expenses*	242.00	503.00	482.00	575.00	699.00
v) Corporate expenses allocated	Included in Annexure VI-BI				
vi) Other income					
vii) Any other income					
Total Expenditure	1,215.39	1,954.00	4,517.00	1,798.00	5,675.00

* Excluding VII Pay arrear paid for period prior to FY 2017-18

Particulars	2017-18	2018-19	2019-20	2020-21	2021-22
Name of HVDC Station:	Champa-HVDC				
i) No of Employees	17.00	26.00	29.00	31.00	37.00
ii) A&G Expenses	267.02	793.42	866.98	1,549.71	1,347.60
iii) Repairs & Maintenance	7.36	1,246.96	1,512.40	1,172.08	896.33
iv) Employee Expenses*	170.95	206.33	273.13	356.26	928.87
v) Corporate expenses allocated	Included in Annexure VI-BI				
vi) Other income					
vii) Any other income	-	-	-	-	-
Total Expenditure	445.33	2,246.71	2,652.51	3,078.05	3,172.80

* Excluding VII Pay arrear paid for period prior to FY 2017-18

Particulars	2017-18	2018-19	2019-20	2020-21	2021-22
Name of HVDC Station:	Raigarh HVDC				
i) No of Employees	-	-	-	15.00	23.00
ii) A&G Expenses	-	-	-	357.24	991.76
iii) Repairs & Maintenance	-	-	-	105.77	564.33
iv) Employee Expenses*	-	-	-	713.63	644.86
v) Corporate expenses allocated	Included in Annexure VI-BI				
vi) Other income	-	-	-	-	-
vii) Any other income	-	-	-	-	-
Total Expenditure	-	-	-	1,176.64	2,200.95

* Excluding VII Pay arrear paid for period prior to FY 2017-18

Additional Region-wise Information required from Transmission Licensees (Communication System)

Name of Transmission Company:	Power Grid Corporation of India Limited				
Name of Transmission Region:	Western Region				
Table-1- Details of Communication system in Commercial Operation					
Particulars	Status as on				
	1.04.2018	1.04.2019	1.04.2020	1.04.2021	1.04.2022
OPGW	10223	12014	12547	13211	14557
Number of wideband Communication	120	139	145	150	180
Number of RTUs in operation	9	9	9	9	9
Number of PLCC links in operation	0	0	0	0	0
Number of PMUs in Operation	7	373	407	407	407
Number of Auxiliary Power Supply Nodes	28	37	50	50	65
Table-2- Cost of Services					
Particulars	2017-18	2018-19	2019-20	2020-21	2021-22
Communication system O&M	0.02	0.09	199.03	240.85	208.04
PLCC O&M	0.00	0.00	0.00	0.00	0.00
RTU O&M	0.00	0.00	0.00	0.00	0.00
Auxiliary Power Supply O&M	0.00	0.02	0.22	1.28	2.67
Hiring charges of Bandwidth	140.75	220.86	234.99	231.71	152.28
Security	5.90	0.00	0.00	0.00	0.00
Others	315.66	377.76	469.71	511.19	195.42
Total	462.34	598.73	903.95	985.02	558.41

Annexure-XII (C)

Name of Transmission Company:		Power Grid Corporation of India Limited	
Name of Transmission Region:		Western Region	
Standard list of Capital Spare for Communication system needs to be submitted			
OPGW/SDH/MUX/PLCC			
S.No	Name of capital spare	Qty (Nos)	Cost (Rs) in Lakhs
1	OPGW and Approach cable & accessories	LOT	399.32
2	Communication Equipment and auxiliary power supply spares	LOT	250.56
3	URTDSM Spares	LOT	286.12

Standard list of O&M Spare for OPGW/SDH/MUX/PLCC /RTU cards/DC Modules needs to be submitted			
OPGW/SDH/MUX/PLCC/			
S.No	Name of O&M spare	Qty (Nos)	Cost (Rs) Lakh
1	OPGW & associated hardware	100kM	168.19

Standard List of OPGW Spare	
OPGW FIBR OPTIC CABLE	
SUSPENSION CLAMP ASSY-24 FIBRE OPGW	
TENSION ASSEMBLY DEAD END 24F OPGW	
TENSION ASSEMBLY SPLICING-24F OPGW	
TENSION ASSEMBLY PASS THROUGH 24F OPGW	
TENSION ASSEMBLY ON SUSPENSION-24F OPGW	
VIBRATION DAMPER-24 FIBRE OPGW	
DOWN LEAD CLAMP ASSY-24 FIBRE OPGW	
JOINT BOX-24 FIBRE OPGW	
Approach Cable	
Standard List of Communication Eqp Spare	
SDH Equipment (STM-16 MADM, upto 3 MSP protected direction)	
Common cards, Cross-connect/control cards, Optical base card, Power supply cards, power	
Optical Interface/SFP## for:	
S4.1	
L4.1	
L4.2	
S16.1	
L16.1	
L16.2	
V16.2	
Optical Line Interface card (to support minimum 150 km) for STM-16*	
Optical Line Interface card (to support minimum 225 km) for STM-16*	
(1) To support minimum 175 km	
(2) To support minimum 200 km	
(3) to support minimum 225 km	
Optical Line Interface card (to support minimum 150 km) for STM-4*	
Optical Line Interface card (to support minimum 250 km) for STM-4*	
(1) to support minimum 175 km	
(2) to support minimum 200 km	
(3) to support minimum 225 km	
(4) to support minimum 250 km	
Tributary Cards	
E1 Interfaces (Minimum 63 nos.)	
Ethernet interfaces 10/100 Mbps with Layer-2 switching (Minimum 16 nos.)	
Gigabit Ethernet interface# SFP with Layer-2 switching (Minimum 2 nos.)	
SDH Equipment (STM-4 MADM, upto 3 MSP protected direction)	
Common cards, Cross-connect/control cards, Optical base card, Power supply cards, power	
Optical Interface/SFP@ for:	
S4.1	
L4.1	
L4.2	
V4.2	
S1.1	
L1.1	
L1.2	
Optical Line Interface card (to support minimum 150 kms)*	
Optical Line Interface card (to support upto 250 kms)*	

Annexure-XII (C)

Name of Transmission Company:		Power Grid Corporation of India Limited
Name of Transmission Region:		Western Region
	(1) to support minimum 175 km	
	(2) to support minimum 200 km	
	(3) to support minimum 225 km	
	(4) to support minimum 250 km	
	Tributary Cards	
	E1 Interfaces (Minimum 63 nos.)	
	Ethernet interfaces 10/100 Mbps with Layer-2 switching (Minimum 16 nos.)	
	Pre Connectorized Optical Fiber Patch Cords (10 Mtrs) - Pack of six Patch cords	
	Multiplexers	
	Termination Equipment	
	Drop & Insert Multiplexer	
	Subscriber Line Interface Cards	
	2 wire (sub/sub) voice channel cards (min 8 channels per card)	
	2 wire (sub/Exch) voice channel cards (min 8 channels per card)	
	4 wire (E&M) voice channel cards (min 8 channels per card)	
	Asynchronous Sub Channels data cards (V.24/V.28), minimum 4 channels per card	
	Synchronous data card (N*64 kbps)	
	DCPS	
	Digital Access Cross Connect Switch (DACs)	
	DC Modules	
	MCCB/MCB-2P/ Contactor/ Timer/ Relay of each type & rating (as applicable)	
	Single Pole MCBs (for outgoing DC Feeders)	
	Electronic Printed Circuit Board / Card of each type (all cards/module including SMPS	

A	Spares for URTDSM system	
1.	Following Spares @ 10% of the supplied quantity or minimum one no of each type (whichever	
(a)	Servers	
(a.1)	Servers for RLDCs	
(a.2)	Servers for SLDCs	
(b)	LAN Switches	
(b.1)	Lan Switch for RLDCs	
(b.2)	Lan Switch for SLDCs	
(c)	WAN Router	
(c.1)	WAN Router for RLDCs	
(c.2)	Wan Router for SLDCs	
(d)	Workstation Console integrated with dual Touch-screen Monitors	
(d.1)	Work Station for RLDCs	
(d.2)	Work Station for SLDCs	
(e)	GPS receivers at control center	
(e.1)	GPS receivers at control center RLDCs	
(e.2)	GPS receivers at control center SLDCs	
2	Spares for Historian Solution	
(i)	10% of the critical items at every control center like Dual redundant power supplies,	
(i) a	Spares for Historian Solution for RLDCs	
(i) b	Spares for Historian Solution for SLDCs	
3	Spares for Substation Equipment	
(a) (i)	10% of the PMUs of each configuration supplied in every State and Region (complete with all	
(a) (ii)	10% of the PMUs of each configuration supplied in every State and Region (complete with all	
(b)	10% of the GPS Receivers supplied in every State and Region	
(c)	10% of the Substation grade L-3 LAN switches of each type in every State and Region	
B	Following Spares for Auxiliary Power Supply system shall be provided for every Control	
1.	MCCB/MCB/Isolator/ Switch/ Contactor of each type & rating (as applicable & used inside	
2.	Fuse of each type & rating (if applicable) RLDCs	
3.	DC Filter assembly RLDCs	
4.	Input AC Filter assembly RLDCs	
5.	Output AC Filter assembly RLDCs	
6.	Electronic Printed Circuit Board / Card of each type (including all cards/modules for	
7.	Power Semiconductor devices of each type & rating such as SCRs, IGBTs etc. for	

Auxiliary Consumption separately for 132kV, 220kV, 400kV & 765kV AC and HVDC Substation Separately

Name of Transmission Company: Power Grid Corporation of India Limited

Name of Transmission Region: Western Region

S.no	Voltage	Name of Substation	2017-18		2018-19		2019-20		2020-21		2021-22	
			MU	%	MU	%	MU	%	MU	%	MU	%
1	765	Wardha	1.420	-	1.266	-	1.243	-	1.334	-	1.239	-
2	765	Tamnar Pooling	0.780	-	0.883	-	0.779	-	0.779	-	0.839	-
3	765	Solapur	0.880	-	2.061	-	2.032	-	2.081	-	2.032	-
4	765	Seoni	1.250	-	1.197	-	1.085	-	1.100	-	1.135	-
5	400	Raipur	1.910	-	1.881	-	1.940	-	1.755	-	1.621	-
6	765	Raipur Pooling(Durg)	0.950	-	1.063	-	0.957	-	1.179	-	1.404	-
7	400	Raigarh 400	0.760	-	0.810	-	0.660	-	0.833	-	0.626	-
8	HVDC	Raigarh HVDC	NA	-	NA	-	NA	-	3.183	-	11.534	-
9	765	Pune 765	0.860	-	1.016	-	1.035	-	0.947	-	1.157	-
10	400	Pune-Talegaon	0.750	-	0.666	-	0.665	-	0.665	-	0.663	-
11	400	Parli 400KV	0.630	-	0.612	-	0.691	-	0.706	-	0.727	-
12	765	Padghe	0.040	-	0.598	-	0.565	-	0.543	-	0.584	-
13	400	Mapusa	0.560	-	0.465	-	0.489	-	0.539	-	0.512	-
14	765	Kotra Pooling	1.424	-	1.705	-	1.824	-	1.541	-	1.562	-
15	400	Kolhapur	0.340	-	0.407	-	0.390	-	0.465	-	0.448	-
16	765	Korba Pooling	1.350	-	1.291	-	1.302	-	1.386	-	1.295	-
17	HVDC	Bhadravati HVDC	8.750	-	7.083	-	6.833	-	7.089	-	6.877	-
18	765	Champa	1.250	-	1.252	-	1.186	-	1.160	-	1.182	-
19	HVDC	Champa HVDC	17.230	-	12.200	-	13.250	-	15.620	-	16.200	-
20	765	Bilaspur	0.950	-	0.849	-	1.015	-	1.119	-	0.930	-
21	400	Bhatapara	0.550	-	0.482	-	0.594	-	0.527	-	0.529	-
22	765	Aurangabad	1.100	-	2.114	-	2.042	-	2.198	-	2.034	-
23	400	Bhadravati	0.856	-	0.874	-	0.877	-	0.861	-	0.817	-
24	400	Jabalpur	1.420	-	0.810	-	0.808	-	0.982	-	1.044	-
25	400	Itarsi	0.880	-	1.233	-	0.945	-	0.848	-	1.010	-
26	400	Dehgam	1.250	-	1.550	-	1.323	-	1.290	-	1.239	-
27	765	Satna	2.300	-	2.443	-	2.144	-	2.142	-	2.119	-
28	400	Khandwa	1.120	-	1.188	-	1.081	-	1.065	-	1.049	-
29	400	Vapi	0.975	-	0.605	-	0.516	-	0.589	-	0.556	-
30	400	Bina	1.620	-	1.754	-	1.938	-	1.737	-	1.636	-
31	765	Gwalior	0.940	-	1.554	-	1.253	-	1.268	-	1.328	-
32	400	Rajgarh	0.600	-	0.576	-	0.560	-	0.592	-	0.568	-
33	400	Damoh	0.580	-	0.526	-	0.435	-	0.525	-	0.539	-
34	400	Pirana	0.520	-	0.615	-	0.544	-	0.537	-	0.541	-
35	400	Shujalpur	0.560	-	0.554	-	0.465	-	0.459	-	0.469	-
36	400	Bhachau	0.520	-	0.768	-	0.667	-	0.694	-	0.690	-
37	400	Navsari GIS	1.320	-	0.575	-	0.401	-	0.426	-	0.497	-
38	765	Indore	0.900	-	1.709	-	0.879	-	0.868	-	0.676	-
39	765	Jabalpur Pool	1.390	-	1.636	-	1.512	-	1.229	-	1.358	-
40	400	Kala GIS	0.140	-	0.335	-	0.414	-	0.454	-	0.457	-
41	400	Magarwada GIS	0.490	-	0.506	-	0.622	-	0.521	-	0.520	-
42	400	Boisar	0.720	-	0.611	-	0.645	-	0.741	-	0.774	-
43	765	Vindhyachal	0.470	-	0.844	-	0.878	-	0.624	-	0.771	-
44	765	Vadodara GIS	0.670	-	0.868	-	0.666	-	0.834	-	0.919	-
45	400	Betul GIS	0.250	-	0.509	-	0.513	-	0.610	-	0.560	-
46	400	Rewa	NA	-	0.140	-	0.184	-	0.179	-	0.112	-
47	765	Banaskantha	NA	-	NA	-	0.785	-	0.950	-	0.932	-
48	765	Bhuj	NA	-	NA	-	0.688	-	0.824	-	0.747	-
49	400	Vav	NA	-	NA	-	NA	-	0.338	-	0.524	-

Details of incidental Expenses During Construction (IEDC) including compensation, employee expenses and other							
Sl. No.	Name of Scheme	Sub-station (S/s)/ Transmission Line (TL)	MVA/ Line Length (km)	Compensation (Forest, crop, Tree, PTCC)	Employee Expenses	Administrative & General Expenses	Any other expenses
1.	Installation of Bus Reactors & ICT in WR	SS			38	-158	-
2.	Wardha-Hyderabad 765kV Link	TL			478	133	-
3.	Wardha-Hyderabad 765kV Link	SS			369	103	-
4.	LARA STPS-I	TL			524	201	-
5.	LARA STPS-I	SS			116	44	-
6.	TS associated with Mauda Stage-II (2x660MW)	TL			1,020	518	-
7.	Inter-regional system strengthening scheme in WR	SS			177	76	-
8.	Solapur STPP (2x660 MW) Part-A	TL			19	2	-
9.	Solapur STPP (2x660 MW) Part-A	SS			51	18	-
10.	IPPD Transmission system	TL			1,990	41	-
11.	IPPE Transmission system	TL			1,913	25	-
12.	IPPE Transmission system	SS			1,494	40	-
13.	TS asso. With East Coast & NCC projects in	SS			140	-20	-
14.	WR1-Installn of Transformer & Proc. of Spare Conv. Transformer at Bhadrawati HVDC Bk to Bk Station	SS			48	11	-
15.	WR1-Installn of Transformer & Proc. of Spare Conv. Transformer at Bhadrawati HVDC Bk to Bk Station	SS			370	83	-
16.	POWERGRID Works Associated with Western Region Strengthening Scheme - XV (WRSS-XV)	SS			101	51	-
17.	(Gadarwara STPS (2x800MW) of NTPC Ltd - Part B" (WRSS-XV)	SS			88	204	-
18.	Installation of Statcoms in Western Region	SS			100	232	-
19.	Installation of Statcoms in Western Region	SS			19	4	-
20.	WRSS-XVII	SS			50	10	-
21.	PG Works TBCB WR Schemes-32 & 33 ECM (PART-E out of 5 parts)	SS			155	63	-
22.	POWERGRID Works associated with System Strengthening for IPPs in Chhattisgarh and other generation projects in Western Region	SS			146	59	-
23.	POWERGRID Works associated with System Strengthening for IPPs in Chhattisgarh and other generation projects in Western Region	TL			1,590	109	-
24.	Common System associated with East Coast Energy Private Limited and NCC, Power Projects Limited LTOA Generation Projects in Srikakulam Area-Part-B	SS			294	42	-
25.	PG Works TBCB WR Schemes-32 & 33 ECM (PART-E out of 5 parts)	SS			146	28	-
26.	SS Works asso. with Common TS for Ph.-II Generation Projects Immediate Evacuation Sys. for OPGC Project in Odisha	SS			166	12	-
27.	Western Region Sys Strengthening Scheme - XVII	SS			239	51	-
28.	Western Region Sys Strengthening Scheme - XVIII	SS			285	60	-
29.	Western Region Sys Strengthening Scheme - XVIII	SS			335	70	-
30.	Western Region Sys Strengthening Scheme - XVIII	SS			201	42	-
31.	TS Asso. with Mundra Ultra Mega Power Project	SS			26	9	-
32.	PG Works TBCB WR Schemes-32 & 33 ECM (PART-D out of 5 parts)	SS			120	18	-
33.	Raigarh-Pugalur HVDC Project	SS			536	468	-
34.	Raigarh-Pugalur HVDC Project	TL			42	37	-
35.	P442_04_PUNE-GIS-765KV-EXTENSION	SS			1,030	417	-
36.	TS Asso. with Mundra Ultra Mega Power Project	TL			2,293	103	-
37.	WESTERN REGION STRENGTHENING SCHEME-XX:(P500)	SS			115	459	-

Details of incidental Expenses During Construction (IEDC) including compensation, employee expenses and other							
Sl. No.	Name of Scheme	Sub-station (S/s)/ Transmission Line (TL)	MVA/ Line Length (km)	Compensation (Forest, crop, Tree, PTCC)	Employee Expenses	Administrative & General Expenses	Any other expenses
38.	WESTERN REGION STRENGTHENING SCHEME-XX:(P500)	SS			40	158	-
39.	WESTERN REGION STRENGTHENING SCHEME-XX:(P500)	SS			105	421	-
40.	WESTERN REGION STRENGTHENING SCHEME-XX:(P500)	SS			109	434	-
41.	Western Region Strengthening Scheme-XXIII(WRSS-XXIII)	SS			7	64	-
42.	Western Region Strengthening Scheme-XXIII(WRSS-XXIII)	SS			11	106	-
43.	INTER-REGIONAL SYSTEM STRENGTHENING SCHEME FOR WR AND NR - PART-B	SS				2	-
44.	Installation of Bus Reactor and ICT in Western Region	SS				68	-
45.	POWERGRID works associated with Part-A of Transmission System for Gadarwada STPS of NTPC	SS				19	-
46.	Transmission System associated with Kakrapar Atomic Power Project - 3&4	TL				491	-
47.	Substation extensions for Transmission System associated with Vindhyachal - V (500 MW) project of NTPC (Part-A)	SS				47	-
48.	Western Region System Strengthening Scheme - XIV	SS				219	-
49.	Transmission System associated with Mauda Stage-II (2 x 660 MW) generation project	TL				1,335	-
50.	under Installation of Bus Reactor and ICT in Western Region	SS				6	-
51.	Transmission System Strengthening associated with Mundra UMPP (Part A)	TL				184	-
52.	Western Region System Strengthening Scheme - XVI	SS				53	-
53.	Establishment of Fibre Optic Communication System under Master Communication Plan in Western Region	TL				262	-
54.	400 kV D/C Aurangabad – Boisar line	TL				978	-
55.	Part of 400 kV D/C Vapi - Kudus line	TL				131	-
56.	POWERGRID works associated with Transmission System Strengthening in WR associated with Khargone TPS	SS				21	-
57.	POWERGRID Works associated with System Strengthening for IPPs in Chattisgarh and other generation projects in Western Region	SS				10	-
58.	Inter-Regional System Strengthening Scheme in WR and NR (Part - B)	TL				2,402	-
59.	Installation of STATCOMs in Western Region	SS				232	-
60.	POWERGRID Works associated with System Strengthening for IPPs in Chattisgarh and other generation projects in Western Region	SS				24	-
61.	Western Region System Strengthening Scheme - XVII (WRSS-XVII)	SS				26	-
62.	POWERGRID Works associated with System Strengthening for IPPs in Chattisgarh and other generation projects in Western Region	SS				24	-
63.	Western Region System Strengthening Scheme - XVII (WRSS-XVII)	SS				37	-
64.	Western Region System Strengthening Scheme - XVII (WRSS-XVII)	SS				3	-
65.	Western Region System Strengthening Scheme - XVII (WRSS-XVII)	SS				52	-

Details of incidental Expenses During Construction (IEDC) including compensation, employee expenses and other							
Sl. No.	Name of Scheme	Sub-station (S/s)/ Transmission Line (TL)	MVA/ Line Length (km)	Compensation (Forest, crop, Tree, PTCC)	Employee Expenses	Administrative & General Expenses	Any other expenses
66.	Establishment of Fibre Optic Communication System under Master Communication Plan in Western Region	TL				14	-
67.	Transmission System for Ultra Mega Solar Park (750 MW) in Rewa district, Madhya Pradesh	TL				442	-
68.	Transmission System for Ultra Mega Solar Park (750 MW) in Rewa district, Madhya Pradesh	TL				7	-
69.	TRANSMISSION SYSTEM ASSOCIATED WITH DGEN TPS (1200 MW) OF TORRENT POWER LIMITED	SS				63	-
70.	Western Region System Strengthening Scheme - XIV	SS				212	-
71.	Western Region System Strengthening Scheme - XVII (WRSS-XVII)	SS				8	-
72.	Western Region System Strengthening Scheme - XIV	SS				14	-
73.	Transmission System for Ultra Mega Solar Park (750 MW) in Rewa district, Madhya Pradesh	SS				6	-
74.	Western Region System Strengthening Scheme - XVII (WRSS-XVII)	SS				9	-
75.	Transmission system for Ultra Mega Solar Park (750 MW) in Rewa district, Madhya Pradesh	SS				12	-
76.	Western Region System Strengthening Scheme - XVII (WRSS-XVII)	SS				28	-
77.	Western Region System Strengthening Scheme - XIV	SS				15	-
78.	Installation of STATCOMs in Western Region	SS				588	-
79.	Substations Extensions for Transmission System Associated with Vindhyaachal - V project of NTPC (Part - B)	SS				313	-
80.	Western Region System Strengthening Scheme - XVI	SS				184	-
81.	Establishment of Fibre Optic Communication System under Master Communication Plan in Western Region	TL				35	-
82.	Transmission System for Ultra Mega Solar Park (750 MW) in Rewa district, Madhya Pradesh	SS				45	-
83.	Establishment of Fibre Optic Communication System Plan in Western Region under Master Communication (Additional Requirement)	TL				1	-
84.	Establishment of Fibre Optic Communication System under Master Communication Plan in Western Region	TL				7	-
85.	Green Energy Corridors : Inter-State Transmission Scheme (ISTS) - Part - B	TL				4,164	-
86.	Green Energy Corridors : Inter-State Transmission Scheme (ISTS) - Part - C	TL				4,822	-
87.	Transmission System Strengthening associated with Mundra UMPP (Part -B)	TL				471	-
88.	Green Energy Corridors : Inter-State Transmission Scheme (ISTS) - Part - C	SS				252	-
89.	Green Energy Corridors : Inter-State Transmission Scheme (ISTS) - Part - B	SS				89	-
90.	Green Energy Corridors : Inter-State Transmission Scheme (ISTS) - Part - C	SS				13	-
91.	Establishment of Fibre Optic Communication System under Master Communication Plan in Western Region	TL				43	-
92.	Green Energy Corridors : Inter-State Transmission Scheme (ISTS) - Part - C	SS				186	-
93.	Transmission System Strengthening associated with Mundra UMPP (Part -B)	TL				74	-

Details of incidental Expenses During Construction (IEDC) including compensation, employee expenses and other							
Sl. No.	Name of Scheme	Sub-station (S/s)/ Transmission Line (TL)	MVA/ Line Length (km)	Compensation (Forest, crop, Tree, PTCC)	Employee Expenses	Administrative & General Expenses	Any other expenses
94.	Phase-I Unified Real Time Dynamic State Measurement (URTDSM)	SS				83	-
95.	Establishment of Fibre Optic Communication System in Western Region under Master Communication Plan	TL				46	-
96.	Establishment of Fibre Optic Communication System in Western Region under Master Communication (Additional Requirement)	TL				5	-
97.	Establishment of Fibre Optic Communication System Plan in Western Region under Master Communication (Additional Requirement)	TL				13	-
98.	System Strengthening Schemes at Tuticorin - II (erstwhile Tirunelveli GIS) and Bhuj PS	SS				40	-
99.	System Strengthening Schemes at Tuticorin - II (erstwhile Tirunelveli GIS) and Bhuj PS	SS				41	-
100.	Establishment of Fibre Optic Communication System in Western Region under Master Communication Plan	TL				9	-
101.	Establishment of Fibre Optic Communication System in Western Region under Master Communication (Additional Requirement)	TL				7	-
102.	Transmission System for Ultra Mega Solar Power Park(700 MW) at Banaskantha(Radhanesda), Gujarat	TL				649	-
103.	Supplementary Transmission System for Ultra Mega Solar Power Park(700 MW) at Banaskantha(Radhanesda), Gujarat	SS				718	-
104.	System Strengthening Schemes at Tuticorin-II(erstwhile Tirunelveli GIS) and Bhuj PS	SS				123	-
105.	Establishment of Fibre Optic Communication System in Western Region under Master Communication (Additional Requirement)	TL				1	-
106.	Establishment of Fibre Optic Communication System in Western Region under Master Communication (Additional Requirement)	TL				10	-
107.	Establishment of Fibre Optic Communication System in Western Region under Master Communication (Additional Requirement)	TL				70	-
108.	Reliable Communication Scheme under Central Sector for Western Region	TL				8	-
109.	System Strengthening Schemes at Tuticorin - II (erstwhile Tirunelveli GIS) and Bhuj PS	SS				833	-
110.	Western Region System Strengthening -XX (WRSS-XX)	SS				45	-
111.	System Strengthening Schemes at Tuticorin - II (erstwhile Tirunelveli GIS) and Bhuj PS	SS				311	-
112.	System Strengthening Schemes at Tuticorin - II (erstwhile Tirunelveli GIS) and Bhuj PS	SS				841	-
113.	Western Region System Strengthening -XX (WRSS-XX)	SS				53	-
114.	Establishment of Fibre Optic Communication System in Western Region under Master Communication (Additional Requirement)	TL				74	-
115.	POWERGRID works associated with New WR-NR 765 kV Inter-Regional Corridor	SS				453	-
116.	Western Region Strengthening Scheme-XXIII(WRSS-XXIII)-Part-B	SS				5	-
117.	Extension works at POWERGRID substations for interconnection of RE projects-Part-A (POWERGRID works associated with Western Region Strengthening Scheme-XXI)	SS				6	-

Details of incidental Expenses During Construction (IEDC) including compensation, employee expenses and other

Sl. No.	Name of Scheme	Sub-station (S/s)/ Transmission Line (TL)	MVA/ Line Length (km)	Compensation (Forest, crop, Tree, PTCC)	Employee Expenses	Administrative & General Expenses	Any other expenses
118.	Transmission System for connectivity of Essar Power Gujarat Limited	SS				94	-
119.	Reliable Communication Scheme under Central Sector for Western Region	TL				78	-
120.	Western Region System Strengthening-XX(WRSS-XX), Part-C(Augmentation of transformation capacity in Western Region	SS				26	-
121.	Western Region System Strengthening-XX(WRSS-XX), Part-C(Augmentation of transformation capacity in Western Region	SS				28	-
122.	Transmission System associated with DGEN TPS (1200 MW) of Torrent Power Limited"	SS				63	-
123.	WRSS-22	TL				218	-
	Transmission System associated with DGEN TPS (1200 MW) of Torrent Power Limited"	SS				91	-

Details of Capital Cost of Transmission Line							
Name of Transmission Company:			Power Grid Corporation of India Limited				
Name of Transmission Region:			Western Region				
SI No.	Year	Configuration	Length (km)	Total Cost	Cost/km	Cost/ckt-km	
1	2013-14	HVDC					
		a) S/C	0.00				
		765 kV					
		a) S/C	1277.80				
		b) D/C	517.55				
		765 kV Charged at 400 KV					
		a) S/C	0.00				
		b) D/C	0.00				
		400 kV					
		a) S/C	0.00				
		b) D/C	231.39				
		c) M/C	0.00				
		d) D/C on M/C	0.00				
		400 kV Charged at 220 KV					
		a) D/C	0.00				
		400 kV Charged at 132 KV					
		a) D/C	0.00				
		220 kV					
		a) S/C	0.00				
		b) D/C	0.00				
Up to 132 kV							
a) S/C	0.00						
b) D/C	0.00						
1	2014-15	HVDC					
		a) S/C	0.00				
		765 kV					
		a) S/C	1219.27				
		b) D/C	1653.13				
		765 kV Charged at 400 KV					
		a) S/C	0.00				
		b) D/C	0.00				
		400 kV					
		a) S/C	0.00				
		b) D/C	340.63				
		c) M/C	49.73				
		d) D/C on M/C	2.83				
		400 kV Charged at 220 KV					
		a) D/C	0.00				
		a) D/C	0.00				
		220 kV					
		a) S/C	0.00				
		b) D/C	0.00				
		Up to 132 kV					

Details of Capital Cost of Transmission Line							
Name of Transmission Company:			Power Grid Corporation of India Limited				
Name of Transmission Region:			Western Region				
SI No.	Year	Configuration	Length (km)	Total Cost	Cost/km	Cost/ckt-km	
1	2015-16	a) S/C	0.00				
		b) D/C	0.00				
		HVDC					
		a) S/C	0.00				
		765 kV					
		a) S/C	1583.02				
		b) D/C	424.36				
		765 kV Charged at 400 KV					
		a) S/C	0.00				
		b) D/C	0.00				
		400 kV					
		a) S/C	0.00				
		b) D/C	61.20				
		c) M/C	0.00				
		d) D/C on M/C	0.00				
		400 kV Charged at 220 KV					
		a) D/C	0.00				
		400 kV Charged at 132 KV					
		a) D/C	0.00				
		220 kV					
		a) S/C	0.00				
		b) D/C	0.00				
		Up to 132 kV					
a) S/C	0.00						
b) D/C	0.00						
1	2016-17	HVDC					
		a) S/C	0.00				
		765 kV					
		a) S/C	0.00				
		b) D/C	361.00				
		765 kV Charged at 400 KV					
		a) S/C	0.00				
		b) D/C	0.00				
		400 kV					
		a) S/C	0.00				
		b) D/C	502.84				
		c) M/C	0.00				
		d) D/C on M/C	0.00				
		400 kV Charged at 220 KV					
		a) D/C	0.00				
		400 kV Charged at 132 KV					
		a) D/C	0.00				
		220 kV					
		a) S/C	0.00				
		b) D/C	0.00				

Details of Capital Cost of Transmission Line						
Name of Transmission Company:				Power Grid Corporation of India Limited		
Name of Transmission Region:				Western Region		
SI No.	Year	Configuration	Length (km)	Total Cost	Cost/km	Cost/ckt-km
		Up to 132 kV				
		a) S/C	0.00			
		b) D/C	0.00			
1	2017-18	HVDC				
		a) S/C	0.00			
		765 kV				
		a) S/C	0.00			
		b) D/C	936.40			
		765 kV Charged at 400 KV				
		a) S/C	0.00			
		b) D/C	0.00			
		400 kV				
		a) S/C	0.00			
		b) D/C	1109.03			
		c) M/C	0.00			
		d) D/C on M/C	0.00			
		400 kV Charged at 220 KV				
		a) D/C	0.00			
		400 kV Charged at 132 KV				
		a) D/C	0.00			
		220 kV				
		a) S/C	0.00			
		b) D/C	0.00			
		Up to 132 kV				
		a) S/C	0.00			
		b) D/C	0.00			
1	2018-19	HVDC				
		a) S/C	0.00			
		765 kV				
		a) S/C	0.00			
		b) D/C	740.73			
		765 kV Charged at 400 KV				
		a) S/C	0.00			
		b) D/C	0.00			
		400 kV				
		a) S/C	0.00			
		b) D/C	122.11			
		c) M/C	6.65			
		d) D/C on M/C	0.00			
		400 kV Charged at 220 KV				
		a) D/C	0.00			
		400 kV Charged at 132 KV				
		a) D/C	0.00			
		220 kV				

Data seperately not available/
maintained

Details of Capital Cost of Transmission Line						
Name of Transmission Company:				Power Grid Corporation of India Limited		
Name of Transmission Region:				Western Region		
SI No.	Year	Configuration	Length (km)	Total Cost	Cost/km	Cost/ckt-km
		a) S/C	0.00			
		b) D/C	0.00			
		Up to 132 kV				
		a) S/C	0.00			
		b) D/C	0.00			
1	2019-20	HVDC				
		a) S/C	0.00			
		765 kV				
		a) S/C	0.00			
		b) D/C	0.00			
		765 kV Charged at 400 KV				
		a) S/C	0.00			
		b) D/C	0.00			
		400 kV				
		a) S/C	0.00			
		b) D/C	49.20			
		c) M/C	0.00			
		d) D/C on M/C	0.00			
		400 kV Charged at 220 KV				
		a) D/C	0.00			
		400 kV Charged at 132 KV				
		a) D/C	0.00			
		220 kV				
		a) S/C	0.00			
		b) D/C	0.00			
		Up to 132 kV				
		a) S/C	0.00			
		b) D/C	0.00			
1	2020-21	HVDC				
		a) S/C	0.00			
		765 kV				
		a) S/C	0.00			
		b) D/C	0.00			
		765 kV Charged at 400 KV				
		a) S/C	0.00			
		b) D/C	0.00			
		400 kV				
		a) S/C	0.00			
		b) D/C	414.30			
		c) M/C	0.00			
		d) D/C on M/C	0.00			
		400 kV Charged at 220 KV				
		a) D/C	0.00			
		400 kV Charged at 132 KV				
		a) D/C	0.00			

Details of Capital Cost of Transmission Line						
Name of Transmission Company:				Power Grid Corporation of India Limited		
Name of Transmission Region:				Western Region		
SI No.	Year	Configuration	Length (km)	Total Cost	Cost/km	Cost/ckt-km
		220 kV				
		a) S/C	0.00			
		b) D/C	0.00			
		Up to 132 kV				
		a) S/C	0.00			
		b) D/C	0.00			
1	2021-22	HVDC				
		a) S/C	0.00			
		765 kV				
		a) S/C	0.00			
		b) D/C	0.00			
		765 kV Charged at 400 KV				
		a) S/C	0.00			
		b) D/C	0.00			
		400 kV				
		a) S/C	0.00			
		b) D/C	0.00			
		c) M/C	0.00			
		d) D/C on M/C	0.00			
		400 kV Charged at 220 KV				
		a) D/C	0.00			
		400 kV Charged at 132 KV				
		a) D/C	0.00			
		220 kV				
		a) S/C	0.00			
		b) D/C	18.60			
		Up to 132 kV				
		a) S/C	0.00			
		b) D/C	0.00			

Details of Capital Cost of Transmission Line		
Name of Transmission Company:		Power Grid Corporation of India Limited
Name of Transmission Region:		Western Region

SI No.	Year	Configuration	MVA Capacity	No. of Bays	Total Cost	Cost/MVA	Cost/bays
1	2013-14	765kV	25000	81			
		400kV	945	55			
		220kV		15			
		132kV					
		HVDC		0			
2	2014-15	765kV	9000	49			
		400kV	2260	52			
		220kV		11			
		132kV					
		HVDC		0			
3	2015-16	765kV	9000	46			
		400kV	500	18			
		220kV		1			
		132kV					
		HVDC		0			
4	2016-17	765kV	6000	10			
		400kV	1500	29			
		220kV		3			
		132kV					
		HVDC		0			
5	2017-18	765kV	7500	29			
		400kV	1880	47			
		220kV		9			
		132kV					
		HVDC		24			
6	2018-19	765kV	6000	46			
		400kV	6500	49			
		220kV		27			
		132kV					
		HVDC		0			
7	2019-20	765kV		9			
		400kV	1000	6			
		220kV		2			
		132kV					
		HVDC		24			
8	2020-21	765kV	1500	0			
		400kV	2000	12			
		220kV		12			
		132kV					
		HVDC		29			
9	2021-22	765kV	1500	12			
		400kV	3000	19			
		220kV		10			
		132kV					
		HVDC		29			