

**National Load Despatch Centre
Total Transfer Capability for January 2014**

Issue Date: 27/11/2013

Issue Time: 1300 hrs

Revision No. 2

| Corridor | Date | Time Period (hrs) | Total Transfer Capability (TTC) | Reliability Margin | Available Transfer Capability (ATC) | Long Term Access (LTA)/ Medium Term Open Access (MTOA) # | Margin Available for Short Term Open Access (STOA) | Changes in TTC w.r.t. Last Revision | Comments |
|-------------------------|---------------------------------------|-------------------|---------------------------------|--------------------|-------------------------------------|--|--|-------------------------------------|--|
| NR-WR * | 1st January 2014 to 31st January 2014 | 00-24 | 2500 | 500 | 2000 | 286 | 1714 | | |
| WR-NR ¹ | 1st January 2014 to 31st January 2014 | 00-17 | 3900 | 500 | 3400 | 3181 | 219 | 200 | Revised due to change in Load Generation in WR/NR |
| | | 17-23 | 3900 | | 3400 | 3181 | 219 | | |
| NR-ER * | 1st January 2014 to 31st January 2014 | 00-17 | 1000 | 200 | 800 | 200 | 600 | | |
| | | 17-23 | 1100 | | 900 | | 700 | | |
| ER-NR * | 1st January 2014 to 31st January 2014 | 00-17 | 3800 | 300 | 3500 | 2118 | 1382 | 1200 | Commissioning of 400 kV Purnea-Biharshariff D/C and Network reconfiguration at Malda & Purnea |
| | | 17-23 | | | | | 1382 | | |
| W3-ER | 1st January 2014 to 31st January 2014 | 00-24 | 1800 | 300 | 1500 | 0 | 1500 | | |
| ER-W3 | 1st January 2014 to 31st January 2014 | 00-24 | 1000 | 300 | 700 | 700 | 0 | | |
| WR-SR | 1st January 2014 to 31st January 2014 | 00-24 | 1000 | 0 | 1000 | 1000 | 0 | | |
| SR-WR * | 1st January 2014 to 31st January 2014 | 00-24 | 1000 | 0 | 1000 | 0 | 1000 | | |
| ER-SR | 1st January 2014 to 31st January 2014 | 00-05 | 750 | 0 | 750 | 657 | 93 | -350 | Change in Load Generation Balance in ER |
| | | 10-19 | | | | | 443 | | |
| | | 05-10 | 1100 | | 1100 | | 903 | | |
| SR-ER * | 1st January 2014 to 31st January 2014 | 00-17 | 1100 | 0 | 1100 | 197 | 903 | | |
| | | 17-23 | | | | | 1100 | | |
| ER-NER ² | 1st January 2014 to 31st January 2014 | 00-17 | 720 | 50 | 670 | 230 | 440 | 270 | Commissioning of 400 kV Purnea-Biharshariff D/C and Network reconfiguration at Malda & Purnea. |
| | | 17-23 | 640 | | 590 | | 360 | 190 | |
| NER-ER | 1st January 2014 to 31st January 2014 | 00-17 | 570 | 100 | 470 | 0 | 470 | | |
| | | 17-23 | 570 | | 470 | | 470 | | |
| S1-S2 | 1st January 2014 to 31st January 2014 | 00-24 | 6200 | 400 | 5800 | 5400 | 400 | | |
| Import of Punjab | 1st January 2014 to 31st January 2014 | 00-24 | 5600 | 300 | 5300 | 3800 | 1500 | | |
| Import TTC for DD & DNH | 1st January 2014 to 31st January 2014 | 00-24 | 980 | 0 | 980 | LTA and MTOA as per ex-pp schedule | | | |
| W3 zone Injection | 1st January 2014 to 31st January 2014 | 00-08 | 8500 | 200 | 8300 | 7630 | 670 | -500 | Revised due to change in Inter-Regional flow pattern and Load generation change in ER/WR. |
| | | 08-16' | 8000 | | 7800 | | 170 | -1000 | |
| | | 16-17 | 9000 | | 8800 | | 1170 | | |
| | | 17-23 | 9500 | | 9300 | | 1670 | | |

* Fifty Percent (50 %) Counter flow benefit on account of LTA/MTOA transactions in the reverse direction would be considered for advanced transactions (Bilateral & First Come First Serve).

1) ER-SR TTC declared at Talcher Interconnector and Gazuwaka HVDC B/B seam

2) S1 comprises of AP and Karnataka: S2 comprises of Tamil Nadu, Kerala and Pondicherry

3) W3 comprises of the following regional entities :

a) Chattisgarh, b) Jindal Power Limited (JPL) , c) Jindal Steel and Power Limited (JSPL), d) ACBL, e) LANCO Amarkantak

f) BALCO, g) Sterlite (#1,3,4), h) NSPCL, i) Korba, j) Sipat, k) KSK Mahanadi, L)DB Power, m) KWPCCL

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The figure is based on LTA/MTOA approved by CTU. In actual Operation, due to Units being on Maintenance/ Fuel shortage the LTA/MTOA utilized would be less. RLDC/ NLDC would factor this situation while issuing STOA approvals.

1. WR-NR Total Transfer capability will be reduced to 3100 MW in case of outage of any one of the following sections:

- 765 kV Gwalior-Agra one circuit
- 765 kV Bina-Gwalior one circuit

2. ER-NER Total Transfer capability will be reduced to 450 MW in case of outage of any one of the 400kV Purnea-Biharshariff circuit.

Limiting Constraints

| Corridor | Constraint |
|--------------------------|---|
| NR-WR | (n-1) contingency of 400kV Zerda-Bhinmal and (n-1) contingency of 220kV Badod-Modak. |
| WR-NR | High loading of 765 kV Agra-Gwalior (1000 MW SPS setting on each circuit of 765 kV Gwalior-Agra) |
| NR-ER | (n-1) contingency of 400 kV Allahabad-Pusauli |
| ER-NR | (n-1) contingency of 400 kV Kahalgaon-Biharshariff |
| W3-ER | (n-1) contingency of 400kV Sterilte-Rourkela S/C |
| ER-W3 | High loading of 400 kV Raipur-Bhadrawati T/C, Bhilai-Bhadrawati S/C, Bhilai-Koradi and Bhilai-Seoni* (n-1) contingency of 400kV Raigarh-Sterlite |
| WR-SR | Bhadrawati HVDC B/B link capacity |
| SR-WR | Bhadrawati HVDC B/B link capacity |
| ER-SR | Peak: (n-1) contingency of 400 kV Rourkela-Talcher Off-Peak: 1. Talcher-Kolar HVDC Capacity; 2. (n-1) contingency of 400 kV Jeypore-Gazuwaka |
| ER-SR | |
| SR-ER | |
| ER-NER | (n-1) contingency of 400 kV Kahalgaon-Biharshariff |
| NER-ER | (n-1) contingency of 400/220 kV, 2x315 MVA ICTs at Misa |
| S1-S2 | (n-1) contingency of 400 kV Kolar-Hosur D/C line, 400kV Hosur-Salem S/C and 400kV Somanahalli-Salem S/C line. |
| Import of Punjab | (n-1) contingency of ICT at Patiala/Moga |
| W3 zone Injection | (n-1) contingency of 400 kV 400 kV Raipur-Wardha |

*Primary constraints

Simultaneous Import Capability

| Corridor | Date | Time Period (hrs) | Total Transfer Capability (TTC) | Reliability Margin | Available Transfer Capability (ATC) | Long Term Access (LTA)/ Medium Term Open Access (MTOA) | Margin Available for Short Term Open Access (STOA) | Changes in TTC w.r.t. Last Revision | Comments |
|------------------|---------------------------------------|-------------------|---------------------------------|--------------------|-------------------------------------|--|--|-------------------------------------|---|
| ER | | | | | | | | | |
| NR ¹ | 1st January 2014 to 31st January 2014 | 00-17 23-24 | 7700 | 800 | 6900 | 5299 | 1601 | 1400 | Change in Load Generation in WR/NR and commissioning of 400kV Purnea-Biharshariff D/C, Network Changes. |
| | | 17-23 | 7700 | | 6900 | | 1601 | | |
| NER ² | 1st January 2014 to 31st January 2014 | 00-17 23-24 | 720 | 50 | 670 | 230 | 440 | 270 | Commissioning of 400 kV Purnea-Biharshariff D/C and Network reconfiguration at Malda & Purnea. |
| | | 17-23 | 640 | | 590 | | 360 | | |
| WR | | | | | | | | | |
| SR | 1st January 2014 to 31st January 2014 | 00-05 10-19 | 1750 | 0 | 1750 | 1657 | 93 | -350 | Change in Load Generation Balance in ER |
| | | 05-10 19-24 | 2100 | | 2100 | | 443 | | |

1. WR-NR Total Transfer capability will be reduced to 3100 MW in case of outage of any one of the following sections:

- 765 kV Gwalior-Agra one circuit
- 765 kV Bina-Gwalior one circuit

2. ER-NER Total Transfer capability will be reduced to 450 MW in case of outage of any one of the 400kV Purnea-Biharshariff circuit.

Simultaneous Export Capability

| Corridor | Date | Time Period (hrs) | Total Transfer Capability (TTC) | Reliability Margin | Available Transfer Capability (ATC) | Long Term Access (LTA)/ Medium Term Open Access (MTOA) | Margin Available for Short Term Open Access (STOA) | Changes in TTC w.r.t. Last Revision | Comments |
|----------|---------------------------------------|-------------------|---------------------------------|--------------------|-------------------------------------|--|--|-------------------------------------|----------|
| NR* | 1st January 2014 to 31st January 2014 | 00-17 23-24 | 3500 | 700 | 2800 | 286 | 2514 | | |
| | | 17-23 | 3600 | | 2900 | | 2614 | | |
| NER | 1st January 2014 to 31st January 2014 | 00-17 23-24 | 570 | 100 | 470 | 0 | 470 | | |
| | | 17-23 | 570 | | 470 | | 470 | | |
| WR | | | | | | | | | |
| SR* | 1st January 2014 to 31st January 2014 | 00-17 23-24 | 2100 | 0 | 2100 | 197 | 1903 | | |
| | | 17-23 | 2100 | | 2100 | | 1903 | | |

* Fifty Percent (50 %) Counter flow benefit on account of LTA/MTOA transactions in the reverse direction would be considered for advanced transactions (Bilateral & First Come First Serve).

Limiting Constraints

| | | |
|-----|---------------|--|
| NR | Import | (n-1) contingency of 400 kV Kahalgaon-Biharshariff High loading of 765 kV Agra-Gwalior (1000 MW SPS setting on each circuit of 765 kV Gwalior-Agra) |
| | Export | (n-1) contingency of 400kV Zerda-Bhinmal and (n-1) contingency of 220kV Badod-Modak. (n-1) contingency of 400 kV Allahabad-Pusauli |
| NER | Import | (n-1) contingency of 400 kV Kahalgaon-Biharshariff |
| | Export | N-1 contingency of 400/220 kV, 2x315 MVA ICTs at Misa |
| SR | Import | Bhadrawati HVDC B/B link capacity Peak: (n-1) contingency of 400 kV Rourkela-Talcher Off-Peak: 1. Talcher-Kolar HVDC Capacity; 2. (n-1) contingency of 400 kV Jeypore-Gazuwaka |
| | Export | |

*Primary constraints

ASSUMPTIONS IN BASECASE

Month : January '14

| S.No. | Name of State/Area | Load | | Generation | |
|------------|----------------------------|----------------|--------------------|--------------|---------------|
| | | Peak Load (MW) | Off Peak Load (MW) | Peak (MW) | Off Peak (MW) |
| I | NORTHERN REGION | | | | |
| 1 | Punjab | 7000 | 4924 | 2546 | 2351 |
| 2 | Haryana | 5559 | 4660 | 2770 | 2770 |
| 3 | Rajasthan | 7051 | 6539 | 4002 | 4002 |
| 4 | Delhi | 3974 | 3720 | 1514 | 1514 |
| 5 | Uttar Pradesh | 11000 | 10322 | 6008 | 5756 |
| 6 | Jammu & Kashmir | 1876 | 1185 | 584 | 429 |
| 7 | Uttarakhand | 1543 | 902 | 713 | 340 |
| 8 | Himachal Pradesh | 1327 | 730 | 444 | 523 |
| 9 | Chandigarh | 224 | 118 | 0 | 0 |
| 10 | ISGS/IPPs | | | 16740 | 11303 |
| | Total NR | 39554 | 33100 | 35321 | 28988 |
| | | | | | |
| II | EASTERN REGION | | | | |
| 1 | West Bengal | 4900 | 4500 | 4837 | 3944 |
| 2 | Jharkhand | 1110 | 770 | 561 | 561 |
| 3 | Orissa | 3500 | 2200 | 2430 | 1699 |
| 4 | Bihar | 1820 | 1320 | 0 | 0 |
| 5 | Damodar Valley Corporation | 2600 | 2035 | 3439 | 3039 |
| 6 | Sikkim | 40 | 40 | | |
| 7 | Bhutan | 110 | 110 | 648 | 648 |
| 8 | ISGS/IPPs | 131 | 241 | 6494 | 6762 |
| | Total ER | 14211 | 11216 | 18409 | 16653 |
| | | | | | |
| III | WESTERN REGION | | | | |
| 1 | Chattisgarh | 3181 | 2462 | 1804 | 1065 |
| 2 | Madhya Pradesh | 7637 | 5600 | 9905 | 7817 |
| 3 | Maharashtra | 15506 | 12500 | 4366 | 2928 |
| 4 | Gujarat | 11119 | 10121 | 11221 | 8374 |
| 5 | Goa | 432 | 281 | 0 | 0 |
| 6 | Daman and Diu | 245 | 208 | 0 | 0 |
| 7 | Dadra and Nagar Haveli | 604 | 471 | 0 | 0 |
| 8 | ISGS/IPPs | 590 | 590 | 16763 | 15466 |
| | Total WR | 39314 | 32233 | 44059 | 35650 |
| | | | | | |

| | | | | | |
|-----------|-----------------------------|---------------|---------------|---------------|---------------|
| IV | SOUTHERN REGION | | | | |
| 1 | Andhra Pradesh | 10900 | 9350 | 7204 | 6066 |
| 2 | Tamil Nadu | 11300 | 8617 | 6433 | 4962 |
| 3 | Karnataka | 7800 | 6499 | 5213 | 3549 |
| 4 | Kerala | 3225 | 2234 | 1917 | 760 |
| 5 | Pondy | 320 | 244 | 0 | 0 |
| 6 | Goa | 80 | 80 | 0 | 0 |
| 7 | ISGS/IPPs | | | 11130 | 10168 |
| | Total SR | 33625 | 27024 | 31897 | 25505 |
| V | NORTH-EASTERN REGION | | | | |
| 1 | Manipur | 130 | 91 | 0 | 0 |
| 2 | Meghalaya | 280 | 196 | 110 | 95 |
| 3 | Mizoram | 85 | 60 | 8 | 4 |
| 4 | Nagaland | 120 | 84 | 20 | 10 |
| 5 | Assam | 1350 | 970 | 220 | 180 |
| 6 | Tripura | 260 | 130 | 100 | 100 |
| 7 | Arunachal Pradesh | 130 | 91 | 0 | 0 |
| 8 | ISGS/IPPs | | | 1020 | 735 |
| | Total NER | 2355 | 1622 | 1478 | 1124 |
| | Total All India | 129059 | 105195 | 131164 | 107920 |