# GOVERNMENT OF INDIA MINISTRY OF POWER LOK SABHA UNSTARRED QUESTION NO.3636 ANSWERED ON 10.08.2023

#### **POWER TRANSMISSION PROJECTS**

#### 3636. SHRI NAMA NAGESWARA RAO:

Will the Minister of POWER be pleased to state:

- (a) the details of the number of Power Transmission Projects (PTP) completed and those under progress;
- (b) the details of the new such projects proposed by the Government; and
- (c) the details of the projects awarded under Engineering, Procurement and Construction (EPC) and Build, Operate, Transfer (BOT) methods?

#### ANSWER

#### THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a): 269 nos. Inter State Transmission System (ISTS) projects have been completed since 2014, out of which 45 nos. projects are under Tariff Based Competitive Bidding (TBCB) mode and 224 nos. projects, executed by Power Grid Corporation of India Limited (POWERGRID), are under Regulated Tariff Mechanism (RTM) mode. The details of such completed projects are at Annexure-I and Annexure-II.

Further, 63 nos. ISTS projects are under progress, out of which 32 nos. projects are under TBCB mode and 31 nos. projects, being executed by POWERGRID, are under RTM mode. The details of such under progress projects are at Annexure-III and Annexure-IV.

- (b): The details of 28 nos. new ISTS projects being taken up for implementation are attached at Annexure-V.
- (c): ISTS projects are not awarded under EPC or BOT mode. ISTS projects are awarded either through TBCB mode to successful bidder with the lowest quoted tariff or through RTM mode on nomination basis to Public Sector Undertakings.

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#### List of ISTS projects commissioned under TBCB mode since 2014

	List of ISTS projects commissioned under TBCB mode since 2014				
SI.	Transmission project name	Parent	Year and month		
No		Company	of		
			commissioning		
1	Western Region System Strengthening – II under Project – B (Maharashtra)	Adani TL	Jan-14		
2	Transmission System Associated with Krishnapattnam UMPP-Synchronous interconnection between SR and WR (Part-B)	RSTCL	Jun-14		
3	Scheme for enabling import of NER/ER surplus by NR	Sterilite Power TL	Nov-14		
4	System strengthening for WR	Sterilite Power TL	May-15		
5	System strengthening common for WR and NR	Sterilite Power TL	Sep-15		
6	Western Region System Strengthening – II under Project – C (Gujarat)	Adani TL	Dec-15		
7	Transmission System for Patran 400kV S/S	Techno Electric	Jun-16		
8	Transmission System required for evacuation of power from Kudgi TPS (3x800 MW in Phase-I) of NTPC Ltd.	L&T	Sep-16		
9	Transmission system for Strengthening in SR for Import of Power from ER.	PGCIL	Sep-16		
10	Part ATS for RAPP U-7&8 in Rajasthan	Sterilite Power TL	Nov-16		
11	ATS of Unchahar TPS	PGCIL	Dec-16		
12	Eastern Region System Strengthening Scheme-VII	Sterilite Power TL	Jan-17		
13	Northern Region System Strengthening Scheme, NRSS-XXXI (Part-B)	Essel Infra	Apr-17		
14	NR System strengthening Scheme-NRSS-XXXI(Part-A)	PGCIL	Jul-17		
15	Eastern Region System Strengthening Scheme-VI	Essel Infra	Aug-17		
16	Connectivity lines for Maheshwaram 765/400 kV S/S	Sterilite Power TL	Dec-17		
17	Transmission System associated with Gadarwara STPS (2x800 MW) of NTPC (Part-B)	PGCIL	Jun-18		
18	Transmission System associated with Gadarwara STPS (2x800 MW) of NTPC (Part-A)	PGCIL	Jul-18		

19	Northern Regional System Strengthening Scheme, NRSS-XXIX	Sterilite Power TL	Aug-18
20	Transmission System Strengthening associated with Vindhyachal – V	PGCIL	Dec-18
21	Common Transmission system for phase-II generation projects in Orissa and immediate evacuation system for OPGC project (Orissa)	Sterilite Power TL	Dec-18
22	Transmission system associated with IPPs of Nagapattinam / Cuddalore Area- Package A	PGCIL	Jan-19
23	Additional system strengthening for Sipat STPS	Adani TL	Mar-19
24	Additional system strengthening for Chhattisgarh (B)	Adani TL	Mar-19
25	Transmission system strengthening in Indian system for transfer of power from new HEP's in Butan	Kalpataru	Mar-19
26	System strengthening for IPPs in Chhattisgarh and other generation projects in western region	Adani TL	Aug-19
27	Strengthening of Transmission system beyond Vemagiri	PGCIL	Jan-20
28	Creation of new 400 kV GIS substations in Gurgaon area and Palwal as a part of ISTS	Sterilite Power TL	Mar-20
29	North Eastern Region Strengthening Scheme (NERSS-VI)	Kalpataru	Oct-20
30	Transmission system for NER System Strengthening Scheme-II (Part-B) and V (NER-IIB & V)	Sterlite Power TL	Mar-21
31	Transmission System associated with LTA application from Rajasthan SEZ (Part -A)	PGCIL	May-21
32	Transmission System for Ultra Mega Solar Park in Fatehgarh, Distt. Jaisalmer Rajasthan	Adani TL	Jul-21
33	WR - NR Interconnector	PGCIL	Jul-21
34	Transmission System associated with LTA application from Rajasthan SEZ (Part -B)	PGCIL	Aug-21
35	Transmission System Associated with LTA applications from Rajasthan SEZ Part-D	Adani TL	Sep-21
36	Eastern Region Strengthening Scheme - XXI	PGCIL	Oct-21
37	Transmission System associated with LTA application from Rajasthan SEZ (Part -C)	PGCIL	Oct-21
38	Connectivity system for Khargone TPP.	Sterlite Power TL	Dec-21
39	Transmission System for Western Region Strengthening Scheme – 21 (WRSS – 21) Part – A – Trasnsmission System Strengthening for Relieving Over Loadings Observed in Gujarat Intra-State System Due to Re-injections in Bhuj PS	Adani TL	Aug-22
40	Transmission System for Transmission System Associated with RE Generations at Bhuj-II, Dwarka & Lakadia	Adani TL	Aug-22

41	Eastern Region strengthening Scheme - XVIII	PGCIL	Aug-22
42	Transmission System for Jam Khambaliya Pooling Station and Interconnection of Jam Khambaliya Pooling Station for Providing Connectivity to RE Projects (1500 MW) in Dwarka (Gujarat) and Installation of 400/220 kV ICT along with Associated Bays at CGPL Switchyard	Adani TL	Oct-22
43	Transmission System for providing connectivity to RE Projects at Bhuj-II (2000 MW ) in Gujarat	PGCIL	Nov-22
44	WRSS - 21 Part - B - Transmission System Strengthening for Relieving Over Loadings Observed in Gujarat Intra-State System Due to Re-injections in Bhuj PS	Sterlite Power TL	Jan-23
45	Transmission system associated with LTA applications from Rajasthan SEZ Part-F, Phase-II	PGCIL	Jun-23

List of commissioned ISTS projects, executed by POWERGRID, under RTM mode since
2014

	2014		
SI. No.	Project Name	Year of commissioning of the project	
1	One No. of 220kV bay at Chamera Pooling Point for 2nd Circuit Stringing of 220kV Karian - Chamera Pool Line	2022	
2	Construction of 02 nos. of 400kV GIS line bays at Varanasi (PG) substation	2021	
3	Creation of 400/220kV Substations in NCT of Delhi during 12th Plan Period (Part-B1)	2018	
4	Creation of 400/220kV sub-stations in NCT of Delhi during 12th Plan period (Part-A)	2022	
5	Provision of 400kV bays at Fatehpur for Associated Transmission System (ATS) of Unchahar TPS	2016	
6	<b>POWERGRID</b> works associated with Addl. System Strengthening for Sipat STPS	2019	
7	Associated Transmission System for Nabinagar-II TPS (3*660MW)	2019	
8	Augmentation of Transformation capacity at Mainpuri and Sikar	2018	
9	Augmentation of Transformation Capacity at Fatehabad (PG) 400/220kV substation by 1x315 MVA capacity along with associated ICT bays	2019	
10	Augmentation of Transformation Capacity at Raebareli & Sitarganj 220/132kV Substations	2018	
11	Augmentation of transformation capacity in Northern & Eastern Region	2015	
12	Augmentation of Transformation Capacity in Southern Region	2018	
13	Augmentation of Transformer & Bays in Western Region	2015	
14	AUGMENTATION OF TRANSFORMATION CAPACITY AT 400/220 KV LUDHIANA (PG) SUBSTATION	2023	
15	Replacement of 1x250 MVA 400/220 kV ICT at 765/400/220kV Moga (PG) S/s with 1x500 MVA 400/220 kV ICT along with associated works at 220 kV level	2023	
16	Augmentation of Transformers in Northern Region - Part-A.	2015	
17	Augmentation of Transformers in Northern Region - Part-B.	2019	
18	Baharampur (POWERGRID) – Bheramara (Bangladesh) 2nd 400kV D/c Transmission Line (Indian Portion)	2020	
19	Bus Reactors in Northern Region (Phase-II)	2017	
20	Common System Associated with East Coast Energy Pvt Ltd. & NCC Power Projects Ltd. LTOA Generation Projects in Srikakulam Area Part-C	2017	
21	Common System associated with East Coast Energy Pvt Ltd. & NCC Power Projects Ltd. LTOA Generation Projects in Srikakulam Area - Part-A	2017	
22	Common System associated with ISGS Projects in Krishnapatnam area of Andhra Pradesh	2014	

23	POWERGRID works associated with TBCB lines under common transmission system for Phase-II generation projects in Odisha	2019
24	CONNECTIVITY AND LTA FOR 325MW WIND PROJECT OF M/S	2022
	SBESS SERVICES PROJECTS PVT LTD	
25	Connectivity for Kudankulam 3&4 (2x1000 MW) with ISTS	2018
26	Transmission system for controlling high Short Circuit Current	2021
	level at 400kV Thiruvalam S/s	
27	Conversion of Fixed Line Reactors to Switchable Line Reactors in	2018
	Southern Region	
28	Conversion of Fixed Line Reactors to Switchable Line Reactors in	2020
	Northern Region	
29	Supplementary Transmission System associated with DVC and	2017
	Maithon Right Bank Projects	2011
30	Transmission System for start up power for DVC & Maithon Right	2014
24	Bank Generation Project	2040
31	Eastern Region System Strengthening Scheme-III (ERSS-III)	2019
32 33	Eastern Region Strengthening Scheme-IX (ERSS-IX)  Eastern Region Strengthening Scheme-XII (ERSS-XII)	2019 2022
34	Eastern Region Strengthening Scheme-XIV (ERSS-XIV)	2018
35	Eastern Region Strengthening Scheme-XIV (ERSS-XIV)  Eastern Region Strenthening Scheme-VIII (ERSS-VIII)	2015
36	Eastern Region Strenthening Scheme-XIII (ERSS-XIII)	2017
37	EASTERN REGION EXPANSION SCHEME-XXVI (ERES-XXVI)	2023
38	Eastern Region Strenthening Scheme-V (ERSS-V)	2020
39	Substation extension work associated with Eastern Region	2017
	Strengthening-VII (ERSS-VII)	
40	Eastern Region Strenthening Scheme-X (ERSS-X)	2014
41	Eastern Region Strengthening Scheme – XVII (Part-B) [ERSS-XVII	2022
	(Part-B)]	
42	POWERGRID works associated with Eastern Region	2021
	Strengthening Scheme-XVIII (ERSS-XVIII)	
43	Eastern Region Strengthening Scheme-XX (ERSS-XX)	2021
44	Eastern Region Strengthening Scheme-XXIII (ERSS-XXIII)	2021
45	Eastern Region System Strengthening Scheme-XXIV (ERSS -	2022
	XXIV)	
46	Substation extension work associated with Eastern Region	2017
47	Strengthening scheme - VI (ERSS-VI)	2040
47 48	Eastern Region Strengthening Scheme-XI (ERSS-XI)  Eastern Region Strengthening Scheme-XV	2019 2021
49	Eastern Region Strengthening Scheme-XVII-Part-A (ERSS-XVII	2018
43	(Part-A))	2010
50	Establishment of 220/66kV, 2x160MVA GIS at UT Chandigarh	2023
	along with 220kV D/C line from 220kV Chandigarh GIS Substation	
	to 400/220kV Panchkula (PG) Substation	
51	Transmission System Strengthening in Indian System for transfer	2021
	of power from Mangdechhu HEP in Bhutan	
52	POWERGRID works associated with Immediate Evacuation for	2021
	North Karanpura (3x660 MW) Generation Project of NTPC	
53	Establishment of Pooling Stations at Champa and Raigarh(near	2021
	Tamnar) for IPP Generation Projects in Chhattisgarh	
54	Green Energy Corridors ISTS - Part D	2020

55	Green Energy Corridors: Inter-State Transmission Scheme (ISTS) – Part-B	2019
56	Green Energy Corridors: Inter-State Transmission Scheme (ISTS) - Part C	2019
57	Green Energy Corridors: Inter-State Transmission Scheme (ISTS) – Part-A	2018
58	HVDC Bipole link between Western Region (Raigarh, Chhattisgarh) and Southern Region (Pugalur, TM) - North Trichur (Kerala) - Scheme-I	2021
59	HVDC Bipole link between Western Region (Raigarh, Chhattisgarh) and Southern Region (Pugalur, TM) - North Trichur (Kerala) - Scheme-II	2021
60	HVDC Bipole link between Western Region (Raigarh, Chhattisgarh) and Southern Region (Pugalur, TM) - North Trichur (Kerala) - Scheme-III	2021
61	Additional 1X500 MVA, 400/220kV (4th) transformer at Amritsar (Balachak) PG Substation under ISTS	2020
62	Implementation of 1 no. of 230 kV bay at PGCIL Tuticorin-II GIS PS	2022
63	Installation of Bus Reactor & ICT in Western Region	2017
64	Installation of Bus Reactors at Cuddapah, Nellore,Kurnool, Raichur and Thiruvalam	2019
65	Installation of Reactors in Western Region	2015
66	Installation of STATCOMs in Western Region	2019
67	Installation of Transformer and Procurement of Spare Converter	2018
	Transformer at Bhadrawati HVDC Back to Back Station	
68	Integration of Pooling Stations in Chhattisgarh with central part of WR	2014
	for IPP Generation Projects in Chhattisgarh	
69	Inter-Regional System Strengthening Scheme in WR and NR (Part-B)	2018
70	Inter-Regional System Strengthening Scheme in WR and NR (Part-A)	2017
71	Transmission system strengthening in western part of WR for IPPs generation projects in Chhattisgarh	2017
72	Transmission System for Phase-I Generation Projects in Jharkhand and West Bengal -Part -B	2016
73	Transmission System associated with Kudankulam Atomic Power Project (2x1000 MW)	2019
74	Line bays associated with Northern Region System Strengthening Scheme-XXXVI	2023
75	Line Bays Associated with Various Regional Strengthening Schemes in NR	2018
76	Line Bays Associated with Various Regional Strengthening Schemes in NR	2023
77	NERSS-XII	2023
78	NORTH EASTERN REGION STRENGTHENING SCHEME-XIII (NERSS-XIII)	2022
79	NORTH - EASTERN REGION STRENGTHENING SCHEME-IX (NERSS-IX)	2023
80	North- Eastern Region Strengthening Scheme-X (NERSS-X)	2023
81	North - Eastern Region Strengthening Scheme-XI (NERSS-XI)	2023
82	TRANSMISSION SYSTEM FOR NORTH EASTERN REGION STRENGTHENING SCHEME-XIV (NERSS-XIV)	2023
83	NLC - KARAIKAL 230kV D/C LINE	2018
84	North Eastern Region Strengthening Scheme - VIII (NERSS-VIII)	2021
85	North Eastern Region Strengthening Scheme-II (NERSS-II) Part A	2016
86	North Eastern Region System Strengthening Scheme -IV (NERSS-IV)	2019
87	North Eastern Region Strengthening Scheme-VII (NERSS-VII)	2018

88	North Eastern Region Strengthening Scheme-III (NERSS-III)	2019
89	Northern Region System Strengthening Scheme-XXI	2015
90	Northern Region System Strengthening Scheme-XXVIII	2016
91	Northern Region System Strengthening Scheme-XXX	2019
92	Northern Region System Strengthening - XL	2021
93	Northern Region System strengthening-XLII (NRSS-XLII)	2021
94	Northern Region System Strengthening Scheme-XIX	2016
95	ICTs & Bays associated with Northern Region System Strengthening Scheme (NRSS-XXXVIII)	2017
96	Provision of 400kV bays for Northern Region System Strengthening Scheme-XXIX (NRSS-XXIX)	2018
97	Northern Region System Strengthening Scheme-XXVI	2015
98	Provision of 400kV bays for lines under Northern Region System	2016
30	Strengthening Scheme-XXXI (Part-B)	2010
99	System Strengthening Scheme in Northern Region - XXXVII (NRSS-XXXVII)	2022
100	Northern Region System Strengthening Scheme (NRSSS)-XXXV	2021
101	Northern Region System Strengthening Scheme-XXIV	2018
102	Northern Region System Strengthening Scheme-XXVII	2016
103	Northern Region System Strengthening Scheme-XXXII	2017
104	Northern Region System Strengthening Scheme-XXXIV (NRSS-XXXIV)	2019
105	Northern Region System Strengthening Scheme-XXIV	2017
106	Northern Regional Transmission Strengthening Scheme	2023
107		2023
	Strengthening Scheme-VI	
108	POWERGRID works associated with North Eastern Region Strengthening Scheme-II, Part-B (NERSS-II-B)	2020
109	POWERGRID works associated with System Strengthening for IPPs in Chhattisgarh & other generation projects in WR	2018
110	POWERGRID works associated with Part-A of Transmission System for Gadarwara STPS of NTPC	2018
111	POWERGRID works associated with Transmission System Strengthening in WR associated with Khargone TPS	2019
112	POWERGRID Works associated with additional 400kV feed to Goa	2021
113	POWERGRID works associated with North Eastern Region System Strengthening Scheme-V	2021
114	Provision of 400kV bays at Shujalpur for Part ATS of RAPP 7 & 8	2016
115	Provision of Line Bays for the Scheme-Connectivity Lines for Maheshwaram (Hyderabad) 765/400kV Pooling Station	2017
116	Provision of Series Reactors in Northern Region.	2018
117	Provision of STATCOM at Nalagarh & Lucknow in NR	2020
118	Radial Interconnection between India (NER) and Bangladesh – Indian portion'	2016
119	Transmission System for providing connectivity to RE projects at Bikaner (PG), Fatehgarh-II & Bhadla-II	2023
120	Regional System Strengthening scheme to mitigate the overloading of 400 kV NP Kunta- Kolar S/C line	2022
121	Removal of Constraints in 400kV Bays extensions at 400kV Vemagiri S/S	2018

122	Sub-Station works associated with additional inter-regional AC link for	2019
	import into Southern Region i.e. Warora-Warangal and Chilakaluripeta-	20.0
	Hyderabad-Kurnool 765kV link	
123	Substation works associated with Strengthening of Transmission	2020
	System beyond Vemagiri	
124	SCHEME FOR FAULT LEVEL CONTROL AT DEHGAM (PG) &	2022
	RANCHHODPURA (GETCO) S/S	
125	Scheme to control fault level at Wardha substation	2022
126	AUGMENTATION OF TRANSFORMATION CAPACITY AT EXISTING	2023
	HIRIYUR AND KOCHI SUBSTATIONS	
127	Transmission System for Transfer of power from generation projects in	2022
	Sikkim to NR/WR (Part-B1)	
128	Transmission system strengthening scheme for evacuation of power	2023
	from solar energy zones in Rajasthan (8.1 GW) under Phase II- Part- F1	
129	Transmission System for Solar Power Parks at Bhadla, Rajasthan	2019
130	System Strengthening - XXVI in Southern Region	2021
131	Provision of Spare ICTs and Reactors for Eastern, Northern, Southern	2017
	and Western Regions	
132	Procurement of Spare Converter Transformer for Vizag HVDC System	2020
133	Split Bus Arrangement & Reconfiguration/Shifting of terminating lines	2014
10.1	at 400 kV Raipur Substation	
134	Split Bus Arrangement for various sub-stations in ER	2019
135	Transmission scheme for controlling high loading and high short circuit	2022
136	level at Moga substation  Static VAR Companyators (SVCs) in Northern Region	2017
137	Static VAR Compensators (SVCs) in Northern Region Strengthening Scheme in Northern Region	2017
138	Substation extensions for Trasnmission System associated with	2017
130	Vindhyachal-V project of NTPC (Part-B)	2013
139	Substation extensions for Trasnmission System associated with	2017
	Vindhyachal-V project of NTPC (Part-A)	-
140	Sub-station works associated with System Strengthening in Southern	2020
	Region for import of power from Eastern Region	
141	Supplementary Transmission System for Ultra Mega Solar Power Park	2020
	(700MW) at Banaskantha (Radhanesda), Gujarat	
142	Supplementary Transmission Scheme of Upcoming IPP Projects in	2014
	Chhatisgarh	
143	System Strengthening in Southern Region- XII	2018
144	System Strengthening -XIII in Southern Regional Grid	2020
145	System Strengthening - XVII in Southern Regional Grid	2015
146	System Strengthening-XXIV in Southern Region	2018
147	System Strengthening - XXV in Southern Region	2021
148	Line Bays and Reactor provisions at POWERGRID substations	2015
	associated with System Strenthening common for Western Region &	
149	Northern Region  System Strengthening in North/West part of WR for IPP projects in in	2016
143	Chhatisgarh	2010
150	System Strengthening in Northern Region for Sasan & Mundra Ultra	2015
	Mega Power Projects	
151	System Strengthening in Raipur-Wardha corridor for IPP Projects in	2017
	Chhatisgarh	
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152	System Strengthening in Southern Region - XXIII	2020
153	System Strengthening in Southern Region-XIV	2019
154	System Strengthening - XIX in Southern Regional Grid	2015
155	System Strengthening XVIII in Southern Regional Grid	2015
156	System Strengthening – XX in Southern Regional Grid	2018
157	System Strengthening in Southern Region – XXI	2019
158	System Strengthening in Southern Region - XXII	2015
159	ICTs & Bays associated with Northern Region System Strengthening	2019
	Scheme (NRSS-XXXVIII)	
160	System Strengthening Scheme at Tuticorin-II (erstwhile Tirunelvelli GIS) and Bhuj PS	2022
161	Common System Associated with East Coast Energy Pvt Ltd. & NCC	2018
	Power Projects Ltd. LTOA Generation Projects in Srikakulam Part-B	
162	Transmission system associated with Darlipalli TPS	2017
163	Transmission System for Phase-I Generation Project in Odisha- Part -A	2016
164	POWERGRID works associated with Common Transmission System for	2019
	Phase-II generation pojects in Odisha	
165	POWERGRID works associated with TBCB lines under common	2019
	transmission system for Phase-II generation projects in Odisha	
166	POWERGRID works associated with new WR-NR 765kV Inter-Regional	2021
	Corridor	
167	POWERGRID works associated with Transmission System	2019
	Strengthening in IndianSystem for transfer of Power from new HEPs in	
	Bhutan	
168	Transmission System associated with DGEN TPS (1200MW) of Torrent	2018
	Power Ltd	
169	Transmission System for Connectivity for NCC Power Projects Ltd. (1320MW)	2016
170	Transmission System for establishment of 400/220kV GIS S/S at Magarwada in UT DD	2015
171	Transmission System for transfer of power from Generation Projects in Sikkim to NR/WR-Part-A	2016
172	Transmission System for transfer of power from Generation Projects in	2016
	Sikkim to NR/WR-Part-B	
173	Transmission System for Phase-I Generation Projects in Jharkhand &	2016
	West Bengal-Part-A2	
174	Transmission Network Expansion in Gujarat to increase its ATC from	2022
	ISTS (Part A)	
175	Transmission system associated with Kakrapar Atomic Power Project -	2017
	3 & 4	
176	Transmission System associated with Kishenganga HEP	2019
177	Transmission System associated with Krishnapatnam UMPP-Part-C1	2014
178	TS associated with Mauda Stage-II (2x660 MW) generation project	2017
179	Transmission System Associated with Meja TPS	2016
180	Transmission System associated with Rampur HEP	2014
181	Transmission System associated with RAPP 7 & 8 Part-B	2018
182	Transmission System associated with RAPP-7&8 Part A	2017
183	Transmission system for controlling High Loading of Nellore (PG) –	2021
40.	Nellore PS 400kV (Quad) D/c Line	
184	Transmission System for connectivity of MB Power (M.P.) Limited	2014

185	Immediate Evacuation System associated with Barh-II TPS	2014
186	Transmission System for IPP generation projects in Madhya Pradesh &	2015
	Chhattisgarh	
187	Transmission System associated with Krishnapatnam UMPP-Part-B	2014
188	Transmission System associated with Lara STPS-I (2x800MW)	2017
	generation project of NTPC	
189	Transmission System for Phase-I Generation Project in Odisha- Part -B	2015
190	Transmission System for Phase-I Generation Projects in Odisha- Part-C	2015
191	Transmission System for Solapur STPP (2x660 MW)	2015
192	Transmission system associated with Solapur STPP (2x660MW) Part-A	2017
193	Transmission System for Solar Energy Zones in Rajasthan	2021
194	Transmission System associated with Tehri Pump Storage Plant (PSP)	2020
195	Transmission System for Ultra mega Solar Park in Anantpur District,	2017
	Andhra Pradesh - Part-A (Phase-I)	
196	Transmission System for Ultra mega Solar Park in Anantpur District,	2018
	Andhra Pradesh - Part-B (Phase-II)	
197	Transmission System for Ultra Mega Solar Park in Anantpur District,	2018
	Andhra Pradesh - Part C (Phase - III)	
198	Transmission System for Ultra Mega Solar Park (750MW) at Rewa	2018
	district, Madhya Pradesh	
199	Transmission System for Ultra Mega Solar Power Park at Banaskantha	2020
	(Radhanesda) Gujarat.	
200	Transmission System for Vindhyachal - IV (1000MW) and Rihand - III	2015
	(1000MW) Generation Projects	
201	Transmission system strengthening associated with Mundra UMPP-	2017
200	Part A	0040
202	Transmission System Strengthening associated with Mundra UMPP	2019
203	(Part-B)  Transmission system for evacuation of power from 2x500 MW Neyveli	2021
203	Lignite Corp. Ltd. TS-1 (Replacement) (NNTPS) in Neyveli, Tamil Nadu	2021
204	Transmission System for Ultra Mega Solar Park at Tumkur (Pavagada),	2018
204	Karnataka, Phase-I	2010
205	Transmission System for Ultra Mega Solar Park at Tumkur (Pavagada),	2020
	Karnataka - Phase II (Part A)	
206	Transmission System for Ultra Mega Solar Power Park at Tumkur	2019
	(Pavagada), Karnataka - Phase-II Part-C	
207	Additional ATS for Tumkur (Pavagada) [Transmission System for Ultra	2021
	Mega Solar Park at Tumkur (Pavagada), Karnataka -Phase-II (Part-B)	
208	Common System associated with Coastal Energen Private Limited and	2015
	Ind-Barath Power (Madras) Limited LTOA Generation Projects Tuticorin	
	area Part-A	
209	Common System associated with Coastal Energen Private Limited and	2016
	Ind-Barath Power (Madras) Limited LTOA Generation Projects Tuticorin	
	area (Part-B)	
210	TS-ISGS Projects in Nagapattinum/Cuddalore area - Part-A1 (a)	2015
211	TS-ISGS Projects in Nagapattinum/Cuddalore area Part-A1 (b)	2019
212	Wardha - Hyderabad 765kV link	2017
213	Western Region Strengthening Scheme - V	2019
214	Western Region Strengthening Scheme - XIII	2015
215	Western Region Strengthening Scheme - XIV	2018

216	POWERGRID Works associated with Western Region Strengthening Scheme – XV	2018
217	Western Region Strengthening Scheme - XVI	2019
218	Western Region Strengthening Scheme - XVII	2019
219	Western Region Strengthening Scheme - XVIII	2019
220	WR - NR HVDC Interconnector for IPP Projects in Chattisgarh	2017
221	WRSS-19	2022
222	Western Region System Strengthening - XX (WRSS-XX)	2022
223	Western Region System Strengthening Scheme (WRSS) -22	2023
224	Western Region System Strengthening Scheme (WRSS) – 23	2022

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#### List of Under progress ISTS Projects under TBCB mode

SI. No.	Name of Project/Name of element	Executing Agency	Anticipated schedule of Completion
1	Transmission system associated with LTA applications from Rajasthan SEZ Part-A, Phase-II	POWERGRID Ramgarh Transmission Limited	Sep-23
2	Transmission system associated with LTA applications from Rajasthan SEZ Part-B, Phase-II	POWERGRID Bhadla Transmission Limited	Mar-24
3	Transmission system associated with LTA applications from Rajasthan SEZ Part-C, Phase-II	POWERGRID Sikar Transmission	Sep-24
4	Transmission system associated with LTA applications from Rajasthan SEZ Part-D, Phase-II	Sikar II – Aligarh Transmission Limited	Mar-24
5	Transmission system associated with LTA applications from Rajasthan SEZ Part-G, Phase-II	Khetri Narela Transmission Limited	Mar-24
6	Transmission system for evacuation of power from Neemuch Solar Park (1000 MW)	Neemuch Transmission Limited	Feb-24
7	System Strengthening Scheme for Eastern and North Eastern Region	ER NER Transmission Limited (ENTL)	Oct-25
8	Transmission Scheme for evacuation of 4.5GW RE injection at Khavda PS under Phase II- Part B	Khavda II-B Transmission Limited	Mar-25
9	Transmission Scheme for evacuation of 4.5GW RE injection at Khavda PS under Phase II- Part C	Khavda II-C Transmission Limited	Mar-25
10	Transmission Network Expansion in Gujarat associated with integration of RE projects from Khavda potential RE zone	Khavda RE Transmission Limited	Mar-25
11	Establishment of Khavda Pooling Station-2 (KPS2) in Khavda RE park	KPS2 Transmission Limited	Dec-24
12	Establishment of Khavda Pooling Station-3 (KPS3) in Khavda RE park	KPS3 Transmission Limited	Dec-24
13	Inter-Regional ER-WR Interconnection	ERWR Power Transmission Limited	Mar-25

14	Transmission System associated with Western Region Expansion Scheme- XXVII (WRES-XXVII)	Raipur Pool Dhamtari Transmission Limited	Sep-24
15	Transmission System associated with Western Region Expansion Scheme- XXVIII (WRES-XXVII) & XIX (WRES-XIX)	Dharamjaigarh Transmission Limited	Mar-25
16	Transmission system associated with LTA applications from Rajasthan SEZ Part-E, Phase-II	Bhadla Sikar Transmission Limited	Sep-24
17	Additional 400kV Feed to Goa and Additional System for Power Evacuation from Generation Projects pooled at Raigarh (Tamnar) Pool	Goa-Tamnar Transmission Project Limited	Мау-25
18	Establish Transmission System for 400 kV Udupi (UPCL) – Kasargode D/C Line	Udupi Kasargode Transmission Limited	Dec-24
19	Western Region Strengthening Scheme-XIX (WRSS-XIX) and North Eastern Region Strengthening Scheme-IX (NERSS-IX)	Mumbai Urja Marg Limited (erstwhile, Vapi II- North Lakhimpur Transmission Limited)	Jun-24
20	Establishment of new 220/132kV substation at Nangalbibra	Nangalbibra- Bongaigaon Transmission Limited	Jun-24
21	Transmission System for evacuation of power from Pakaldul HEP in Chenab Valley HEPs – Connectivity System	Kishtwar Transmission Limited	Apr-25
22	Additional inter regional AC link for import into southern region i.e Warora-Warangal and Chilakaluripeta – Hyderabad – Kurnool 765 kV link	Warora Kurnool Transmission Ltd.	Aug-23
23	Immediate evacuation for North Karanpura (3x660MW) generation project of NTPC (ERSS-XXIX)	North Karanpura Transco Ltd	Nov-24
24	Transmission System for Karur Pooling Station (at a location in between Karur Wind zone and Tiruppur wind zone) along with LILO of both circuits of Pugalur – Pugalur (HVDC) 400 kV D/C line (with Quad Moose ACSR Conductor) at Karur PS	Karur Transmission Limited/PFC	Sep-23
25	Transmission scheme for evacuation of 3GW RE injection at Khavda P.S. under Phase-I	Khavda Bhuj Transmission Limited/PFC	Jan-25
26	Transmission System for evacuation of power from RE Projects in Osmanabad area (1 GW) in Maharashtra	Kallam Transmission Limited/REC	Oct-23

27	Evacuation of power from RE sources in Koppal Wind Energy Zone (Karnataka) (2500MW)	Koppal-Narendra Transmission Ltd./PFC	Sep-23
28	Transmission Scheme for Solar Energy Zone in Gadag (1000 MW), Karnataka – Part-A, Phase-I	Gadag Transmission Limited / REC	Dec-23
29	Transmission Scheme for Solar Energy Zone in Gadag (1500 MW), Karnataka – Part-A, Phase-II	Gadag II- A Transmission Limited (a subsidiary of ReNew Transmission Ventures Private Limited)	May-24
30	Transmission System for evacuation of power from RE projects in Rajgarh (2500 MW) SEZ in Madhya Pradesh	Rajgarh Transmission Limited/ REC	Nov-23
31	400 kV D/c Khandukhal (Srinagar) – Rampura (Kashipur) line (Twin HTLS*) (KRTL)	Khandukhal Rampura Transmission Limited (KRTL) (Subsidiary of Megha Engineering & Infrastructures Limited (100%)/PFC	Sep-24
32	System strengthening in northern region (NRSS XXXVI) along with LILO of Sikar-Neemrana 400 kV D/C line at Babai (RVPNL)	NRSS XXXVI Transmission Ltd.	Dec-24

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### List of under progress ISTS Projects being executed by POWERGRID under RTM mode

mode	
	Anticipated
Project Name	commissioning
	schedule
Next Feeten Berien Characteries Celema VII (NERCO	(Month-Year)
XII) XIII)	Nov-23
North Eastern Region Strengthening Scheme-XVIII (NERSS-XVIII)	Apr-25
NERSS-XIX	Apr-24
Eastern Region Strengthening Scheme - XXIII	Nov-24
Trans system for power evacuation from Arun-3-Indian Portion	Aug-23
Transmission Network Expansion in Gujarat to increase its ATC from ISTS (Part-B)	Mar-24
Transmission Project - Jamnagar Oil Refinery of Reliance	Dec-23
Industries Limited (RIL) to connect with Jam khambhaliva ISTS PS	
	Mar-25
	Aug-23
PROVISION OF SPARE ICT'S IN EASTERN REGION	Aug-23
Eastern Region Strengthening Scheme - XXVII	Oct-23
	Apr-24
Eastern Region Strengthening Scheme - XXVIII	Dec-23
Eastern Region Strengthening Scheme - XXV	Oct-24
Eastern Region Strengthening Scheme - XXXVI	Oct-24
Scheme to control fault level in Northern Region (Phase-II)	Aug-23
Augmentation of Transformation Capacity in Southern	Sep-23
Implementation of 1 no. 400kV line bay at Kurnool New	Dec-23
S/s for providing connectivity to M/s Greenko AP01 IREP	
Evacuation of RE in Tirunelveli and Tuticorin Wind Energy Zone (Tamilnadu) 500 MW	Aug-23
	North Eastern Region Strengthening Scheme-XII (NERSS-XIII)  North Eastern Region Strengthening Scheme-XVIII (NERSS-XVIII)  NERSS-XIX  Eastern Region Strengthening Scheme - XXIII  Trans system for power evacuation from Arun-3-Indian Portion  Transmission Network Expansion in Gujarat to increase its ATC from ISTS (Part-B)  Transmission Project - Jamnagar Oil Refinery of Reliance Industries Limited (RIL) to connect with Jam khambhaliya ISTS PS  Western Region System Scheme XIX - POWERGRID Works Eastern Region Strengthening Scheme-XXII  PROVISION OF SPARE ICT's IN EASTERN REGION Eastern Region Strengthening Scheme - XXVII Eastern Region Strengthening Scheme - XXVII Eastern Region Strengthening Scheme - XXVIII Eastern Region Strengthening Scheme - XXVVI Scheme to control fault level in Northern Region (Phase-II)  Augmentation of Transformation Capacity in Southern Region Implementation of 1 no. 400kV line bay at Kurnool New S/s for providing connectivity to M/s Greenko AP01 IREP Pvt. Ltd. (2nd 400kV line bay for M/s Greenko) Evacuation of RE in Tirunelveli and Tuticorin Wind Energy

Augmentation of Transformation Capacity by 1x500MVA,	Dec-23
400/220 kV ICT (6th) and common facility works at	
Pavagada (Tumkur) PS	
Augmentation of Transformation Capacity by 1x500 MVA,	Nov-23
400/230 kV ICT (4th) at Hosur Substation	
Augmentation of Transformation Capacity by 1x500 MVA,	Feb-24
400/230 kV ICT (4th) at Arasur Substation	
Augmentation of Transformation Capacity by 1x500 MVA	Apr-24
400/220 kV ICT (4th) at Mysore substation in Karnataka	
Transmission System for Kurnool Wind Energy Zone/	Nov-24
Solar Energy Zone (AP) – Part-A & Part-B	
Requirement of 1 no. 220kV line bay at 400/220 kV	Sep-23
Amritsar (PG) by PSTCL	-
Western Region Expansion Scheme (WRES-26)	Jun-24
Western Region Expansion Scheme (WRES-31 ) : Part-C	Aug-24
TRANSMISSION SYSTEM STRENGTHENING BEYOND	Aug-23
KOLHAPUR FOR EXPORT OF POWER FROM SOLAR &	
WIND ENERGY ZONES IN SOUTHERN REGION - RE-	
CONDUCTORING OF KOLHAPUR (PG) - KOLHAPUR 400 kV	
D/C LINE	
AUGMENTATION OF 1X500 MVA, 400/220 KV ICT (3RD	Aug-23
)AT BHATAPARA (PG)	
AUGMENTATION OF TRANSFORMATION CAPACITY BY	Nov-23
1X500 MVA 400/220 KV ICT (3rd) AT RAIGARH (PG)	
SUBSTATION	
TRANSMISSION SYSTEM FOR EVACUATION OF POWER	Apr-25
FROM PAKALDUL HEP IN CHENAB VALLEY HEPS - LTA	_
SYSTEM	
	400/220 kV ICT (6th) and common facility works at Pavagada (Tumkur) PS  Augmentation of Transformation Capacity by 1x500 MVA, 400/230 kV ICT (4th) at Hosur Substation  Augmentation of Transformation Capacity by 1x500 MVA, 400/230 kV ICT (4th) at Arasur Substation  Augmentation of Transformation Capacity by 1x500 MVA, 400/220 kV ICT (4th) at Mysore substation in Karnataka  Transmission System for Kurnool Wind Energy Zone/ Solar Energy Zone (AP) – Part-A & Part-B  Requirement of 1 no. 220kV line bay at 400/220 kV  Amritsar (PG) by PSTCL  Western Region Expansion Scheme (WRES-26)  Western Region Expansion Scheme (WRES-31): Part-C  TRANSMISSION SYSTEM STRENGTHENING BEYOND KOLHAPUR FOR EXPORT OF POWER FROM SOLAR & WIND ENERGY ZONES IN SOUTHERN REGION - RE-CONDUCTORING OF KOLHAPUR (PG) - KOLHAPUR 400 kV  D/C LINE  AUGMENTATION OF 1X500 MVA, 400/220 KV ICT (3RD )AT BHATAPARA (PG)  AUGMENTATION OF TRANSFORMATION CAPACITY BY 1X500 MVA 400/220 KV ICT (3rd) AT RAIGARH (PG) SUBSTATION  TRANSMISSION SYSTEM FOR EVACUATION OF POWER FROM PAKALDUL HEP IN CHENAB VALLEY HEPS - LTA

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### List of new ISTS Projects being taken up for implementation

SI. No.	Name of the Transmission Scheme
1.	Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase- III
2.	Creation of 400/220 kV, 2x315 MVA S/S at Siot, Jammu & Kashmir
3.	Transmission system for evacuation of power from Chhatarpur SEZ (1500 MW)
4.	Transmission scheme for Solar Energy Zone in Ananthpuram (2500 MW) and Kurnool (1000 MW), Andhra Pradesh
5.	Transmission Scheme for Solar Energy Zone in Bidar (2500 MW), Karnataka
6.	Transmission system for evacuation of power from Luhri Stage-I HEP (210 MW)
7.	North Eastern Region Expansion Scheme-XVI (NERES-XVI) -Establishment of New Gogamukh 400/220/132kV substation and associated transmission lines.
8.	Transmission system for evacuation of power from REZ in Rajasthan (7 GW) Ph-IV (Part1) (Bikaner Complex)
9.	Transmission Scheme for integration of Renewable Energy Zone (Phase-II) fromKoppal-II (1 GW) (Phase-A & B) and Gadag-II (1 GW) (Phase- A) in Karnataka
10.	Transmission System for evacuation of additional 7 GW RE Power from Khavda RE Park under Phase-III
11.	Transmission scheme for evacuation of power from Dhule (2 GW) REZ
12.	Western Region Expansion Scheme XXXIII (WRES-XXXIII) -Establishment of 2x1500 MVA, 765/400kV and 2x500 MVA, 400/220 kV S/s at Karera and associated transmission line.
13.	Transmission system for evacuation of power from Shongtong Karcham HEP (450 MW) and Tidong HEP (150 MW)
14.	Transmission System for Evacuation of Power from RE Projects in Rajgarh(1000 MW) SEZ in Madhya Pradesh Phase-II
15.	Transmission system for evacuation of power from RE projects in Solapur (1500 MW) SEZ in Maharashtra
16.	Eastern Region Expansion Scheme-XXXIV (ERES-XXXIV) -Establishment of 765/400 kV, 2x1500 MVA GIS substation at Paradeep and associated transmission lines.
17.	Western Region Network Expansion scheme in Kallam area of Maharashtra (1.25 GW) -LILO of both circuits of Parli(M) – Karjat (M)/Lonikand-II (M) 400 kV D/c line (twin moose) at Kallam PS
18.	Transmission System for Evacuation of Power from potential renewable energy zone(7 GW) in Khavda area of Gujarat under Phase-IV
19.	Transmission System for Evacuation of Power from potential renewable energy zone (8 GW) in Khavda area of Gujarat under Phase-V

20.	Transmission system for evacuation of power from Rajasthan REZ Ph-IV (Part-2 :5.5 GW) (Jaisalmer/Barmer Complex)
21.	Augmentation of transformation capacity at 400/220 kV Nalagarh S/s by 400/220 kV, 1x500 MVA ICT
22.	Augmentation of transformation capacity at 400/220 kV Bikaner-II PS by 400/220 kV, 1x500 MVA ICT
23.	Eastern Region Expansion Scheme – XXXV (ERES-XXXV)- Switching arrangement within the Rangpo (POWERGRID) GIS S/s premises such that Rangpo-Melli and Rangpo – Rangit 132 kV S/c lines can be bypassed at Rangpo S/s end
24.	Augmentation of transformation capacity at Amargarh (GIS) S/s by 1x315 MVA, 400/220 kV ICT
25.	Eastern Region Expansion Scheme – XXXVI (ERES-XXXVI) - Installation of 220/132 kV, $1\times200$ MVA ( $4^{th}$ ) ICT at Ara (POWERGRID) S/s
26.	Augmentation of transformation capacity by 1x500 MVA, 400/220 kV ICT at Mysore substation in Karnataka
27.	Eastern Region Expansion SchemeXXXVII (ERESXXXVII)- Creation of 220 kV level in GIS at Lakhisarai (POWERGRID) 400/132 kV S/s with installation of 400/220 kV, 2x500 MVA ICTs
28.	Augmentation of transformation capacity by 1x1500 MVA, 765/400 kV ICT at Maheshwaram substation in Telengana