

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

All figures are in MW (as on 30-09-2023)

| 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 | | |
| 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) | 550 | 400 | 0 | 1 | 0 | 0 | 0 | 0 | |
| Total GUJ: | | | 700 | 0 | 1 | 0 | 0 | 0 | 0 | 700 |
| 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) | 324.4 | 150.6 | 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. |
| 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. |
| 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 is also agreed for grant. Overloading in 220kV downstream network. Margins at 400/220kV ICT-III: 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 agreed for grant Additional applications for 292.2MW have been received at Rajgarh S/s for which ICT-IV is being explored with POWERGRID |
| 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: | | | 150.6 | 1000 | 4 | 1 | 10 | 0 | 1 | 1160.6 |
| 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 | 0 | 1 | 0 | 0 | 0 | 765/400kV ICT overloading. |
| Total Chhat: | | | 0 | 3400 | 0 | 4 | 0 | 0 | 0 | 3400 |
| Total WR | | | 850.6 | 5400 | 8 | 6 | 10 | 0 | 1 | 6260.6 |
| Andhra Pradesh | | | | | | | | | | |
| Kurnool (New) 765/400kV | 2x1500 MVA, 765/400 kV | 2714 | 0 | 0 | 0 | 1 | 0 | 250 | 1 | |
| Total AP: | | | 0 | 0 | 0 | 1 | 0 | 250 | 1 | 250 |
| Karnataka | | | | | | | | | | |
| Hiriyur 400/220kV | 2x315 MVA, 400/220 kV + 1x500 MVA, 400/220 kV | 537.6 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Total Kar: | | | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 60 |
| 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 | 352.8 | 240 | 0 | 0 | 0 | 0 | 0 | 0 | |

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|---|--|--|---|-------------|---------------------------------------|-------------|---|-------------|---|---|
| | | | 220kV level | 400kV level | 220kV level | 400kV level | 220kV level | 400kV level | | |
| 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: | 740 | 1000 | 2 | 2 | 0 | 0 | 0 | 1740 |
| | | Total SR | 1100 | 1000 | 2 | 3 | 0 | 250 | 1 | 2350 |
| 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 | 0 | 220kV overloading |
| Bhiwadi | 400/220 kV : 3x315MVA | NIL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 220kV overloading |
| Kankroli | 400/220 kV : 3x315MVA | NIL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 220kV overloading |
| Kota | 400/220 kV : 2x315MVA | NIL | 0 | 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 | 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 | |
| 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 | |

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|--------------------|---|--|---|--------------|---------------------------------------|-------------|---|-------------|---|--|
| | | | 220kV level | 400kV level | 220kV level | 400kV level | 220kV level | 400kV level | | |
| 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 | |
| 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 | 11800.6 | 18550 | 38 | 21 | 2910 | 250 | 5 | 33510.6 |

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