Status of margins available at existing ISTS substations (non RE) for proposed RE integration

All figures are in MW (as on 30-06-2023)

Name of station	Existing / UC/ Planned MVA Capacity	Capacity Allocated/ Under Process (MW)	Aditional Margin on existing / UC system		Line Bays required for RE integration		Additional Margin with ICT Augmentation		No. of Trfs required for RE integration	Remarks
			220kV level	400kV level	220kV level	400kV level	220kV level	400kV level		
Gujarat										
Pirana 400/220kV	**2x315MVA, 400/220kV**	0	300	0	**1**	0	0	0	0	400kV & 220kV overloading.
Lakadia 765/400kV	**2x1500MVA, 765/400kV (Existing) 2x500MVA, 400/220kV (Under Planning)**	350	150	0	**1**	0	500	0	1	
		Total GUJ:	**300**	**0**	**1**	**0**	**500**	**0**	**1**	**800**
Maharashtra										
Aurangabad 765/400/220kV	**2x1500MVA, 765/400kV 2x315MVA, 400/220kV**	0	0	1000	1	1	0	0	0	Overloading in 220kV downstream network.
Kolhapur 400kV	**400kV Switching Station**	0	0	0	0	0	0	0	0	Overloading observed in 400kV Kolhapur (PG)-Kolhapur(MSETCL) D/c line.
Parli (PG) 400/220kV	**2x500MVA, 400/220kV**	300	0	0	2	0	0	0	0	300MW capacity has been allocated at Parli (PG) S/s. Overloading in 220kV downstream & Parli 400kV network.
		Total MAH:	**0**	**1000**	**3**	**1**	**0**	**0**	**0**	**1000**
Madhya Pradesh										
Khandwa 400/220kV	**2x315+1x500MVA, 400/220kV**	300	0	0	2	0	0	0	0	300MW Stage-II connectivity & 300MW LTA from Masaya Solar at Khandwa has also been granted. Overloading in 220kV downstream network.
Indore 765/400/220kV	**2x500MVA, 400/220kV + (1x500MVA with sectionalisation at 220kV for RE injection)**	441.6	30	0	0	0	0	0	0	500MVA, 400/220kV ICT has been approved in the 2nd WRPC(TP) meeting and all the works have been completed. 324.4MW LTA has been granted on this ICT and New applications located near Rajgarh (117.2MW) are proposed to be granted at Indore S/s due to non-availability of Margins at Rajgarh S/s. Balance 30MW margin is left on the ICT.
Jabalpur PS 765/400	**2x1500MVA 765/400kV**	0	0	1000	0	1	0	0	0	765/400kV ICT overloading.
Seoni 765/400/220kV	**2x315MVA + 1x500MVA 400/220kV**	0	0	0	1	0	0	0	0	Overloading in 220kV downstream network.

Name of station	Existing / UC/ Planned MVA Capacity	Capacity Allocated/ Under Process (MW)	Aditional Margin on existing / UC system		Line Bays required for RE integration		Additional Margin with ICT Augmentation		No. of Trfs required for RE integration	Remarks
			220kV level	400kV level	220kV level	400kV level	220kV level	400kV level		
Rajgarh 400/220kV	**2x315MVA, 400/220kV+ (1x500MVA with sectionalisation at 220kV for RE injection)**	764	0	0	0	0	10	0	1	**Margins at 220kV bay of Srpng**: St-II Connectivity of 156.24MW has been granted to Sprng Vayu Vidyut Pvt Ltd. & 100.8+42MW in under process. Overloading in 220kV downstream network. **Margins at 400/220kV ICT:** St-II Connectivity of 190.2MW has been granted to VEH Jayin Renewables Private Limited through 400/220kV, 500MVA ICT sectionalised at 220kV for RE injection as agreed in 10th CMETS WR held on 30.08.2022 & 75+100+100MW is under process.
Satna 765/400/220kV	**2x1000MVA, 765/400kV 2x315+1x500MVA, 400/220kV**	0	0	0	1	0	0	0	0	Overloading in 220kV downstream network.
		Total MP:	**30**	**1000**	**4**	**1**	**10**	**0**	**1**	**1040**
Chhattisgarh										
Dharamjaygarh 765/400kV	**2x1500MVA 765/400kV**	0	0	900	0	1	0	0	0	765/400kV ICT overloading.
Champa 765/400kV	**6x1500MVA 765/400kV**	0	0	1500	0	2	0	0	0	765/400kV ICT overloading.
Bilaspur PS 765/400kV	**3x1500MVA 765/400kV**	0	0	1000		1	0	0	0	765/400kV ICT overloading.
		Total Chhat:	**0**	**3400**	**0**	**4**	**0**	**0**	**0**	**3400**
		Total WR	**330**	**5400**	**8**	**6**	**510**	**0**	**2**	**6240**
Andhra Pradesh										
Kurnool (New) 765/400kV	**2X1500 MVA, 765/400 kV**	1725	0	240		1	0	15	1	Additional margin is with the availability of Kurnool New - Maheshwaram 765kV D/c corridor. **Application for 989 MW under process**
		Total AP:	**0**	**240**	**0**	**1**	**0**	**15**	**1**	**255**
Karnataka										
Hiriyur 400/220kV	**2x315 MVA, 400/220 kV + 1x500 MVA, 400/220 kV**	366	0	0	0		0	0	0	LTA of 300 MW granted at Hiriyur. **Application for 171.6 MW under process**
		Total Kar:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Kerala										
Palakkad (400/220kV)	**2x315 MVA, 400/220 kV + 1x500 MVA, 400/220 kV**	0	300	0	2	0	0	0	0	
		Total Ker:	**300**	**0**	**2**	**0**	**0**	**0**	**0**	**300**
Tamil Nadu										
Pugalur(Existing) 400/230kV	**2X315 MVA + 1X500 MVA, 400/230 kV**	300	247.2	0			0	0	0	**Application for 52.8 MW under process**
Malekottaiyur(Kalivendapattu) 400/230kV	**2X315 MVA + 1X500 MVA, 400/230 kV**	NIL	500	0	2		0	0	0	
Nagapattinam PS 765/400kV	**Charged at 400 kV**	NIL	0	1000		2	0	0	0	
		Total TN:	**747.2**	**1000**	**2**	**2**	**0**	**0**	**0**	**1747.2**

465.2

Name of station	Existing / UC/ Planned MVA Capacity	Capacity Allocated/ Under Process (MW)	Aditional Margin on existing / UC system		Line Bays required for RE integration		Additional Margin with ICT Augmentation		No. of Trfs required for RE integration	Remarks
			220kV level	400kV level	220kV level	400kV level	220kV level	400kV level		
		Total SR	**1047.2**	**1240**	**2**	**3**	**0**	**15**	**1**	**2302.2**
Rajasthan										
Chittorgarh 765/400kV	**765/400kV : 2x1500MVA**	NIL	0	0	**0**	**0**	0	0	0	
Ajmer 765/400kV	**765/400kV : 2x1500MVA**	NIL	0	0	**0**	**0**	0	0	0	
Bassi	**400/220 kV : 2x315MVA +1x500MVA**	NIL	0	0	**0**	**0**	0		0	220kV overloading
Bhiwadi	**400/220 kV : 3x315MVA**	NIL	0	0	**0**	**0**	0		0	220kV overloading
Kankroli	**400/220 kV : 3x315MVA**	NIL	0	0	**0**	**0**	0		0	220kV overloading
Kota	**400/220 kV : 2x315MVA**	NIL	0	0	**0**	**0**	0		0	220kV overloading
Bhinmal	**400/220 kV : 2x315MVA+1x315 MVA UC**	NIL	0	0	**0**	**0**	0	0	0	
Neemarana	**400/220 kV : 1x315MVA +1x500MVA**	NIL	300	0	**1**	**0**	0	0	0	
Sikar	**400/220 kV : 2x315MVA +1x500MVA**	NIL	0	0	**0**	**0**	0		0	220kV overloading
Jaipur (South)	**400/220 kV : 2x500MVA**	NIL	400	0	**1**	**0**	0	0	0	
Kotputli	**400/220 kV : 2x315MVA+1X500MVA (Planned)**	NIL	150	0	**1**	**0**	0	0	0	
		Total RAJ	**850**	**350**	**3**	**0**	**0**	**0**	**0**	**1200**
Haryana										
Kaithal	**400/220 kV : 3X315MVA**	NIL	150	0	1	0	0	0	0	
Panchkula	**400/220 kV : 2X315MVA+500MVA**	NIL	0	0	0	0	500	0	1	
Bahadurgarh	**400/220 kV : 315MVA +500MVA+500MVA (UC)**	NIL	150	0	1	0	0	0	0	
Sonepat	**400/220 kV : 2x315MVA**	NIL	0	0	0	0	500	0	1	
Manesar	**400/220 kV : 2X500MVA**	NIL	250	0	1	0	0	0	0	
		Total HARY	**550**	**0**	**3**	**0**	**1000**	**0**	**2**	**1550**
Uttar Pradesh										
Kanpur(New)	**765/400 kV : 2x1500MVA+1x1500**	NIL	0	1250	0	1	0	0	0	220kV Not available
Fatehpur	**765/400kV : 2x1500MVA; 400/220 kV : 2X315MVA**	NIL	0	0	0	0	500	0	1	
Mainpuri	**400/220 kV : 2x315MVA +500MVA**	NIL	150	0	1	0	0	0	0	

Name of station	Existing / UC/ Planned MVA Capacity	Capacity Allocated/ Under Process (MW)	Aditional Margin on existing / UC system		Line Bays required for RE integration		Additional Margin with ICT Augmentation		No. of Trfs required for RE integration	Remarks
			220kV level	400kV level	220kV level	400kV level	220kV level	400kV level		
Sohawal	400/220 kV : 2x315MVA +500MVA	NIL	100	0	1	0	0	0	0	
Lucknow (new)	765/400 kV : 2x1500MVA	NIL	0	500	0	1	0	0	0	
Balia	765/400 kV : 2x1500MVA	NIL	0	850	0	1	0	0	0	220kV Not available.
Bareilly(New)	765/400 kV : 2x1500MVA	NIL	0	500	0	1	0	0	0	
Varanasi	765/400 kV : 2x1500MVA	NIL	0	500	0	1	0	0	0	
		Total UP	**250**	**3600**	**2**	**5**	**500**	**0**	1	**4350**
		Total NR	**1650**	**3950**	**8**	**5**	**1500**	**0**	**3**	**7100**
Odisha										
Jeypore	400/220kV: 2x630MVA		500	0	0		0	0	0	
Keonjhar	400/220kV: 2x315MVA	0	300	0	1		0	0	0	
Pandiabil	400/220kV: 2x500MVA	0	400	0	3		0	0	0	
Rengali	400/220kV: 2x315MVA	0	100	0	1		0	0	0	
Angul	765/400: 4x1500MVA	0	0	2500		2	0	0	0	
Total		**Total Od:**	**1300**	**2500**	**5**	**2**	**0**	**0**	0	**3800**
Jharkhand										
Chaibasa	400/220kV: 2x315MVA	0	400	0	2		0	0	0	
Daltonganj	400/220kV: 2x315MVA	0	400	0	1		0	0	0	
Ranchi	400/220kV: 2x315MVA + 1x500MVA		800		0		400	0	0	Additional 400MW would be available after commissioning of 3rd 400/220kV, 500MVA ICT at Ranchi (expected by Feb 2023)
Ranchi (New)	765/400kV: 2x1500MVA	0	0	900		1	0	0	0	
Chandwa	400kV switching		0	900		1	0	0	0	
Dhanbad	400/200kV: 2x500MVA		300							
Total		**Total Jh:**	**1900**	**1800**	**3**	**2**	**400**	**0**	0	**4100**
Bihar										
Banka	400/132kV: 2x200MVA + 1x315MVA (existing) 400/220kV: 2x500MVA (under construction, expected by Oct 2024)	0	100	0	1	0	400	0	0	100MW at 132kV level in the existing system and 400MW at 220kV level with the implementation of "Augmentation of 400/220kV, 2x500MVA ICT at Banka" Scheme expected by Oct 2024
Lakhisarai	400/132kV: 2x200MVA + 1x315MVA	0	200	0	1	0	0	0	0	132kV level
Motihari	400/132kV: 2x200MVA + 1x315MVA	0	500	0	1	0	0	0	0	132kV level
Chandauti	400/220kV: 3x500MVA	0	900	0	2	0	0	0	0	

Name of station	Existing / UC/ Planned MVA Capacity	Capacity Allocated/ Under Process (MW)	Aditional Margin on existing / UC system		Line Bays required for RE integration		Additional Margin with ICT Augmentation		No. of Trfs required for RE integration	Remarks
			220kV level	400kV level	220kV level	400kV level	220kV level	400kV level		
Muzaffarpur	400/220kV: 2x315MVA + 2x500MVA	0	600	0	2	0	0	0	0	line corridor available for 2 lines
Saharsa	400/220kV: 2x500MVA	0	900	0	2	0	0	0	0	
Sitamarhi	400/220kV: 2x500MVA	0	900	0	2	0	0	0	0	
		Total Bihar:	**4100**	**0**	**11**	**0**	**400**	**0**	0	**4500**
West Bengal										
Durgapur-B	400/220kV: 3x315MVA		0				300			220kV overloaded in present case under N-1. 300MW margin would be created after reconductoring of Durgapur - Parulia 220kV D/c line by DVC
Maithon-B	400/220kV: 3x500MVA		300							
Subhasgram	400/220kV: 2x315MVA + 1x500MVA	0	600	0	1		300	0	0	Additional 300MW would be available after commissioning of 6th 400/220kV, 500MVA ICT at Subhasgram by CESC (expected by 2024)
Jeerat-New	765/400: 2x1500MVA	0	0	2400		2	0	0	0	
Medinipur	765/400: 2x1500MVA	0	0	1500		1	0	0	0	
		Total WB:	**900**	**3900**	**1**	**3**	**600**	**0**	0	**5400**
		ER-Total	**8200**	**8200**	**20**	**7**	**1400**	**0**	**0**	**17800**
	All India	**All India Total**	**11227.2**	**18790**	**38**	**21**	**3410**	**15**	**6**	**33442.2**

Disclaimer

The margins indicated at the exisiting ISTS substation may vary depending on network topology, Load-Generation balance, etc.