

Status of margins available at existing ISTS substations (non RE) for proposed RE integration										All figures are in MW (as on 31-12-2023)
Name of station	Existing / UC/ Planned MVA Capacity	Capacity Allocated/ Under Process (MW)	Additional 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		
<b>Gujarat</b>										
Pirana 400/220kV	2x315MVA, 400/220kV	0	300	0	1	0	0	0	0	400kV & 220kV overloading.
		<b>Total GUJ:</b>	<b>300</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>300</b>
<b>Maharashtra</b>										
Aurangabad 765/400/220kV	2x1500MVA, 765/400kV 2x315MVA, 400/220kV	0	0	0	0	0	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	0	0	0	0	0	300MW capacity has been allocated at Parli (PG) S/s. Overloading in 220kV downstream & Parli 400kV network.
		<b>Total MAH:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Madhya Pradesh</b>										
Khandwa 400/220kV	2x315+1x500MVA, 400/220kV	300	0	0	0	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)	924.4	150.6	400	1	1	0	0	0	324.4MW LTA has been granted on 1x500MVA with sectionalisation at 220kV for RE injection & 600MW has been granted on 400kV bay
Jabalpur PS 765/400	2x1500MVA 765/400kV	0	0	0	0	0	0	0	0	765/400kV ICT overloading.
Rajgarh 400/220kV	2x315MVA, 400/220kV+ (2x500MVA with sectionalisation at 220kV for RE injection)	1074	0	0	3	0	175	0	2	<b>Margins at 220kV bay of Srpng:</b> 298.24MW has been granted / agreed for grant to M/s Sprng. Overloading in 220kV downstream network. <b>Margins at 400/220kV ICT-III&amp; IV:</b> 776MW has been granted/agreed/received at extended 220kV bus of Rajgarh S/s through addl. 400/220kV, 500MVA ICT(s) for RE injection  <b>About 175MW FURTHER MARGINS EXIST FOR RE INJECTION AT RAJGARH S/s</b>

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			220kV level	400kV level	220kV level	400kV level	220kV level	400kV level		
Ishanagar 765/400/220kV	2x1500MVA 765/400kV & 2x500MVA, 400/220kV (Under Implementation)	0	0	630	0	1	0	0	0	ICT Augmentation may be required forenabling said injection based on system studies
		<b>Total MP:</b>	<b>150.6</b>	<b>1030</b>	<b>4</b>	<b>2</b>	<b>175</b>	<b>0</b>	<b>2</b>	<b>1355.6</b>
<b>Chhattisgarh</b>										
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.
		<b>Total Chhat:</b>	<b>0</b>	<b>3400</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3400</b>
		<b>Total WR</b>	<b>450.6</b>	<b>4430</b>	<b>5</b>	<b>6</b>	<b>175</b>	<b>0</b>	<b>2</b>	<b>5055.6</b>
<b>Andhra Pradesh</b>										
Kurnool (New) 765/400kV	2X1500 MVA, 765/400 kV	2714	0	0		1	0	250	1	
		<b>Total AP:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>250</b>	<b>1</b>	<b>250</b>
<b>Karnataka</b>										
Hiriyur 400/220kV	2x315 MVA, 400/220 kV + 1x500 MVA, 400/220 kV	537.6	60	0	0		0	0	0	
		<b>Total Kar:</b>	<b>60</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>60</b>
<b>Kerala</b>										
Palakkad (400/220kV)	2x315 MVA, 400/220 kV + 1x500 MVA, 400/220 kV	0	300	0	2	0	0	0	0	
		<b>Total Ker:</b>	<b>300</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>300</b>
<b>Tamil Nadu</b>										
Pugalur(Existing) 400/230kV	2X315 MVA + 1X500 MVA, 400/230 kV	655	0	0			0	0	0	Pugalur(Existing) has been closed for all purpose regarding grant of Connectivity.
Malekottaiyur(Kalivendapattu) 400/230kV	2X315 MVA + 1X500 MVA, 400/230 kV	NIL	500	0	2		0	0	0	

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			220kV level	400kV level	220kV level	400kV level	220kV level	400kV level		
Nagapattinam PS 765/400kV	Charged at 400 kV	NIL	0	1000		2	0	0	0	
		<b>Total TN:</b>	<b>500</b>	<b>1000</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1500</b>
		<b>Total SR</b>	<b>860</b>	<b>1000</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>250</b>	<b>1</b>	<b>2110</b>
<b>Rajasthan</b>										
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	
		<b>Total RAJ</b>	<b>850</b>	<b>350</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1200</b>
<b>Haryana</b>										
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	
		<b>Total HARY</b>	<b>550</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>1000</b>	<b>0</b>	<b>2</b>	<b>1550</b>
<b>Uttar Pradesh</b>										
Kanpur(New)	765/400 kV : 2x1500MVA+1x1500	NIL	0	1250	0	1	0	0	0	220kV Not available

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			220kV level	400kV level	220kV level	400kV level	220kV level	400kV level		
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	
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	
		<b>Total UP</b>	<b>250</b>	<b>3600</b>	<b>2</b>	<b>5</b>	<b>500</b>	<b>0</b>	<b>1</b>	<b>4350</b>
		<b>Total NR</b>	<b>1650</b>	<b>3950</b>	<b>8</b>	<b>5</b>	<b>1500</b>	<b>0</b>	<b>3</b>	<b>7100</b>
<b>Odisha</b>										
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	
<b>Total</b>		<b>Total Od:</b>	<b>1300</b>	<b>2500</b>	<b>5</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3800</b>
<b>Jharkhand</b>										
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							
<b>Total</b>		<b>Total Jh:</b>	<b>1900</b>	<b>1800</b>	<b>3</b>	<b>2</b>	<b>400</b>	<b>0</b>	<b>0</b>	<b>4100</b>

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			220kV level	400kV level	220kV level	400kV level	220kV level	400kV level		
<b>Bihar</b>										
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	
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	
		<b>Total Bihar:</b>	<b>4100</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>400</b>	<b>0</b>	<b>0</b>	<b>4500</b>
<b>West Bengal</b>										
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	
		<b>Total WB:</b>	<b>900</b>	<b>3900</b>	<b>1</b>	<b>3</b>	<b>600</b>	<b>0</b>	<b>0</b>	<b>5400</b>
		<b>ER-Total</b>	<b>8200</b>	<b>8200</b>	<b>20</b>	<b>7</b>	<b>1400</b>	<b>0</b>	<b>0</b>	<b>17800</b>
<b>All India</b>		<b>All India Total</b>	<b>11160.6</b>	<b>17580</b>	<b>35</b>	<b>21</b>	<b>3075</b>	<b>250</b>	<b>6</b>	<b>32065.6</b>

**Disclaimer**

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