

List of Connectivity Margin in ISTS Substations available by Mar-27 (all fig. in MW, as on 30-11-2023)

Sr. No.	Pooling Station	RE Potential (MW)			Expected CoD of Pooling Station	Connectivity Granted/Agreed			Connectivity Under Process			Margin for Connectivity			Additional Margin for Connectivity requiring ICT Augmentation / additional Tr. System			Effectiveness of GNA for Capacity mentioned under "Margin for Connectivity"
		RE Potential (MW) [A]	BESS (MW) [B]	RE Potential - BESS [A-B]		220kV	400kV	Total (MW)	220kV	400kV	Total (MW)	220kV	400kV	Total (MW)	220kV	400kV	Total (MW)	
Northern Region																		
A. Existing RE Pooling Stations																		
1	Bhadla Complex	8430	0	8430	Existing	7325	2050	9375	0	0	0	150	0	150	0	0	0	4755MW: Existing 1470MW: Jul'24 : (Ph-II Part-D) 1600MW: Sep'24 (Ph-II Part-E) 1700MW:Feb'25 onwards (Ph-III) (upto Feb'26)
a	Bhadla	3380	0	3380	Existing	3580	0	3580	0	0	0	0	0	0	0	0	0	Existing Tr. System
b	Bhadla-II*	5050	0	5050	Existing	3745	2050	5795	0	0	0	150	0	150	0	0	0	1175MW: Existing 1470MW: Jul'24 : (Ph-II Part-D) 1600MW: Sep'24 (Ph-II Part-E) 1700MW: Feb'25 onwards (Ph-III) (upto Feb'26)
2	Fatehgarh Complex	7700	0	7700	Existing	4460	2200	6660	250	600	850	150	0	150	0	0	0	5140MW: Existing 720MW: Jul'24 (Ph-II Part-D) 1800MW: Sep'24 (Ph-II Part-E) (upto Feb'26)
a	Fatehgarh	2200	0	2200	Existing	0	2200	2200	0	0	0	0	0	0	0	0	0	Existing Tr. System
b	Fatehgarh-II	5500	0	5500	Existing	4460	0	4460	250	600	850	150	0	150	0	0	0	2940MW: Existing 720MW: Jul'24 (Ph-II-D) 1800MW: Sep'24 (Ph-II-E) (upto Feb'26)
a	Bikaner	1850	0	1850	Existing	1235	2640	3875	0	0	0	0	350	350	0	0	0	2865MW: Existing 110MW: Mar'24 (Ph-II-G) 300MW : May'24 (Bhin bypass) 370MW: 4th ICT Bikaner (May'24) 580MW: Dec'25 (upto Mar'26) (Ph-IV Part-I)
	Sub-Total (Existing)	17980	0	17980	Existing	13020	6890	19910	250	600	850	300	350	650	0	0	0	
a	Bikaner-II	7000	3000	4000	Commissioned	3785	1000	4785	0	0	0	675	0	675	0	0	0	300MW: May'24 (Bhinmal - Zerda) 1527MW : Dec'24 (4th Bikaner ICT) 3433MW: Dec'25 (Upto Feb'26) (Ph-IV Part-I) (The Commission directed the CTUIL not to allocate 675MW at Bikaner- II PS to any other entity till the next date of hearing in 114/MP/2023)
b	Fatehgarh-III (Section-I)	1900	0	1900	Dec'23	1980	0	1980	0	0	0	0	0	0	0	0	0	200MW: Dec'23 (Ph-II) 1780MW: Mar'24 to Jul'24(Ph-II), BESS of 2x250MW is also agreed for connectivity
	Sub-Total (June'23 to Dec'23)	8900	3000	5900		5765	1000	6765	0	0	0	675	0	675	0	0	0	
C. Commissioning between Jan'24 - Jun'24																		
	NIL																	
D. Commissioning between Jul'24 - Jun'25																		
a	Bhadla-III*	6500	0	6500	Mar'25	3450	1000	4450	1350	1635	2985	0	0	0	0	0	0	3700MW : Mar'25 onwards (Upto Mar'26): cumulative at Ramgarh & Bhadla-III: Raj. (Ph-III) Beyond 3700MW : Bhadla HVDC (Feb'28 Pole-1 & Aug'28 Pole-2) [As per CERC order 268/MP/23, 269/MP/2023, CTU to reserve 2 nos. 220kV bay. This is commensurate to 600 MW accordingly connectivity under process shall be suitably adjusted at Bhadla-IV, as total quantum exceeded beyond 6500 MW)
	Fatehgarh Complex	8100	0	8100	Fatehgarh-III (Section-II): Feb'25 Fatehgarh-IV (Section-I): Feb'25	4105	3567	7672	0	0	0	40	0	40	0	0	0	Feb'25 onwards (Ph-III) (Upto Feb'26)
a	Fatehgarh-III (Section-II)	6000	0	6000	Feb'25	2080	3567	5647	0	0	0	40	0	40	0	0	0	Feb'25 onwards- (Ph-III) (Upto Feb'26)
b	Fatehgarh-IV (Section-I)	2100	0	2100	Feb'25	2025	0	2025	0	0	0	0	0	0	0	0	0	Feb'25 onwards (Ph-III) (Upto Feb'26)

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		RE Potential (MW) [A]	BESS (MW) [B]	RE Potential BESS [A-B]		220kV	400kV	Total (MW)	220kV	400kV	Total (MW)	220kV	400kV	Total (MW)	220kV	400kV	Total (MW)	
a	Ramgarh	4000	0	4000	Feb'25	0	650	650	600	0	600	1400	250	1650	200	900	1100	650MW : Mar'25 onwards (Upto Mar'26): 650MW-2900MW : Bhadla HVDC (Feb'28 Pole-1 & Aug'28 Pole-2) Beyond 2900MW : additional corridor would be required
Sub-Total (June'24 to Jun'25)		18600	3000	15600		7555	5217	12772	1950	1635	3585	1440	250	1690	200	900	1100	
Sub-Total NR (By Jun'25)		45480	3000	42480		26340	13107	39447	2200	2235	4435	2415	600	3015	200	900	1100	
E. Commissioning between Jul-25 to Mar-27																		
1	Bikaner-III	7000	3000	4000	Dec'25	1417	2400	3817	0	0	0	200	0	200	300	0	0	4000MW: Dec'25 (Ph-IV, Part-I) (Upto Feb'26) [200 MW connectivity withdrawn; Additional 300 MW margin envisaged with Bikaner-IV tr. System with Jul'26 schedule; to be allocated as per priority of applications at Bikaner-IV]
2	Fatehgarh-IV (Section-II)	9000	4000	5000	Feb'26	3430	600	4030	0	300	300	0	0	0	50	600	650	RE Potential : 9GW (Wind:3GW, Solar:6GW) 4030MW: Feb'26 (Ph-IV, Part-II) For evacuation of balance 950MW power at Fatehgarh-IV, additional Tr. System is under planning , which shall have schedule (sch.upto Feb'29).
3	Barmer-I	5500	1500	4000	Feb'26	1400	0	1400	1400	900	2300	0	0	0	300	0	300	RE Potential: 5.5GW (Wind:1.5GW, Solar:4GW), 1500MW: Feb'26 (Ph-IV, Part-II) For evacuation of >1500MW power at Barmer-I, additional Tr. System is under planning with , which shall have schedule (sch.upto Feb'29).
4	Bikaner-IV Ph-1 (3.6 GW)- AC; Ph-2 >3.6 GW-AC/HVDC	6000	0	6000	Jul'26	1000	650	1650	1750	1950	3700	0	0	0	0	650	650	Tr. System for 3.6GW is under approval and expected by Jul'26. Applications for more than 3.6GW shall require additional EHVAC/HVDC Tr. System, which is to be planned (sch.upto Feb'29)
Sub-Total NR (Beyond Jun'25)		27500	8500	19000		7247	3650	10897	3150	3150	6300	200	0	200	650	1250	1600	
Total (NR)		72980	11500	61480		33587	16757	50344	5350	5385	10735	2615	600	3215	850	2150	2700	
Southern Region																		
A. Existing RE Pooling Stations																		
1	NP Kunta	1500	0	1500	Existing	1600	0	1600	100	0	100	0	0	0	100	0	100	1500 MW : Existing Tr. System 300 MW: 5th ICT (to be identified)
2	Pavagada	3050	0	3050	Existing	3350	0	3350	0	0	0	0	0	0	0	0	0	2050 MW : Existing Tr. System 1000 MW : Jul'24 : Narendra-Pune 300 MW : Jun'25 : 7th & 8th ICT
3	Tuticorin-II GIS (erstwhile Tirunelveli (PG))	2500	0	2500	Existing	2170	0	2170	0	0	0	205	0	205				1330 MW : Existing Tr. System 540 MW: Sept/Oct'23 : 4th ICT 300 MW: Jul'24 : Narendra-Pune 205 MW: Apr'25 : 6th ICT
Sub-Total (Existing)		7050		7050		7120	0	7120	100	0	100	205	0	205	100	0	100	
B. Commissioning between Jul'23 - Dec'23																		
4	Koppal/ Gadag Complex	5000	0	5000	Jun'23 to Sep'23	5138	0	5138	0	0	0	0	0	0				1720 MW : Existing Tr. System 3418 MW: Jul'24 : Narendra-Pune
a	Koppal PS	2500	0	2500	Jun'23	2753	0	2753	0	0	0	0	0	0				1260 MW : Existing Tr. System 1493 MW: Jul'24 : Narendra-Pune 300 MW opted for surrender under GNA.
b	Gadag PS	2500	0	2500	Sep'23	2385	0	2385	0	0	0	0	0	0				460 MW : Existing Tr. System 1925 MW: Jul'24 : Narendra-Pune

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		RE Potential (MW) [A]	BESS (MW) [B]	RE Potential BESS [A-B]		220kV	400kV	Total (MW)	220kV	400kV	Total (MW)	220kV	400kV	Total (MW)	220kV	400kV	Total (MW)	
5	Karur PS (Phase-1)	1000	0	1000	Jul'23	618	0	618	0	0	0	382	0	382				100 MW : Existing Tr. System 518 MW: Jul'24 : Narendra-Pune
	Sub-Total (June'23 to Dec'23)	6000	0	6000	-	5756	0	5756	0	0	0	382	0	382				
C. Commissioning between Jan'24 - Jun'24																		
	NIL																	
D. Commissioning between Jul'24 - Jun'25																		
6	Ananthapuram/ Kurnool complex	9000	0	9000	Nov'24 to Jun'25	1720	600	2320	270	0	270	2285	0	6785	4500	0	4500	Nov'24
a	Kurnool-III PS	4500	0	4500	Nov'24	1720	600	2320	270	0	270	2285	0	2285				Nov'24
	Expansion with ICTs	4500	0	4500					0	0	0	0		4500	4500	0	4500	• Augmentation of ICTs and transmission line, if any, can be taken up on receipt of application
7	Karur PS (with transformer augmentation under Phase-II)	1500	0	1500		0	0	0	0	0	0	1500		1500				• Can be taken up with 18 month schedule on receipt of application
	Sub-Total (June'24 to June'25)	10500	0	10500		1720	600	2320	270	0	270	3785	0	8285	4500	0	4500	
	Sub-Total SR (by June'25)	23550	0	23550		14596	600	15196	370	0	370	4372	0	8872	4600	0	4600	
E. Commissioning between Jul-25 to Mar-27																		
8	Koppal-II/ Gadag-II Complex	14000	3000	11000	2025-26	6223	900	7123	929	0	929	2898	2500	4774	5500	0	5500	2025-26
a	Koppal-II PS	4000	1000	3000	Dec'25	2998	0	2998	302	0	302	501	0	501	500		500	Dec'25
b	Gadag-II PS	4000	1000	3000	Dec'25	2926	900	3826	250	0	250	624	0	0	500		500	Dec'25
c	Bijapur	2000	0	2000	2025-26	300	0	300	377	0	377	273	1000	1273	2500		2500	2025-26
d	Davangere	4000	1000	3000	2025-26	0	0	0	0	0	0	1500	1500	3000	2000		2000	2026-27
9	Bidar PS	2500	0	2500	Jun'25 (exptd)	0	0	0	0	0	0	2500	0	2500	1000		1000	Jun'25 No application
a	Bidar Expansion with ICTs	1000	0	1000											1000	0	1000	• Augmentation of ICTs and transmission line, if any, can be taken up on receipt of application
10	Ananthapuram/ Kurnool complex	13500	0	13500	Progressively from Sept'25 to 2026-27	495	3110	3605	160	0	160	5010	4000	9010	3000	3500	6500	Progressively from Sept'25 to 2026-27
a	Ananthapuram PS	3500	0	3500	Sept'25 (exptd)	495	3110	3605	160	0	160	510	0	510	0	0	0	Sept'25
	Expansion with only ICTs	1500	0	1500														• Augmentation of ICTs and transmission line, if any, can be taken up on receipt of application
b	Ananthapuram PS-II	4000	0	4000	2026-27	0	0	0	0	0	0	2000	2000	4000	1500	2000	3500	2026-27 No application
c	Kurnool-IV	4500	0	4500	2026-27	0	0	0	0	0	0	2500	2000	4500	1500	1500	3000	2026-27 No application
11	Tumkur-II	1500	0	1500	2026-27	200	0	0	300	0	300	925	0	925	3000	0	3000	2025-26
12	Nizamabad Complex	5000	0	5000	2026-27	0	0	0	0	0	0	5000	0	5000	8500	0	8500	2026-27 No application

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		RE Potential (MW) [A]	BESS (MW) [B]	RE Potential BESS [A-B]		220kV	400kV	Total (MW)	220kV	400kV	Total (MW)	220kV	400kV	Total (MW)	220kV	400kV	Total (MW)	
a	Nizamabad-II	2000	0	2000	2026-27	0	0	0	0	0	0	2000	0	2000	2500		2500	2026-27 No application Augmentation of ICTs and transmission line, if any, can be taken up on receipt of application
b	Medak	1500	0	1500	2026-27	0	0	0	0	0	0	1500	0	1500	3000		3000	2026-27 No application Augmentation of ICTs and transmission line, if any, can be taken up on receipt of application
c	Rangareddy	1500	0	1500	2026-27	0	0	0	0	0	0	1500	0	1500	3000		3000	2026-27 No application Augmentation of ICTs and transmission line, if any, can be taken up on receipt of application
Sub-Total SR (Beyond Jun'25)		37500	3000	34500		6918	4010	10728	1389	0	1389	16333	6500	22209	21000	3500	24500	
Total (SR)		61050	3000	58050		21514	4610	25924	1759	0	1759	20705	6500	31081	25600	3500	29100	
Western Region																		
A. Existing RE Pooling Stations																		
1	Bhuj complex	6000		6000	Existing	6256	0	6256	625	0	625	204	0	204	916	0	916	Existing Tr. System
a	Bhuj PS	4000		4000	Existing	3521		3521	275		275	204	0	204				Existing Tr. System. 9th ICT at Bhuj PS shall be required for Oct-23 applications and beyond.
b	Bhuj-II PS	2000		2000	Existing	2735		2735	350		350	0	0	0	916	0	916	Existing Tr. System. However, for capacity beyond 2000MW, augmentation of 765/400kV & 400/220kV ICTs is required.
2	Radhanesda PS	950		950	Existing	950		950			0	0	0	0				Existing Tr. System
3	Jam Khambhaliya PS	1500		1500	Existing	2244	0	2244	195	254.5	450	0	0	0	61	0	61	Existing Tr. System. On;y 61 MW margin exists and 200MW RE application has been received at JK PS, which is proposed at Jamnagar S/s considering time-lines of RE project and non-availability of injection margins at JK PS.
Subtotal (Existing)		8450		8450		9450	0	9450	820	255	1075	204	0	204	976	0	976	
B. Commissioning between Jul'23 - Dec'23																		
4	Kallam PS	1000		1000	Nov-23 (1GW)	917	0	917	0	0	0	0	0	0				1GW: Dec-23
5	Pachora PS	1500		1500	Nov-23 (1.5GW)	1398		1398	0		0	0	0	0				1.5GW: Dec-23
Subtotal (Jun-23 to Dec-23)		2500		2500		2315	0	2315	0	0	0	0	0	0				
C. Commissioning between Jan'24 - Jun'24																		
6	Kallam PS	2250		2250	May-24 (1GW)	1044	1109	2153	0	100	100	0	41	41				2.25GW: Aug-25 (exptd)
7	Neemuch PS	1000		1000	Feb'24	500		500			0	450	0	450	500	0	500	Feb'24
8	Solapur S/s	2000		2000	Existing		1073	1073			0		927	927				Jun-24: Under Scope of applicant (ReNew)
Subtotal (Jan-24 to Jun-24)		5250		5250		1544	2182	3726	0	100	100	450	968	1418	500	0	500	
D. Commissioning between Jul'24 - Jun'25																		
10	Khavda complex	13500		13500	KPS1 (Sec-II): Jan-24 KPS2 (Sec-I & II): Jan-25 KPS3 (Sec-I): Jan-25	0	13500	13500	0	0	0	0	0	0				•Ph-1: 3GW - Jan'24 (KPS1) / Jan'25 (KPS2) •Ph-2: 5GW- Mar'25 •Ph-3: 7GW- Dec'25 (Under bidding - 24 months from SPV transfer)

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		RE Potential (MW) [A]	BESS (MW) [B]	RE Potential BESS [A-B]		220kV	400kV	Total (MW)	220kV	400kV	Total (MW)	220kV	400kV	Total (MW)	220kV	400kV	Total (MW)	
a	Khavda I PS (Sec II)	7500		7500	Sec-I: Jan'24 Sec-II: Jan'25		7500	7500			0	0	0				•Ph-2: 5GW- Mar'25 •Ph-3: 7GW- Dec'25 (Under bidding - 24 months from SPV transfer)	
b	Khavda II PS (Sec-I & II)	3000		3000	Sec-I & II: Jan'25		3000	3000			0	0	0					
c	Khavda III PS (Sec-I)	3000		3000	Jan'25		3000	3000			0	0	0					
11	Chhatarpur PS	1500		1500	Jun-25 (exptd)	0		0			0	1500	0	1500			Jun-25: Under Advance stage of Bidding No application	
12	Parli (New) S/s	700		700	Existing		300	300		0	0		400	400			Dec'25 (400kV bay under ISTS)	
	Subtotal (Jun-24 to Jun-25)	15700		15700		0	13800	13800	0	0	0	1500	400	1900				
	Sub-Total (WR) by Jun'25	31900		31900		13309	15982	29291	820	355	1175	2154	1368	3522	1476	0	1476	

E. Commissioning between Jul-25 to Mar-27

13	Khavda complex	16500		16500	KPS1 (Sec-I): Dec-25 KPS2 (Sec-I & II): Dec-25 KPS2 (Sec-I): Mar'27 KPS3 (Sec-I & II): Dec-25 KPS3 (Sec-II): Mar'27	0	11200	11200	0	0	0	0	5300	5300			<ul style="list-style-type: none"> •Ph-1: 3GW - Jan'24. However, 2GW at KPS2 using Ph-I system would also require KPS2 S/s (Jan'25) •Ph-2: 5GW- Dec'25 •Ph-3: 7GW- Nov'25 (Under bidding - 24 months from SPV transfer) •Ph-4: 7GW-Jan-26 (Under bidding - 24 months from SPV transfer) •Ph-V: 48(Bipole-I) / 54(Bipole-II) months from SPV transfer 	
a	Khavda I PS (Sec-I)	1500		1500	Sec-I ICT: Dec'25		1500	1500			0	0	0	0			Total transformation capacity at Khavda complex (considering N-1 on each section): KPS1 - Sec-I: 4.5GW ; Sec-2: 4.5GW Total KPS1: 9GW KPS2 - Sec-I: 6GW ; Sec-2: 4.5GW Total KPS2: 10.5GW KPS3 - Sec-I: 4.5GW ; Sec-2: 4.5GW Total KPS3: 9GW Total (KPS1, KPS2 & KPS3): 28.5GW Balance 1.5GW transformation capacity at KPS3 would be taken up matching with progress of RE generation.	
b	Khavda II PS (Sec-I & II)	7500		7500	Sec-I & II ICTs : Dec'25 Sec-I ICT: Mar'27		6250	6250		0	0	0	1250	1250				
c	Khavda III PS (Sec-I & II)	7500		7500	Sec-I & II ICTs : Dec'25 Sec-II ICT: Mar'27		3450	3450		0	0	0	4050	4050				
14	Solapur PS (1.5GW)	1500		1500	Jan-26 (exptd)	592.8		592.8	0		0	907.2	0	907.2	1500	0	1500	Jan-26 (exptd) : Under Bidding
15	Pachora PS	1000		1000	Jan-26 (exptd)	481		481	77		77	544	0	544	1000	0	1000	1GW: Jan-26 (exptd) : Under Bidding
16	Mandsaur PS	2000		2000	Jan-26 (exptd)	0		0			0	2000	0	2000	2000	0	2000	Jan-26 : Under approval
17	Dhule PS	2000		2000	Jan-26 (exptd)	50		50	0		0	1950	0	1950	2000	0	2000	Jan-26 : Under Bidding
18	Jamnagar	200		200	Apr-26 (extd). ICT Augmentation required	0			200		200							Jamnagar S/s is presently under tendering with time-line of 24 months from SPV transfer. 400/220kV ICTs would be planned in matching time-frame of RE generation.
	Subtotal WR (Beyond Jun'25)	23000		23000		1124	11200	12324	277	0	277	5401	5300	10701	6500	0	6500	
	Total (WR)	54900		54900		14433	27182	41615	1097	355	1451	7555	6668	14223	7976	0	7976	

In WR, Tr. System has been planned w/o considering BESS capacity of 1.1GW in Maharashtra

North Eastern Region

A. Commissioning between Jul-25 to Mar-27

18	Bokajan	1000			Dec-25 (exptd)	0	1000	1000	0	0	0	0	0	0	1500	0	1500	Dec-25 : Under approval
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		RE Potential (MW) [A]	BESS (MW) [B]	RE Potential BESS [A-B]		220kV	400kV	Total (MW)	220kV	400kV	Total (MW)	220kV	400kV	Total (MW)	220kV	400kV	Total (MW)	
	Subtotal NER (Beyond Jun'25)	1000				0	1000	1000	0	0	0	0	0	0	1500	0	1500	
	Total (All India)	189930				69535	49549	118884	8206	5740	13945	30875	13768	48519	35926	5650	41276	
	By Jun'25	100930				54245	29689	83934	3390	2590	5980	8941	1968	15409	6276	900	7176	
	Commissioning between Jul-25 to Mar-27	89000				15289	19860	34949	4816	3150	7966	21934	11800	33110	29650	4750	34100	

*Order reserved in petition no. 268/MP/2023 & 269/MP/2023, CTUIL shall maintain the status quo with regard to the grant of connectivity/allocating the bays at Bhadla II PS and reserve 2 No. 220KV bays at Badhla III PS till outcome.

The margins indicated may vary depending on network topology, Load-Generation balance, etc. For any clarification/information, CTU may be contacted.